

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

FORM 3

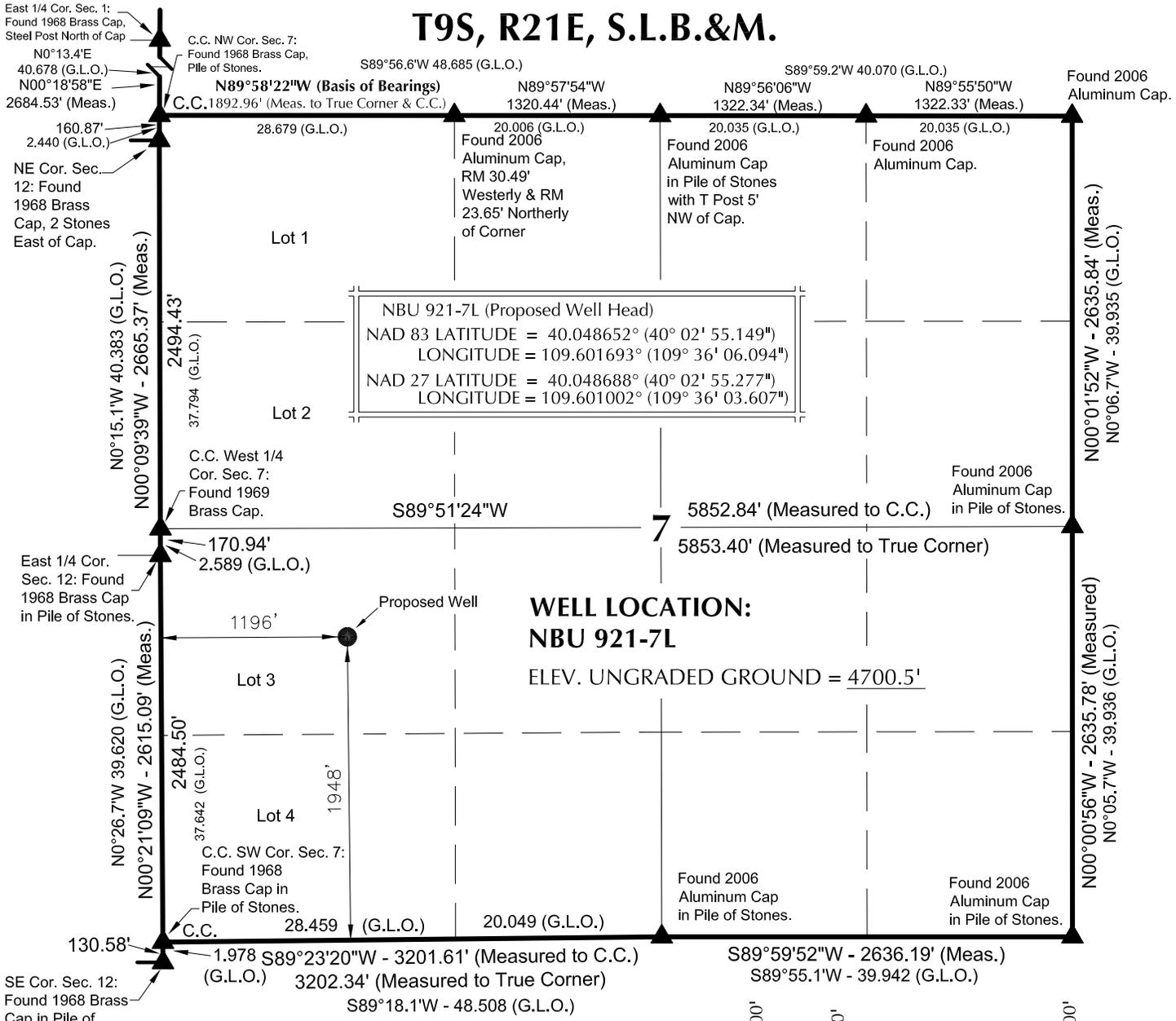
AMENDED REPORT 

<b>APPLICATION FOR PERMIT TO DRILL</b>						<b>1. WELL NAME and NUMBER</b> NBU 921-7L	
<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> 720 929-6587	
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217						<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com	
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU 0575B			<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>			<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>						<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>	
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>						<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>	
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b> Ute Tribe			<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 checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>	
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>	
<b>LOCATION AT SURFACE</b>	1948 FSL 1196 FWL	NWSW	7	9.0 S	21.0 E	S	
<b>Top of Uppermost Producing Zone</b>	1948 FSL 1196 FWL	NWSW	7	9.0 S	21.0 E	S	
<b>At Total Depth</b>	1948 FSL 1196 FWL	NWSW	7	9.0 S	21.0 E	S	
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1196			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 811	
			<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 1000			<b>26. PROPOSED DEPTH</b> MD: 10687 TVD: 10687	
<b>27. ELEVATION - GROUND LEVEL</b> 4701			<b>28. BOND NUMBER</b> WYB000291			<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496	
<b>ATTACHMENTS</b>							
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>							
<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 type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)				<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP			
<b>NAME</b> Danielle Piernot			<b>TITLE</b> Regulatory Analyst			<b>PHONE</b> 720 929-6156	
<b>SIGNATURE</b>			<b>DATE</b> 09/11/2009			<b>EMAIL</b> danielle.piernot@anadarko.com	
<b>API NUMBER ASSIGNED</b> 43047507320000			<b>APPROVAL</b>  Permit Manager				

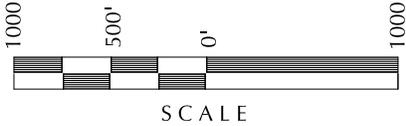
<b>Proposed Hole, Casing, and Cement</b>						
<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>		
Prod	7.875	4.5	0	10687		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade HCP-110 LT&C	1087	11.6			
	Grade I-80 Buttress	9600	11.6			

<b>Proposed Hole, Casing, and Cement</b>						
<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>		
Surf	12.25	9.625	0	2785		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade J-55 LT&C	2785	36.0			

# T9S, R21E, S.L.B.&M.



**WELL LOCATION:**  
**NBU 921-7L**  
 ELEV. UNGRADED GROUND = 4700.5'



**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.

*Kathy R. Kay*  
 No. 362251  
 KATHY R. KAY  
 REGISTERED LAND SURVEYOR  
 STATE OF UTAH

REGISTERED LAND SURVEYOR  
 REGISTRATION No. 362251  
 STATE OF UTAH

**NOTES:**

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

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

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

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

DATE SURVEYED: 04-17-09	SURVEYED BY: D.J.S.	SHEET NO: <b>1</b> 1 OF 9
DATE DRAWN: 04-22-09	DRAWN BY: K.K.O.	
SCALE: 1" = 1000'		

**WELL PAD - NBU 921-7L**

**NBU 921-7L**  
**WELL PLAT**  
 1948' FSL, 1196' FWL  
**LOT 3 OF SECTION 7, T9S, R21E,**  
**S.L.B.&M., UINTAH COUNTY, UTAH.**

**NBU 921-7L**

Surface: 1,948' FSL 1,196' FWL (NW/4SW/4) Lot 3  
Sec. 7 T9S R21E

Uintah, Utah  
Mineral Lease: UTU 0575B

**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	1,772'	
Birds Nest	2,051'	Water
Mahogany	2,584'	Water
Wasatch	5,220'	Gas
Mesaverde	8,411'	Gas
MVU2	9,420'	Gas
MVL1	9,930'	Gas
TD	10,687'	

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 bottomhole pressure calculated at 10,687' TD, approximately equals 6,658 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 4,307 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**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 to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 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 9-5/8 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)). The air rig operation utilizes a 5M BOPE when drilling. 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	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2785	36.00	J-55	LTC	0.79*	1.55	4.52
PRODUCTION	4-1/2"	0 to 9600	11.60	I-80	BTC	1.76	1.04	2.76
		9600 to 10687	11.60	HCP-110	LTC	2.41	1.28	27.20

\*Burst on surface casing is controlled by fracture gradient as shoe with gas gradient above. D.F. = 2.01

1) Max Anticipated Surf. Press.(MASP) (Surf Csg) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac grad x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)  
 (Burst Assumptions: TD = 12.2 ppg) 0.22 psi/ft = gradient for partially evac wellbore  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)  
**MASP 4,307 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD  
 (Burst Assumptions: TD = 12.2 ppg) 0.62 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)  
**MABHP 6,658 psi**

**CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	215	60%	15.60	1.18
Option 1 TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele Premium cmt + 2% CaCl	380	0%	15.60	1.18
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>						
SURFACE LEAD	2,285'	Prem cmt + 16% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOC	260	35%	11.00	3.82
Option 2 TAIL	500	Premium cmt + 2% CaCl + 0.25 pps flocele	180	35%	15.60	1.18
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION LEAD	4,717'	Premium Lite II + 0.25 pps celloflake + 5 pps gilsonite + 10% gel ' + 1% Retarder	450	40%	11.00	3.38
TAIL	5,970'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1460	40%	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**

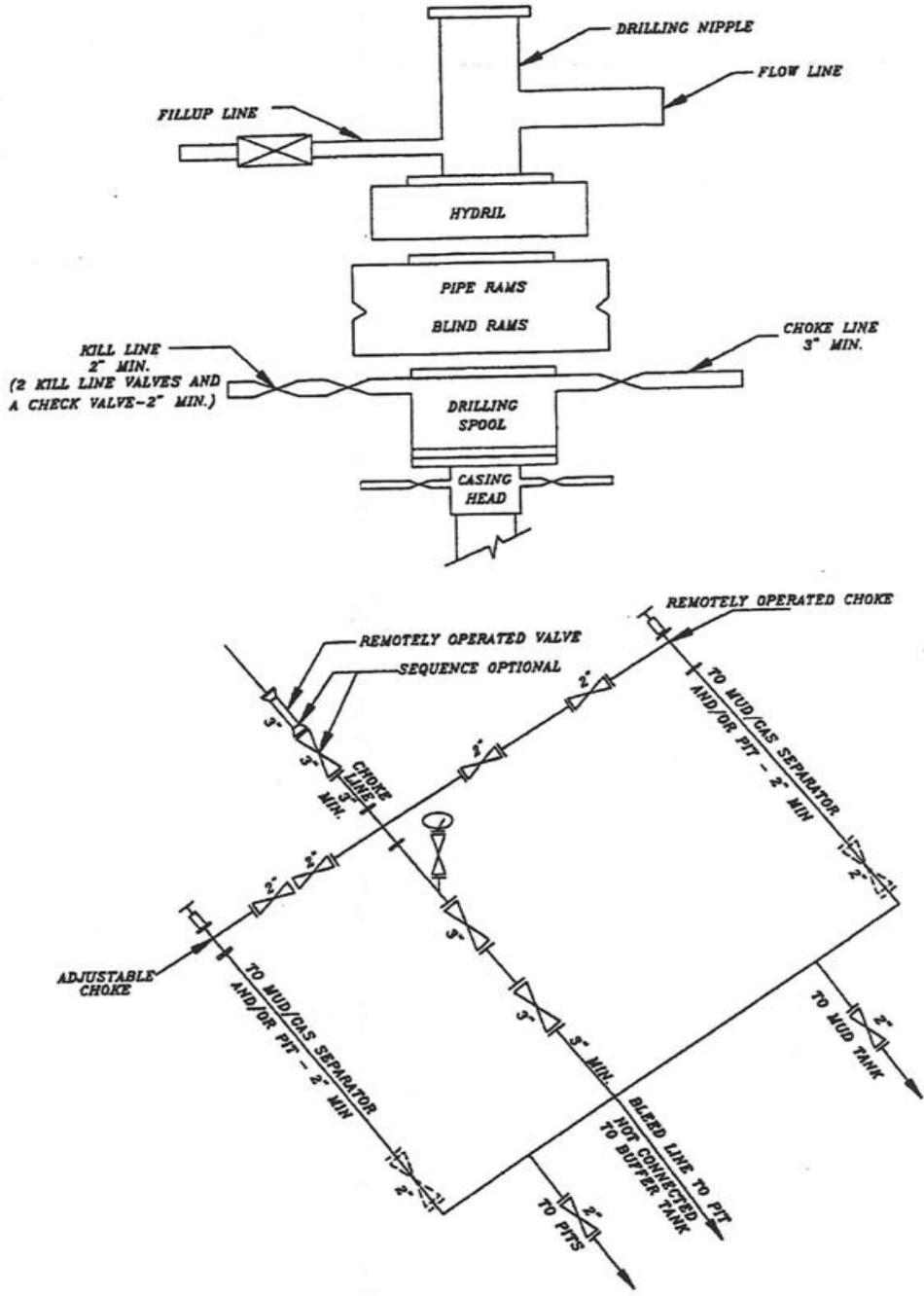
SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.
PRODUCTION	Float shoe, 1 jt, float collar. Centralize first 3 joints & every third joint for a total of 15 bow spring centralizers.

**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.  
 Drop Totco surveys every 2000'. Maximum allowable hole angle is 5 degrees.  
 Most rigs have PVT Systems for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 John Huycke / Emile Goodwin  
 DRILLING SUPERINTENDENT: \_\_\_\_\_ DATE: \_\_\_\_\_  
 John Merkel / Lovel Young

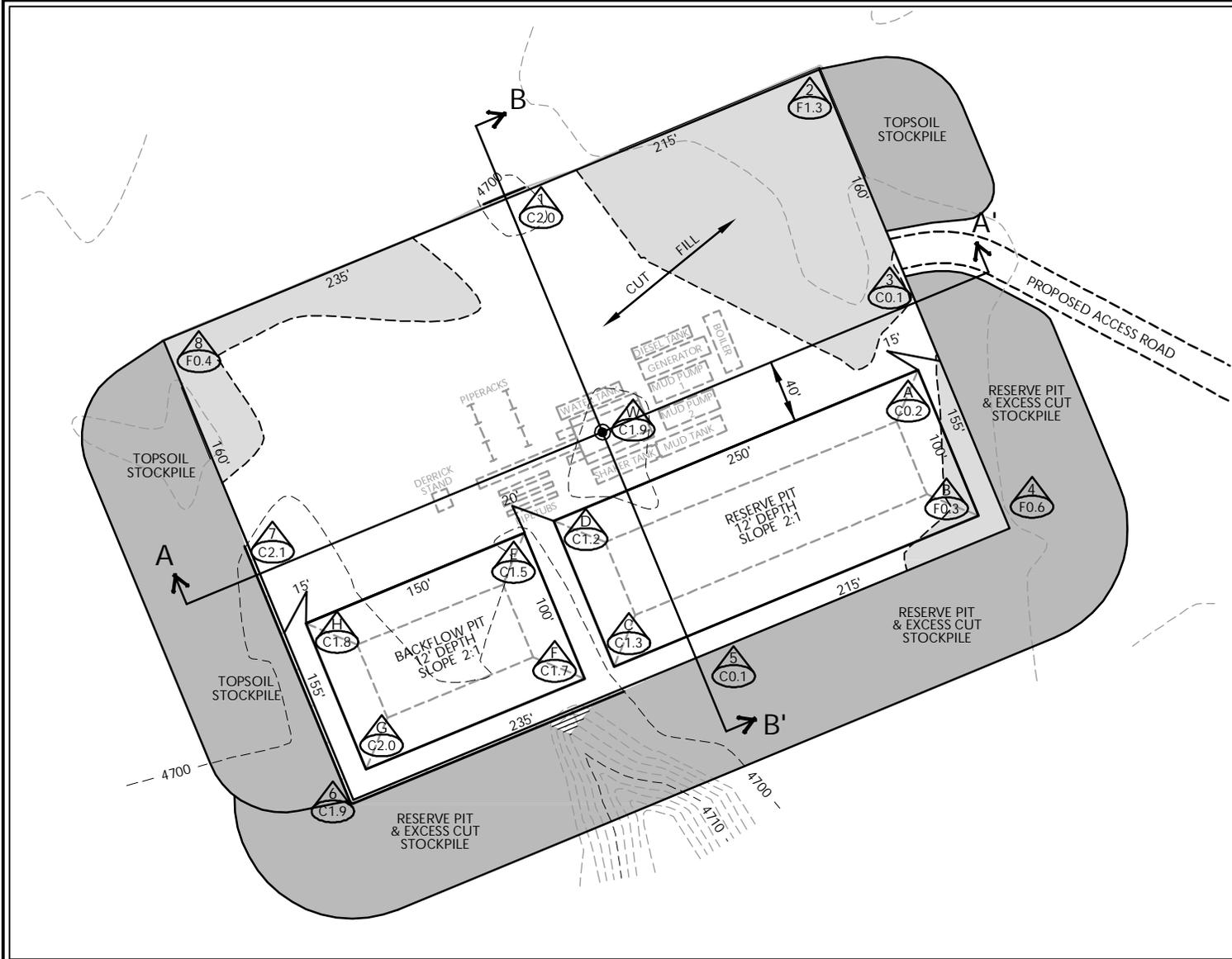
### EXHIBIT A NBU 921-7L



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

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**WELL PAD LEGEND**

- WELL LOCATION
- - - EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)

**WELL PAD NBU 921-7L QUANTITIES**

EXISTING GRADE @ LOC. STAKE = 4,700.5'  
 FINISHED GRADE ELEVATION = 4,698.6'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 1,685 C.Y.  
 TOTAL FILL FOR WELL PAD = 1,158 C.Y.  
 TOPSOIL @ 6" DEPTH = 2,664 C.Y.  
 EXCESS MATERIAL = 527 C.Y.  
 TOTAL PAD DISTURBANCE = 3.30 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 28,730 BARRELS  
 RESERVE PIT VOLUME  
 +/- 7,720 CY  
 BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
 +/- 15,900 BARRELS  
 BACKFLOW PIT VOLUME  
 +/- 4,350 CY

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



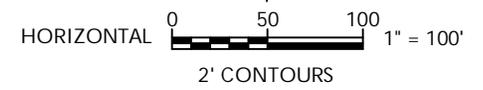
**CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**WELL PAD - NBU 921-7L**

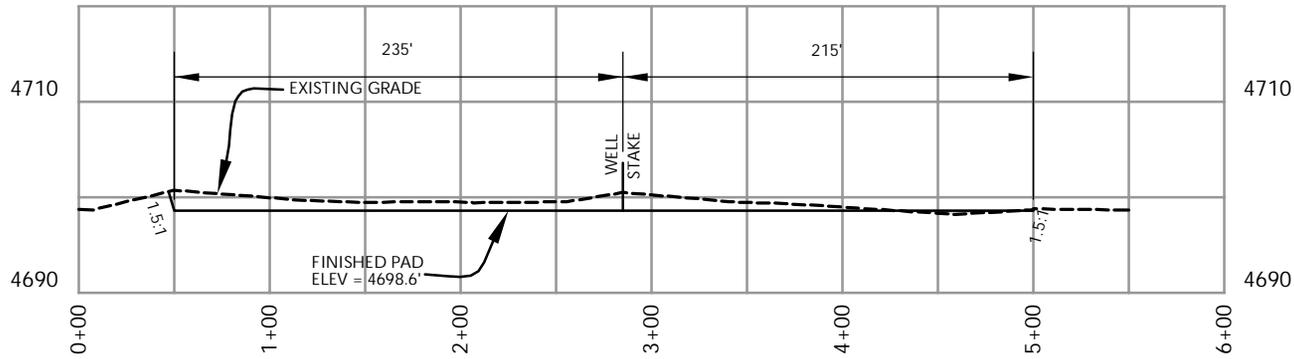
**WELL PAD - LOCATION LAYOUT**  
**NBU 921-7L**

1948' FSL, 1196' FWL  
 LOT 3 OF SECTION 7, T9S, R21E  
 S.L.B.&M., UINTAH COUNTY, UTAH

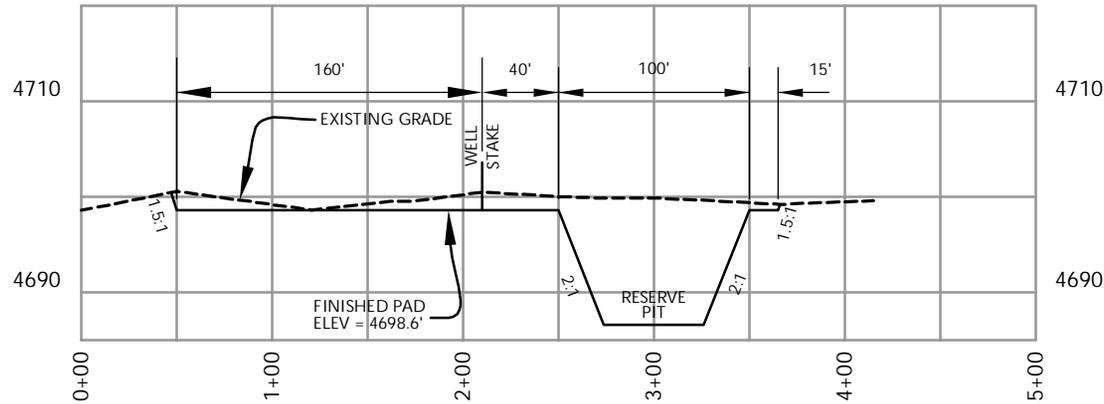
Scale: 1"=100'	Date: 4/29/09	SHEET NO: <b>2</b>
REVISED:		2 OF 9



**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

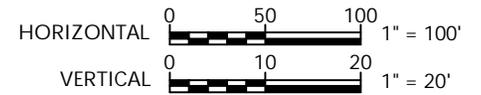
WELL PAD - NBU 921-7L

WELL PAD - CROSS SECTIONS  
NBU 921-7L

1948' FSL, 1196' FWL  
LOT 3 OF SECTION 7, T9S, R21E  
S.L.B.&M., UINTAH COUNTY, UTAH



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Scale: 1"=100' Date: 4/29/09

SHEET NO:

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**3**  
3 OF 9

REVISED:

'APIWellNo:43047507320000'

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PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: NORTHEASTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: WESTERLY

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

**Well Pad - NBU 921-7L**

**NBU 921-7L  
 LOCATION PHOTOS  
 1948' FSL, 1196' FWL  
 LOT 3 OF SECTION 7, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH.**



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DATE PHOTOS TAKEN: 04-17-09	PHOTOS TAKEN BY: D.J.S.	SHEET NO:  <b>4</b> 4 OF 9
DATE DRAWN: 04-22-09	DRAWN BY: K.K.O.	
Date Last Revised:		

**Kerr-McGee Oil & Gas Onshore, LP**  
**WELL PAD – NBU 921-7L**  
**WELL - NBU 921-7L**  
**Section 7, T9S, R21E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 3.0 MILES TO A SERVICE ROAD TO THE EAST. EXIT LEFT AND PROCEED IN AN EASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 1.1 MILES TO A SECOND SERVICE ROAD TO THE NORTHEAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION ALONG THE SECOND SERVICE ROAD APPROXIMATELY 2.4 MILES TO A THIRD SERVICE ROAD TO THE EAST. EXIT RIGHT AND PROCEED IN AN EAST BY SOUTHEAST DIRECTION ALONG THE THIRD SERVICE ROAD APPROXIMATELY 1.8 MILES TO A FOURTH SERVICE ROAD TO THE SOUTHEAST. EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION ALONG THE FOURTH SERVICE ROAD APPROXIMATELY 0.3 MILES TO A FIFTH SERVICE ROAD TO THE SOUTH. EXIT RIGHT AND PROCEED IN A SOUTHERLY, THEN SOUTHWESTERLY DIRECTION ALONG THE FIFTH SERVICE ROAD APPROXIMATELY 0.7 MILES TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A NORTHWESTERLY DIRECTION APPROXIMATELY 510 FEET TO THE PROPOSED WELL LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 40.1 MILES IN A SOUTHERLY DIRECTION.

**NBU 921-7L**

Surface: 1,948' FSL 1,196' FWL (NW/4SW/4) Lot 3  
Sec. 7 T9S R21E

Uintah, Utah  
Mineral Lease: UTU 0575B

Surface Owner: Ute Indian Tribe

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. An NOS was submitted showing the surface location in NW/4 SW/4 of Section 7 T9S R21E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting was held on August 27, 2009.

**A. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**B. Planned Access Roads:**

*See MDP for additional details on road construction.*

Approximately  $\pm 510'$  ( $\pm 0.10$  miles) of new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

**C. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

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

*See MDP for additional details on Existing and Proposed Facilities.*

*The following guidelines will apply if the well is productive.*

Approximately  $\pm 3,105'$  ( $\pm 0.60$  miles) of new pipeline is proposed for this well. Please refer to the attached Topo Map D for existing pipeline. Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place

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

*See MDP for additional details on 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.

No water well is to be drilled on this lease.

**F. Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

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

*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

- RNI in Sec. 5 T9S R22E
- NBU #159 in Sec. 35 T9S R21E
- Ace Oilfield in Sec. 2 T6S R20E
- MC&MC in Sec. 12 T6S R19E
- Pipeline Facility in Sec. 36 T9S R20E
- Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
- Bonanza Evaporation Pond in Sec. 2 T10S R23E

**H. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**I. Well Site Layout: (See Location Layout Diagram)**

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner 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.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**J. Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.

**K. Surface/Mineral Ownership:**

The well pad and access road are located on lands owned by:

Ute Indian Tribe  
PO Box 70  
Fort Duchesne, Utah 84026  
435-722-5141

The mineral ownership is listed below:

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

**L. Other Information:**

*See MDP for additional details on Other Information.*

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

Danielle Piernot  
Regulatory Analyst I  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6156

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6724

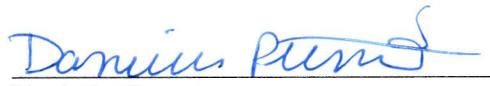
Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

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

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
\_\_\_\_\_  
Danielle Piernot

September 10, 2009  
\_\_\_\_\_  
Date

CLASS I REVIEW OF KERR-MCGEE OIL & GAS  
ONSHORE LP'S 51 PROPOSED WELL LOCATIONS  
(T9S, R21E, SECTIONS 7, 8, 10, 11, 12,  
17, 18, 19, 20, 23, 25, AND 30)  
IN UINTAH COUNTY, UTAH

By:

Jacki A. Montgomery

Prepared For:

Ute Tribal Land  
Uintah and Ouray Agency

Bureau of Land Management  
Vernal Field Office

Prepared Under Contract With:

Kerr-McGee Oil & Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 09-39

May 11, 2009

United States Department of Interior (FLPMA)  
Permit No. 09-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117

Ute Tribal Permit No. A09-363

**IPC #09-97**

# **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Well Pads, Access Roads  
& Pipelines for "NBU #921-7F, 7L & 8K"  
(Sec. 7 & 8, T 9 S, R 21 E)**

**Ouray SE  
Topographic Quadrangle  
Uintah County, Utah**

July 10, 2009

Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078



# Grasslands Consulting, Inc.

4800 Happy Canyon Road, Suite 110, Denver, CO 80237

(303) 759-5377 Office (303) 759-5324 Fax

## **SPECIAL STATUS PLANT AND WILDLIFE SPECIES REPORT**

**Report #:** GCI #69

**Operator:** Kerr-McGee Oil & Gas Onshore LP

**Wells:** NBU 921-7D, NBU 921-7F, NBU 921-7L

**Pipelines:** Associated pipelines to proposed well pads

**Access Roads:** Associated access roads to proposed well pads

**Location:** Section 07, Township 9 South, Range 21 East; Uintah County, Utah

**Survey-Species:** Uinta Basin Hookless Cactus (*Sclerocactus wetlandicus*)

**Date:** 07/02/2009

**Observer(s):** Grasslands Consulting, Inc. Biologists: Chris Gayer, Nick Hall, Dan Hamilton, and Jonathan Sexauer. Technicians: Chad Johnson, Dane Bartlett, and Daniel Ortiz,

**Weather:** Partly cloudy, 85-90°F, 0-5 mph winds with no precipitation.

API Number: 4304750732

Well Name: NBU 921-7L

Township 09.0 S Range 21.0 E Section 7

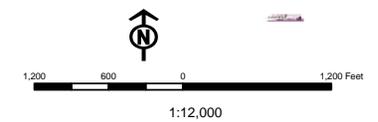
Meridian: SLBM

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

Map Prepared:

Map Produced by Diana Mason

<b>Units</b>	<b>Wells Query Events</b>
<ul style="list-style-type: none"> <li>ACTIVE</li> <li>EXPLORATORY</li> <li>GAS STORAGE</li> <li>NF PP OIL</li> <li>NF SECONDARY</li> <li>PI OIL</li> <li>PP GAS</li> <li>PP GEOTHERM</li> <li>PP OIL</li> <li>SECONDARY</li> <li>TERMINATED</li> </ul>	<ul style="list-style-type: none"> <li>-call other values-</li> <li>GIS_STAT_TYPE</li> <li>-Null-</li> <li>APD</li> <li>DRL</li> <li>GI</li> <li>GS</li> <li>LA</li> <li>NEW</li> <li>OPS</li> <li>PA</li> <li>PGW</li> <li>POW</li> <li>RET</li> <li>SGW</li> <li>SOW</li> <li>TA</li> <li>TW</li> <li>WT</li> <li>WS</li> </ul>
<b>Fields</b>	
<ul style="list-style-type: none"> <li>ACTIVE</li> <li>COMBINED</li> <li>Sections</li> </ul>	



# 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)**

September 18, 2009

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 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 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50731	NBU 921-7F	Sec 07 T09S R21E 2079 FNL 2869 FWL
43-047-50732	NBU 921-7L	Sec 07 T09S R21E 1948 FSL 1196 FWL
43-047-50733	NBU 921-8D	Sec 08 T09S R21E 0469 FNL 0652 FWL
43-047-50734	NBU 921-8N	Sec 08 T09S R21E 0705 FSL 2033 FWL
43-047-50735	NBU 921-7D	Sec 07 T09S R21E 0463 FNL 0180 FWL
43-047-50736	NBU 921-8C	Sec 08 T09S R21E 0483 FNL 1729 FWL
43-047-50737	NBU 1022-9B4CS	Sec 09 T10S R22E 0228 FNL 2643 FWL
	BHL	Sec 09 T10S R22E 1100 FNL 1956 FEL
43-047-50738	NBU 1022-9C2DS	Sec 09 T10S R22E 0224 FNL 2563 FWL
	BHL	Sec 09 T10S R22E 0591 FNL 1782 FWL
43-047-50739	NBU 1022-9C3CS	Sec 09 T10S R22E 0225 FNL 2583 FWL
	BHL	Sec 09 T10S R22E 1131 FNL 1548 FWL
43-047-50740	NBU 1022-9C4DS	Sec 09 T10S R22E 0227 FNL 2623 FWL
	BHL	Sec 09 T10S R22E 1141 FNL 2505 FWL
43-047-50751	NBU 920-21G	Sec 21 T09S R20E 1998 FNL 2319 FEL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50752	NBU 1022-8L3CS	Sec 08 T10S R22E 1761 FSL 0309 FWL
	BHL	Sec 08 T10S R22E 1330 FSL 0005 FWL
43-047-50753	NBU 1022-8M3DS	Sec 08 T10S R22E 1765 FSL 0329 FWL
	BHL	Sec 08 T10S R22E 0245 FSL 0350 FWL
43-047-50754	NBU 1022-8N1DS	Sec 08 T10S R22E 1772 FSL 0368 FWL
	BHL	Sec 08 T10S R22E 0940 FSL 2635 FWL
43-047-50755	NBU 1022-8N2DS	Sec 08 T10S R22E 1769 FSL 0348 FWL
	BHL	Sec 08 T10S R22E 0735 FSL 1700 FWL
43-047-50756	NBU 1022-35I1CS	Sec 35 T10S R22E 2335 FSL 0650 FEL
	BHL	Sec 35 T10S R22E 2170 FSL 0460 FEL

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

/s/ Michael L. Coulthard

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

MCoulthard:mc:9-18-09

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

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**APD RECEIVED:** 9/11/2009

**API NO. ASSIGNED:** 43047507320000

**WELL NAME:** NBU 921-7L

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

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** NWSW 7 090S 210E

**Permit Tech Review:**

**SURFACE:** 1948 FSL 1196 FWL

**Engineering Review:**

**BOTTOM:** 1948 FSL 1196 FWL

**Geology Review:**

**COUNTY:** UINTAH

**LATITUDE:** 40.04863

**LONGITUDE:** -109.60101

**UTM SURF EASTINGS:** 619338.00

**NORTHINGS:** 4433882.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 0575B

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 2 - Indian

**COALBED METHANE:** NO

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**RECEIVED AND/OR REVIEWED:**

- PLAT
- Bond: FEDERAL - WYB000291
- 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:** 460' fr u bdry & uncomm. tract
  - R649-3-11. Directional Drill
- 

**Comments:** Presite Completed

**Stipulations:** 3 - Commingling - ddoucet  
4 - Federal Approval - dmason  
17 - Oil Shale 190-5(b) - dmason



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-7L  
**API Well Number:** 43047507320000  
**Lease Number:** UTU 0575B  
**Surface Owner:** INDIAN  
**Approval Date:** 9/29/2009

**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

**Commingling:**

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:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

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.

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

OR

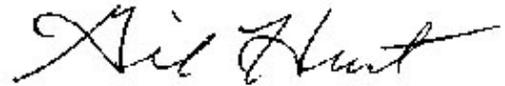
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>

**Reporting Requirements:**

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

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

**Approved By:**

A handwritten signature in black ink, appearing to read "Gil Hunt". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Gil Hunt  
Associate Director, Oil & Gas

<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> UTU 0575B
<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> Ute Tr
<b>1. TYPE OF WELL</b> Gas Well	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>8. WELL NAME and NUMBER:</b> NBU 921-7L
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>9. API NUMBER:</b> 43047507320000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1948 FSL 1196 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSW Section: 07 Township: 09.0S Range: 21.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
	<b>COUNTY:</b> UINTAH
	<b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 9/30/2010	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" 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.

Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

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

Date: October 06, 2010  
By: 

<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 9/29/2010



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

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047507320000**

**API:** 43047507320000

**Well Name:** NBU 921-7L

**Location:** 1948 FSL 1196 FWL QTR NWSW SEC 07 TWP 090S RNG 210E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 9/29/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?  Yes  No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?  Yes  No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?  Yes  No
- Has the approved source of water for drilling changed?  Yes  No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?  Yes  No
- Is bonding still in place, which covers this proposed well?  Yes  No

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

**Signature:** Danielle Piernot

**Date:** 9/29/2010

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date:** October 06, 2010

**By:** 

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575B
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well		<b>8. WELL NAME and NUMBER:</b> NBU 921-7L
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047507320000
<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 FOOTAGES AT SURFACE:</b> 1948 FSL 1196 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSW Section: 07 Township: 09.0S Range: 21.0E Meridian: S		<b>COUNTY:</b> UINTAH
		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/22/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input 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 checked="" type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
<p>Kerr-McGee Oil &amp; Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.</p>		
		<p><b>Approved by the Utah Division of Oil, Gas and Mining</b></p> <p><b>Date:</b> <u>08/22/2011</u></p> <p><b>By:</b> <u></u></p>
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 8/22/2011



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

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047507320000**

**API:** 43047507320000

**Well Name:** NBU 921-7L

**Location:** 1948 FSL 1196 FWL QTR NWSW SEC 07 TWP 090S RNG 210E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 9/29/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
  
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?  Yes  No
  
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?  Yes  No
  
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?  Yes  No
  
- Has the approved source of water for drilling changed?  Yes  No
  
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?  Yes  No
  
- Is bonding still in place, which covers this proposed well?  Yes  No

**Signature:** Andy Lytle

**Date:** 8/22/2011

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**RECEIVED**

UNITED STATES  
DEPARTMENT OF THE INTERIOR **SEP 18 2009**  
BUREAU OF LAND MANAGEMENT

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

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0575B
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE		7. If Unit or CA Agreement, Name and No. UTU63047A
Contact: DANIELLE E PIERNOT Email: Danielle.Piernot@anadarko.com		8. Lease Name and Well No. NBU 921-7L
3a. Address 1368 SOUTH 1200 EAST VERNAL, UT 84078	3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156	9. API Well No. <b>43-047-50732</b>
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface Lot 3 1948FSL 1196FWL 40.04865 N Lat, 109.60169 W Lon At proposed prod. zone Lot 3 1948FSL 1196FWL 40.04865 N Lat, 109.60169 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 9 MILES SOUTHEAST OF OURAY, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 7 T9S R21E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1196 FEET	16. No. of Acres in Lease	12. County or Parish UINTAH
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 1000 FEET	19. Proposed Depth 10687 MD 10687 TVD	13. State UT
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4701 GL	22. Approximate date work will start 09/28/2009	17. Spacing Unit dedicated to this well
		20. BLM/BIA Bond No. on file <b>W4B000291</b>
		23. Estimated duration 60-90 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

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

25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE E PIERNOT Ph: 720-929-6156	Date 09/11/2009
Title REGULATORY ANALYST		
Approved by (Signature) <i>Jerry Kenczka</i>	Name (Printed/Typed) <b>Jerry Kenczka</b>	Date <b>JUL 29 2011</b>
Title <b>Assistant Field Manager Lands &amp; Mineral Resources</b>	Office <b>VERNAL FIELD OFFICE</b>	

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

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

Additional Operator Remarks (see next page)

**RECEIVED**

Electronic Submission #74154 verified by the BLM Well Information System  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal  
Committed to AFMSS for processing by ROBIN R. HANSEN on 09/11/2009 (09RRH0263AE)

**AUG 15 2011**

**UDOGM**

**NOTICE OF APPROVAL  
CONDITIONS OF APPROVAL ATTACHED**

**NOS** *apd posted 9-21-09*  
**AFMSS#**

\*\* BLM REVISED \*\*

*09RRH0263AE*

*110 1106*



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company:	Kerr McGee Oil & Gas Onshore LP	Location:	Lot 3, Sec. 7, T9S R21E
Well No:	NBU 921-7L	Lease No:	UTU-0575B
API No:	43-047-50732	Agreement:	Natural Buttes Unit

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.
Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.
Spud Notice (Notify BLM Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> .
BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify BLM Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

**SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.

**Site-Specific Conditions of Approval:**

- Paint facilities "Shadow Gray."
- Use pit run/gravel on well pad and access road.
- Construct a berm to surround the entire well pad.
- Monitor location by a permitted archaeologist during the construction process.
- Monitor by a permitted paleontologist during the construction process.
- Bury pipeline where construction cross-country.
- In accordance with the guidelines specified in the Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix D), a raptor survey should be conducted prior to construction of the proposed location, pipeline, or access road if construction would take place during raptor nesting season (January 1 through September 30). If active raptor nests are identified during the survey, LMG should conduct its operations according to the seasonal restrictions detailed in the Uintah Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines (See Appendix D).
- Conduct a new biological survey in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures for Uinta Basin hookless cactus and the 2008 BLM RMP Rod, to include a 300 foot buffer from proposed construction operations (See Appendix D), and conduct operations according to agency specifications and the requirements of the BO issued as a result of Section 7 USFWS consultation.

**BIA Standard Conditions of Approval:**

- Soil erosion will be mitigated by reseeding all disturbed areas.
- The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.

- An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.
- The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.
- A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- Major low water crossings will be armored with pit run material to protect them from erosion.
- All personnel should refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.
- If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
- Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
- If project construction operations are scheduled to occur after December 31, 2009, KMG should conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002. If active raptor nest are identified during a new survey, KMG should conduct its operations according to the seasonal restrictions detailed in the Uinta basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines (See Appendix D).
- USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix D).
- All personnel should refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

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

**SITE SPECIFIC DOWNHOLE COAs:**

- Gamma Ray Log shall be run from Total Depth to Surface.

**Variances Granted**

**Air Drilling**

- Properly lubricated and maintained rotating head, variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore, variance granted for blooie line discharge to be 45' from the well bore.
- Variance granted for two truck/trailer mounted air compressors located within 40 feet from the well bore and 60' from the blooie line.
- Mud Material Requirements. In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for kill fluid.
- Automatic igniter. Variance granted for igniter due to there being no productive formations while drilling with air.
- FIT test. Variance granted due to knowledge of geology and problems that can occur with FIT test.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be

performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.

- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

#### OPERATING REQUIREMENT REMINDERS:

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

performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

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

<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> UTU 0575B
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
		<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 921-7L
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047507320000
<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> 1948 FSL 1196 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSW Section: 07 Township: 09.0S Range: 21.0E 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"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 1/31/2012	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<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"/> 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 style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU TRIPPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 01/31/2012 AT 0900 HRS.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> February 01, 2012		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/1/2012	

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 921-7L  
Qtr/Qtr NW/SW Section 7 Township 9S Range 21E  
Lease Serial Number UTU-0575B  
API Number 4304750732

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

Date/Time 01/31/2012 0800 HRS AM  PM

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

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

**RECEIVED**  
JAN 31 2012  
DIV. OF OIL, GAS & MINING

Date/Time 03/21/2012 0800 HRS AM  PM

BOPE

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

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

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

**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
4304750732	NBU 921-7L		NWSW	7	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	99999	2900	1/31/2012			2/3/12	
<b>Comments:</b> MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 01/31/2012 AT 0900 HRS.							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750731	NBU 921-7F		SESW	7	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	99999	2900	1/31/2012			2/3/12	
<b>Comments:</b> MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 01/31/2012 AT 1400 HRS							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750148	NBU 920-24P		SESE	24	9S	20E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	99999	2900	2/1/2012			2/3/12	
<b>Comments:</b> MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 02/01/2012 AT 0730 HRS							

**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

2/1/2012

Title

Date

**RECEIVED**

FEB 01 2012

(5/2000)

DIV. OF OIL, GAS & MINING

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> UTU 0575B
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> UTE
		<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 921-7L	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047507320000	
<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> 1948 FSL 1196 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSW Section: 07 Township: 09.0S Range: 21.0E 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"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 2/16/2012	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION  <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	
	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
<p>MIRU AIR RIG ON FEBRUARY 13, 2012. DRILLED SURFACE HOLE TO 3,137'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.</p>		
<p><b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY February 21, 2012</b></p>		
<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> 2/16/2012	

<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> UTU 0575B
<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> UTE  <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 921-7L
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047507320000
<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> 1948 FSL 1196 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSW Section: 07 Township: 09.0S Range: 21.0E 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: <b>3/16/2012</b>  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>

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

The operator requests approval to deepen the well to the Blackhawk formation (part of the Mesaverde Group). The Operator also requests approval for closed loop drilling option, surface casing change and 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:** March 22, 2012

**By:** *Derek Quist*

<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> 3/16/2012	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-7L**

Surface: 1948 FSL / 1196 FWL NSW

Section 7 T9S R21E

Unitah County, Utah  
Mineral Lease: UTU 0575B**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	1,735'	
Birds Nest	2,011'	Water
Mahogany	2,650'	Water
Wasatch	5,216'	Gas
Mesaverde	8,393'	Gas
Sego	10,706'	Gas
Castlegate	10,781'	Gas
Blackhawk	11,123'	Gas
TVD	11,723'	
TD	11,723'	

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 11723' TVD, approximately equals  
7,737 psi (0.66 psi/ft = actual bottomhole gradient)

---

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

Maximum anticipated surface pressure equals approximately 5,212 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.

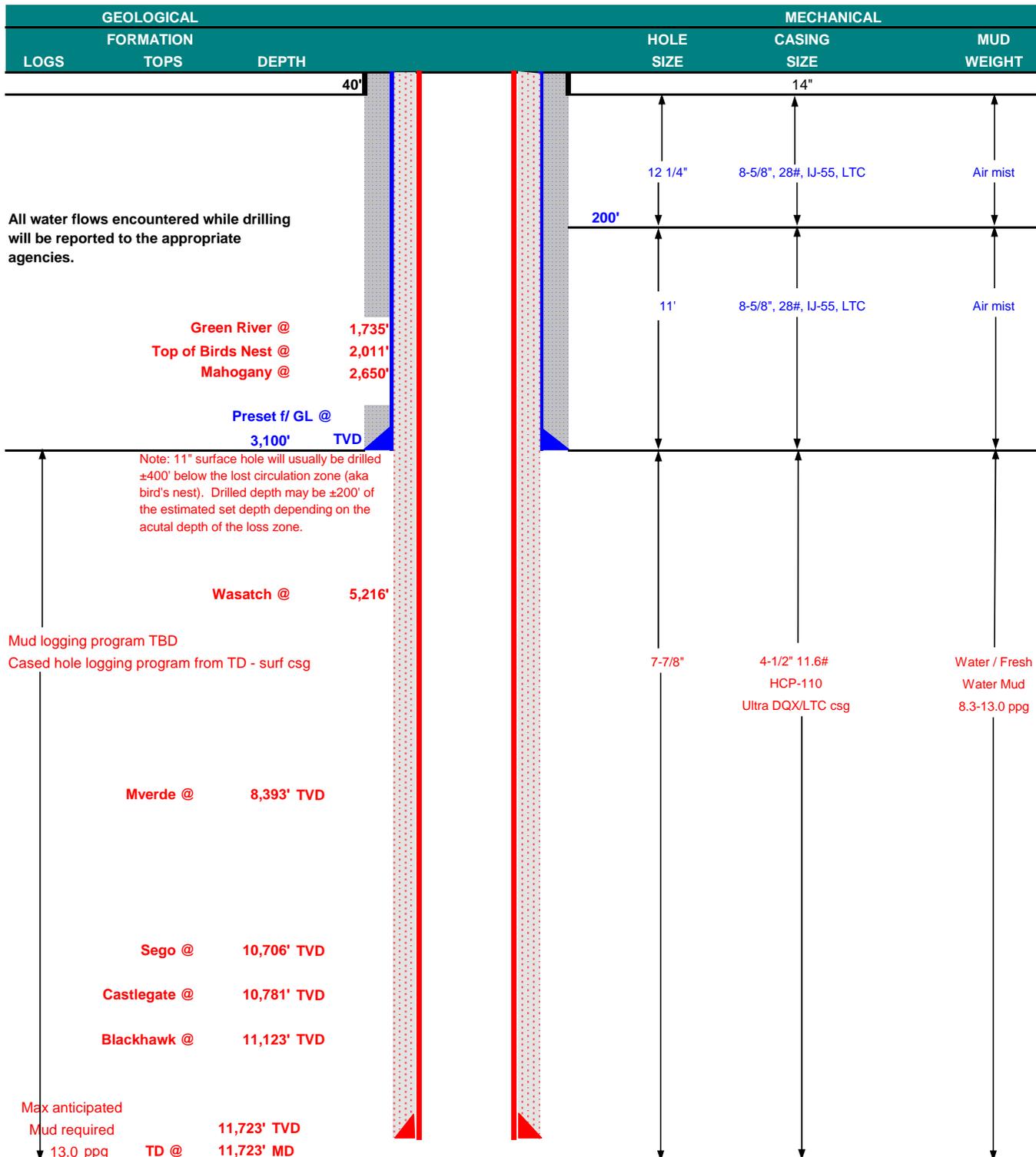
**10. Other Information:**

Please refer to the attached Drilling Program.



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	March 16, 2012			
WELL NAME	<b>NBU 921-7L</b>		TD	11,723'	TVD	11,723' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	4,699'
SURFACE LOCATION	NWSW	1948 FSL	1196 FWL	Sec 7	T 9S	R 21E	
	Latitude: 40.048652		Longitude: -109.601693		NAD 83		
OBJECTIVE ZONE(S)	BLACKHAWK (Part of the Mesaverde Group)						
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Tribe (Surface), UDOGM Tri-County Health Dept.						





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

**CASING PROGRAM**

							DESIGN FACTORS			
							LTC		DQX	
	SIZE	INTERVAL	WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION		
CONDUCTOR	14"	0-40'								
						3,390	1,880	348,000	N/A	
SURFACE	8-5/8"	0 to 3,100	28.00	IJ-55	LTC	1.74	1.30	4.58	N/A	
						10,690	8,650	279,000	367,000	
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	1.19	1.09		3.37	
	4-1/2"	5,000 to 11,723'	11.60	HCP-110	LTC	1.19	1.09	4.46		

**Surface Casing:**

(Burst Assumptions: TD = 13.0 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 @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
<b>Option 1</b>							
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
SURFACE			<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>				
<b>Option 2</b>							
	LEAD	2,600'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	240	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	4,713'	Premium Lite II + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	370	35%	12.00	3.38
	TAIL	7,010'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,650	35%	14.30	1.31

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**ADDITIONAL INFORMATION**

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

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

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

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

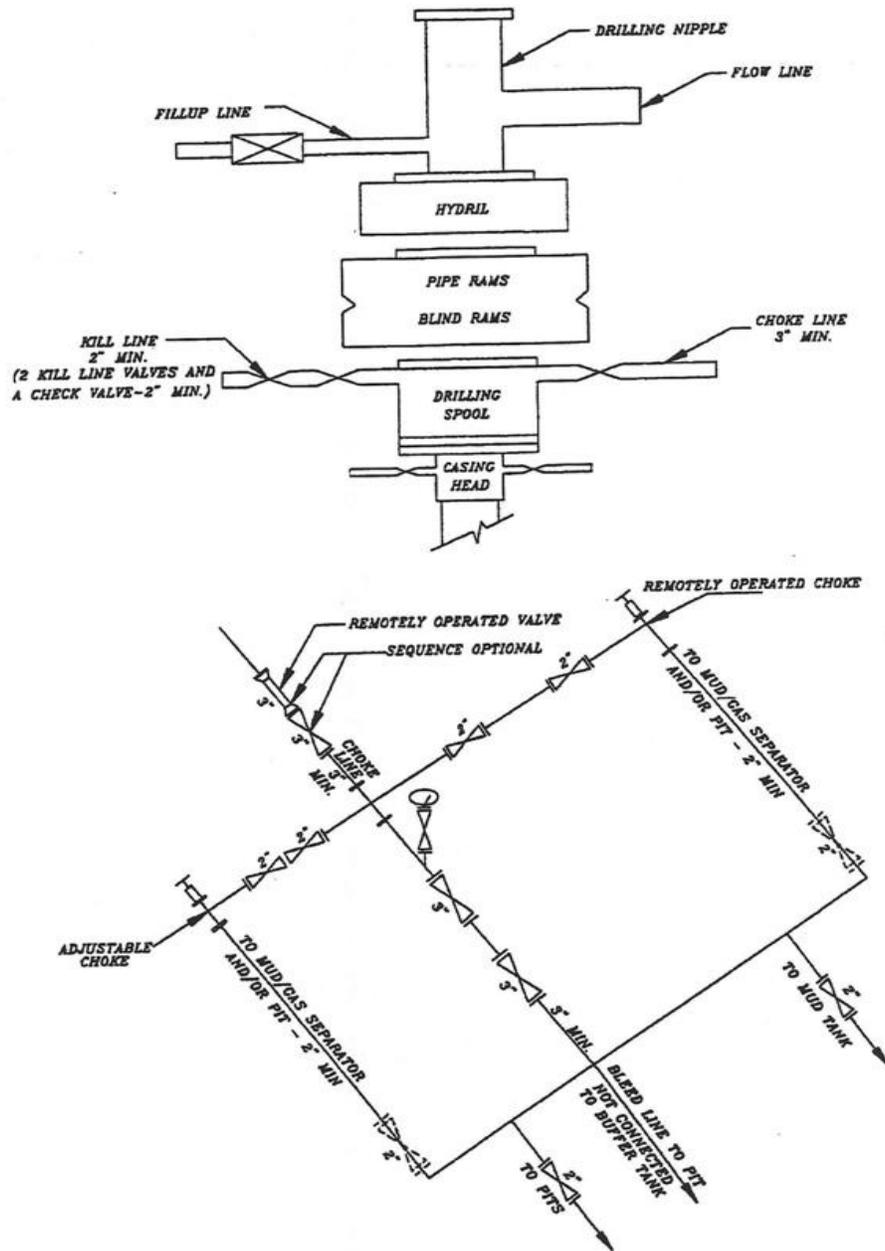
DRILLING ENGINEER: \_\_\_\_\_  
Nick Spence / Danny Showers / Chad Loesel

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

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

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

**EXHIBIT A  
NBU 921-7L**



**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/# PIONEER 54  
Submitted By STUART NEILSON Phone Number 435-790-2921  
Well Name/Number NBU 921-7L  
Qtr/Qtr NW4 NW4 Section 7 Township 9S Range 21E  
Lease Serial Number UTU0575B  
API Number 4304750732

Casing – Time casing run starts, not cementing times.

- Production Casing
- Other

Date/Time \_ \_ AM  PM

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JUN 29 2012  
DIV. OF OIL, GAS & MINING

BOPE

- Initial BOPE test at surface casing point
- Other

Date/Time 6/28/12 12 AM  PM

Rig Move

Location To: NBU 921-7L

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

Remarks \_\_\_\_\_

<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> UTU 0575B
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-7L
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1948 FSL 1196 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSW Section: 07 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047507320000
<b>PHONE NUMBER:</b> 720 929-6511		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<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"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 7/6/2012	<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"/> CHANGE WELL NAME	
	<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 type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. No activity for the month of June 2012. Surface casing set at 2,245'.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          July 09, 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> 7/6/2012	

<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.	5. LEASE DESIGNATION AND SERIAL NUMBER: UTU 0575B
1. TYPE OF WELL Gas Well	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	8. WELL NAME and NUMBER: NBU 921-7L
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1948 FSL 1196 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSW Section: 07 Township: 09.0S Range: 21.0E Meridian: S	9. API NUMBER: 43047507320000
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH	
STATE: UTAH	

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 7/11/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

MIRU ROTARY RIG. FINISHED DRILLING FROM 3137' TO 11725' ON 7/5/2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED PIONEER 54 RIG ON 7/8/2012. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.

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

**FOR RECORD ONLY**

July 11, 2012

NAME (PLEASE PRINT) Cara Mahler	PHONE NUMBER 720 929-6029	TITLE Regulatory Analyst I
SIGNATURE N/A	DATE 7/11/2012	

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# PIONEER 54  
Submitted By KALIB FORD Phone Number 435-790-2921  
Well Name/Number NBU 921-7L  
Qtr/Qtr NW4 NW4 Section 7 Township 9S Range 21E  
Lease Serial Number UTU0575B  
API Number 4304750732

Casing – Time casing run starts, not cementing times.

- Production Casing  
 Other

Date/Time 07/07/2012 7 AM  PM

BOPE

- Initial BOPE test at surface casing point  
 Other

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

Rig Move

Location To:

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

Remarks \_\_\_\_\_

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JUL 10 2012

DIV. OF OIL, GAS & MINING

<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> UTU 0575B
<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> UTE  <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 921-7L
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047507320000
<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> 1948 FSL 1196 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSW Section: 07 Township: 09.0S Range: 21.0E 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: 8/9/2012	<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 08/09/2012. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

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

**FOR RECORD ONLY**

August 14, 2012

<b>NAME (PLEASE PRINT)</b> Cara Mahler	<b>PHONE NUMBER</b> 720 929-6029	<b>TITLE</b> Regulatory Analyst I
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/10/2012	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No. **UTU0575B**

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No. **UTU63047A**

8. Lease Name and Well No. **NBU 921-7L** ✓

9. API Well No. **43-047-50732**

10. Field and Pool, or Exploratory **NATURAL BUTTES**

11. Sec., T., R., M., or Block and Survey or Area **Sec 7 T9S R21E Mer SLB**

12. County or Parish **UINTAH** 13. State **UT**

14. Date Spudded **01/31/2012** 15. Date T.D. Reached **07/05/2012** 16. Date Completed  D & A  Ready to Prod. **08/09/2012** 17. Elevations (DF, KB, RT, GL)\* **4699 GL**

18. Total Depth: MD **11725** TVD **11720** 19. Plug Back T.D.: MD **11668** TVD **11663** 20. Depth Bridge Plug Set: MD **MD** TVD **TVD**

21. Type Electric & Other Mechanical Logs Run (Submit copy of each) **HDIL/ZDL/CNGR-RSL/SM-CBL/GR/COLLARS/TEMP** 22. Was well cored?  No  Yes (Submit analysis) Was DST run?  No  Yes (Submit analysis) Directional Survey?  No  Yes (Submit analysis)

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

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 IJ-55	28.0	0	3127		695		0	
7.875	4.500 I-80	11.6	0	11715		1973		1186	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	11217							

25. Producing Intervals 26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	10027	11501	10027 TO 11501	0.360	120	OPEN
B)						
C)						
D)						

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

Depth Interval	Amount and Type of Material
10027 TO 11501	PUMP 12,526 BBLs SLICK H2O & 289,508 LBS 30/50 OTTAWA SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
08/09/2012	08/11/2012	24	→	0.0	2516.0	699.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
20/64	SI 2735	3765.0	→	0	2516	699		PGW	

28a. Production - Interval B

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

(See Instructions and spaces for additional data on reverse side)  
ELECTRONIC SUBMISSION #149081 VERIFIED BY THE BLM WELL INFORMATION SYSTEM  
\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

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SEP 12 2012

28b. Production - Interval C

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

28c. Production - Interval D

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

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

30. Summary of Porous Zones (Include Aquifers):

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

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER	1878
				BIRD'S NEST	2170
				MAHOGANY	2503
				WASATCH	5295
				MESAVERDE	8402

32. Additional remarks (include plugging procedure):

The first 210 ft. of the surface hole was drilled with a 12 1/4 in. bit. The remainder of the surface hole was drilled with an 11 in. bit. DQX csg was run from surface to 4,933 ft; LTC csg was run from 4933 ft. to 11,715 ft. Attached is the chronological well history, perforation report & final survey.

33. Circle enclosed attachments:

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

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

**Electronic Submission #149081 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal**

Name (please print) CARA MAHLER Title AUTHORIZED REPRESENTATIVE

Signature (Electronic Submission) Date 09/06/2012

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

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-7L		Spud Date: 2/14/2012	
Project: UTAH-UINTAH		Site: NBU 921-7L	Rig Name No: PROPETRO 10/10, PIONEER 54/54
Event: DRILLING		Start Date: 1/24/2012	End Date: 7/8/2012
Active Datum: RKB @4,718.00usft (above Mean Sea Level)		UWI: NWSW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/13/2012	12:00 - 22:30	10.50	MIRU	01	A	P		MOVE RIG, PUMPS, CAMPS, AND ALL MISC DRILLING EQUIPMENT TO NBU 921-7L PAD RIG UP AND PREPARE TO SPUD
	22:30 - 0:00	1.50	MIRU	08	A	Z		CHANGE OUT KELLY HOSE
2/14/2012	0:00 - 0:30	0.50	DRLSUR	06	A	P		PICK UP 12.25" BIT AND MUD MOTOR
	0:30 - 2:00	1.50	DRLSUR	02	C	P		SPUD WELL DRILL 12.25" HOLE F/ 40' - 210' WOB 8-20 ROT 60-75 NO LOSSES
	2:00 - 4:30	2.50	DRLSUR	06	A	P		TOOH PICK UP 11" BIT DIRECTIONAL TOOLS AND INSTALL MWD TOOLS ORIENT TO MUD MOTOR AND TIH
	4:30 - 22:00	17.50	DRLSUR	02	C	P		DRILL 11" HOLE F/ 210' - 2230' WOB 18-20 ROT 65-75 GPM 504 DHR 94 NO LOSSES LAST SURVEY .53 DEG 356.45 AVE ROP 122 FT HR
	22:00 - 0:00	2.00	DRLSUR	08	A	Z		ALTERNATOR ON RIG WENT DOWN TOOH 10 STNDS WAIT ON PARTS FROM TOWN CHANGE OUT AND TIH
2/15/2012	0:00 - 1:30	1.50	DRLSUR	08	A	Z		ALTERNATOR ON RIG WENT DOWN TOOH 10 STNDS WAIT ON PARTS FROM TOWN CHANGE OUT AND TIH
	1:30 - 12:00	10.50	DRLSUR	02	C	P		DRILL 11" HOLE WOB 18-20 ROT 55-65 GPM 504 DHR 94 AVE ROP 86.4 NO LOSSES
	12:00 - 14:00	2.00	DRLSUR	05	C	P		CIRCULATE AND CONDITION MUD PRIOR TO LDDS
	14:00 - 19:00	5.00	DRLSUR	06	A	P		TOOH FOR BIT AND BHA L/D DIRECTIONAL TOOLS AND MWD TOOLS
	19:00 - 20:00	1.00	DRLSUR	12	A	P		RIG UP TO RUN 8.625" CASING
	20:00 - 0:00	4.00	DRLSUR	12	C	P		RIG UP AND RUN 70 JOINTS 8.625 28# J55 SURFACE CASING SHOE AT 3108' BAFFLE AT 3064' WITH NO PROBLEMS
2/16/2012	0:00 - 3:00	3.00	DRLSUR	12	E	P		RIG UP PRESSURE TEST LINES TO 3000 PSI PUMP 20 BBLs GEL SPACER PUMP 220 SX 150 BBLs 11LEAD PPG 3.82 YIELD 2% CaCl PREMIUM CEMENT PUMP 275 SX 56 BBLs TAIL CMNT 15.8 PPG 1.15 YIELD DROP PLUG ON FLY DISPLACE WITH 174 BBLs H2O FLOATS HELD FINAL LIFT PRESSURE 600 PSI FULL RETURNS THROUGH JOB 5 BBLs CMT TO SURFACE. RIG UP AND PUMP 200 SX 40 BBLs TAIL CMNT 15.8 PPG 1.15 YIELD CEMENT TO SURFACE
								RELEASE RIG @ 03:00 2-16-12
6/27/2012	6:00 - 7:00	1.00	RDMO	01	E	P		RIG DOWN
	7:00 - 21:00	14.00	MIRU	01	A	P		HELD SAFETY WITH JD TRUCKING, J&C, MOUNTAIN WEST, MOVE RIG 7.5 MILES, 5 HAUL, 4 BED TRUCKS, 2 FORKLIFTS, 3 SWAMPERS, 2 TRUCK PUSHERS, 1 CRANE OPERATOR, 4 OILERS, 4 MOUNTAIN WEST HANDS, 2 EXTRA RIG HANDS 75% MOVED, 50% RIGGED UP

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-7L

Spud Date: 2/14/2012

Project: UTAH-UINTAH

Site: NBU 921-7L

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 7/8/2012

Active Datum: RKB @4,718.00usft (above Mean Sea Level)

UWI: NW/SW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/28/2012	21:00 - 0:00	3.00	MIRU	01	B	P		RIG UP MUD TANKS, PUMPS, LIGHT PLANT, POWER WASH DERRICK
	0:00 - 6:00	6.00	MIRU	01	B	P		RIG UP BACK YARD, POWER WASH DERRICK
	6:00 - 10:00	4.00	MIRU	01	A	P		FINISH RIG UP
	10:00 - 12:00	2.00	DRLPRV	14	A	P		NIPPLE UP BOPE, CHOKE LINES, FLARE LINES
	12:00 - 14:00	2.00	DRLPRV	14	A	P		NIPPLE UP SWACO, SMITH HEAD & ORBIT VALVE
	14:00 - 18:00	4.00	DRLPRV	15	A	P		TEST BOPE, RAMS & ALL VALVES 250 LOW 5000 HIGH, ANN TO 2500, SURFACE CASING TO 1500 FOR 30 MIN
	18:00 - 19:30	1.50	DRLPRV	15	A	P		TEST SWACO CHOKE & SMITH HEAD, 250 LOW, 1000 HIGH
	19:30 - 20:00	0.50	DRLPRV	14	B	P		INSTALL WEAR BUSHING
	20:00 - 21:00	1.00	DRLPRV	06	A	P		PICK UP BIT #1, MOTOR, DIR TOOLS & SCRIBE
6/29/2012	21:00 - 0:00	3.00	DRLPRV	06	A	P		HELD SAFETY MEETING WITH RIG & FRANK'S CASING CREWS, RIG UP & PICK UP HWDP & DRILL PIPE TO 3050'
	0:00 - 0:30	0.50	DRLPRV	06	A	P		RIG DOWN FRANK'S PICK UP TRUCK
	0:30 - 1:00	0.50	DRLPRV	14	B	P		INSTALL ROT RUBBER
	1:00 - 2:30	1.50	DRLPRV	09	A	P		CUT & SLIP DRILL LINE, PRE-SPUD INSPECTION
	2:30 - 4:30	2.00	DRLPRV	02	F	P		DRILL CEMENT, F/E & OPEN HOLE TO 3152', SHOE @ 3124, BAFFLE @ 3079'
	4:30 - 17:30	13.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 3152 TO 4942', 1790' @ 137.7' PH WOB / 20-22 RPM TOP DRIVE 50-60 SPM 200 GPM 586 MW 8.5 PPG 27 VIS TRQ ON/OFF = 4-8 K PSI ON /OFF 1550/1250, DIFF 200-500 PU/SO/RT = 125-105-115 K LOST 0 BBLS TO FORMATION SLIDE = 32' IN .5 HRS = 64' PH ROT = 1758' IN 12.5 HRS = 140.6' PH NOV- ON LINE 2- DEWATER 37' W & 32' S OF TARGET CENTER ANN PSI DRILLING 20 CONN 20 0 DRILL FLARE, 0 CONN FLARE
	17:30 - 18:00	0.50	DRLPRV	07	A	P		SERVICE RIG, BOP DRILL 75 SEC, F/T ANN & HCR VALVE

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-7L Spud Date: 2/14/2012  
 Project: UTAH-UINTAH Site: NBU 921-7L Rig Name No: PROPETRO 10/10, PIONEER 54/54  
 Event: DRILLING Start Date: 1/24/2012 End Date: 7/8/2012  
 Active Datum: RKB @4,718.00usft (above Mean Sea Level) UWI: NW/SW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 4942' TO 5830', 888' @ 148' PH WOB / 20-22 RPM TOP DRIVE 50-60 SPM 200 GPM 586 MW 8.5 PPG 27 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF 1800-1400, DIFF 200-500 PU/SO/RT = 150-120-135 K LOST 0 BBLS TO FORMATION SLIDE = 72' IN 1.08 HRS = 66.6' PH ROT = 816' IN 4.92 HRS = 165.8' PH NOV- ON LINE 2- DEWATER 17' S & 57' W OF TARGET CENTER ANN PSI DRILLING 20 CONN 20 0 DRILL FLARE, 0 CONN FLARE
6/30/2012	0:00 - 14:30	14.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 5830' TO 7046', 1216' @ 83.8' PH WOB / 20-22 RPM TOP DRIVE 50-60 SPM 200 GPM 586 MW 8.5 PPG 27 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF 1800-1400, DIFF 200-500 PU/SO/RT = 170-130-145 K LOST 0 BBLS TO FORMATION SLIDE = 82' IN 1.75 HRS = 46.8' PH ROT = 1134' IN 12.75 HRS = 88.9' PH NOV- ON LINE 2- DEWATER 5' N & 60' W OF TARGET CENTER ANN PSI DRILLING 20 CONN 20 0 DRILL FLARE, 0 CONN FLARE
	14:30 - 15:30	1.00	DRLPRV	22	K	Z		TROUBLE SHOOT SURFACE EQUIPMENT FOR PSI LOSS, PUMP FLAG
	15:30 - 20:30	5.00	DRLPRV	22	K	Z		PULL OUT OF HOLE FOR HOLE IN PIPE, LAYDOWN BOTTOM JT ON STAND # 60, P/U REPLACEMENT JT, PSI TEST DRILL PIPE, TRIP IN HOLE, 5' BOTTOMS UP FLARE FOR 5 MIN'S
	20:30 - 0:00	3.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 7046' TO 7305', 259' @ 74' PH WOB / 20-22 RPM TOP DRIVE 50-60 SPM 200 GPM 586 MW 8.5 PPG 27 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF 2100-1850, DIFF 200-500 PU/SO/RT = 180-140-160 K LOST 0 BBLS TO FORMATION SLIDE = 18' IN .42 HRS = 42.8' PH ROT = 241' IN 3.08 HRS = 78.2' PH NOV- ON LINE 2- DEWATER 28' N & 60' W OF TARGET CENTER ANN PSI DRILLING 20 CONN 20 0 DRILL FLARE, 0 CONN FLARE

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

Well: NBU 921-7L

Spud Date: 2/14/2012

Project: UTAH-UINTAH

Site: NBU 921-7L

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 7/8/2012

Active Datum: RKB @4,718.00usft (above Mean Sea Level)

UWI: NWSW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/1/2012	0:00 - 17:00	17.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 7305' TO 8545', 1240' @ 72.9' PH WOB / 20-22 RPM TOP DRIVE 50-60 SPM 200 GPM 586 MW 8.5 PPG 27 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF 2100-1850, DIFF 200-500 PU/SO/RT = 190/130/160 K, 30K DRAG LOST 0 BBLS TO FORMATION SLIDE = 30' IN .83 HRS = 36.1' PH ROT = 1210' IN 16.17 HRS = 74.8' PH NOV-ON LINE 2-CONVENTIONAL 38' N & 61' W OF TARGET CENTER ON SWACO @ 8355', FULL BYPASS ANN PSI DRILLING 90 CONN 0 0 DRILL FLARE, 0 CONN FLARE
	17:00 - 17:30	0.50	DRLPRV	07	A	P		SERVICE RIG, BOP DRILL 75 SEC, F/T ANN & HCR VALVE
	17:30 - 0:00	6.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 8545' TO 9080', 535' @ 82.3' PH WOB / 20-22 RPM TOP DRIVE 50-60 SPM 200 GPM 586 MW 8.6 PPG 28 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF 2100-1850, DIFF 200-500 PU/SO/RT = 210-150-175 K, LOST 0 BBLS TO FORMATION SLIDE = ROT = 100% NOV-ON LINE 2-CONVENTIONAL 16' N & 53' W OF TARGET CENTER ON SWACO @ 8700' ANN PSI DRILLING 120 CONN 200 5 DRILL FLARE, 10 CONN FLARE
7/2/2012	0:00 - 17:00	17.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 9080' TO 10,062', 982' @ 57.7' PH WOB / 22-24 RPM TOP DRIVE 50-60 SPM 200 GPM 586 MW 8.7 PPG 32 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF 2500-2100, DIFF 200-500 PU/SO/RT = 245-165-195 K, LOST 0 BBLS TO FORMATION SLIDE = 60' IN 3.51 HRS = 17' PH ROT = 922' IN 13.49 HRS = 68.3' PH NOV-ON LINE 2-CONVENTIONAL 10' S & 53' W OF TARGET CENTER ON SWACO @ 8700' 2-CONVENTIONAL ANN PSI DRILLING 120 CONN 200 5 DRILL FLARE, 10 CONN FLARE
	17:00 - 17:30	0.50	DRLPRV	07	A	P		SERVICE RIG

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-7L

Spud Date: 2/14/2012

Project: UTAH-UINTAH

Site: NBU 921-7L

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 7/8/2012

Active Datum: RKB @4,718.00usft (above Mean Sea Level)

UWI: NW/SW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:30 - 0:00	6.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/10,062' TO 10,400', 338' @ 52' PH WOB / 22-24 RPM TOP DRIVE 50-60 SPM 200 GPM 586 MW 8.8 PPG 32 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF 2600-2100, DIFF 200-500 PU/SO/RT = 245-165-195 K, LOST 0 BBLS TO FORMATION SLIDE = 30' IN 1.67 HRS = 18' PH ROT = 308' IN 4.83 HRS = 63.7' PH NOV-ON LINE 2-CONVENTIONAL 33' S & 55' W OF TARGET CENTER ON SWACO @ 8700' 2-CONVENTIONAL ANN PSI DRILLING 120 CONN 200 5 DRILL FLARE, 10 CONN FLARE
7/3/2012	0:00 - 10:30	10.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/10,400' TO 10867', WOB / 22-24 RPM TOP DRIVE 50-60 SPM 190 GPM 556 MW 8.8 PPG 34 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF 2600-2100, DIFF 200-500 PU/SO/RT = 230-170-206 K, LOST 0 BBLS TO FORMATION SLIDE = ROT = NOV-ON LINE 2-CONVENTIONAL 41' S & 55 WOF TARGET CENTER ON SWACO @ 8700' 2-CONVENTIONAL ANN PSI DRILLING 120 CONN 200 5 DRILL FLARE, 10 CONN FLARE
	10:30 - 15:30	5.00	DRLPRV	05	B	P		RAISE MW TO 10 PPG, CIRC & COND HOLE FOR BIT TRIP
	15:30 - 16:00	0.50	DRLPRV	07	A	P		SERVICE RIG, BOP DRILL 1 MIN & 7 SEC, F/T ANN & HCR VALVE
	16:00 - 16:30	0.50	DRLPRV	05	B	P		BUILD 75 BBL, 12.5 PPG PILL & SPOT ON BOTTOM
	16:30 - 18:30	2.00	DRLPRV	06	A	P		PULL 20 STANDS, WORK TIGHT HOLE OFF BOTTOM 300'
	18:30 - 19:30	1.00	DRLPRV	05	B	P		BUILD 75 BBL PILL, 12.5 PILL, SPOT ON BOTTOM
	19:30 - 0:00	4.50	DRLPRV	06	A	P		TRIP FOR NEW BIT & MOTOR, CHANGE OUT BIT & MOTOR, SCRIBE & TRIP IN HOLE
7/4/2012	0:00 - 5:30	5.50	DRLPRV	06	A	P		TRIP IN HOLE, WAS THOUGH TIGHT SPOTS @ 6100, 7800, 9600, WASH & REAM LAST 300' TO BOTTOM

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

Well: NBU 921-7L

Spud Date: 2/14/2012

Project: UTAH-UINTAH

Site: NBU 921-7L

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 7/8/2012

Active Datum: RKB @4,718.00usft (above Mean Sea Level)

UWI: NWSW0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	5:30 - 13:00	7.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 10,867' - 11,104', 237'@31.6 PHWOB / 22-24 RPM TOP DRIVE 50-60 SPM 190 GPM 556 MW 10.2 PPG 34 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF , DIFF 200-500 PU/SO/RT = 225/180/213 K, LOST 60 BBLS TO FORMATION SLIDE = 10' IN 0.75 HRS@13.3 PH ROT = 227' IN 6.75 HRS@33.6 PH NOV-ON LINE 2-CONVENTIONAL 55' W AND 40' S OF TARGET CENTER SWACO ONLINE @ 8700' ANN PSI DRILLING 120 CONN 200 NOV ON BYPASS 5 DRILL FLARE, 10 CONN FLARE
	13:00 - 13:30	0.50	DRLPRV	07	A	P		DAILY RIG SERVICE
	13:30 - 21:00	7.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 11,104' - 11295', 191'@25.4 PHWOB / 22-24 RPM TOP DRIVE 50-60 SPM 190 GPM 556 MW 10.2 PPG 34 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF , DIFF 200-500 PU/SO/RT = 225/180/213 K, LOST - BBLS TO FORMATION SLIDE = 30' IN 2.75 HRS@10.9 PH ROT = 161 IN 4.75 HRS@33.9 PH NOV-ON LINE 2-CONVENTIONAL 54' W AND 53' S OF TARGET CENTER SWACO ONLINE @ 8700' ANN PSI DRILLING 120 CONN 200 NOV ON BYPASS 5 DRILL FLARE, 10 CONN FLARE
	21:00 - 21:30	0.50	DRLPRV	08	B	S		REPAIR SWABS ON PUMP
	21:30 - 0:00	2.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 11295' - 11410', 115'@46 PH WOB / 25-26 RPM TOP DRIVE 50-60 SPM 190 GPM 556 MW 10.2 PPG 38 VIS TRQ ON/OFF = 6-8 K PSI ON /OFF , DIFF 200-500 PU/SO/RT = 240/195/215 K, LOST - BBLS TO FORMATION SLIDE = ROT = 100% NOV-ON LINE 2-CONVENTIONAL 54' W AND 53' S OF TARGET CENTER SWACO ONLINE @ 8700' ANN PSI DRILLING 120 CONN 200 NOV ON BYPASS 5 DRILL FLARE, 10 CONN FLARE

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

Well: NBU 921-7L

Spud Date: 2/14/2012

Project: UTAH-UINTAH

Site: NBU 921-7L

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 7/8/2012

Active Datum: RKB @4,718.00usft (above Mean Sea Level)

UWI: NWSW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/5/2012	0:00 - 6:00	6.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILLING 11410' - 11725', 315 '@52.5 PHWEIGHT ON BIT 24-25 RPM TOP DRIVE 60 SPM 190 GPM 556 MUD WEIGHT 10.4 PPG, VISCOSITY 37 TORQUE ON/OFF = 7-9 K STAND PIPE PSI ON /OFF 2800-2500 DIFFERENTIAL 200-500 PSI PU/SO/RT = 240/195/215 K LOST 80 BBLs TO FORMATION SLIDE = ROT = 100% 84' S AND 45' W OF TARGET CENTER SWACO ONLINE @ 8700' ANNULUS PSI DRILLING 120 CONN 200 NOV ON BYPASS 5 DRILL FLARE, 10 CONN FLARE
	6:00 - 16:30	10.50	DRLPRV	05	B	P		CIRCULATING AND CONDITIONING MUD, RAISE MUD WEIGHT TO 11.3 PPG. SWACO OFFLINE, HIGH VIS SWEEPS, PUMPED PILL PRIOR TO TRIP
	16:30 - 23:30	7.00	DRLPRV	06	E	P		WIPER TRIP TO SHOE AND BACK TO BOTTOM. WASH AND REAM THROUGH 5300'-6650' AND 8500'-8750'
	23:30 - 0:00	0.50	DRLPRV	05	C	P		CIRCULATING BOTTOMS UP PRIOR TO SECOND WIPER TRIP
7/6/2012	0:00 - 0:30	0.50	DRLPRV	05	C	P		CIRCULATING BOTTOMS UP PRIOR TO TRIP
	0:30 - 6:30	6.00	DRLPRV	06	E	P		SECOND WIPER TRIP PRIOR TO LOGS. WASH AND REAM THROUGH 11674'-11725'
	6:30 - 7:30	1.00	DRLPRV	05	C	P		CIRCULATING BOTTOMS UP PRIOR TO TRIPPING OUT FOR LOGS
	7:30 - 12:30	5.00	DRLPRV	06	B	P		TRIPPING OUT FOR LOGS
	12:30 - 15:30	3.00	DRLPRV	11	D	P		SAFETY MEETING WITH BAKER HUGHES WIRELINE SURVEY CREW, RIGGED UP, RAN LOGS, LOGS BRIDGED OUT AT 3678', RIGGED DOWN
	15:30 - 16:30	1.00	DRLPRV	06	A	P		TRIPPED IN THE HOLE TO 3114'
	16:30 - 17:00	0.50	DRLPRV	09	A	P		SLIP AND CUT DRILL LINE
	17:00 - 21:00	4.00	DRLPRV	06	A	P		TRIPPED IN THE HOLE TO BOTTOM
	21:00 - 22:30	1.50	DRLPRV	05	C	P		CIRCULATING BOTTOMS UP PRIOR TO LAYING DOWN DRILL PIPE
	22:30 - 0:00	1.50	DRLPRV	06	A	P		SAFETY METTING WITH KIMZEY LAYDOWN TRUCK, RIGGED UP TRUCK, PUMPED PILL, LAYING DOWN DRILL PIPE
7/7/2012	0:00 - 6:00	6.00	DRLPRV	06	A	P		LAYING DOWN DRILL PIPE, HEAVY WEIGHT DRILL PIPE, AND BOTTOM HOLE ASSEMBLY
	6:00 - 6:30	0.50	DRLPRV	14	B	P		PULL WEAR BUSHING
	6:30 - 13:30	7.00	DRLPRV	12	C	P		HELD PRE-JOB SAFETY MEETING WITH RIG & KIMZEY CASING CREWS, RIG UP & RUN 152 JOINTS 4.5", 11.6 LB, P110, LTC THREAD + 2 MARKERS, 111 JTS 4.5", 11.6 LB, P110, DQX PRODUCTION CASING + 1 X/O, SHOE @ 11,715, FLOAT @ 11,669, B/H MARKER @ 11,138, MESA MARKER @ 8404', X/O @ 4953'

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

Well: NBU 921-7L		Spud Date: 2/14/2012	
Project: UTAH-UINTAH		Site: NBU 921-7L	Rig Name No: PROPETRO 10/10, PIONEER 54/54
Event: DRILLING		Start Date: 1/24/2012	End Date: 7/8/2012
Active Datum: RKB @4,718.00usft (above Mean Sea Level)		UWI: NW/SW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	13:30 - 17:00	3.50	DRLPRV	05	D	P		CIRCULATED DOWN CASING, CIRCULATED OUT BOTTOMS UP GAS
	17:00 - 20:30	3.50	DRLPRV	12	E	P		HELD PRE JOB SAFETY MEETING WITH RIG & BAKER HUGHES CEMENTERS, TEST LINES TO 5000 PSI, DROP BOTTOM PLUG, PUMP 25 BBL WATER SPACER, LEAD 523 SACK 12 PPG 2.26 YLD, TAIL 1450 SACKS 14.3 PPG 1.32 YLD W .5% EC 1, DROP PLUG & DISPLACE WITH 181.4 BBLS CLAYCARE WATER, FULL RETURNS DURING JOB, BUMPED PLUG @3892 FINAL LIFT BEFORE BUMP 3088 PSI, FLOATS HELD WITH 5 BBLS BACK TO TRUCK AND APPROXIMATELY 15 BBLS SPACER BACK TO SURFACE, EST TOP OF CEMENT 4800'
	20:30 - 21:00	0.50	DRLPRV	14	B	P		INSTALL PACKER WITH CAMERON HAND ON LOCATION
	21:00 - 0:00	3.00	DRLPRV	14	A	P		NIPPLE DOWN BOPE, RIGGING DOWN, RELEASED RIG @ 0000 TO NBU 921-7F

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 921-7L	Wellbore No.	OH
Well Name	NBU 921-7L	Wellbore Name	NBU 921-7L
Report No.	1	Report Date	2/14/2012
Project	UTAH-UINTAH	Site	NBU 921-7L
Rig Name/No.		Event	COMPLETION
Start Date	7/31/2012	End Date	8/9/2012
Spud Date	2/14/2012	Active Datum	RKB @4,718.00usft (above Mean Sea Level)
UWI	NW/SW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0		

### 1.3 General

Contractor		Job Method		Supervisor	
Perforated Assembly		Conveyed Method			

### 1.4 Initial Conditions

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

### 1.5 Summary

Gross Interval	10,027.0 (usft)-11,501.0 (u	Start Date/Time	8/3/2012 12:00AM
No. of Intervals	26	End Date/Time	8/3/2012 12:00AM
Total Shots	120	Net Perforation Interval	36.00 (usft)
Avg Shot Density	3.33 (shot/ft)	Final Surface Pressure	
		Final Press Date	

## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/Add Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
8/3/2012 12:00AM	MESAVERDE/			10,027.0	10,029.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N

2.1 Perforated Interval (Continued)

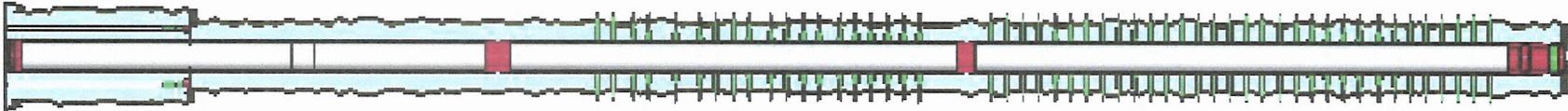
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
8/3/2012 12:00AM	MESAVERDE/			10,117.0	10,119.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			10,190.0	10,192.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			10,216.0	10,217.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			10,258.0	10,259.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			10,382.0	10,383.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			10,404.0	10,406.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			10,517.0	10,518.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			10,527.0	10,529.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			10,548.0	10,550.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,184.0	11,185.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,198.0	11,201.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,224.0	11,225.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,237.0	11,238.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,258.0	11,259.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,264.0	11,265.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,283.0	11,284.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,293.0	11,294.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,302.0	11,303.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,356.0	11,357.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,364.0	11,365.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,385.0	11,386.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
8/3/2012 12:00AM	MESAVERDE/			11,463.0	11,464.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,471.0	11,473.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,486.0	11,487.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/3/2012 12:00AM	MESAVERDE/			11,499.0	11,501.0	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 921-7L		Spud Date: 2/14/2012	
Project: UTAH-UINTAH		Site: NBU 921-7L	Rig Name No: SWABBCO 8/8
Event: COMPLETION		Start Date: 7/31/2012	End Date: 8/9/2012
Active Datum: RKB @4,718.00usft (above Mean Sea Level)		UWI: NW/SW/0/9/S/21/E/7/0/0/26/PM/S/1948/VV/0/1196/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/31/2012	7:00 - 15:30	8.50	FRAC	30	A	P		MIRU. N/D WELL HEAD, N/U BOPS, P/U 3 7/8" BIT AND 2 3/8" P-110 TBG, RIH 252 JTS TO @ 8500', P/O LAY DN 24 JTS, SDFN
8/1/2012	7:00 - 15:00	8.00	FRAC	31	I	P		TOOH W/ 252 JTS 2 3/8" TBG, N/D BOPS, N/U FRAC VALVE, R/U B&C TESTER, PRESSURE TEST CSG AND FRAC VALVE TO 1000# FOR 15 MIN LOST 10 LBS, TEST TO 3500# FOR 15 MIN LOST 18#, TEST TO 9000# FOR 30 MIN LOST 52#, TEST OK, BLEED PRESSURE OFF, SWI SDFN,
8/2/2012	-							
8/3/2012	7:00 - 15:00	8.00	FRAC	37	C	P		HOLD JSA-SAFETY MEETING W/ WIRELINE AND RIG CREW, R/U CASED HOLE,  PERF STG #1] P/U RIH W/ PERF GUN, , PERF LOWER MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, SHUT WELL IN, PREPARE TO FRAC ON MONDAY, SDFWE
8/6/2012	6:45 - 7:00	0.25	FRAC	48		P		JSA-SAFETY MEETING W/ FRAC AND WIRELINE CREW

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-7L Spud Date: 2/14/2012  
 Project: UTAH-UINTAH Site: NBU 921-7L Rig Name No: SWABBCO 8/8  
 Event: COMPLETION Start Date: 7/31/2012 End Date: 8/9/2012  
 Active Datum: RKB @4,718.00usft (above Mean Sea Level) UWI: NWSW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 19:00	12.00	FRAC	36	E	P		<p>PERF &amp; FRAC FOLLOWING WELL AS PER DESIGN W/ 30/50 MESH SAND &amp; SLK WTR.            ALL CBP'S ARE HALIBURTON 10K &amp; 8K CBP'S. REFER TO STIM PJR FOR FLUID, SAND AND CHEMICAL VOLUME PUM'D</p> <p>FRAC STG #1] WHP = 1611#, BRK DN PERFS = 4031#, @ = 6.5 BPM, INJ RT = 50.4 BPM, INJ PSI = 6523#, INITIAL ISIP = 3486#, INITIAL FG = 0.74 , FINAL ISIP = 3852#, FINAL FG = 0.77 , AVERAGE RATE = 4.08 BPM, AVERAGE PRESSURE = 6743#, MAX RATE = 50.5 BPM, MAX PRESSURE = 8159#, NET PRESSURE INCREASE = 366#, CALC 100% PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #2] P/U RIH W/ HALIBURTON 10K CBP &amp; PERF GUN, SET CBP @ = 11416', 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 #2] WHP = 1021 #, BRK DN PERFS = 4567#, @ = 4.2 BPM, INJ RT = 49.9 BPM, INJ PSI = 6653#, INITIAL ISIP = 3605#, INITIAL FG = 0.76 , FINAL ISIP = 3896#, FINAL FG = 0.78 , AVERAGE RATE = 49.2 BPM, AVERAGE PRESSURE = 6652#, MAX RATE = 50.6 BPM, MAX PRESSURE = 7887#, NET PRESSURE INCREASE = 293#, CALC 100% PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #3] P/U RIH W/ HALIBURTON 10K CBP &amp; PERF GUN, SET CBP @ = 11246', 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 = 3436#, BRK DN PERFS = 5002#, @ = 4.5 BPM, INJ RT = 51.1 BPM, INJ PSI = 6949#, INITIAL ISIP = 3918#, INITIAL FG = 0.79 , FINAL ISIP = 3810#, FINAL FG = 0.78 , AVERAGE RATE = 50.5 BPM , AVERAGE PRESSURE = 7142#, MAX RATE = 51.2 BPM, MAX PRESSURE = 8086#, NET PRESSURE INCREASE = - 108#, CALC 100% PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @ = 10580', 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 = 658#, BRK DN PERFS = 3631#, @ = 4.3 BPM, INJ RT = 49.8, INJ PSI = 5690#, INITIAL ISIP = 3020#, INITIAL FG = 0.73, FINAL ISIP = 3398#, FINAL FG = 0.76, AVERAGE RATE = 49.4 BPM, AVERAGE PRESSURE = 5517#, MAX RATE = 50.1 BPM, MAX PRESSURE = 6111#, NET PRESSURE</p>

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-7L

Spud Date: 2/14/2012

Project: UTAH-UINTAH

Site: NBU 921-7L

Rig Name No: SWABBCO 8/8

Event: COMPLETION

Start Date: 7/31/2012

End Date: 8/9/2012

Active Datum: RKB @4,718.00usft (above Mean Sea Level)

UWI: NWSW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								INCREASE = 378#, CALC 100% PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ = 10289', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #5] WHP = 700#, BRK DN PERFS = 4591#, @ = 4.5 BPM, INJ RT = 47.5 BPM, INJ PSI = 5714#, INITIAL ISIP = 3397#, INITIAL FG = 0.77, FINAL ISIP = 3418#, FINAL FG = 0.78, AVERAGE RATE = 49.5 BPM, AVERAGE PRESSURE = 5880#, MAX RATE = 49.8 BPM, MAX PRESSURE = 6343#, NET PRESSURE INCREASE = 21#, CALC 100% PERFS OPEN. X OVER TO WIRE LINE
								KILL PLUG ) P/U RIH W/ HALIBURTON 8K CBP, SET CBP @ 9969'
								TOTAL FLUID PUMP'D = 12,526 bbls TOTAL SAND PUMP'D = 289,508 LBS JSA-SAFETY MEETING
8/7/2012	7:00 - 7:15	0.25	DRLOUT	48		P		NO PRESSURE ON WELL, N/D FRAC VALVE, N/U BOPS, P/U 3 7/8" BIT, RIH W/ 2 3/8" TBG TO @ 9930', PRESSURE TEST BOPS AND CSG TO 3500# OK, PREPARE TO DRILL OUT, SHUT WELL IN SDFN, STANBY FOR APC GAS COMPRESSOR REPAIR BEFORE DRILL OUT, JSA-SAFETY MEETING
	7:15 - 15:00	7.75	DRLOUT	31	I	P		
8/8/2012	7:00 - 15:00	8.00	DRLOUT	46		P		
8/9/2012	7:00 - 7:15	0.25	DRLOUT	48		P		

**US ROCKIES REGION  
Operation Summary Report**

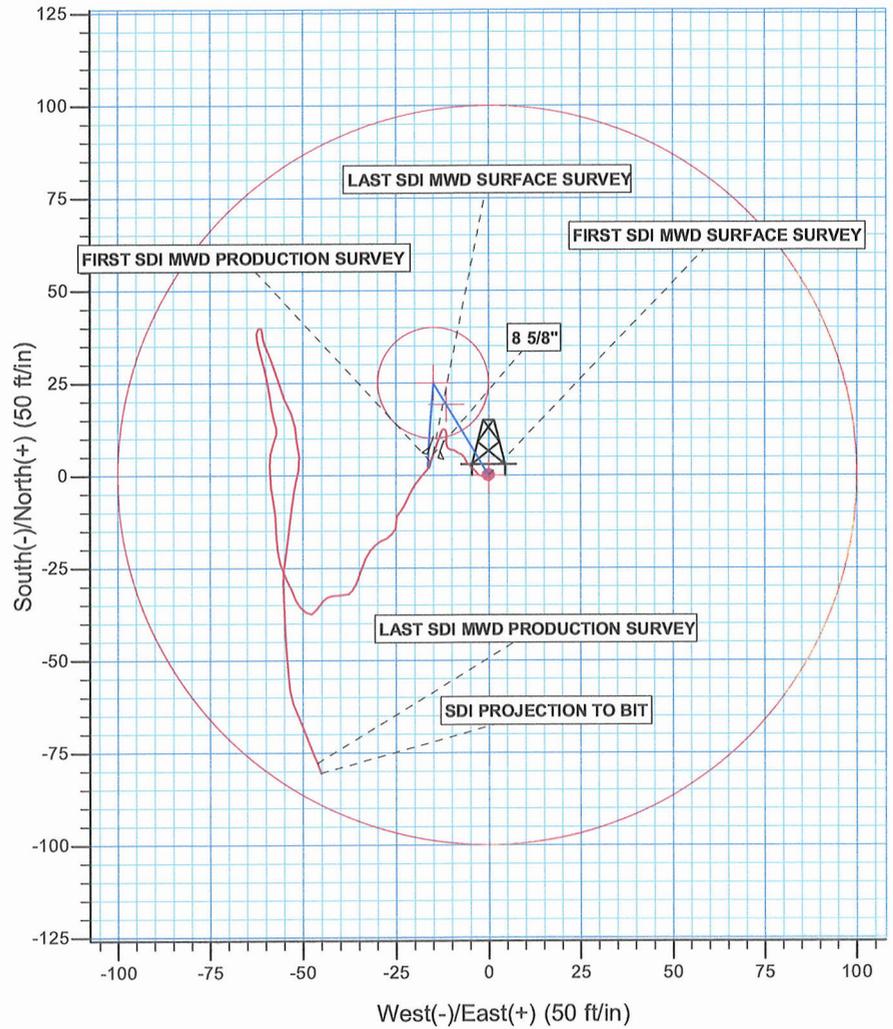
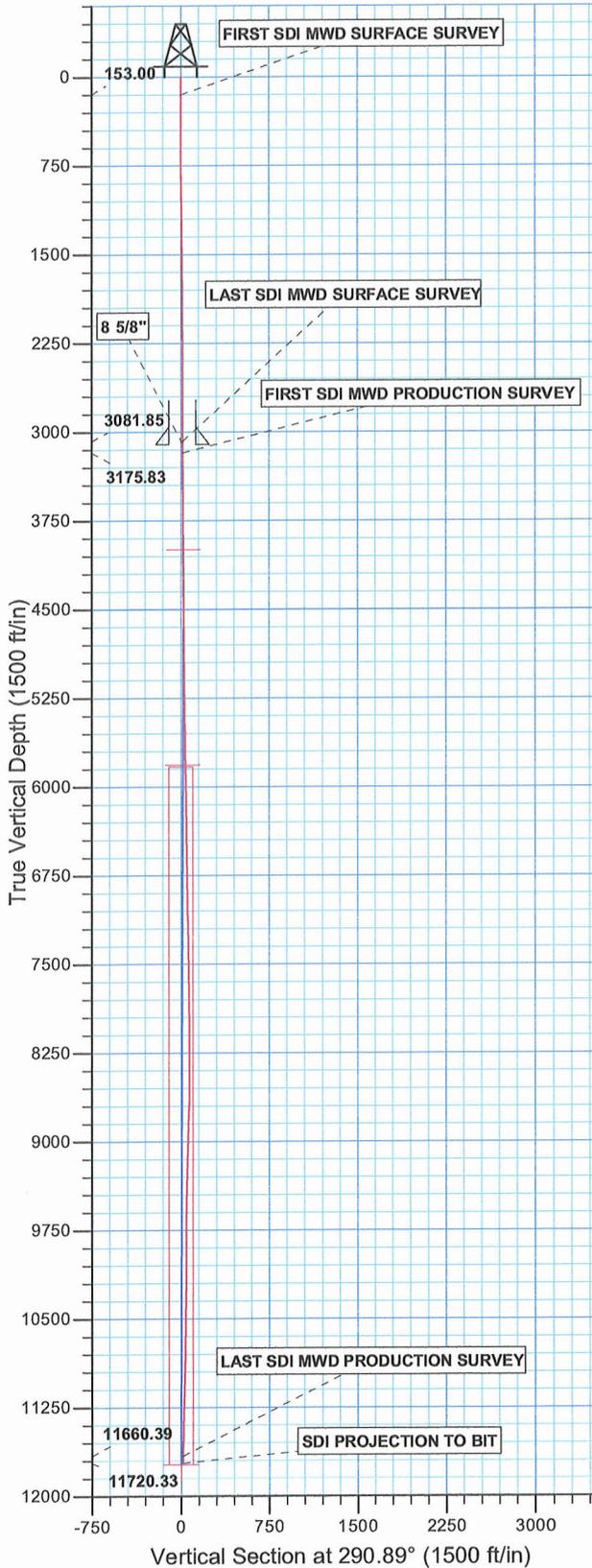
Well: NBU 921-7L Spud Date: 2/14/2012  
 Project: UTAH-UINTAH Site: NBU 921-7L Rig Name No: SWABBCO 8/8  
 Event: COMPLETION Start Date: 7/31/2012 End Date: 8/9/2012  
 Active Datum: RKB @4,718.00usft (above Mean Sea Level) UWI: NW/SW/0/9/S/21/E/7/0/0/26/PM/S/1948/W/0/1196/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation															
	7:15 - 15:00	7.75	DRLOUT	44	C	P		<p>NO PRESSURE ON WELL, ESTB CIRC DN TBG OUT CSG,</p> <p>(DRLG CBP #1 ) 9966', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 200 # DIFF, RIH TAG @ 10259 ', C/O 30 ' SAND, FCP = 50 #</p> <p>(DRLG CBP #2 ) 10289', DRILL OUT HALLIBURTON 8K CBP IN 8 MIN, 400# DIFF, RIH TAG @ 10520 ', C/O 30' SAND, FCP = 500 #</p> <p>(DRLG CBP # 3 ) 10580', DRILL OUT HALLIBURTON 8K CBP IN 7 MIN, 100 # DIFF, RIH TAG @ 11218 ', C/O 30 ' SAND, FCP = 400 #</p> <p>(DRLG CBP #4 ) 11248', DRILL OUT HALLIBURTON 10K CBP IN 7 MIN, 400 # DIFF, RIH TAG @ 11386 ', C/O 30 ' SAND, FCP = 600 #</p> <p>(DRLG CBP #5 ) 11416', DRILL OUT HALLIBURTON 10K CBP IN 8 MIN, 500 # DIFF, RIH TAG @ 11,531 ', C/O 90 ' SAND TO PBTD @ 11621 ', FCP = 850 #</p> <p>CIRC WELL CLEAN, R/D SWIVEL, POOH LAY DN 13 JTS ON TRAILER, LAND TBG W/ HANGER W/ 353 JTS P-110 TBG, EOT @ 11,216.91', R/D FLOOR AND TBG EQUIP, N/D BOP, N/U WELL HEAD, DROP BALL DN TBG, PUMP BIT OFF @ 3500#, WAIT 30 MIN FOR BIT TO FALL, OPEN WELL UP TO HAL 9,000, FLOWING TBG PRESSURE @ 1650 #, SICP = 3875 #, TURN WELL OVER TO FLOW BACK CREW W/ 11,976 BBLs WTR LEFT TO RECOVER,, RIG DN UNIT MOVE OFF LOC,</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">KB</td> <td style="width: 10%; text-align: center;">=</td> <td style="width: 30%;">19.00'</td> </tr> <tr> <td>HANGER 10K</td> <td style="text-align: center;">=</td> <td>.83'</td> </tr> <tr> <td>353 JTS 2 3/8" P-110 TBG</td> <td style="text-align: center;">=</td> <td>11194.88'</td> </tr> <tr> <td>XN- NIPPLE 1.875"</td> <td style="text-align: center;">=</td> <td>2.20'</td> </tr> <tr> <td colspan="2"></td> <td style="border-top: 1px solid black;">EOT = 11216.91'</td> </tr> </table> <p>373 JTS 2 3/8" P-110 DELV.            353 JTS 2 3/8" P-110 LANDED            20 JTS 2 3/8" P-110 RETURNED</p> <p>WELL TURNED TO SALES @ 1145 HR ON 8/9/2012, 860 MCFD, 1920 BWPD, FCP 3300#, FTP 2600#, 18/64" CK.</p>	KB	=	19.00'	HANGER 10K	=	.83'	353 JTS 2 3/8" P-110 TBG	=	11194.88'	XN- NIPPLE 1.875"	=	2.20'			EOT = 11216.91'
KB	=	19.00'																					
HANGER 10K	=	.83'																					
353 JTS 2 3/8" P-110 TBG	=	11194.88'																					
XN- NIPPLE 1.875"	=	2.20'																					
		EOT = 11216.91'																					
	15:00 - 15:00	0.00	DRLOUT	50																			

WELL DETAILS: NBU 921-7L						
GL 4699 KB 19' @ 4718.00ft (PIONEER 54)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	14546849.38	2031946.05	40.048688	-109.601002	



**T** Azimuths to True North  
**M** Magnetic North: 11.04°  
  
 Magnetic Field  
 Strength: 52280.9snT  
 Dip Angle: 65.87°  
 Date: 01/31/2012  
 Model: IGRF2010



PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 7 T9S R21E
System Datum: Mean Sea Level

Design: OH (NBU 921-7L/OH)
Created By: Gabe Kendall Date: 10:43, July 12 2012



# **US ROCKIES REGION PLANNING**

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

**NBU 921-7L**

**NBU 921-7L**

**OH**

**Design: OH**

## **Standard Survey Report**

**12 July, 2012**



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-7L
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4699 KB 19' @ 4718.00ft (PIONEER 54)
<b>Site:</b>	NBU 921-7L	<b>MD Reference:</b>	GL 4699 KB 19' @ 4718.00ft (PIONEER 54)
<b>Well:</b>	NBU 921-7L	<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>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 921-7L, SECTION 7 T9S R21E				
<b>Site Position:</b>		<b>Northing:</b>	14,546,849.38 usft	<b>Latitude:</b>	40.048688
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,031,946.05 usft	<b>Longitude:</b>	-109.601002
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.90 °

<b>Well</b>	NBU 921-7L, 1948 FSL 1196 FWL					
<b>Well Position</b>	+N/-S	0.00 ft	<b>Northing:</b>	14,546,849.38 usft	<b>Latitude:</b>	40.048688
	+E/-W	0.00 ft	<b>Easting:</b>	2,031,946.05 usft	<b>Longitude:</b>	-109.601002
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,699.00 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	01/31/12	11.04	65.87	52,281

<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		290.89

<b>Survey Program</b>	<b>Date</b>	07/12/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
15.00	3,082.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
3,176.00	11,725.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
15.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	
153.00	0.09	144.81	153.00	-0.09	0.06	-0.09	0.07	0.07	0.00	
<b>FIRST SDI MWD SURFACE SURVEY</b>										
181.00	0.09	177.59	181.00	-0.13	0.08	-0.12	0.18	0.00	117.07	
208.00	0.09	263.81	208.00	-0.15	0.06	-0.11	0.46	0.00	319.33	
236.00	0.18	278.14	236.00	-0.15	-0.01	-0.04	0.34	0.32	51.18	
263.00	0.35	250.28	263.00	-0.17	-0.13	0.06	0.77	0.63	-103.19	
292.00	0.26	227.25	292.00	-0.24	-0.26	0.16	0.52	-0.31	-79.41	
323.00	0.18	235.07	323.00	-0.32	-0.35	0.22	0.28	-0.26	25.23	

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 921-7L  
**Well:** NBU 921-7L  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-7L  
**TVD Reference:** GL 4699 KB 19' @ 4718.00ft (PIONEER 54)  
**MD Reference:** GL 4699 KB 19' @ 4718.00ft (PIONEER 54)  
**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)
352.00	0.35	287.63	352.00	-0.32	-0.47	0.33	0.96	0.59	181.24
442.00	0.24	238.98	442.00	-0.33	-0.90	0.72	0.29	-0.12	-54.06
532.00	0.35	295.81	532.00	-0.31	-1.31	1.11	0.33	0.12	63.14
622.00	0.27	258.79	622.00	-0.23	-1.76	1.56	0.23	-0.09	-41.13
712.00	0.38	269.40	711.99	-0.28	-2.27	2.02	0.14	0.12	11.79
802.00	0.62	322.29	801.99	0.11	-2.86	2.71	0.55	0.27	58.77
892.00	0.69	315.40	891.98	0.88	-3.54	3.62	0.12	0.08	-7.66
982.00	0.88	317.16	981.98	1.77	-4.39	4.74	0.21	0.21	1.96
1,072.00	0.79	316.81	1,071.97	2.73	-5.29	5.91	0.10	-0.10	-0.39
1,162.00	0.74	325.98	1,161.96	3.66	-6.04	6.95	0.15	-0.06	10.19
1,252.00	0.53	340.28	1,251.95	4.54	-6.50	7.69	0.29	-0.23	15.89
1,342.00	0.53	307.58	1,341.95	5.18	-6.97	8.36	0.33	0.00	-36.33
1,432.00	0.44	311.71	1,431.95	5.67	-7.56	9.09	0.11	-0.10	4.59
1,522.00	0.35	289.74	1,521.94	5.99	-8.08	9.68	0.19	-0.10	-24.41
1,612.00	0.53	301.61	1,611.94	6.30	-8.69	10.37	0.22	0.20	13.19
1,702.00	0.62	291.24	1,701.94	6.69	-9.50	11.26	0.15	0.10	-11.52
1,792.00	0.62	283.50	1,791.93	6.98	-10.43	12.23	0.09	0.00	-8.60
1,882.00	0.62	326.92	1,881.93	7.51	-11.17	13.11	0.51	0.00	48.24
1,972.00	0.62	353.90	1,971.92	8.40	-11.48	13.72	0.32	0.00	29.98
2,062.00	0.70	358.65	2,061.92	9.43	-11.55	14.15	0.11	0.09	5.28
2,152.00	0.44	1.90	2,151.91	10.33	-11.55	14.47	0.29	-0.29	3.61
2,242.00	0.53	356.45	2,241.91	11.09	-11.56	14.76	0.11	0.10	-6.06
2,332.00	0.44	353.02	2,331.91	11.85	-11.63	15.09	0.11	-0.10	-3.81
2,422.00	0.26	305.65	2,421.90	12.31	-11.84	15.45	0.36	-0.20	-52.63
2,512.00	0.26	259.16	2,511.90	12.39	-12.21	15.82	0.23	0.00	-51.66
2,602.00	0.44	215.91	2,601.90	12.07	-12.61	16.09	0.34	0.20	-48.06
2,692.00	0.53	199.92	2,691.90	11.40	-12.95	16.17	0.18	0.10	-17.77
2,782.00	0.70	196.58	2,781.89	10.48	-13.25	16.12	0.19	0.19	-3.71
2,872.00	0.88	199.48	2,871.88	9.30	-13.64	16.06	0.20	0.20	3.22
2,962.00	1.06	201.32	2,961.87	7.88	-14.17	16.05	0.20	0.20	2.04
3,082.00	1.14	198.25	3,081.85	5.71	-14.95	16.00	0.08	0.07	-2.56
<b>LAST SDI MWD SURFACE SURVEY</b>									
3,176.00	1.39	197.89	3,175.83	3.73	-15.59	15.90	0.27	0.27	-0.38
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
3,271.00	1.73	213.16	3,270.79	1.44	-16.73	16.15	0.56	0.36	16.07
3,366.00	1.68	225.04	3,365.75	-0.75	-18.50	17.02	0.38	-0.05	12.51
3,460.00	1.63	210.43	3,459.71	-2.87	-20.15	17.80	0.45	-0.05	-15.54
3,555.00	2.02	204.94	3,554.66	-5.56	-21.54	18.15	0.45	0.41	-5.78
3,650.00	1.97	205.96	3,649.80	-8.54	-22.97	18.41	0.06	-0.05	1.07
3,744.00	0.79	231.24	3,743.58	-10.40	-24.18	18.88	1.38	-1.26	26.89
3,839.00	0.62	204.88	3,838.57	-11.28	-24.91	19.25	0.38	-0.18	-27.75
3,934.00	1.21	170.32	3,933.56	-12.73	-24.95	18.77	0.82	0.62	-36.38
4,028.00	1.10	201.95	4,027.54	-14.55	-25.12	18.28	0.68	-0.12	33.65

**Company:** US ROCKIES REGION PLANNING  
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**Site:** NBU 921-7L  
**Well:** NBU 921-7L  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-7L  
**TVD Reference:** GL 4699 KB 19' @ 4718.00ft (PIONEER 54)  
**MD Reference:** GL 4699 KB 19' @ 4718.00ft (PIONEER 54)  
**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)
4,123.00	1.06	225.18	4,122.52	-16.01	-26.09	18.66	0.46	-0.04	24.45
4,218.00	1.14	245.00	4,217.51	-17.03	-27.57	19.68	0.41	0.08	20.86
4,313.00	0.97	238.01	4,312.49	-17.86	-29.11	20.82	0.22	-0.18	-7.36
4,408.00	1.16	225.99	4,407.47	-18.95	-30.48	21.72	0.31	0.20	-12.65
4,503.00	1.49	223.95	4,502.45	-20.51	-32.03	22.61	0.35	0.35	-2.15
4,597.00	1.72	201.13	4,596.41	-22.70	-33.38	23.09	0.72	0.24	-24.28
4,692.00	2.29	198.73	4,691.35	-25.83	-34.51	23.03	0.61	0.60	-2.53
4,787.00	2.46	199.87	4,786.27	-29.55	-35.81	22.92	0.19	0.18	1.20
4,882.00	1.58	244.25	4,881.22	-32.03	-37.68	23.78	1.82	-0.93	46.72
4,976.00	1.27	280.58	4,975.19	-32.41	-39.87	25.70	1.00	-0.33	38.65
5,071.00	1.58	256.82	5,070.16	-32.51	-42.18	27.82	0.70	0.33	-25.01
5,166.00	1.80	222.51	5,165.12	-33.91	-44.47	29.45	1.07	0.23	-36.12
5,260.00	1.49	210.33	5,259.08	-36.05	-46.08	30.20	0.50	-0.33	-12.96
5,355.00	1.29	242.25	5,354.06	-37.62	-47.65	31.10	0.83	-0.21	33.60
5,450.00	1.41	325.46	5,449.04	-37.15	-49.26	32.77	1.89	0.13	87.59
5,545.00	1.06	300.50	5,544.02	-35.74	-50.68	34.60	0.67	-0.37	-26.27
5,640.00	2.02	338.65	5,638.98	-33.74	-52.05	36.59	1.43	1.01	40.16
5,734.00	1.85	336.01	5,732.93	-30.81	-53.27	38.78	0.20	-0.18	-2.81
5,829.00	1.85	334.87	5,827.88	-28.02	-54.54	40.96	0.04	0.00	-1.20
5,924.00	0.97	345.50	5,922.85	-25.85	-55.40	42.53	0.96	-0.93	11.19
6,019.00	1.63	334.69	6,017.83	-23.85	-56.18	43.98	0.74	0.69	-11.38
6,114.00	2.37	356.40	6,112.77	-20.67	-56.88	45.76	1.10	0.78	22.85
6,209.00	2.24	356.92	6,207.69	-16.86	-57.10	47.33	0.14	-0.14	0.55
6,304.00	1.90	353.38	6,302.63	-13.44	-57.38	48.82	0.38	-0.36	-3.73
6,399.00	1.67	2.82	6,397.58	-10.49	-57.49	49.97	0.39	-0.24	9.94
6,494.00	2.55	344.89	6,492.52	-7.07	-57.98	51.64	1.15	0.93	-18.87
6,589.00	2.02	357.46	6,587.44	-3.35	-58.60	53.55	0.76	-0.56	13.23
6,683.00	1.58	352.18	6,681.40	-0.42	-58.85	54.83	0.50	-0.47	-5.62
6,778.00	1.93	359.48	6,776.35	2.48	-59.04	56.05	0.44	0.37	7.68
6,873.00	1.89	9.28	6,871.30	5.63	-58.81	56.95	0.35	-0.04	10.32
6,968.00	1.63	24.76	6,966.26	8.40	-57.99	57.17	0.57	-0.27	16.29
7,063.00	1.70	6.80	7,061.22	11.03	-57.26	57.42	0.55	0.07	-18.91
7,158.00	2.46	344.80	7,156.16	14.39	-57.62	58.97	1.15	0.80	-23.16
7,253.00	1.76	347.70	7,251.09	17.79	-58.47	60.97	0.75	-0.74	3.05
7,347.00	2.73	352.36	7,345.02	21.42	-59.07	62.83	1.05	1.03	4.96
7,443.00	2.20	349.41	7,440.93	25.49	-59.72	64.88	0.57	-0.55	-3.07
7,538.00	1.67	345.89	7,535.87	28.63	-60.39	66.63	0.57	-0.56	-3.71
7,632.00	1.32	346.21	7,629.84	31.01	-60.98	68.03	0.37	-0.37	0.34
7,727.00	1.06	343.04	7,724.82	32.91	-61.50	69.19	0.28	-0.27	-3.34
7,822.00	1.41	349.11	7,819.80	34.90	-61.97	70.35	0.39	0.37	6.39
7,916.00	1.06	351.13	7,913.78	36.89	-62.33	71.39	0.38	-0.37	2.15
8,011.00	0.62	2.03	8,008.77	38.28	-62.44	71.99	0.49	-0.46	11.47
8,106.00	0.44	35.69	8,103.76	39.09	-62.21	72.06	0.37	-0.19	35.43
8,200.00	0.35	31.73	8,197.76	39.62	-61.85	71.92	0.10	-0.10	-4.21

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**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-7L  
**TVD Reference:** GL 4699 KB 19' @ 4718.00ft (PIONEER 54)  
**MD Reference:** GL 4699 KB 19' @ 4718.00ft (PIONEER 54)  
**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)
8,295.00	0.18	125.60	8,292.76	39.78	-61.58	71.72	0.43	-0.18	98.81
8,390.00	0.44	136.06	8,387.76	39.43	-61.20	71.24	0.28	0.27	11.01
8,485.00	0.88	178.95	8,482.75	38.44	-60.94	70.64	0.67	0.46	45.15
8,579.00	0.92	173.01	8,576.74	36.97	-60.83	70.02	0.11	0.04	-6.32
8,674.00	0.97	154.52	8,671.73	35.49	-60.39	69.08	0.32	0.05	-19.46
8,769.00	1.41	158.30	8,766.71	33.68	-59.62	67.71	0.47	0.46	3.98
8,865.00	1.92	162.60	8,862.67	31.04	-58.70	65.91	0.55	0.53	4.48
8,959.00	2.20	158.30	8,956.61	27.86	-57.56	63.71	0.34	0.30	-4.57
9,054.00	2.29	162.34	9,051.53	24.36	-56.31	61.30	0.19	0.09	4.25
9,149.00	2.64	159.09	9,146.44	20.51	-54.95	58.65	0.40	0.37	-3.42
9,244.00	2.39	149.86	9,241.35	16.75	-53.18	55.66	0.50	-0.26	-9.72
9,339.00	2.26	177.71	9,336.28	13.17	-52.11	53.38	1.19	-0.14	29.32
9,433.00	2.46	171.13	9,430.20	9.32	-51.72	51.65	0.36	0.21	-7.00
9,528.00	2.73	170.78	9,525.10	5.08	-51.05	49.50	0.28	0.28	-0.37
9,623.00	2.11	197.76	9,620.02	1.18	-51.22	48.27	1.35	-0.65	28.40
9,718.00	1.93	190.38	9,714.96	-2.06	-52.04	47.88	0.33	-0.19	-7.77
9,813.00	1.85	184.57	9,809.91	-5.16	-52.45	47.16	0.22	-0.08	-6.12
9,907.00	1.85	190.73	9,903.86	-8.17	-52.85	46.46	0.21	0.00	6.55
10,002.00	1.81	188.51	9,998.81	-11.16	-53.36	45.87	0.09	-0.04	-2.34
10,097.00	2.33	184.97	10,093.75	-14.57	-53.75	45.02	0.56	0.55	-3.73
10,192.00	2.27	186.56	10,188.67	-18.36	-54.13	44.02	0.09	-0.06	1.67
10,286.00	2.26	190.06	10,282.60	-22.03	-54.67	43.22	0.15	-0.01	3.72
10,381.00	2.02	186.16	10,377.53	-25.54	-55.17	42.44	0.30	-0.25	-4.11
10,476.00	2.37	179.21	10,472.46	-29.17	-55.33	41.29	0.46	0.37	-7.32
10,570.00	2.20	175.43	10,566.39	-32.91	-55.16	39.79	0.24	-0.18	-4.02
10,665.00	2.46	179.83	10,661.31	-36.77	-55.01	38.28	0.33	0.27	4.63
10,759.00	2.48	176.10	10,755.22	-40.82	-54.86	36.70	0.17	0.02	-3.97
10,855.00	2.73	175.26	10,851.12	-45.17	-54.53	34.84	0.26	0.26	-0.88
10,950.00	2.46	178.95	10,946.03	-49.46	-54.31	33.10	0.33	-0.28	3.88
11,045.00	2.64	172.71	11,040.93	-53.67	-53.99	31.30	0.35	0.19	-6.57
11,140.00	2.72	174.37	11,135.83	-58.08	-53.49	29.26	0.12	0.08	1.75
11,235.00	1.92	156.78	11,230.75	-61.79	-52.64	27.15	1.12	-0.84	-18.52
11,329.00	2.20	157.07	11,324.69	-64.90	-51.32	24.80	0.30	0.30	0.31
11,423.00	2.29	158.47	11,418.62	-68.30	-49.93	22.29	0.11	0.10	1.49
11,519.00	2.46	161.20	11,514.53	-72.04	-48.56	19.68	0.21	0.18	2.84
11,614.00	2.55	153.90	11,609.44	-75.87	-46.97	16.83	0.35	0.09	-7.68
11,665.00	2.55	161.11	11,660.39	-77.96	-46.11	15.27	0.63	0.00	14.14
<b>LAST SDI MWD PRODUCTION SURVEY</b>									
11,725.00	2.55	161.11	11,720.33	-80.48	-45.24	13.56	0.00	0.00	0.00
<b>SDI PROJECTION TO BIT</b>									

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**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
3,108.00	3,107.84	8 5/8"	8.625	11.000

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
153.00	153.00	-0.09	0.06	FIRST SDI MWD SURFACE SURVEY	
3,082.00	3,081.85	5.71	-14.95	LAST SDI MWD SURFACE SURVEY	
3,176.00	3,175.83	3.73	-15.59	FIRST SDI MWD PRODUCTION SURVEY	
11,665.00	11,660.39	-77.96	-46.11	LAST SDI MWD PRODUCTION SURVEY	
11,725.00	11,720.33	-80.48	-45.24	SDI PROJECTION TO BIT	

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