

**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 921-19F	
<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 0581			<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>	2236 FNL 2285 FWL	SE	19	9.0 S	21.0 E	S	
<b>Top of Uppermost Producing Zone</b>	2236 FNL 2285 FWL	SE	19	9.0 S	21.0 E	S	
<b>At Total Depth</b>	2236 FNL 2285 FWL	SE	19	9.0 S	21.0 E	S	
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 2236			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 2399	
			<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 1200			<b>26. PROPOSED DEPTH</b> MD: 10400 TVD: 10400	
<b>27. ELEVATION - GROUND LEVEL</b> 4830			<b>28. BOND NUMBER</b> WYB000291			<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496	

**ATTACHMENTS**

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

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

<b>NAME</b> Kathy Schneebeck-Dulnoan	<b>TITLE</b> Staff Regulatory Analyst	<b>PHONE</b> 720 929-6007
<b>SIGNATURE</b>	<b>DATE</b> 08/27/2009	<b>EMAIL</b> Kathy.SchneebeckDulnoan@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047506980000	<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	10400		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade HCP-110 LT&C	800	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	2635		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade J-55 LT&C	2635	36.0			



**NBU 921-19F**

Surface: 2,236' FNL 2,285' FWL (SE/4NW/4)  
Sec. 19 T9S R21E

Uintah, Utah  
Mineral Lease: UTU 0581

**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	1,681'	
Birds Nest	1,924'	Water
Mahogany	2,431'	Water
Wasatch	5,048'	Gas
Mesaverde	8,115'	Gas
MVU2	9,111'	Gas
MVL1	9,610'	Gas
TD	10,400'	

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 10,400' TD, approximately equals 6,479 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 4,191 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 2635	36.00	J-55	LTC	0.82*	1.64	4.78
PRODUCTION	4-1/2"	0 to 9600	11.60	I-80	BTC	1.81	1.04	2.83
		9600 to 10400	11.60	HCP-110	LTC	2.48	1.31	36.95

\*Burst on surface casing is controlled by fracture gradient as shoe with gas gradient above. D.F. = 2.12

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 4,191 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 6,479 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	2,135'	Prem cmt + 16% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOC	240	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	4,540'	Premium Lite II + 0.25 pps celloflake + 5 pps gilsonite + 10% gel ' + 1% Retarder	440	40%	11.00	3.38
PRODUCTION TAIL	5,860'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1430	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**

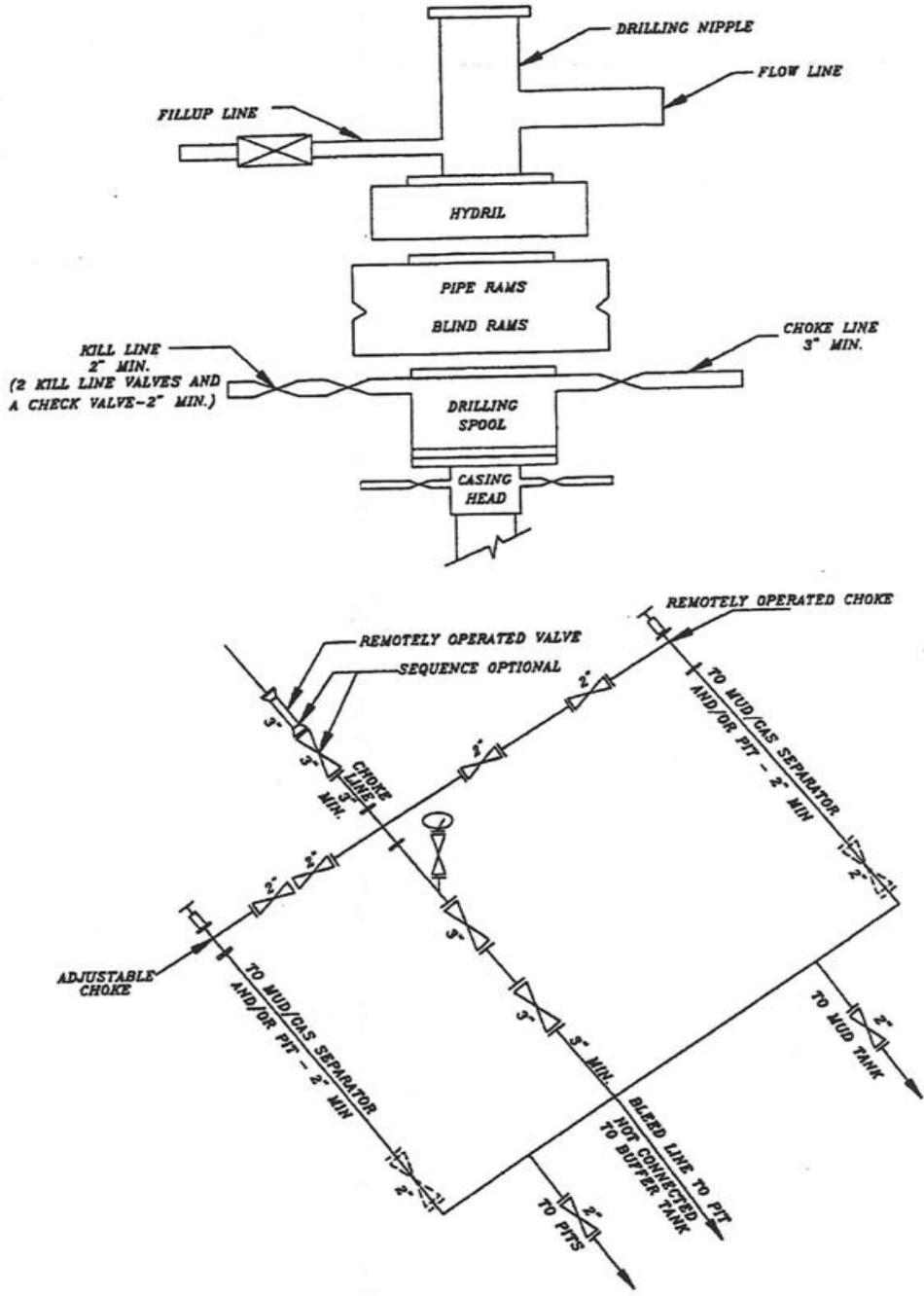
SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.
PRODUCTION	Float shoe, 1 jt, float collar. Centralize first 3 joints & every third joint for a total of 15 bow spring centralizers.

**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

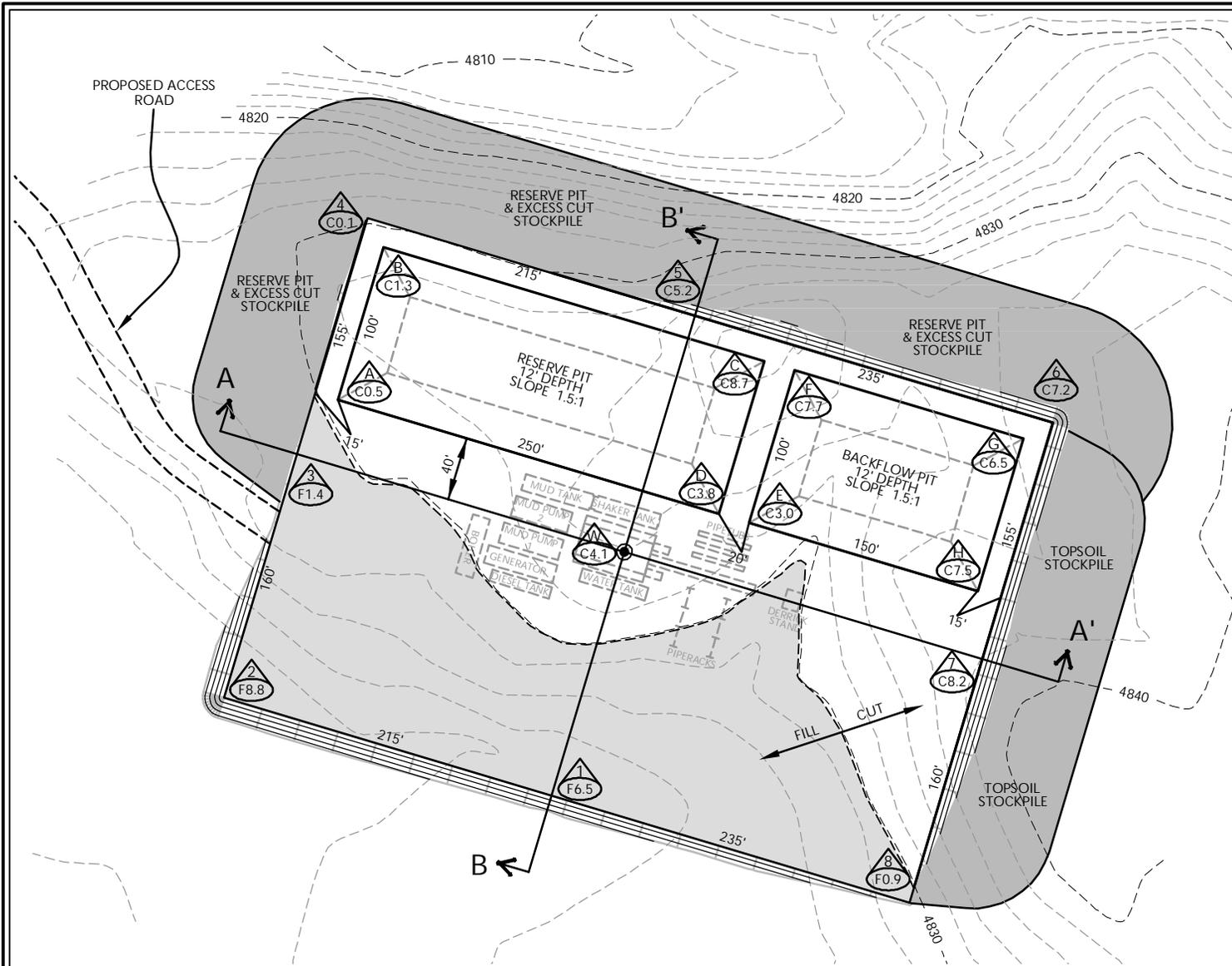
### EXHIBIT A NBU 921-19F



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

'APIWellNo:43047506980000'

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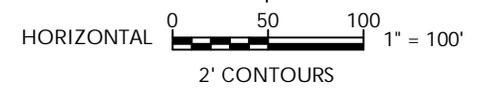


WELL PAD LEGEND	
	WELL LOCATION
	EXISTING CONTOURS (2' INTERVAL)
	PROPOSED CONTOURS (2' INTERVAL)

**WELL PAD NBU 921-19F QUANTITIES**

EXISTING GRADE @ LOC. STAKE = 4,834.0'  
 FINISHED GRADE ELEVATION = 4,829.9'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 10,299 C.Y.  
 TOTAL FILL FOR WELL PAD = 9,907 C.Y.  
 TOPSOIL @ 6" DEPTH = 2,836 C.Y.  
 EXCESS MATERIAL = 392 C.Y.  
 TOTAL PAD DISTURBANCE = 3.52 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 32,370 BARRELS  
 RESERVE PIT VOLUME  
 +/- 8,510 CY  
 BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
 +/- 18,300 BARRELS  
 BACKFLOW PIT VOLUME  
 +/- 4,860 CY



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

**WELL PAD - NBU 921-19F**

**WELL PAD - LOCATION LAYOUT**  
 NBU 921-19F

2236' FNL, 2285' FWL  
 SE1/4 NW1/4 OF SECTION 19, T9S, R21E  
 S.L.B.&M., Uintah County, Utah



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

Scale: 1"=100'

Date: 5/13/09

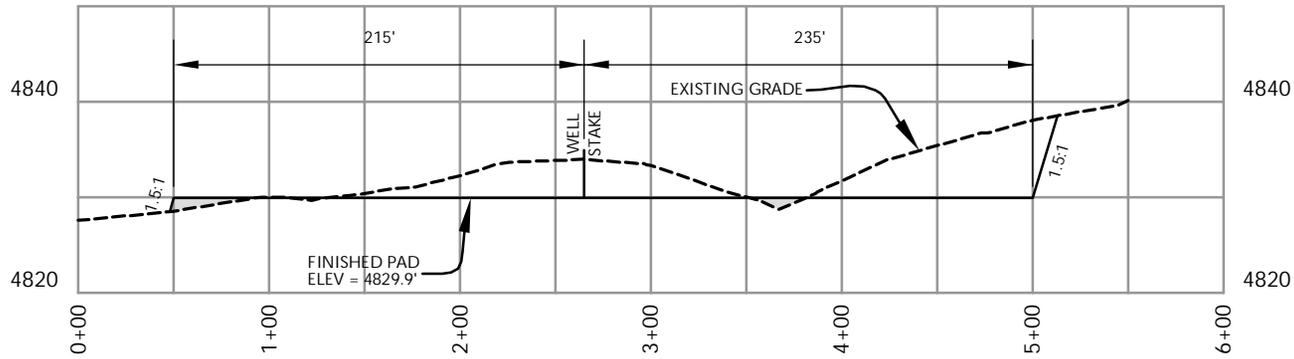
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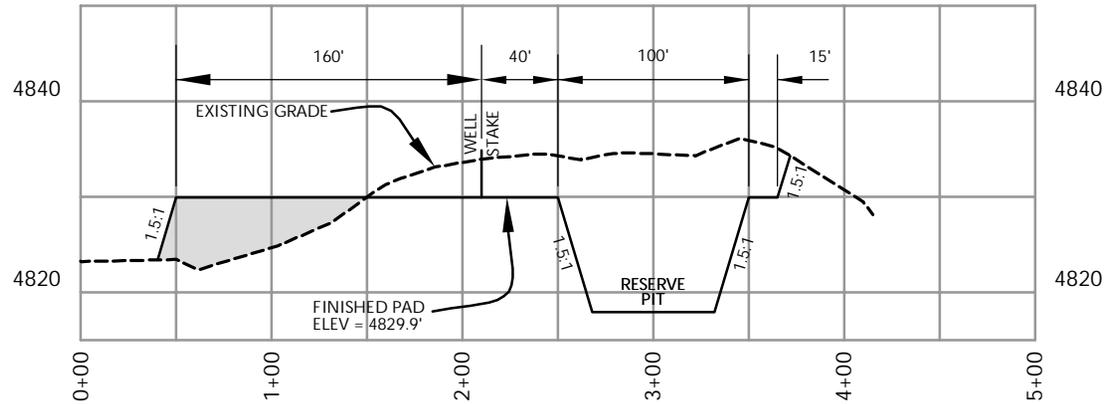
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2 OF 9

**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

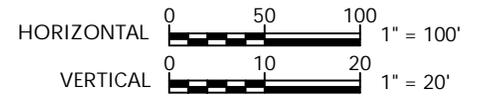
WELL PAD - NBU 921-19F

WELL PAD - CROSS SECTIONS  
NBU 921-19F

2236' FNL, 2285' FWL  
SE1/4 NW1/4 OF SECTION 19, T9S, R21E  
S.L.B.&M., UINTAH COUNTY, UTAH



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



Scale: 1"=100' Date: 5/13/09

SHEET NO:

**3**

3 OF 9

REVISED:

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









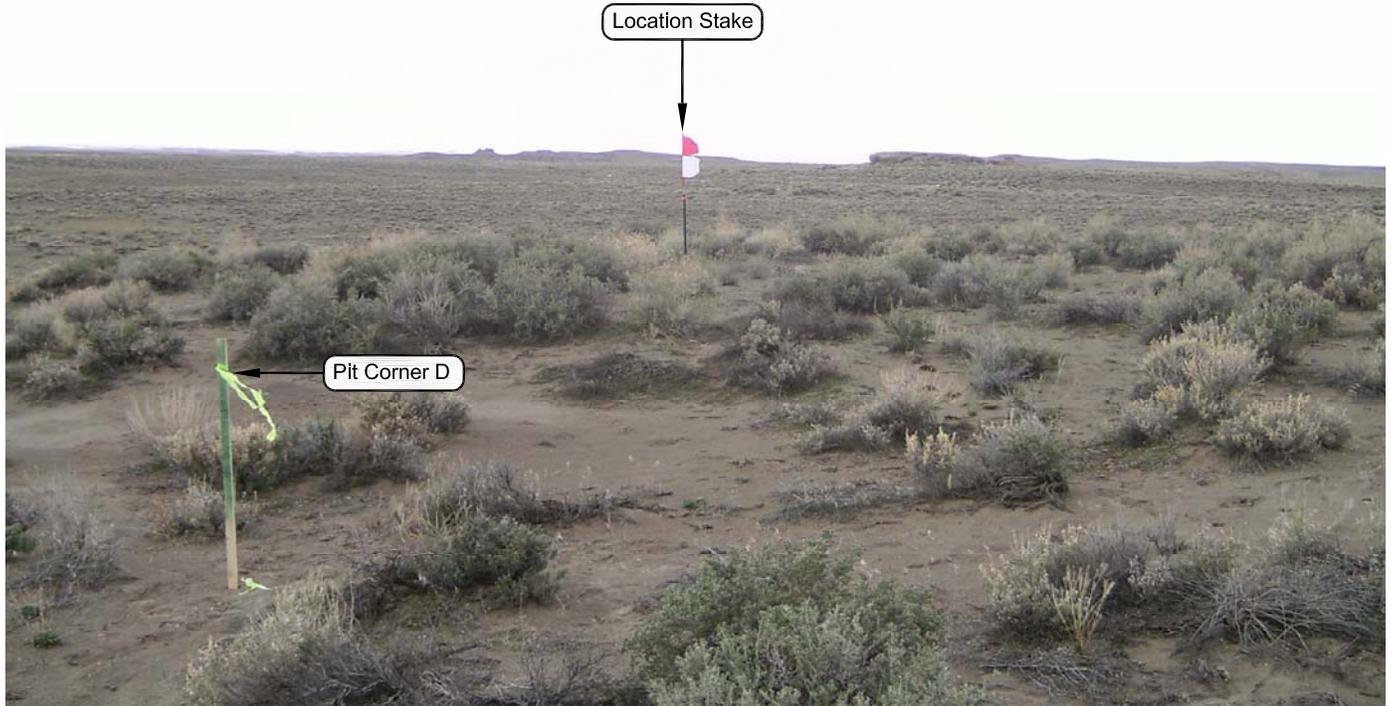


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: SOUTHWESTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHEASTERLY

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

**Well Pad - NBU 921-19F**

**NBU 921-19F  
 LOCATION PHOTOS  
 2236' FNL, 2285' FWL  
 SE ¼ NW ¼ OF SECTION 19, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH.**



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

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

DATE PHOTOS TAKEN: 04-10-09	PHOTOS TAKEN BY: B.J.S.	SHEET NO: <b>4</b> 4 OF 9
DATE DRAWN: 05-08-09	DRAWN BY: M.W.W.	
Date Last Revised:		

**Kerr-McGee Oil & Gas Onshore, LP**  
**WELL PAD - NBU 921-19F**  
**WELL – NBU 921-19F**  
**Section 19, 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 5.3 MILES TO THE INTERSECTION OF A SERVICE ROAD TO THE NORTHEAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY THEN SOUTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 4.4 MILES TO A SECOND SERVICE ROAD TO THE NORTH. EXIT LEFT AND PROCEED NORTHERLY ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.4 MILES TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 795 FEET TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 41.0 MILES IN A SOUTHERLY DIRECTION.

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 #09-81**

# **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Well Pads, Access Roads,  
and Pipelines for "NBU #921-18M, 18N, 19F, 20F, & 20H"  
(Sec. 18-21, T 9 S, R 21 E)**

Ouray SE  
Topographic Quadrangle  
Uintah County, Utah

June 18, 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 #64

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

**Wells:** NBU 921-19F, NBU 921-19E, NBU 921-19L, NBU 921-19M, NBU 921-19N

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

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

**Location:** Section 19, Township 9 South, Range 21 East; Uintah County, Utah

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

**Date:** 06/23/2009

**Observer(s):** Grasslands Consulting, Inc. Biologists: Dan Hamilton, Jay Slocum, Matt Kelahan, and Jonathan Sexauer. Technicians: Chad Johnson

**Weather:** Partly cloudy, 75-90°F, 0-15 mph winds with no precipitation.

**NBU 921-19F**

Surface: 2,236' FNL 2,285' FWL (SE/4NW/4)  
Sec. 19 T9S R21E

Uintah, Utah  
Mineral Lease: UTU 0581

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 SE/4 NW/4 of Section 19 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 is scheduled for September 1-3, 2009. Please contact Raleen White at 720-929-6666 for any questions.

**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  $\pm 795'$  ( $\pm 0.15$  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 ±1,340' (±0.25 miles) of pipeline is proposed. Refer to Topo D for the 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:**

Kathy Schneebeck Dulnoan  
Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

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.

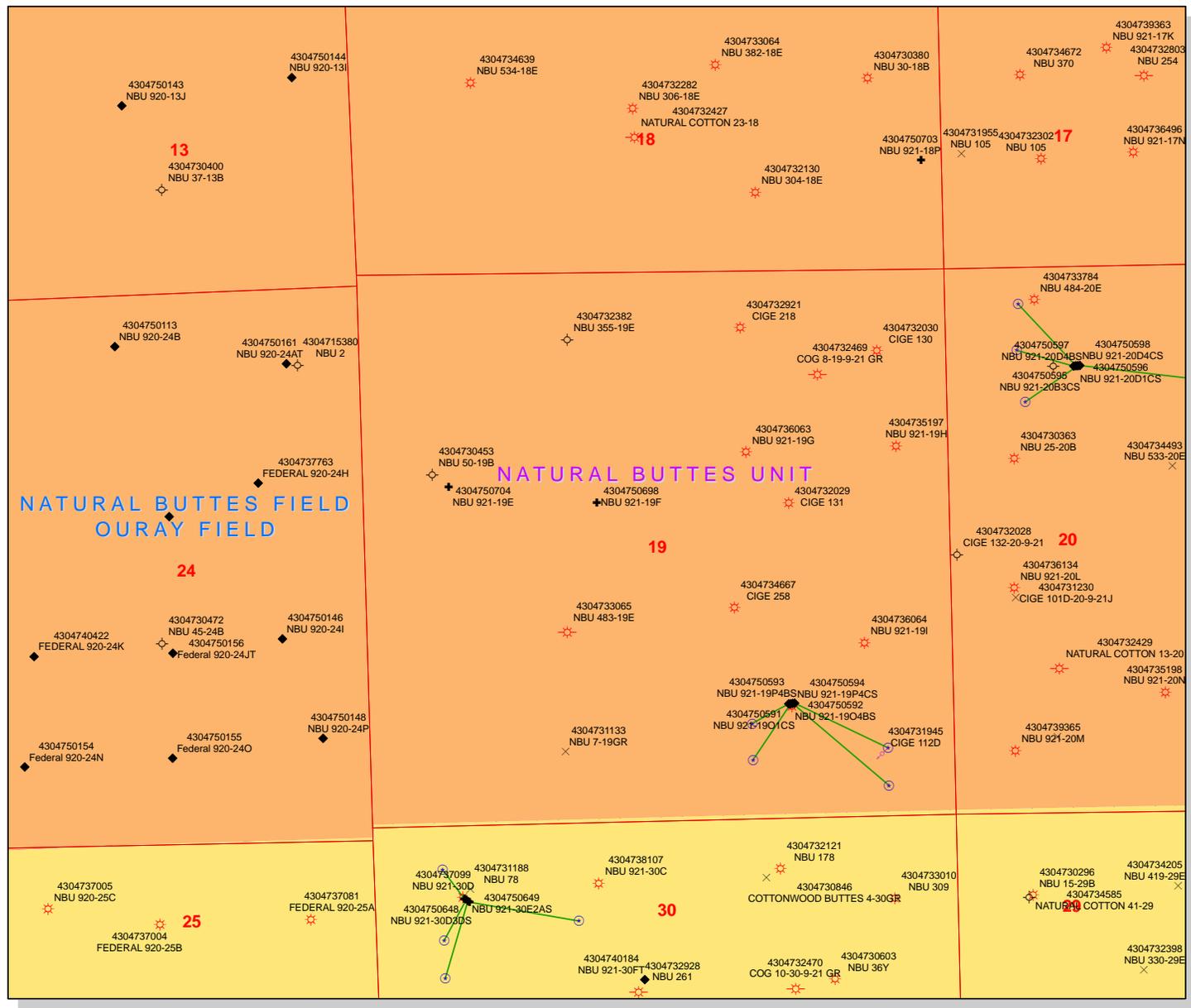
Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

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.

  
\_\_\_\_\_  
Kathy Schneebeck Dulnoan

August 27, 2009  
\_\_\_\_\_  
Date

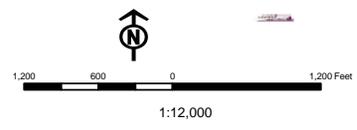
'APIWellNo:43047506980000'



**API Number: 4304750698**  
**Well Name: NBU 921-19F**  
**Township 09.0 S Range 21.0 E Section 19**  
**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>
<b>STATUS</b>	<b>GIS_STAT_TYPE</b>
ACTIVE	<call other values>
EXPLORATORY	APD
GAS STORAGE	DRL
NF PP OIL	GI
NF SECONDARY	GS
PI OIL	LA
PP GAS	NEW
PP GEOTHERM	OPS
PP OIL	PA
SECONDARY	PGW
TERMINATED	RET
<b>Fields</b>	SOW
STATUS	TA
ACTIVE	TW
COMBINED	WD
Sections	WT
	WS



# 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)

August 28, 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)		
43-047-50640	NBU 1022-8B1DS	Sec 08 T10S R22E 0931 FNL 1709 FEL
	BHL	Sec 08 T10S R22E 0367 FNL 1518 FEL
43-047-50641	NBU 1022-8B4AS	Sec 08 T10S R22E 0919 FNL 1693 FEL
	BHL	Sec 08 T10S R22E 0744 FNL 1518 FEL
43-047-50642	NBU 1022-8C1AS	Sec 08 T10S R22E 0943 FNL 1725 FEL
	BHL	Sec 08 T10S R22E 0102 FNL 2415 FWL
43-047-50643	NBU 1022-8C1CS	Sec 08 T10S R22E 0955 FNL 1742 FEL
	BHL	Sec 08 T10S R22E 0418 FNL 2252 FWL
43-047-50644	NBU 922-30C3S	Sec 30 T09S R22E 1253 FNL 0663 FWL
	BHL	Sec 30 T09S R22E 1238 FNL 1154 FWL
43-047-50645	NBU 922-30D3AS	Sec 30 T09S R22E 1232 FNL 0607 FWL
	BHL	Sec 30 T09S R22E 0680 FNL 0382 FWL
43-047-50646	NBU 921-30C3CS	Sec 30 T09S R21E 0783 FNL 0920 FWL
	BHL	Sec 30 T09S R21E 0993 FNL 1985 FWL
43-047-50647	NBU 921-30D2DS	Sec 30 T09S R21E 0747 FNL 0871 FWL
	BHL	Sec 30 T09S R21E 0460 FNL 0665 FWL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50648	NBU 921-30D3DS	Sec 30 T09S R21E 0759 FNL 0887 FWL BHL Sec 30 T09S R21E 1152 FNL 0665 FWL
43-047-50649	NBU 921-30E2AS	Sec 30 T09S R21E 0771 FNL 0903 FWL BHL Sec 30 T09S R21E 1522 FNL 0665 FWL
43-047-50650	NBU 1022-7N1S	Sec 07 T10S R22E 0089 FSL 1920 FEL BHL Sec 07 T10S R22E 0895 FSL 1870 FWL
43-047-50651	NBU 1022-7N4S	Sec 07 T10S R22E 0097 FSL 1938 FEL BHL Sec 07 T10S R22E 0595 FSL 1740 FWL
43-047-50652	NBU 1022-7O4AS	Sec 07 T10S R22E 0081 FSL 1902 FEL BHL Sec 07 T10S R22E 0550 FSL 1560 FEL
43-047-50653	NBU 1022-7O4DS	Sec 07 T10S R22E 0074 FSL 1883 FEL BHL Sec 07 T10S R22E 0230 FSL 1650 FEL
43-047-50655	NBU 922-30D3DS	Sec 30 T09S R22E 1226 FNL 0588 FWL BHL Sec 30 T09S R22E 1314 FNL 0352 FWL
43-047-50656	NBU 922-30E2AS	Sec 30 T09S R22E 1246 FNL 0645 FWL BHL Sec 30 T09S R22E 1636 FNL 0352 FWL
43-047-50678	NBU 922-31G4BS	Sec 31 T09S R22E 2317 FSL 0188 FEL BHL Sec 31 T09S R22E 1994 FNL 1808 FEL
43-047-50679	NBU 922-31G4CS	Sec 31 T09S R22E 2316 FSL 0198 FEL BHL Sec 31 T09S R22E 2353 FNL 1796 FEL
43-047-50680	NBU 922-31I1AS	Sec 31 T09S R22E 2317 FSL 0178 FEL BHL Sec 31 T09S R22E 2483 FSL 0243 FEL
43-047-50681	NBU 922-31I1DS	Sec 31 T09S R22E 2317 FSL 0168 FEL BHL Sec 31 T09S R22E 2137 FSL 0264 FEL
43-047-50682	NBU 921-12J	Sec 12 T09S R21E 1959 FSL 2051 FEL
43-047-50684	NBU 1022-6I3AS	Sec 06 T10S R22E 1160 FSL 1584 FEL BHL Sec 06 T10S R22E 1684 FSL 1167 FEL
43-047-50685	NBU 1022-6J4CS	Sec 06 T10S R22E 1178 FSL 1593 FEL BHL Sec 06 T10S R22E 1535 FSL 1760 FEL
43-047-50686	NBU 1022-6O1BS	Sec 06 T10S R22E 1124 FSL 1567 FEL BHL Sec 06 T10S R22E 1197 FSL 1811 FEL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50687	NBU 1022-6P1CS	Sec 06 T10S R22E 1142 FSL 1575 FEL BHL Sec 06 T10S R22E 0989 FSL 0541 FEL
43-047-50691	NBU 921-29A3AS	Sec 29 T09S R21E 0299 FNL 2630 FEL BHL Sec 29 T09S R21E 0700 FNL 0885 FEL
43-047-50692	NBU 921-29A3DS	Sec 29 T09S R21E 0303 FNL 2628 FWL BHL Sec 29 T09S R21E 1193 FNL 0885 FEL
43-047-50694	NBU 921-29A2AS	Sec 29 T09S R21E 0296 FNL 2611 FEL BHL Sec 29 T09S R21E 0209 FNL 0885 FEL
43-047-50693	NBU 921-29B2CS	Sec 29 T09S R21E 0307 FNL 2608 FWL BHL Sec 29 T09S R21E 0443 FNL 2635 FEL
43-047-50695	NBU 921-12N	Sec 12 T09S R21E 0441 FSL 2236 FWL
43-047-50698	NBU 921-19F	Sec 19 T09S R21E 2236 FNL 2285 FWL
43-047-50699	NBU 921-17C	Sec 17 T09S R21E 0656 FNL 2004 FWL
43-047-50700	NBU 921-17D	Sec 17 T09S R21E 0985 FNL 0418 FWL
43-047-50701	NBU 921-17G	Sec 17 T09S R21E 1500 FNL 2262 FEL
43-047-50702	NBU 921-17H	Sec 17 T09S R21E 2100 FNL 0553 FEL
43-047-50703	NBU 921-18P	Sec 18 T09S R21E 1080 FSL 0197 FEL
43-047-50704	NBU 921-19E	Sec 19 T09S R21E 2061 FNL 0842 FWL

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:8-28-09

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

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**APD RECEIVED:** 8/27/2009

**API NO. ASSIGNED:** 43047506980000

**WELL NAME:** NBU 921-19F

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

**PHONE NUMBER:** 720 929-6007

**CONTACT:** Kathy Schneebeck-Dulnoan

**PROPOSED LOCATION:** SENW 19 090S 210E

**Permit Tech Review:**

**SURFACE:** 2236 FNL 2285 FWL

**Engineering Review:**

**BOTTOM:** 2236 FNL 2285 FWL

**Geology Review:**

**COUNTY:** UINTAH

**LATITUDE:** 40.02263

**LONGITUDE:** -109.59652

**UTM SURF EASTINGS:** 619766.00

**NORTHINGS:** 4431002.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 0581

**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**

**Commingle 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 - Commingle - ddoucet  
4 - Federal Approval - dmason  
17 - Oil Shale 190-5(b) - dmason



## 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 921-19F  
**API Well Number:** 43047506980000  
**Lease Number:** UTU 0581  
**Surface Owner:** INDIAN  
**Approval Date:** 9/2/2009

**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

**Commingle:**

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

**General:**

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

**Conditions of Approval:**

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", written over a faint, illegible stamp or background.

For 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 0581
<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 921-19F
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>9. API NUMBER:</b> 43047506980000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2236 FNL 2285 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 19 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: 9/2/2010	<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:** August 31, 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> 8/31/2010



**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 43047506980000**

**API:** 43047506980000

**Well Name:** NBU 921-19F

**Location:** 2236 FNL 2285 FWL QTR SENW SEC 19 TWP 090S RNG 210E MER S

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

**Date Original Permit Issued:** 9/2/2009

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:** 8/31/2010

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

**Date:** August 31, 2010

**By:** 

**RECEIVED** August 31, 2010

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
<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 921-19F
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047506980000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2236 FNL 2285 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 19 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> </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 43047506980000**

**API:** 43047506980000

**Well Name:** NBU 921-19F

**Location:** 2236 FNL 2285 FWL QTR SENW SEC 19 TWP 090S RNG 210E MER S

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

**Date Original Permit Issued:** 9/2/2009

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.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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AUG 27 2009

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		<b>CONFIDENTIAL</b>		5. Lease Serial No. UTU0581
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone				6. If Indian, Allottee or Tribe Name
2. Name of Operator KERR MCGEE OIL&GAS ONSHORE LP Contact: KATHY SCHNEEBECK DULNOAN E-MAIL: kathy.schneebeckdulnoan@anadarko.com		7. If Unit or CA Agreement, Name and No. NATURAL BUTTES		8. Lease Name and Well No. NBU 921-19F
3a. Address PO BOX 173779 DENVER, CO 80217		3b. Phone No. (include area code) Ph: 720-929-6007 Fx: 720-929-7007		9. API Well No. <b>43-047-50698</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SENW 2236FNL 2285FWL 40.02268 N Lat, 109.59725 W Lon At proposed prod. zone SENW 2236FNL 2285FWL 40.02268 N Lat, 109.59725 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES		11. Sec., T., R., M., or Blk. and Survey or Area Sec 19 T9S R21E Mer SLB
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 10 MILES SOUTHEAST OF OURAY, UT		12. County or Parish UINTAH	13. State UT	
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) APPROXIMATELY 2236' TO LEASE LINE		16. No. of Acres in Lease 2399.00		17. Spacing Unit dedicated to this well
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 1200'		19. Proposed Depth 10400 MD 10400 TVD		20. BLM/BIA Bond No. on file WYB000291
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4830 GL		22. Approximate date work will start 09/28/2009		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:

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

25. Signature (Electronic Submission)	Name (Printed/Typed) KATHY SCHNEEBECK DULNOAN Ph: 720-929-6007	Date 08/27/2009
Title STAFF REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date NOV 07 2011
Title Assistant Field Manager Lands & Mineral Resources		
Office VERNAL FIELD OFFICE		

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, 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 any statement or representation to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

RECEIVED

NOV 28 2011

Additional Operator Remarks (see next page)

Electronic Submission #73710 verified by the BLM Web Information System  
For KERR MCGEE OIL&GAS ONSHORE LP, sent to the Vernal  
Committed to AFMSS for processing by ROBIN R. HANSEN on 08/28/2009 ( )

UDOGM

NOTICE OF APPROVAL

CONDITIONS OF APPROVAL ATTACHED

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

NOS apd posted 9-3-09

AFMSS# 09RRH0213AE

09RRH0213AE

NO NOS



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:	SENW, Sec.194, T9S R21E
Well No:	NBU 921-19F	Lease No:	UTU-0581
API No:	43-047-50698	Agreement:	Natural Buttes

**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:blm_ut_vn_opreport@blm.gov">blm 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."
- Monitor location by a permitted archaeologist during the construction process.
- Use pit run/gravel to support well pad/access road.
- Construct low-water crossing on access road at ephemeral drainage.
- In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 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 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).
- 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 & 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 indentified 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 Gui9ldlines (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 well known 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 [BLM\\_UT\\_VN\\_Welllogs@BLM.gov](mailto:BLM_UT_VN_Welllogs@BLM.gov). This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (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>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
<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 921-19F
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506980000
<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> 2236 FNL 2285 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 19 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>3/15/2012</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 26, 2012

**By:** 

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/15/2012	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-19F**

Surface: 2236 FNL / 2285 FWL      SENW

Section 19 T9S R21E

Unitah County, Utah  
Mineral Lease: UTU-0581**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	1,668'	
Birds Nest	1,927'	Water
Mahogany	2,420'	Water
Wasatch	5,038'	Gas
Mesaverde	8,139'	Gas
Sego	10,382'	Gas
Castlegate	10,476'	Gas
Blackhawk	10,804'	Gas
TVD	11,404'	
TD	11,404'	

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 11404' TVD, approximately equals  
7,527 psi (0.66 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 5,070 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

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

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

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

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

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

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

### **Background**

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

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

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

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

### **Variance for BOPE Requirements**

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

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

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

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

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

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

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

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

**Variance for FIT Requirements**

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

**Conclusion**

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

**10. Other Information:**

Please refer to the attached Drilling Program.





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	DQX
								TENSION	
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,870	28.00	IJ-55	LTC	1.87	1.40	4.95	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	1.12		3.46
	4-1/2"	5,000 to 11,404'	11.60	HCP-110	LTC	1.19	1.12	4.69	

**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
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE	LEAD	2,370'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	220	35%	11.00	3.82
Option 2	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,534'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	360	35%	12.00	3.38
	TAIL	6,870'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,620	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

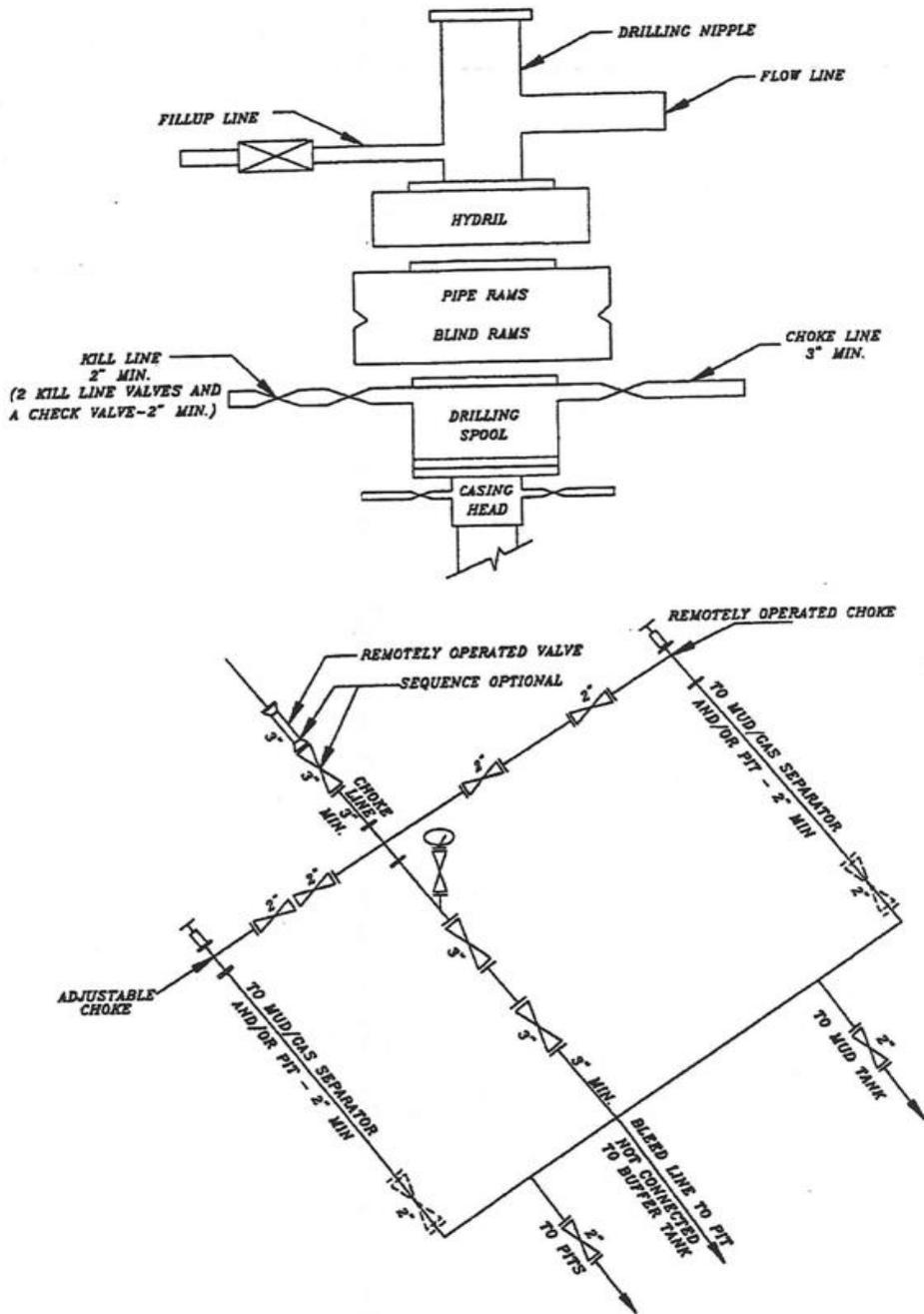
**DATE:**

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:**

**EXHIBIT A**  
**NBU 921-19F**



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

Requested Drilling Options:

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

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

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
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 921-19F	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047506980000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2236 FNL 2285 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 19 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 checked="" type="checkbox"/> SPUD REPORT Date of Spud: 4/2/2012  <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER	
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 04/02/2012 AT 0830 HRS.		
		<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY April 27, 2012</b>
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/17/2012	

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

FORM 6

**ENTITY ACTION FORM**

Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
 Address: 1368 SOUTH 1200 EAST  
city VERNAL  
state UT zip 84078 Phone Number: (435) 781-7024

Well 1

C

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750698	NBU 921-19F		SENW	19	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	2900	4/2/2012		4/1/2012		
<b>Comments:</b> MIRU TRIPPLE A BUCKET RIG. SPUD WELL ON 04/02/2012 AT 0830 HRS. <i>W3MVD</i>							

Well 2

C

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750733	NBU 921-8D		NWNW	8	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	2900	4/16/2012		4/1/2012		
<b>Comments:</b> MIRU TRIPPLE A BUCKET RIG. SPUD WELL ON 04/16/2012 AT 0830 HRS. <i>W3MVD</i>							

Well 3

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

**ACTION CODES:**

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

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

4/17/2012

Date

**RECEIVED**

APR 18 2012

Div. of Oil, Gas & Mining

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
<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 921-19F
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2236 FNL 2285 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 19 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047506980000
<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: 5/2/2012	<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"/> CONVERT WELL TYPE	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<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 ROTARY RIG. FINISHED DRILLING FROM 2918' TO 11435' ON 4/29/2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED PIONEER 54 RIG ON 5/2/2012 @ 00:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.		
		<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          May 04, 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> 5/2/2012	

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 921-19F  
Qtr/Qtr SE NW Section 19 Township 9S Range 21E  
Lease Serial Number UTU0581  
API Number 4304750698

Casing – Time casing run starts, not cementing times.

Production Casing  
 Other

Date/Time 4/30/12 10 AM  PM

BOPE

Initial BOPE test at surface casing point  
 Other

Date/Time \_ \_ AM  PM

RECEIVED  
MAY 01 2012

DIV. OF OIL, GAS & MINING

Rig Move

Location To: NBU 1022-12A PAD

Date/Time 5/2/12 06:00 AM  PM

Remarks \_\_\_\_\_

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9	
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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 921-19F		
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047506980000	
<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> 2236 FNL 2285 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 19 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"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 4/12/2012	<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 4/9/2012. DRILLED SURFACE HOLE TO 2918'. 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 May 08, 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> 4/16/2012		

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
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 921-19F
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047506980000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2236 FNL 2285 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 19 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: 6/13/2012	<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 checked="" 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 SUBJECT WELL WAS PLACED ON PRODUCTION ON JUNE 13, 2012 AT 3:00 P.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY June 13, 2012</b>		
<b>NAME (PLEASE PRINT)</b> Jenn Hawkins	<b>PHONE NUMBER</b> 720 929-6247	<b>TITLE</b> Staff Operations Specialist III
<b>SIGNATURE</b> N/A		<b>DATE</b> 6/13/2012

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9
<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>1. TYPE OF WELL</b> Gas Well	<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0581
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2236 FNL 2285 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 19 Township: 09.0S Range: 21.0E Meridian: S	<b>8. WELL NAME and NUMBER:</b> NBU 921-19F
<b>PHONE NUMBER:</b> 720 929-6511	<b>9. API NUMBER:</b> 43047506980000
<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 type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 8/2/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

Well was completed, finishing well completion report.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 August 06, 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> 8/2/2012	

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**

1a. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr. Other _____			5. Lease Serial No. UTU0581		
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE Contact: CARA MAHLER Mail: cara.mahler@anadarko.com			6. If Indian, Allottee or Tribe Name		
3. Address 1099 18TH STREET, SUITE 1800 DENVER, CO 80202			7. Unit or CA Agreement Name and No. UTU63047A		
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface SENW 2236FNL 2285FWL 40.022680 N Lat, 109.597253 W Lon At top prod interval reported below SENW 2236FNL 2285FWL 40.022680 N Lat, 109.597253 W Lon At total depth SENW 2236FNL 2285FWL 40.022680 N Lat, 109.597253 W Lon			8. Lease Name and Well No. NBU 921-19F ✓		
14. Date Spudded 04/02/2012			15. Date T.D. Reached 04/29/2012		
16. Date Completed <input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod. 06/13/2012			9. API Well No. 43-047-50698		
18. Total Depth: MD 11435 TVD 11432			19. Plug Back T.D.: MD 11382 TVD 11379		
20. Depth Bridge Plug Set: MD TVD			10. Field and Pool, or Exploratory NATURAL BUTTES		
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) CEMENT HOLE VOL-TRIPLE COMBO-CBL/GR/CCL			11. Sec., T., R., M., or Block and Survey or Area Sec 19 T9S R21E Mer SLB		
22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Directional Survey? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis)			12. County or Parish Uintah		
13. State UT			17. Elevations (DF, KB, RT, GL)* 4834 GL		

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	2893		655		0	
7.875	4.500 P-110	11.6	0	11426		2145		1930	

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	10841							

25. Producing Intervals				26. Perforation Record			
Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status	
A) MESAVERDE	9304	11251	9304 TO 11251	0.360	144	OPEN	
B)							
C)							
D)							

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

Depth Interval	Amount and Type of Material
9304 TO 11251	PUMP 13,031 BBLs SLICK H2O & 71,124 LBS 30/50 TLC SAND & 209,877 LBS 30/50 WHITE 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
06/13/2012	06/16/2012	24	→	0.0	4021.0	600.0			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	2 5.0	→	0	4021	600		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 #145525 VERIFIED BY THE BLM WELL INFORMATION SYSTEM  
**\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\***

RECEIVED  
AUG 21 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	1676
				BIRD'S NEST	1912
				MAHOGANY	2425
				WASATCH	5047
				MESAVERDE	8145

32. Additional remarks (include plugging procedure):

The first 210' of the surface hole was drilled with a 12 ?? bit. The remainder of surface hole was drilled with an 11? bit. DQX P-110 csg was run from surface to 5061'; LTC csg was run from 5061' to 11,426?. 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 #145525 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 08/10/2012

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 921-19F

Spud Date: 4/10/2012

Project: UTAH-UINTAH

Site: NBU 921-19F

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 3/25/2012

End Date: 5/2/2012

Active Datum: RKB @4,853.01ft (above Mean Sea Level)

UWI: SE/NW0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
4/9/2012	23:00 - 0:00	1.00	MIRU	01	A	P		BEGIN 8 MILE RIG MOVE  12 LOADS  MTN. WEST 1 MOVING TRUCK, 1 ONE TON TRUCK, 2 PILOT CARS, 5 PEOPLE  J.D. FIELD SERVICES 4 TRUCKS 4 DRIVERS  5 PRO PETRO PEOPLE FINISH ROAD MOVE
4/10/2012	0:00 - 3:00	3.00	MIRU	01	A	P		12 LOADS  MTN. WEST 1 MOVING TRUCK, 1 ONE TON TRUCK, 2 PILOT CARS, 5 PEOPLE  J.D. FIELD SERVICES 4 TRUCKS 4 DRIVERS  5 PRO PETRO PEOPLE RIG UP ON NEW WELL
	3:00 - 10:00	7.00	MIRU	01	B	P		INSTALL DIVERTOR HEAD AND BLUEY LINE.  BUILD DITCH. SPOT IN RIG.  SPOT IN CATWALK AND PIPE RACKS.  RIG UP PIT PUMP.  RIG UP PUMP. PRIME PUMP. INSPECT RIG.  HELD PRE-SPUD SAFETY MEETING.
	10:00 - 13:00	3.00	MIRU	01	B	P		
	13:00 - 15:00	2.00	DRLSUR	02	B	P		PU BHA & SPUD @ 13:00 DRL F/ 44' T/210' (166'@ 83' PER HR)  WOB, 5-15 KRPM, 45  UP/DWN/ROT WEIGHTS 20/20/20  PSI ON BTTM, 600 OFF BTTM, 400
	15:00 - 17:00	2.00	DRLSUR	06	A	P		M.W. 8.34, VIS 27 PULL OUT OF HOLE  PICK UP 11" BIT & DIR. TOOLS  TRIP IN HOLE TO 210'

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F Spud Date: 4/10/2012  
 Project: UTAH-UINTAH Site: NBU 921-19F Rig Name No: PROPETRO 11/11, PIONEER 54/54  
 Event: DRILLING Start Date: 3/25/2012 End Date: 5/2/2012  
 Active Datum: RKB @4,853.01ft (above Mean Sea Level) UWI: SE/NW/0/9/S/21/E/19/0/0/28/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	17:00 - 0:00	7.00	DRLSUR	02	B	P		DRL F/210' T/1090' (880'@125.71' PER HR)  WOB, 20 RPM, 40  UP/DWN/ROT WEIGHTS 59/54/56  PSI ON BTM/1440 OFF BTM/1050  M.W. 8.34, VIS 27
4/11/2012	0:00 - 4:30	4.50	DRLSUR	02	D	P		1.93' LEFT & 1.82' LOW OF LINE DRL F/1090' T/1630' (540'@ 120' PER HR) WOB 20K RPM 45 UP/DWN/ROT 66/61/63 PSI ON/OFF 1650/1250 M.W 8.4# VIS 27
	4:30 - 19:30	15.00	DRLSUR	02	D	P		DRL F/1630'- T/2918' ( 1288'@ 85.8' PER HR) WOB 20K RPM 45 UP/DWN/ROT 81/71/76 PSI ON/OFF 1750/1550 M.W. 8.4# VIS 27 4.46' HIGH .07 LEFT OF TARGET CIRCULATE FOR CASING
	19:30 - 21:30	2.00	DRLSUR	05	C	P		LDDS, BHA & DIRECTIONAL TOOLS
	21:30 - 0:00	2.50	DRLSUR	06	D	P		LDDS, BHA & DIRECTIONAL TOOLS
4/12/2012	0:00 - 1:30	1.50	DRLSUR	06	D	P		MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. MOVE CSG INTO POSITION TO P/U.
	1:30 - 2:00	0.50	DRLSUR	12	A	P		RUN 65 JTS 8 5/8, 28# J55 CASING SET SHOE @ 2874' SET BAFFLE @ 2829.6' LAND CASING @ 05:00
	2:00 - 5:00	3.00	DRLSUR	12	C	P		HOLD SAFETY MEETING, PUMP ON CASING RUN 200' OF 1". RIG DOWN RIG MOVE OFF WELL, REBUILD DITCH. RIG UP CEMENT TRUCK, 2" HARD LINES,.
	5:00 - 6:30	1.50	DRLSUR	12	B	P		HOLD SAFETY MEETING. PRO PETRO CMTERS MAKE UP HEAD & LOAD PLUG TEST LINES TO 2000 PSI. PUMP 50 BBLS OF 8.4# H2O AHEAD, FULL RETURNS PUMP 20 BBLS OF 8.4# GEL WATER AHEAD. PUMP 220 SKS (149 BBLS) 11# 3.82 YIELD LEAD CEMENT. PUMP 200 SKS (41 BBLS) OF 15.8# 1.15 YIELD TAIL(2% CALC, 1/4# /SK OF FLOCELE). DROP PLUG ON FLY AND DISPLACE W/ 173.6 BBLS OF 8.4# H2O. LIFT PRESSURE 700 PSI. BUMP PLUG AND HOLD 1000 PSI FOR 5 MIN. FLOAT HELD RETURNS THRU OUT JOB 50 BBLS LEAD CEMENT TO SURF PUMP 150 SX 15.8# (20.5BBLS) CMT W/4% CALCIUM DOWN 1". CEMENT FELL BACK. WOC, 1.5 HOURS PUMP 85 SKS (17.4 BBLS) CEMENT TO SURFACE CEMENT HELD CLEAN TRUCKS & RIG DWN CMTERS. RELEASED RIG @ 10:00
	6:30 - 8:30	2.00	DRLSUR	12	E	P		RIG DOWN TOP DRIVE, SERVICE LOOP, TORQUE TURN, BACK YARD, PREPARE FOR RIG MOVE
	8:30 - 10:00	1.50	DRLSUR	13	A	P		RIG DOWN TOP DRIVE, SERVICE LOOP, TORQUE TURN, BACK YARD, PREPARE FOR RIG MOVE
4/21/2012	0:00 - 6:00	6.00	DRLPRO	01	E	P		RIG DOWN TOP DRIVE, SERVICE LOOP, TORQUE TURN, BACK YARD, PREPARE FOR RIG MOVE

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F Spud Date: 4/10/2012  
 Project: UTAH-UINTAH Site: NBU 921-19F Rig Name No: PROPETRO 11/11, PIONEER 54/54  
 Event: DRILLING Start Date: 3/25/2012 End Date: 5/2/2012  
 Active Datum: RKB @4,853.01ft (above Mean Sea Level) UWI: SE/NW0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:00 - 18:00	12.00	DRLPRO	01	A	P		RIG MOBILIZATION WITH JONES, SAFETY MEETING, 6 BED TRUCKS, 3 HAUL TRUCKS, 2 FORKLIFTS, 2 FLAGGERS, 3 SWAMPERS, 1 J&C CRANE, 4 SWAMPERS, TRUCK RELEASED @1700, CRANES RELEASED @1800, DERRICK RAISED @1730
	18:00 - 20:30	2.50	DRLPRO	01	B	P		BRIDLE DOWN, RIG UP TOP DRIVE TORQUE TUBE
	20:30 - 21:30	1.00	DRLPRO	14	A	S		NIPPLE DOWN STRATA HEAD AND ORBIT VALVE
	21:30 - 0:00	2.50	DRLPRO	14	A	P		NIPPLE UP KILL LINE AND CHOKE LINE TO NEW CAMERON WELL HEAD, NIPPLE UP SUPER CHOKE.
4/22/2012	0:00 - 3:00	3.00	DRLPRO	14	B	S		NIPPLE DOWN STRATA ROTATING HEAD AND ORBIT VALVE ASSEMBLY
	3:00 - 8:00	5.00	DRLPRO	14	A	P		NIPPLE UP BOPE WITH NEW CAMERON WELLHEAD
	8:00 - 14:00	6.00	DRLPRO	15	A	P		HELD SAFETY MEETING WITH RIG & TESTER & TEST BOPE, RAMS & ALL VALVES 250 LOW 5000 HIGH, ANN 2500, SURFACE CASING TO 1500 FOR 30 MIN
	14:00 - 16:00	2.00	DRLPRO	14	A	P		RIG UP GRANT ROTATING HEAD, FLOW NIPPLE AND SPOOL
	16:00 - 21:30	5.50	DRLPRO	06	A	P		SAFETY MEETING, PICKING UP BHA AND HWDP WITH KIMZEY LAYDOWN, RIG DOWN KIMZEY
	21:30 - 22:30	1.00	DRLPRO	09	A	P		SLIP AND CUT DRILL LINE
	22:30 - 0:00	1.50	DRLPRO	07	A	P		LUBRICATE RIG, CHANGE OUT SAVER SUB, FINAL PRE SPUD INSPECTION
4/23/2012	0:00 - 1:30	1.50	DRLPRO	02	F	P		DRILLING OUT CEMENT, BAFFLE@2846, SHOE@2899' NEW HOLE@2933'
	1:30 - 16:30	15.00	DRLPRO	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 2933' TO 4478', 1545' @ 103' PH WOB /18-24 RPM TOP DRIVE 60, MOTOR-135 SPM 200 GPM 586 MW 9.0 VIS 30 TRQ ON/OFF = 4000-5000 K PSI ON /OFF 1800-1500, DIFF 100-500 PU/SO/RT = 105/95/100 SLIDE = 12' IN .17 HRS@70.5 PH ROT = 1533' IN 14.83HRS@103 PH NOV- ON LINE 2- CONVENTIONAL 17.8' S & 8.7' E OF TARGET CENTER 0' DRILL FLARE, 0' CONN FLARE
	16:30 - 17:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	17:00 - 0:00	7.00	DRLPRO	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 4478' TO 5251', 773' @ 110' PH WOB /18-24 RPM TOP DRIVE 60, MOTOR-135 SPM 200 GPM 586 MW 9.1 VIS 32 TRQ ON/OFF = 4000-5000 K PSI ON /OFF 1800-1500, DIFF 100-500 PU/SO/RT = 105/95/100 SLIDE = 10' IN .25 HRS@40 PH ROT = 763' IN 6.75HRS@113 PH NOV- ON LINE 2- CONVENTIONAL 17.8' S & 8.7' E OF TARGET CENTER 0' DRILL FLARE, 0' CONN FLARE

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F Spud Date: 4/10/2012  
 Project: UTAH-UINTAH Site: NBU 921-19F Rig Name No: PROPETRO 11/11, PIONEER 54/54  
 Event: DRILLING Start Date: 3/25/2012 End Date: 5/2/2012  
 Active Datum: RKB @4,853.01ft (above Mean Sea Level) UWI: SE/NW/0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
4/24/2012	0:00 - 17:00	17.00	DRLPRO	02	B			CLOSED LOOP SYSTEM DRILL F/ 5251' TO 6565', 1314' @ 77.3' PH WOB /24-25 RPM TOP DRIVE 60, MOTOR-135 SPM 200 GPM 586 MW 9.1 VIS 40 TRQ ON/OFF = 4000-5000 K PSI ON /OFF 1800-1500, DIFF 100-500 PU/SO/RT = 155/135/145 SLIDE = 42' IN .84 HRS@50' PH ROT = 1272' IN 16.2HRS@79' PH NOV- ON LINE 2- CONVENTIONAL 7.25' N & 15.7' W OF TARGET CENTER 0' DRILL FLARE, 0' CONN FLARE
	17:00 - 17:30	0.50	DRLPRO	07	A	P		LUBRICATE RIG, FUNCTION ANN & HCR, BOP DRILL 75 SEC
	17:30 - 0:00	6.50	DRLPRO	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 6565' TO 7115', 550' @ 84.6' PH WOB /24-25 RPM TOP DRIVE 60, MOTOR-135 SPM 200 GPM 586 MW 9.5 VIS 50 TRQ ON/OFF = 4000-5000 K PSI ON /OFF 1800-1500, DIFF 100-500 PU/SO/RT = 160/140/150 SLIDE = 13' IN .33 HRS@39' PH ROT = 537' IN 6.17 HRS@87' PH NOV- ON LINE 2- CONVENTIONAL 29.7' N & 35.8' W OF TARGET CENTER 0' DRILL FLARE, 0' CONN FLARE
4/25/2012	0:00 - 16:30	16.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 7115' TO 7988', 873' @ 52.9' PH WOB / 22-24 RPM TOP DRIVE 50- 60, MOTOR-135 SPM 200 GPM 586 MW 9.5 VIS 50 TRQ ON/OFF = 4000-5000 K PSI ON /OFF 2350 - 2100 DIFF 100-500 PU/SO/RT = 175/150/163 SLIDE = 10' IN .33 HRS = 30' PH ROT = 863' IN 16.17 HRS = 53.4' PH NOV- ON LINE 2- DEWATERING 41' N & 41' W OF TARGET CENTER 0' DRILL FLARE, 10' CONN FLARE
	16:30 - 17:00	0.50	DRLPRV	07	A	P		SERVICE RIG, BOP DRILL 95 SEC, F/T ANN & HCR VALVE

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F

Spud Date: 4/10/2012

Project: UTAH-UINTAH

Site: NBU 921-19F

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 3/25/2012

End Date: 5/2/2012

Active Datum: RKB @4,853.01ft (above Mean Sea Level)

UWI: SE/NW0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	17:00 - 22:00	5.00	DRLPRV	02				CLOSED LOOP SYSTEM DRILL F/ 7988' TO 8205', 217' @ 43.4' PH WOB /22-24 RPM TOP DRIVE 50- 60, MOTOR-135 SPM 200 GPM 586 MW 9.2 VIS 37 TRQ ON/OFF = 4000-6000 K PSI ON /OFF 2500-2100, DIFF 100-400 PU/SO/RT = 185-155-165 SLIDE = 0 ROT = 100% NOV- ON LINE 2- DEWATERING 45' N & 47' W OF TARGET CENTER 0' DRILL FLARE, 10' CONN FLARE CHANGE SWAB ON #1 PUMP
	22:00 - 22:30	0.50	DRLPRV	08	B	Z		CLOSED LOOP SYSTEM DRILL F/ 8205' TO 8315', 110' @ 73.3' PH WOB /22-24 RPM TOP DRIVE 50- 60, MOTOR-135 SPM 200 GPM 586 MW 9.2 VIS 37 TRQ ON/OFF = 4000-6000 K PSI ON /OFF 2500-2100, DIFF 100-400 PU/SO/RT = 190-160-170 SLIDE = 0 ROT = 100% NOV- ON LINE 1- CONVENTIONAL 1- DEWATERING 47' N & 47' W OF TARGET CENTER 5' DRILL FLARE, 10' CONN FLARE
	22:30 - 0:00	1.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 8315' TO 9093', 778' @ 62.2' PH WOB /22-24 RPM TOP DRIVE 50- 60, MOTOR-135 SPM 200 GPM 586 MW 9.5 VIS 37 TRQ ON/OFF = 4000-6000 K PSI ON /OFF 2500-2100, DIFF 100-400 PU/SO/RT = 195-175-185 SLIDE = 0 ROT = 100% NOV- ON LINE 1- CONVENTIONAL 1- DEWATERING 48' N & 34' W OF TARGET CENTER 5' DRILL FLARE, 10' CONN FLARE
4/26/2012	0:00 - 12:30	12.50	DRLPRV	02	B	P		GAS KICK @ 9093', SHUT IN WELL & REPLACE FLOWLINE GASKET ON FLOWMETER, CIRC OUT GAS THOUGH CHOKE WHILE REPLACING GASKET, SIDPP 200 PSI
	12:30 - 13:00	0.50	DRLPRV	22	N	X		

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F

Spud Date: 4/10/2012

Project: UTAH-UINTAH

Site: NBU 921-19F

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 3/25/2012

End Date: 5/2/2012

Active Datum: RKB @4,853.01ft (above Mean Sea Level)

UWI: SE/NW/0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	13:00 - 16:30	3.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 9093' TO 9315', 222' @ 63.4' PH WOB /22-24 RPM TOP DRIVE 50- 60, MOTOR-135 SPM 200 GPM 586 MW 9.5 VIS 37 TRQ ON/OFF = 4000-7000 K PSI ON /OFF 2500-2100, DIFF 100-400 PU/SO/RT = 195-175-185 SLIDE = 0 ROT = 100% NOV- ON LINE 1- CONVENTIONAL 1- DEWATERING 45' N & 31' W OF TARGET CENTER 10' DRILL FLARE, 10'-30 CONN FLARE SERVICE RIG
	16:30 - 17:00	0.50	DRLPRV	07	A	P		
	17:00 - 0:00	7.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/9315' TO 9680', 365' @ 52.1' PH WOB /22-24 RPM TOP DRIVE 50- 60, MOTOR-135 SPM 200 GPM 586 MW 9.5 VIS 40 TRQ ON/OFF = 5000-7000 K PSI ON /OFF 2600-2600, DIFF 100-400 PU/SO/RT = 200-180-190 SLIDE = 0 ROT = 100% NOV- ON LINE 1- CONVENTIONAL 1- DEWATERING 39' N & 30' W OF TARGET CENTER 10' DRILL FLARE, 10'-30 CONN FLARE
4/27/2012	0:00 - 10:30	10.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 9680' TO 10,073', 393' @ 37.4' PH WOB /25 RPM TOP DRIVE 50- 60, MOTOR-135 SPM 200 GPM 586 MW 9.5 VIS 40 TRQ ON/OFF = 5000-7000 K PSI ON /OFF 2600-2300, DIFF 100-400 PU/SO/RT = 200-180-190 SLIDE = 0 ROT = 100% NOV- ON LINE 1- CONVENTIONAL 1- DEWATERING 32' N & 26' W OF TARGET CENTER 10' DRILL FLARE, 10'-30 CONN FLARE DISPLACE HOLE WTH 11.5 PPG MUD SERVICE RIG
	10:30 - 11:00	0.50	DRLPRV	05	G	P		
	11:00 - 11:30	0.50	DRLPRV	07	A	P		

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F

Spud Date: 4/10/2012

Project: UTAH-UINTAH

Site: NBU 921-19F

Rig Name No: PROPETRO 11/11, PIONEER 54/54

Event: DRILLING

Start Date: 3/25/2012

End Date: 5/2/2012

Active Datum: RKB @4,853.01ft (above Mean Sea Level)

UWI: SE/NW0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	11:30 - 19:00	7.50	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 10,073' TO 10,210', 135' @ 18' PH WOB / 25-28 RPM TOP DRIVE 50- 60, MOTOR-115 SPM 160 GPM 498 MW 11.5 VIS 40 TRQ ON/OFF = 8000-5000 K PSI ON /OFF 2800-2400, DIFF 100-400 PU/SO/RT = 200-180-190 SLIDE = 0 ROT = 100% NOV- ON LINE 1- CONVENTIONAL 1- DEWATERING 29' N & 19'W OF TARGET CENTER 0 DRILL FLARE, 10' CONN FLARE
	19:00 - 0:00	5.00	DRLPRV	06	A	P		TRIP FOR NEW BIT & MUD MOTOR, WORK TIGHT SPOT @ 4350', CHANGE OUT BIT & MUD MOTOR, TRIP IN HOLE
4/28/2012	0:00 - 4:30	4.50	DRLPRV	06	A	P		TRIP IN HOLE WITH BHA #2
	4:30 - 6:30	2.00	DRLPRV	03	A	P		WASH & REAM FROM 9915 TO 10,210', TIGHT HOLE
	6:30 - 17:30	11.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 10,210' TO 10,730', 520' @ 47.3' PH WOB / 22-24 RPM TOP DRIVE 50- 60, MOTOR-70 SPM 170 GPM 498 MW 11.5 VIS 40 TRQ ON/OFF = 8000-5000 K PSI ON /OFF 2800-2400, DIFF 100-400 PU/SO/RT = 200-180-190 SLIDE = 0 ROT = 100% NOV- ON LINE 1- CONVENTIONAL 1- DEWATERING 19' N & 13' W OF TARGET CENTER 0 DRILL FLARE, 10' CONN FLARE
	17:30 - 18:00	0.50	DRLPRV	07	A	P		SERVICE RIG
	18:00 - 0:00	6.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/ 10730' TO 10,940', 210' @ 35' PH WOB / 25 RPM TOP DRIVE 50- 60, MOTOR-70 SPM 170 GPM 498 MW 11.7 VIS 45 TRQ ON/OFF = 8000-5000 K PSI ON /OFF 2800-2400, DIFF 100-400 PU/SO/RT = 225-180-210 SLIDE = 0 ROT = 100% NOV- ON LINE 1- CONVENTIONAL 1- DEWATERING 4' N & 6' W OF TARGET CENTER 0 DRILL FLARE, 10' CONN FLARE

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F Spud Date: 4/10/2012  
 Project: UTAH-UINTAH Site: NBU 921-19F Rig Name No: PROPETRO 11/11, PIONEER 54/54  
 Event: DRILLING Start Date: 3/25/2012 End Date: 5/2/2012  
 Active Datum: RKB @4,853.01ft (above Mean Sea Level) UWI: SE/NW0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
4/29/2012	0:00 - 13:00	13.00	DRLPRV	02	B	P		CLOSED LOOP SYSTEM DRILL F/10,940' TO 11435',495' @ 38.1'PH, TD WELL @ 13:00 4/29/12 WOB / 25 RPM TOP DRIVE 50- 60, MOTOR-70 SPM 170 GPM 498 MW 11.8 VIS 45 TRQ ON/OFF = 8000-5000 K PSI ON /OFF 2800-2400, DIFF 100-400 PU/SO/RT = 225-205-215 SLIDE = 0 ROT = 100% NOV- ON LINE 1- CONVENTIONAL 1- DEWATERING 12' S & 2' E OF TARGET CENTER 0 DRILL FLARE, 10' CONN FLARE
	13:00 - 13:30	0.50	DRLPRV	07	A	P		SERVICE RIG
	13:30 - 15:30	2.00	DRLPRV	05	F	P		CIRC & COND HOLE FOR SHORT TRIP, PUMP HIGH VIS SWEEP
	15:30 - 21:30	6.00	DRLPRV	06	E	P		SHORT TRIP TO SHOE
	21:30 - 23:30	2.00	DRLPRV	05	F	P		CIRC & COND HOLE FOR TRIP OUT TO LOG, PUMP HIGH VIS SWEEP
	23:30 - 0:00	0.50	DRLPRV	06	B	P		PULL OUT OF HOLE FOR OPEN HOLE LOGS
4/30/2012	0:00 - 6:00	6.00	DRLPRV	06	B	P		PULL OUT OF HOLE FOR OPEN HOLE LOGS
	6:00 - 6:30	0.50	DRLPRV	09	A	P		SLIP ON 90' DRILL LINE
	6:30 - 12:30	6.00	DRLPRV	11	D	P		HELD SAFETY MEETING, RIG UP & RUN TRIPLE COMBO TO LOGGERS DEPTH OF 11,430, DRILLER'S DEPTH 11,435', LOG OUT & RIG DOWN
	12:30 - 17:00	4.50	DRLPRV	06	E	P		TRIP IN HOLE TO CIRC OUT GAS TO LAYDOWN DRILL PIPE
	17:00 - 19:00	2.00	DRLPRV	06	D	P		CIRC OUT GAS
	19:00 - 0:00	5.00	DRLPRV	06	D	P		HELD SAFETY MEETING, RIG UP & LAYDOWN DRILL STRING
5/1/2012	0:00 - 1:00	1.00	DRLPRV	06	D	P		LAY DOWN BHA
	1:00 - 1:30	0.50	DRLPRV	14	B	P		PULL WEAR BUSHING
	1:30 - 8:30	7.00	DRLPRV	12	C	P		HELD SAFETY MEETING, RIG UP & RUN 148 JTS 4.5" LTC P-110, & 2 MARKERS, B/H MARKER @ 10,785', MESA MARKER @ 8,135, X-O @ 5060'
	8:30 - 13:00	4.50	DRLPRV	22	J	Z		LAYDOWN & 10 JTS CASING, DQX, ( IMPROPER TORQUE), INSPECT, RECLEAN & INSPECT 110 JTS DQX P-110 LEFT ON RACKS
	13:00 - 17:00	4.00	DRLPRV	12	C	P		RUN 114 JTS P-110 DQX, 1 PUP ON HANGER & LANDING JT, LAND CASING. SHOE @ 11425', FLOAT @ 11381', RIG DOWN KIMZEY
	17:00 - 19:00	2.00	DRLPRV	05	D	P		CIRC OUT GAS TO CEMENT
	19:00 - 22:30	3.50	DRLPRV	12	E	P		HELD SAFETY MEETING, RIG UP, PUMP 25 BBLs SPACER, LEAD 570 SACKS, 2.02 YLD, 12.5 PPG, TAIL 1575 SACKS, 1.32 YLD 14.3 PPG W/ .05% EC-1, CLEAN LINES & DISPLACE WITH 177 BBLs CLAYCARE WATER, BUMP PLUG @ 3950 PSI 600 OVER FINAL LIFT OF 3350 PSI, FULL RETURNS THOUGHOUT JOB WITH 20 BBLs SPACER TO PIT, 2 BBLs BACK TO TRUCK, PLUG BACK TO 11,381', EST TOP OF TAIL 2200'

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F		Spud Date: 4/10/2012	
Project: UTAH-UINTAH		Site: NBU 921-19F	Rig Name No: PROPETRO 11/11, PIONEER 54/54
Event: DRILLING		Start Date: 3/25/2012	End Date: 5/2/2012
Active Datum: RKB @4,853.01ft (above Mean Sea Level)		UWI: SE/NW0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	22:30 - 23:00	0.50	DRLPRV	14	B	P		SET CAMRON PACK OFF
	23:00 - 0:00	1.00	DRLPRV	01	E	P		RIG DOWN, CLEAN PITS & RELEASE RIG TO THE NBU 1022-12A1CS @ 5/2/12 00:00

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 921-19F	Wellbore No.	OH
Well Name	NBU 921-19F	Wellbore Name	NBU 921-19F
Report No.	1	Report Date	5/31/2012
Project	UTAH-UINTAH	Site	NBU 921-19F
Rig Name/No.		Event	COMPLETION
Start Date	5/31/2012	End Date	6/13/2012
Spud Date	4/10/2012	Active Datum	RKB @4,853.00usft (above Mean Sea Level)
UWI	SE/NW/0/9/S/21/E/19/0/0/26/PM/N/2236/NW/0/2285/0/0		

1.3 General

Contractor	CASED HOLE	Job Method		Supervisor	STEVE WALL, SR.
Perforated Assembly	PRODUCTION CASING	Conveyed Method			

1.4 Initial Conditions

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

1.5 Summary

Gross Interval	9,304.0 (usft)-11,251.0 (us)	Start Date/Time	6/8/2012 12:00AM
No. of Intervals	30	End Date/Time	6/12/2012 12:00AM
Total Shots	144	Net Perforation Interval	48.00 (usft)
Avg Shot Density	3.00 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
6/12/2012 12:00AM	MESAVERDE/			9,304.0	9,306.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N

2.1 Perforated Interval (Continued)

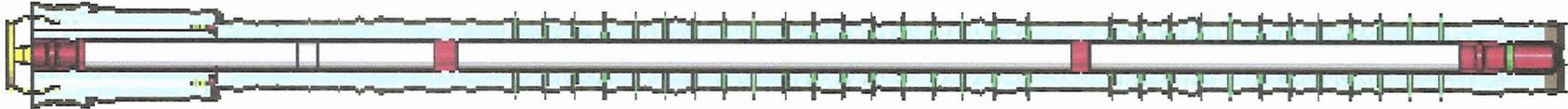
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
6/12/2012 12:00AM	MESAVERDE/			9,323.0	9,325.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,350.0	9,352.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,404.0	9,406.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,452.0	9,454.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,483.0	9,484.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,503.0	9,504.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,540.0	9,542.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,568.0	9,570.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,622.0	9,624.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,637.0	9,638.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,656.0	9,658.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,675.0	9,676.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			9,706.0	9,708.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/11/2012 12:00AM	MESAVERDE/			9,769.0	9,771.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/11/2012 12:00AM	MESAVERDE/			9,791.0	9,792.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/11/2012 12:00AM	MESAVERDE/			9,877.0	9,879.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/11/2012 12:00AM	MESAVERDE/			9,980.0	9,983.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/11/2012 12:00AM	MESAVERDE/			10,861.0	10,862.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/11/2012 12:00AM	MESAVERDE/			10,884.0	10,886.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/11/2012 12:00AM	MESAVERDE/			10,910.0	10,911.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/11/2012 12:00AM	MESAVERDE/			10,936.0	10,938.0	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
6/11/2012 12:00AM	MESAVERDE/			10,972.0	10,974.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/8/2012 12:00AM	MESAVERDE/			11,028.0	11,029.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/8/2012 12:00AM	MESAVERDE/			11,040.0	11,041.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/8/2012 12:00AM	MESAVERDE/			11,060.0	11,061.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/8/2012 12:00AM	MESAVERDE/			11,144.0	11,145.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/8/2012 12:00AM	MESAVERDE/			11,162.0	11,163.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/8/2012 12:00AM	MESAVERDE/			11,175.0	11,176.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/8/2012 12:00AM	MESAVERDE/			11,249.0	11,251.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

3 Plots

3.1 Wellbore Schematic



**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F		Spud Date: 4/10/2012	
Project: UTAH-UINTAH		Site: NBU 921-19F	Rig Name No: SWABBCO 8/8
Event: COMPLETION		Start Date: 5/31/2012	End Date: 6/13/2012
Active Datum: RKB @4,853.01ft (above Mean Sea Level)		UWI: SE/NW0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
4/10/2012	-							
5/30/2012	8:00 - 8:15	0.25	FRAC	48		P		HSM & JSA W/B & C QUICK TEST
	8:15 - 10:30	2.25	FRAC			P		WHP 0 PSI. FILL SURFACE CSG & PROD CSG W/WATER. TIGHTEN DWN TUBING HEAD. MIRU B & C QUICK TEST. PSI TEST T/ 1050 PSI. HELD FOR 15 MIN LOST 7 PSI. PSI TEST T/ 3506 PSI. HELD FOR 15 MIN LOST 19 PSI. 1ST PSI TEST T/ 9043 PSI. HELD FOR 30 MIN LOST 168 PSI. 2nd PSI TEST T/ 9037 PSI. HELD FOR 30 MIN LOST 112 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. SWFN HSM ROADING RIG & EQUIP.
6/7/2012	7:00 - 7:30	0.50	COMP	48		P		
	7:30 - 10:00	2.50	COMP	30	A	P		MOVE RIG & EQUIP[ F/ NBU 921-7D, RIG UP.ND WH NU BOPS. RU FLOOR & TBG EQUIP.
	10:00 - 17:00	7.00	COMP	31	I	P		TALLY & PU 37/8 BIT & 282 JTS 23/8 P-110 EOT @ 8961', POOH W/ 42 JTS SW SDFN.
6/8/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, TRIPPING TBG & WATCHING PINCH POINTS.
	7:30 - 9:00	1.50	COMP	31	I	P		POOH W/ REM 240 JTS 23/8 P-110 L/D BIT. ND BOPS NU FRAC VALVE.
	9:00 - 9:30	0.50	COMP	33	D	P		RU B&C INSTALLED CAMERON HANGER, TEST FV TO 9,000# FOR 10 MIN. RD B&C.
	9:30 - 15:00	5.50	COMP	34	H	P		RU CASED HOLE, RIH SHOT 1ST STG AS OF PROCEDURE, POOH SW, PREP TO FRAC 6/11/12, SDFN.
6/11/2012	6:30 - 7:00	0.50	COMP	48		P		HSM, W/ SUPERIOR, STAYING AWAY FROME HIGHN PRESSURE LINES.
	7:00 - 9:20	2.33	COMP	36	E	P		PRIME PUMPS & LINES, TEST TO 9500 PSI, SET POPOFF TO 8800 PSI, SET KILLS ON 6 TRKS, 3 @ 8800 PSI, 3 @ 8700 PSI. ( STG #1 ) WHP 2261 PSI, BRK 4079 PSI @ 4.7 BPM. ISIP 3750 PSI, FG .78. SPOT ACID ON PERFS LET SOAK FOR 5 MINS. CALC HOLES OPEN @ 52.3 BPM @ 6822 PSI = 100% HOLES OPEN. MP 8317 PSI, MR 52.6 BPM, AP 7065 PSI, AR 47.9 BPM ISIP 3619 PSI, FG .76 NPI -131 PSI.

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F Spud Date: 4/10/2012  
 Project: UTAH-UINTAH Site: NBU 921-19F Rig Name No: SWABBCO 8/8  
 Event: COMPLETION Start Date: 5/31/2012 End Date: 6/13/2012  
 Active Datum: RKB @4,853.01ft (above Mean Sea Level) UWI: SE/NW/0/9/S/21/E/19/0/0/28/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	9:20 - 16:16	6.93	COMP	36	E	P		( STG # 2 ) PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 120 DEG, TAG UP ON SAND @ 10,977' NEED PLUG @ 11,004', POOH 100 FT PER MIN. FLOW WELL BACK FOR 15 MIN, RE FLUSH W/ 176 BBLs. RIH SET PLUG @ 11,004' & PERF AS OF PROCEDURE. POOH 14:10.APROX 5 HRS. WHP 2326 PSI, BRK 4919 PSI @ 4.7 BPM. ISIP 3963 PSI, FG .80. CALC HOLES OPEN @ 50.4 BPM @ 5969 PSI = 100% MP 8142 PSI, MR 50.9 BPM, AP 6610 PSI, AR 49.3 BPM ISIP 3828 PSI, FG .79 NPI -135 PSI. SHORT 7236 LBS SAND
	16:16 - 17:30	1.23	COMP	34	H	P		( STG # 3 ) PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 120 DEG PHASING, SET CBP @ 10,013', PERF WELL AS OF PROCEDURE. POOH SVM SDFN.
6/12/2012	6:30 - 7:00	0.50	COMP	48		P		HSM W/ SUPERIOR, WATCH OUT FOR EACH OTHER.
	7:00 - 7:26	0.43	COMP	36	E	P		( STG # 3 ) WHP 1816 PSI, BRK 3460 PSI @ 4.7 BPM. ISIP 2407 PSI, FG .68. CALC HOLES OPEN @ 49.3 BPM @ 5372 PSI = 90% HOLES OPEN. MP 5537 PSI, MR 49.5 BPM, AP 4982 PSI, AR 48.2 BPM ISIP 3115 PSI, FG .75 NPI 708 PSI.
	7:26 - 9:07	1.68	COMP	36	E	P		( STG # 4 ) PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 120 DEG PHASING, SET CBP @ 9738', PERF WELL AS OF PROCEDURE. WHP 1261 PSI, BRK 4567 PSI @ 4.7 BPM. ISIP 3048 PSI, FG .75. CALC HOLES OPEN @ 49.7 BPM @ 5955 PSI = 92% MP 7141 PSI, MR 56.1 BPM, AP 5554 PSI, AR 50.5 BPM ISIP 3074 PSI, FG .76 NPI 26 PSI.
	9:07 - 10:31	1.40	COMP	36	E	P		( STG # 5 ) PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 120 DEG PHASING, SET CBP @ 9600', PERF WELL AS OF PROCEDURE. WHP 1080 PSI, BRK 6211 PSI @ 4.7 BPM. ISIP 3056 PSI, FG .76. CALC HOLES OPEN @ 51.8 BPM @ 4900 PSI = 100% MP 7513 PSI, MR 52.0 BPM, AP 5081 PSI, AR 51.7 BPM ISIP 2986 PSI, FG .75 NPI -70 PSI.

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F

Spud Date: 4/10/2012

Project: UTAH-UINTAH

Site: NBU 921-19F

Rig Name No: SWABBCO 8/8

Event: COMPLETION

Start Date: 5/31/2012

End Date: 6/13/2012

Active Datum: RKB @4,853.01ft (above Mean Sea Level)

UWI: SE/NW0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	10:31 - 12:08	1.62	COMP	36	E	P		( STG # 6 ) PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 120 DEG PHASING, SET CBP @ 9436', BLEAD OFF PSI, HAD TO REPACK BTM VALVE ON FV. PERF WELL AS OF PROCEDURE. WHP 217 PSI, BRK 5203 PSI @ 4.7 BPM. ISIP 2765 PSI, FG .73. CALC HOLES OPEN @ 52.1 BPM @ 5760 PSI = 97% MP 6963 PSI, MR 52.6 BPM, AP 5554 PSI, AR 51.7 BPM ISIP 2918 PSI, FG .75 NPI 153 PSI. SHORT BY 1162 LBS SAND, DENSO'S NOT WORKING RIGHT NOT ENOUGH SAND FOR NEXT STAGE.  TOTAL 209,877 LBS 30/50 TLC TOTAL 71,124 LBS 30/50 OTTAWA TOTAL 13,031 BBLs WATER TOTAL 306 GALS SCALE INH TOTAL 183 GALS BIOCIDES TOTAL 3401 GALS DIESEL
	12:08 - 14:00	1.87	COMP	34	I	P		( KILL PLUG ) RIH W/ 41/2 8-K CBP & SET @ 9250' POOH SWM RD WIRELINE & FRAC CREW.
	14:00 - 17:00	3.00	COMP	31	I	P		ND FV, NU BOPS, RIH W/ POBS & 182 JTS TBG OUT OF DERICK. EOT @ 5768' SWM SDFN.
6/13/2012	7:00 - 7:30	0.50	COMP	48		P		HSM DRILLING OUT PLUGS, WORKING W/ POWER SWMVEL.
	7:30 - 9:00	1.50	COMP	44	C	P		SICP 0, RIH W/ REM 100 JTS 23/8 P-110 OUT OF DERICK, PU 9 JTS, RU DRLG EQUIP BROKE CIRC CONV, TEST BOPS TO 4,000 PSI OK.

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

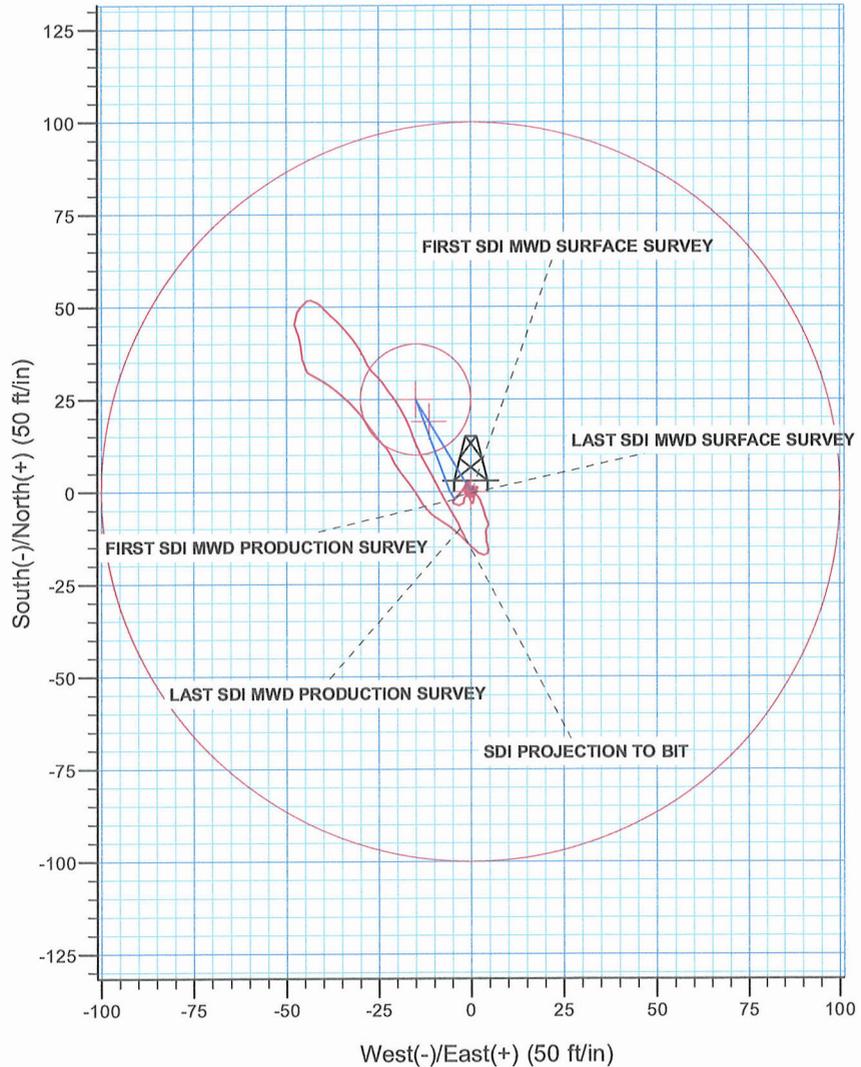
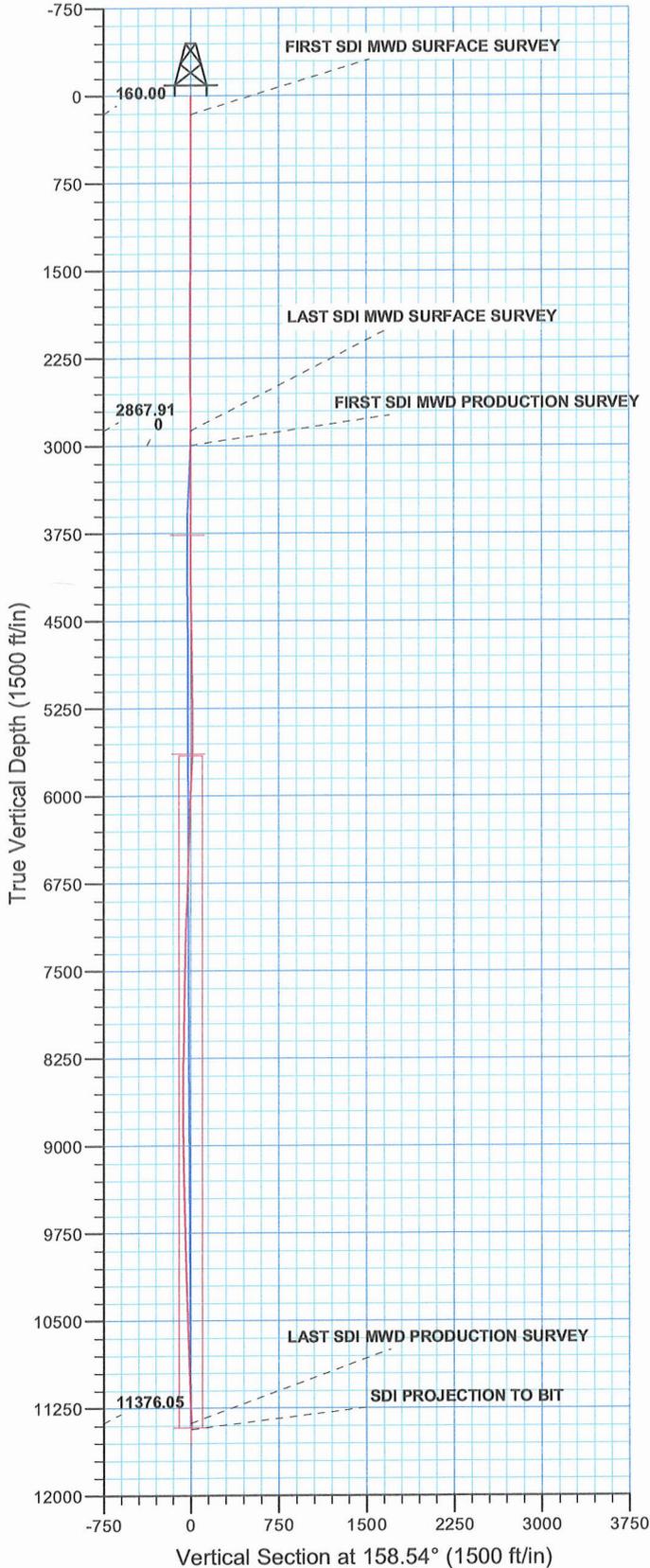
Well: NBU 921-19F Spud Date: 4/10/2012  
 Project: UTAH-UINTAH Site: NBU 921-19F Rig Name No: SWABBCO 8/8  
 Event: COMPLETION Start Date: 5/31/2012 End Date: 6/13/2012  
 Active Datum: RKB @4,853.01ft (above Mean Sea Level) UWI: SE/NW0/9/S/21/E/19/0/0/26/PM/N/2236/W/0/2285/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	9:00 - 18:00	9.00	COMP	44	C	P		<p>C/O 5' SAND TAG 1ST PLUG @ 9,250' DRL PLG IN 5 MIN, 2000# PSI INCREASE RIH</p> <p>C/O 15' SAND TAG 2ND PLUG @ 9,436' DRL PLG IN 5 MIN, 1500# PSI INCREASE RIH</p> <p>C/O 10' SAND TAG 3RD PLUG @ 9,600' DRL PLG IN 3 MIN, 750# PSI INCREASE RIH</p> <p>C/O 30' SAND TAG 4TH PLUG @ 9,738' DRL PLG IN 4 MIN, 750# PSI INCREASE RIH</p> <p>C/O 30' SAND TAG 5TH PLUG @ 10,013' DRL PLG IN 3 MIN, 1400# PSI INCREASE RIH</p> <p>C/O 30' SAND TAG 6TH PLUG @ 11,004' DRL PLG IN 5 MIN, 250# PSI INCREASE RIH</p> <p>C/O TO 11,374', CIRC CLN, L/D 17 JTS. LAND TBG ON 341 JTS 23/8 P-110. ND BOPS NU WH, TEST FLOW LINE TO 4,000 PSI, PUMP OFF BIT, TURN WELL OVER TO FB CREW. RIG DOWN, RACK OUT EQUIP, MOVE RIG &amp; EQUIP TO NBU 921-200 SPOT EQUIP SDFN.</p> <p>KB= 19' ( SURFOPEN W/ POPOFF )            HANGER = .83' SICP 3000            PSI, FTP 750 PSI            341 JTS 23/8 P-110 = 10,818.84'            POBS W/ 1.875 X/N = 2.20'            EOT @ 10,840.87'</p> <p>TWTR 13,181 BBLS            TWR 1,400 BBLS            TWLTR 11,781 BBLS</p> <p>363 JTS IN WELL            341 LANDED            22 TO RETURN</p>
	15:00 - 15:30	0.50	COMP	50				WELL TURNED TO SALES @ 1500 HR ON 6/13/2012, 46200 MCFD, 2160 BWPD, FCP 3000#, FTP 2475#, 20/64" CK.
6/16/2012	7:00 -			50				WELL IP'D ON 6/16/12 - 4021 MCFD, 0 BOPD, 600 BWPD, CP 5#, FTP 2#, CK 20/64", LP 0#, 24 HRS
6/17/2012	-							

WELL DETAILS: NBU 921-19F					
GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14537410.73	2033337.47	40.022715	-109.596563



T M Azimuths to True North  
 Magnetic North: 11.02°  
 Magnetic Field  
 Strength: 52248.8snT  
 Dip Angle: 65.85°  
 Date: 04/05/2012  
 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 19 T9S R21E
System Datum: Mean Sea Level

Design: OH (NBU 921-19F/OH)
Created By: Gabe Kendall Date: 14:41, May 16 2012



**Scientific Drilling**

## **US ROCKIES REGION PLANNING**

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

**NBU 921-19F**

**NBU 921-19F**

**OH**

**Design: OH**

## **Standard Survey Report**

**16 May, 2012**

**Anadarko**   
Petroleum Corporation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-19F
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)
<b>Site:</b>	NBU 921-19F	<b>MD Reference:</b>	GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)
<b>Well:</b>	NBU 921-19F	<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 921-19F, SECTION 19 T9S R21E				
<b>Site Position:</b>		<b>Northing:</b>	14,537,410.73 usft	<b>Latitude:</b>	40.022715
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,033,337.47 usft	<b>Longitude:</b>	-109.596563
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.90 °

<b>Well</b>	NBU 921-19F, 2236 FNL 2285 FWL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,537,410.73 usft	<b>Latitude:</b>	40.022715
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,033,337.47 usft	<b>Longitude:</b>	-109.596563
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,830.00 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	04/05/12	11.02	65.85	52,249

<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	158.54	

<b>Survey Program</b>	<b>Date</b>	05/16/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
15.00	2,868.00	Survey #1 SDI MWD SURVEY (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,996.00	11,435.00	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	0.00
15.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.00	0.44	44.85	160.00	0.39	0.39	-0.22	0.30	0.30	0.00	
<b>FIRST SDI MWD SURFACE SURVEY</b>										
188.00	0.62	25.25	188.00	0.61	0.53	-0.37	0.90	0.64	-70.00	
217.00	0.76	47.70	217.00	0.88	0.74	-0.55	1.04	0.48	77.41	
243.00	0.79	61.02	242.99	1.08	1.03	-0.63	0.70	0.12	51.23	
272.00	0.53	59.44	271.99	1.25	1.32	-0.68	0.90	-0.90	-5.45	
301.00	0.44	91.61	300.99	1.31	1.54	-0.66	0.97	-0.31	110.93	
329.00	0.44	115.08	328.99	1.26	1.75	-0.54	0.64	0.00	83.82	

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 921-19F  
**Well:** NBU 921-19F  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-19F  
**TVD Reference:** GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)  
**MD Reference:** GL 4830 & KB 19 @ 4849.00ft (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)	
357.00	0.35	178.10	356.99	1.13	1.85	-0.38	1.50	-0.32	225.07	
448.00	0.88	204.90	447.98	0.22	1.56	0.37	0.65	0.58	29.45	
538.00	0.79	199.19	537.97	-0.99	1.07	1.31	0.14	-0.10	-6.34	
628.00	0.88	188.26	627.96	-2.26	0.77	2.39	0.20	0.10	-12.14	
718.00	0.26	240.85	717.96	-3.05	0.49	3.01	0.83	-0.69	58.43	
808.00	0.18	330.59	807.96	-3.02	0.24	2.90	0.35	-0.09	99.71	
898.00	0.09	345.61	897.96	-2.83	0.15	2.69	0.11	-0.10	16.69	
988.00	0.20	312.96	987.96	-2.65	0.02	2.48	0.15	0.12	-36.28	
1,078.00	0.21	339.82	1,077.96	-2.39	-0.15	2.17	0.11	0.01	29.84	
1,168.00	0.35	16.73	1,167.96	-1.97	-0.13	1.79	0.25	0.16	41.01	
1,258.00	0.62	0.38	1,257.95	-1.22	-0.05	1.12	0.33	0.30	-18.17	
1,348.00	0.35	332.78	1,347.95	-0.49	-0.17	0.40	0.39	-0.30	-30.67	
1,438.00	0.26	295.25	1,437.95	-0.16	-0.48	-0.03	0.24	-0.10	-41.70	
1,528.00	0.66	276.49	1,527.95	-0.02	-1.18	-0.42	0.47	0.44	-20.84	
1,618.00	0.44	272.05	1,617.94	0.06	-2.04	-0.80	0.25	-0.24	-4.93	
1,708.00	0.26	65.24	1,707.94	0.15	-2.20	-0.95	0.76	-0.20	170.21	
1,798.00	0.44	72.63	1,797.94	0.34	-1.68	-0.93	0.21	0.20	8.21	
1,888.00	0.44	47.93	1,887.94	0.68	-1.10	-1.03	0.21	0.00	-27.44	
1,978.00	0.44	19.36	1,977.93	1.23	-0.73	-1.41	0.24	0.00	-31.74	
2,068.00	0.35	10.58	2,067.93	1.83	-0.56	-1.91	0.12	-0.10	-9.76	
2,158.00	0.26	346.32	2,157.93	2.30	-0.56	-2.34	0.17	-0.10	-26.96	
2,248.00	0.18	264.76	2,247.93	2.48	-0.75	-2.59	0.33	-0.09	-90.62	
2,338.00	0.35	230.13	2,337.93	2.30	-1.10	-2.54	0.25	0.19	-38.48	
2,428.00	0.35	203.32	2,427.93	1.87	-1.42	-2.26	0.18	0.00	-29.79	
2,518.00	0.53	205.34	2,517.93	1.24	-1.71	-1.78	0.20	0.20	2.24	
2,608.00	0.53	219.84	2,607.92	0.54	-2.15	-1.29	0.15	0.00	16.11	
2,698.00	0.67	207.02	2,697.92	-0.25	-2.66	-0.74	0.21	0.16	-14.24	
2,868.00	0.44	251.23	2,867.91	-1.34	-3.73	-0.12	0.28	-0.14	26.01	
<b>LAST SDI MWD SURFACE SURVEY</b>										
2,996.00	0.53	196.28	2,995.91	-2.07	-4.36	0.33	0.36	0.07	-42.93	
<b>FIRST SDI MWD PRODUCTION SURVEY</b>										
3,091.00	0.62	237.50	3,090.90	-2.77	-4.92	0.78	0.44	0.09	43.39	
3,186.00	0.79	105.58	3,185.90	-3.22	-4.72	1.27	1.36	0.18	-138.86	
3,280.00	1.23	103.03	3,279.88	-3.62	-3.11	2.23	0.47	0.47	-2.71	
3,376.00	0.97	10.75	3,375.87	-3.05	-1.96	2.13	1.66	-0.27	-96.13	
3,471.00	0.44	8.11	3,470.86	-1.90	-1.75	1.13	0.56	-0.56	-2.78	
3,566.00	0.70	53.90	3,565.86	-1.20	-1.23	0.66	0.53	0.27	48.20	
3,661.00	0.44	66.03	3,660.85	-0.71	-0.43	0.50	0.30	-0.27	12.77	
3,755.00	0.35	89.67	3,754.85	-0.56	0.19	0.59	0.20	-0.10	25.15	
3,850.00	0.35	90.99	3,849.85	-0.56	0.77	0.81	0.01	0.00	1.39	
3,945.00	0.26	108.13	3,944.85	-0.64	1.26	1.05	0.13	-0.09	18.04	
4,040.00	0.44	133.97	4,039.85	-0.96	1.73	1.52	0.25	0.19	27.20	
4,135.00	0.88	153.92	4,134.84	-1.87	2.31	2.58	0.52	0.46	21.00	

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 921-19F  
**Well:** NBU 921-19F  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-19F  
**TVD Reference:** GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)  
**MD Reference:** GL 4830 & KB 19 @ 4849.00ft (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)
4,230.00	1.14	157.35	4,229.83	-3.39	3.00	4.25	0.28	0.27	3.61
4,325.00	0.79	160.95	4,324.81	-4.88	3.57	5.85	0.37	-0.37	3.79
4,420.00	1.06	173.78	4,419.80	-6.38	3.88	7.35	0.36	0.28	13.51
4,515.00	1.14	150.84	4,514.78	-8.08	4.44	9.14	0.47	0.08	-24.15
4,610.00	0.26	224.85	4,609.78	-9.05	4.75	10.16	1.15	-0.93	77.91
4,704.00	0.35	216.67	4,703.78	-9.43	4.43	10.40	0.11	0.10	-8.70
4,799.00	0.53	200.33	4,798.77	-10.08	4.10	10.88	0.23	0.19	-17.20
4,894.00	0.62	166.84	4,893.77	-10.99	4.06	11.72	0.36	0.09	-35.25
4,989.00	0.62	188.20	4,988.76	-12.00	4.11	12.67	0.24	0.00	22.48
5,084.00	0.88	170.88	5,083.75	-13.23	4.15	13.83	0.36	0.27	-18.23
5,179.00	0.79	158.05	5,178.74	-14.56	4.51	15.20	0.22	-0.09	-13.51
5,274.00	0.53	177.47	5,273.74	-15.60	4.77	16.27	0.36	-0.27	20.44
5,369.00	0.79	199.71	5,368.73	-16.66	4.57	17.18	0.38	0.27	23.41
5,464.00	0.79	285.40	5,463.73	-17.10	3.72	17.28	1.13	0.00	90.20
5,559.00	1.41	294.72	5,558.71	-16.44	2.03	16.04	0.68	0.65	9.81
5,654.00	2.11	318.36	5,653.66	-14.64	-0.20	13.56	1.05	0.74	24.88
5,749.00	2.11	318.01	5,748.60	-12.04	-2.53	10.28	0.01	0.00	-0.37
5,844.00	2.29	304.65	5,843.53	-9.66	-5.26	7.06	0.57	0.19	-14.06
5,939.00	1.85	302.02	5,938.47	-7.77	-8.12	4.26	0.47	-0.46	-2.77
6,034.00	1.76	304.56	6,033.42	-6.13	-10.62	1.81	0.13	-0.09	2.67
6,128.00	2.29	328.82	6,127.36	-3.70	-12.78	-1.23	1.06	0.56	25.81
6,223.00	2.11	329.09	6,222.29	-0.58	-14.67	-4.83	0.19	-0.19	0.28
6,318.00	2.20	320.30	6,317.23	2.33	-16.73	-8.29	0.36	0.09	-9.25
6,412.00	2.20	322.49	6,411.16	5.15	-18.98	-11.73	0.09	0.00	2.33
6,507.00	1.76	333.56	6,506.10	7.90	-20.74	-14.94	0.61	-0.46	11.65
6,602.00	1.58	333.30	6,601.06	10.38	-21.98	-17.70	0.19	-0.19	-0.27
6,696.00	3.08	318.63	6,694.98	13.43	-24.23	-21.36	1.70	1.60	-15.61
6,791.00	2.70	323.57	6,789.86	17.15	-27.24	-25.92	0.48	-0.40	5.20
6,886.00	2.90	321.44	6,884.75	20.82	-30.07	-30.38	0.24	0.21	-2.24
6,981.00	2.46	315.31	6,979.64	24.15	-33.00	-34.55	0.55	-0.46	-6.45
7,076.00	2.11	307.20	7,074.57	26.66	-35.83	-37.92	0.50	-0.37	-8.54
7,171.00	1.76	308.70	7,169.51	28.63	-38.36	-40.68	0.37	-0.37	1.58
7,266.00	1.85	301.22	7,264.46	30.34	-40.81	-43.16	0.27	0.09	-7.87
7,360.00	1.58	296.13	7,358.42	31.69	-43.27	-45.33	0.33	-0.29	-5.41
7,455.00	1.58	339.11	7,453.39	33.49	-44.92	-47.61	1.22	0.00	45.24
7,550.00	1.41	344.12	7,548.36	35.84	-45.70	-50.08	0.23	-0.18	5.27
7,646.00	0.97	0.46	7,644.34	37.79	-46.02	-52.01	0.57	-0.46	17.02
7,740.00	1.06	350.36	7,738.32	39.44	-46.16	-53.60	0.21	0.10	-10.74
7,835.00	0.88	343.15	7,833.31	41.01	-46.52	-55.18	0.23	-0.19	-7.59
7,930.00	0.79	348.69	7,928.30	42.35	-46.86	-56.56	0.13	-0.09	5.83
8,025.00	0.97	333.48	8,023.29	43.71	-47.34	-58.00	0.31	0.19	-16.01
8,120.00	1.06	356.77	8,118.27	45.31	-47.75	-59.64	0.44	0.09	24.52
8,214.00	0.88	19.89	8,212.26	46.85	-47.56	-61.00	0.45	-0.19	24.60
8,309.00	0.97	13.73	8,307.25	48.32	-47.12	-62.21	0.14	0.09	-6.48

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 921-19F  
**Well:** NBU 921-19F  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-19F  
**TVD Reference:** GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)  
**MD Reference:** GL 4830 & KB 19 @ 4849.00ft (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)
8,404.00	0.95	47.61	8,402.23	49.63	-46.34	-63.15	0.59	-0.02	35.66
8,498.00	0.88	36.41	8,496.22	50.74	-45.34	-63.81	0.20	-0.07	-11.91
8,593.00	0.79	58.21	8,591.21	51.67	-44.35	-64.32	0.35	-0.09	22.95
8,688.00	0.70	108.83	8,686.21	51.83	-43.24	-64.06	0.68	-0.09	53.28
8,783.00	0.70	119.29	8,781.20	51.36	-42.19	-63.23	0.13	0.00	11.01
8,878.00	0.53	122.98	8,876.19	50.83	-41.31	-62.43	0.18	-0.18	3.88
8,973.00	0.70	138.36	8,971.19	50.16	-40.56	-61.52	0.25	0.18	16.19
9,067.00	0.97	139.68	9,065.18	49.13	-39.66	-60.23	0.29	0.29	1.40
9,162.00	1.23	132.30	9,160.16	47.83	-38.39	-58.56	0.31	0.27	-7.77
9,257.00	1.23	130.19	9,255.14	46.48	-36.86	-56.74	0.05	0.00	-2.22
9,352.00	1.28	140.63	9,350.12	45.00	-35.40	-54.84	0.25	0.05	10.99
9,446.00	1.41	131.07	9,444.09	43.43	-33.87	-52.81	0.28	0.14	-10.17
9,541.00	1.85	144.08	9,539.05	41.42	-32.09	-50.29	0.60	0.46	13.69
9,636.00	1.58	148.03	9,634.01	39.07	-30.49	-47.52	0.31	-0.28	4.16
9,731.00	1.49	156.82	9,728.98	36.82	-29.31	-45.00	0.27	-0.09	9.25
9,826.00	1.58	150.23	9,823.94	34.55	-28.18	-42.47	0.21	0.09	-6.94
9,920.00	1.49	139.86	9,917.91	32.49	-26.75	-40.03	0.31	-0.10	-11.03
10,015.00	1.32	130.63	10,012.88	30.84	-25.12	-37.89	0.30	-0.18	-9.72
10,110.00	1.14	147.59	10,107.86	29.33	-23.78	-35.99	0.43	-0.19	17.85
10,204.00	1.49	149.70	10,201.83	27.48	-22.66	-33.87	0.38	0.37	2.24
10,299.00	1.76	136.17	10,296.79	25.36	-21.03	-31.30	0.49	0.28	-14.24
10,395.00	1.85	150.23	10,392.75	22.95	-19.24	-28.40	0.47	0.09	14.65
10,488.00	1.93	158.49	10,485.70	20.19	-17.92	-25.35	0.30	0.09	8.88
10,582.00	2.29	155.77	10,579.63	17.01	-16.57	-21.89	0.40	0.38	-2.89
10,677.00	2.29	158.93	10,674.56	13.51	-15.11	-18.10	0.13	0.00	3.33
10,771.00	2.20	153.83	10,768.49	10.13	-13.64	-14.42	0.23	-0.10	-5.43
10,866.00	2.02	147.77	10,863.42	7.08	-11.94	-10.96	0.30	-0.19	-6.38
10,960.00	1.76	154.10	10,957.37	4.38	-10.43	-7.89	0.35	-0.28	6.73
11,056.00	1.93	153.22	11,053.32	1.61	-9.05	-4.81	0.18	0.18	-0.92
11,151.00	2.37	151.37	11,148.25	-1.54	-7.39	-1.27	0.47	0.46	-1.95
11,246.00	2.37	152.25	11,243.17	-5.00	-5.54	2.63	0.04	0.00	0.93
11,340.00	2.55	148.91	11,337.09	-8.51	-3.55	6.62	0.24	0.19	-3.55
11,379.00	2.37	153.48	11,376.05	-9.98	-2.74	8.28	0.68	-0.46	11.72
<b>LAST SDI MWD PRODUCTION SURVEY</b>									
11,435.00	2.37	153.48	11,432.00	-12.05	-1.71	10.59	0.00	0.00	0.00
<b>SDI PROJECTION TO BIT</b>									

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 921-19F  
**Well:** NBU 921-19F  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-19F  
**TVD Reference:** GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)  
**MD Reference:** GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
160.00	160.00	0.39	0.39	FIRST SDI MWD SURFACE SURVEY
2,868.00	2,867.91	-1.34	-3.73	LAST SDI MWD SURFACE SURVEY
2,996.00	2,995.91	-2.07	-4.36	FIRST SDI MWD PRODUCTION SURVEY
11,379.00	11,376.05	-9.98	-2.74	LAST SDI MWD PRODUCTION SURVEY
11,435.00	11,432.00	-12.05	-1.71	SDI PROJECTION TO BIT

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



**Scientific Drilling**

## **US ROCKIES REGION PLANNING**

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

**NBU 921-19F**

**NBU 921-19F**

**OH**

**Design: OH**

## **Survey Report - Geographic**

**16 May, 2012**

**Anadarko**   
Petroleum Corporation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-19F
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)
<b>Site:</b>	NBU 921-19F	<b>MD Reference:</b>	GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)
<b>Well:</b>	NBU 921-19F	<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 921-19F, SECTION 19 T9S R21E				
<b>Site Position:</b>		<b>Northing:</b>	14,537,410.73 usft	<b>Latitude:</b>	40.022715
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,033,337.47 usft	<b>Longitude:</b>	-109.596563
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.90 °

<b>Well</b>	NBU 921-19F, 2236 FNL 2285 FWL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,537,410.73 usft	<b>Latitude:</b>	40.022715
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,033,337.47 usft	<b>Longitude:</b>	-109.596563
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,830.00 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	04/05/12	11.02	65.85	52,249

<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	158.54	

<b>Survey Program</b>	<b>Date</b>	05/16/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
15.00	2,868.00	Survey #1 SDI MWD SURVEY (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,996.00	11,435.00	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>Map Northing (usft)</b>	<b>Map Easting (usft)</b>	<b>Latitude</b>	<b>Longitude</b>	
0.00	0.00	0.00	0.00	0.00	0.00	14,537,410.73	2,033,337.47	40.022715	-109.596563	
15.00	0.00	0.00	15.00	0.00	0.00	14,537,410.73	2,033,337.47	40.022715	-109.596563	
160.00	0.44	44.85	160.00	0.39	0.39	14,537,411.13	2,033,337.85	40.022716	-109.596562	
<b>FIRST SDI MWD SURFACE SURVEY</b>										
188.00	0.62	25.25	188.00	0.61	0.53	14,537,411.35	2,033,337.99	40.022717	-109.596561	
217.00	0.76	47.70	217.00	0.88	0.74	14,537,411.62	2,033,338.20	40.022718	-109.596561	
243.00	0.79	61.02	242.99	1.08	1.03	14,537,411.83	2,033,338.48	40.022718	-109.596560	
272.00	0.53	59.44	271.99	1.25	1.32	14,537,412.00	2,033,338.76	40.022719	-109.596559	
301.00	0.44	91.61	300.99	1.31	1.54	14,537,412.07	2,033,338.99	40.022719	-109.596558	
329.00	0.44	115.08	328.99	1.26	1.75	14,537,412.02	2,033,339.20	40.022719	-109.596557	
357.00	0.35	178.10	356.99	1.13	1.85	14,537,411.89	2,033,339.30	40.022718	-109.596557	

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 921-19F  
**Well:** NBU 921-19F  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-19F  
**TVD Reference:** GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)  
**MD Reference:** GL 4830 & KB 19 @ 4849.00ft (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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
448.00	0.88	204.90	447.98	0.22	1.56	14,537,410.98	2,033,339.03	40.022716	-109.596558
538.00	0.79	199.19	537.97	-0.99	1.07	14,537,409.76	2,033,338.55	40.022712	-109.596559
628.00	0.88	188.26	627.96	-2.26	0.77	14,537,408.48	2,033,338.27	40.022709	-109.596561
718.00	0.26	240.85	717.96	-3.05	0.49	14,537,407.70	2,033,338.00	40.022707	-109.596562
808.00	0.18	330.59	807.96	-3.02	0.24	14,537,407.72	2,033,337.76	40.022707	-109.596562
898.00	0.09	345.61	897.96	-2.83	0.15	14,537,407.91	2,033,337.67	40.022707	-109.596563
988.00	0.20	312.96	987.96	-2.65	0.02	14,537,408.08	2,033,337.53	40.022708	-109.596563
1,078.00	0.21	339.82	1,077.96	-2.39	-0.15	14,537,408.34	2,033,337.55	40.022709	-109.596564
1,168.00	0.35	16.73	1,167.96	-1.97	-0.13	14,537,408.76	2,033,337.37	40.022710	-109.596564
1,258.00	0.62	0.38	1,257.95	-1.22	-0.05	14,537,409.51	2,033,337.44	40.022712	-109.596563
1,348.00	0.35	332.78	1,347.95	-0.49	-0.17	14,537,410.24	2,033,337.31	40.022714	-109.596564
1,438.00	0.26	295.25	1,437.95	-0.16	-0.48	14,537,410.56	2,033,336.99	40.022715	-109.596565
1,528.00	0.66	276.49	1,527.95	-0.02	-1.18	14,537,410.70	2,033,336.29	40.022715	-109.596567
1,618.00	0.44	272.05	1,617.94	0.06	-2.04	14,537,410.76	2,033,335.43	40.022715	-109.596571
1,708.00	0.26	65.24	1,707.94	0.15	-2.20	14,537,410.85	2,033,335.27	40.022716	-109.596571
1,798.00	0.44	72.63	1,797.94	0.34	-1.68	14,537,411.05	2,033,335.78	40.022716	-109.596569
1,888.00	0.44	47.93	1,887.94	0.68	-1.10	14,537,411.39	2,033,336.36	40.022717	-109.596567
1,978.00	0.44	19.36	1,977.93	1.23	-0.73	14,537,411.96	2,033,336.72	40.022718	-109.596566
2,068.00	0.35	10.58	2,067.93	1.83	-0.56	14,537,412.55	2,033,336.88	40.022720	-109.596565
2,158.00	0.26	346.32	2,157.93	2.30	-0.56	14,537,413.02	2,033,336.87	40.022721	-109.596565
2,248.00	0.18	264.76	2,247.93	2.48	-0.75	14,537,413.21	2,033,336.68	40.022722	-109.596566
2,338.00	0.35	230.13	2,337.93	2.30	-1.10	14,537,413.01	2,033,336.33	40.022721	-109.596567
2,428.00	0.35	203.32	2,427.93	1.87	-1.42	14,537,412.58	2,033,336.02	40.022720	-109.596568
2,518.00	0.53	205.34	2,517.93	1.24	-1.71	14,537,411.94	2,033,335.74	40.022719	-109.596569
2,608.00	0.53	219.84	2,607.92	0.54	-2.15	14,537,411.24	2,033,335.31	40.022717	-109.596571
2,698.00	0.67	207.02	2,697.92	-0.25	-2.66	14,537,410.44	2,033,334.81	40.022714	-109.596573
2,868.00	0.44	251.23	2,867.91	-1.34	-3.73	14,537,409.33	2,033,333.76	40.022711	-109.596577
<b>LAST SDI MWD SURFACE SURVEY</b>									
2,996.00	0.53	196.28	2,995.91	-2.07	-4.36	14,537,408.60	2,033,333.14	40.022709	-109.596579
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
3,091.00	0.62	237.50	3,090.90	-2.77	-4.92	14,537,407.89	2,033,332.60	40.022708	-109.596581
3,186.00	0.79	105.58	3,185.90	-3.22	-4.72	14,537,407.44	2,033,332.80	40.022706	-109.596580
3,280.00	1.23	103.03	3,279.88	-3.62	-3.11	14,537,407.06	2,033,334.41	40.022705	-109.596574
3,376.00	0.97	10.75	3,375.87	-3.05	-1.96	14,537,407.65	2,033,335.56	40.022707	-109.596570
3,471.00	0.44	8.11	3,470.86	-1.90	-1.75	14,537,408.80	2,033,335.74	40.022710	-109.596570
3,566.00	0.70	53.90	3,565.86	-1.20	-1.23	14,537,409.51	2,033,336.25	40.022712	-109.596568
3,661.00	0.44	66.03	3,660.85	-0.71	-0.43	14,537,410.02	2,033,337.05	40.022713	-109.596565
3,755.00	0.35	89.67	3,754.85	-0.56	0.19	14,537,410.17	2,033,337.66	40.022714	-109.596563
3,850.00	0.35	90.99	3,849.85	-0.56	0.77	14,537,410.18	2,033,338.24	40.022714	-109.596561
3,945.00	0.26	108.13	3,944.85	-0.64	1.26	14,537,410.12	2,033,338.74	40.022713	-109.596559
4,040.00	0.44	133.97	4,039.85	-0.96	1.73	14,537,409.80	2,033,339.21	40.022712	-109.596557
4,135.00	0.88	153.92	4,134.84	-1.87	2.31	14,537,408.90	2,033,339.81	40.022710	-109.596555
4,230.00	1.14	157.35	4,229.83	-3.39	3.00	14,537,407.39	2,033,340.52	40.022706	-109.596553
4,325.00	0.79	160.95	4,324.81	-4.88	3.57	14,537,405.91	2,033,341.12	40.022702	-109.596551
4,420.00	1.06	173.78	4,419.80	-6.38	3.88	14,537,404.42	2,033,341.45	40.022698	-109.596549
4,515.00	1.14	150.84	4,514.78	-8.08	4.44	14,537,402.73	2,033,342.03	40.022693	-109.596547
4,610.00	0.26	224.85	4,609.78	-9.05	4.75	14,537,401.76	2,033,342.36	40.022690	-109.596546
4,704.00	0.35	216.67	4,703.78	-9.43	4.43	14,537,401.37	2,033,342.04	40.022689	-109.596547
4,799.00	0.53	200.33	4,798.77	-10.08	4.10	14,537,400.72	2,033,341.73	40.022687	-109.596549
4,894.00	0.62	166.84	4,893.77	-10.99	4.06	14,537,399.81	2,033,341.70	40.022685	-109.596549
4,989.00	0.62	188.20	4,988.76	-12.00	4.11	14,537,398.80	2,033,341.76	40.022682	-109.596549
5,084.00	0.88	170.88	5,083.75	-13.23	4.15	14,537,397.57	2,033,341.83	40.022679	-109.596548
5,179.00	0.79	158.05	5,178.74	-14.56	4.51	14,537,396.25	2,033,342.21	40.022675	-109.596547
5,274.00	0.53	177.47	5,273.74	-15.60	4.77	14,537,395.21	2,033,342.49	40.022672	-109.596546
5,369.00	0.79	199.71	5,368.73	-16.66	4.57	14,537,394.15	2,033,342.30	40.022669	-109.596547

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 921-19F  
**Well:** NBU 921-19F  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-19F  
**TVD Reference:** GL 4830 & KB 19 @ 4849.00ft (PIONEER 54)  
**MD Reference:** GL 4830 & KB 19 @ 4849.00ft (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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,464.00	0.79	285.40	5,463.73	-17.10	3.72	14,537,393.69	2,033,341.46	40.022668	-109.596550
5,559.00	1.41	294.72	5,558.71	-16.44	2.03	14,537,394.33	2,033,339.75	40.022670	-109.596556
5,654.00	2.11	318.36	5,653.66	-14.64	-0.20	14,537,396.09	2,033,337.50	40.022675	-109.596564
5,749.00	2.11	318.01	5,748.60	-12.04	-2.53	14,537,398.66	2,033,335.13	40.022682	-109.596572
5,844.00	2.29	304.65	5,843.53	-9.66	-5.26	14,537,400.99	2,033,332.36	40.022689	-109.596582
5,939.00	1.85	302.02	5,938.47	-7.77	-8.12	14,537,402.84	2,033,329.47	40.022694	-109.596592
6,034.00	1.76	304.56	6,033.42	-6.13	-10.62	14,537,404.44	2,033,326.94	40.022698	-109.596601
6,128.00	2.29	328.82	6,127.36	-3.70	-12.78	14,537,406.83	2,033,324.74	40.022705	-109.596609
6,223.00	2.11	329.09	6,222.29	-0.58	-14.67	14,537,409.93	2,033,322.81	40.022714	-109.596616
6,318.00	2.20	320.30	6,317.23	2.33	-16.73	14,537,412.80	2,033,320.70	40.022721	-109.596623
6,412.00	2.20	322.49	6,411.16	5.15	-18.98	14,537,415.58	2,033,318.41	40.022729	-109.596631
6,507.00	1.76	333.56	6,506.10	7.90	-20.74	14,537,418.31	2,033,316.61	40.022737	-109.596637
6,602.00	1.58	333.30	6,601.06	10.38	-21.98	14,537,420.76	2,033,315.33	40.022744	-109.596642
6,696.00	3.08	318.63	6,694.98	13.43	-24.23	14,537,423.78	2,033,313.03	40.022752	-109.596650
6,791.00	2.70	323.57	6,789.86	17.15	-27.24	14,537,427.45	2,033,309.96	40.022762	-109.596661
6,886.00	2.90	321.44	6,884.75	20.82	-30.07	14,537,431.08	2,033,307.07	40.022772	-109.596671
6,981.00	2.46	315.31	6,979.64	24.15	-33.00	14,537,434.36	2,033,304.09	40.022781	-109.596681
7,076.00	2.11	307.20	7,074.57	26.66	-35.83	14,537,436.82	2,033,301.22	40.022788	-109.596691
7,171.00	1.76	308.70	7,169.51	28.63	-38.36	14,537,438.75	2,033,298.66	40.022794	-109.596700
7,266.00	1.85	301.22	7,264.46	30.34	-40.81	14,537,440.42	2,033,296.18	40.022798	-109.596709
7,360.00	1.58	296.13	7,358.42	31.69	-43.27	14,537,441.74	2,033,293.70	40.022802	-109.596718
7,455.00	1.58	339.11	7,453.39	33.49	-44.92	14,537,443.51	2,033,292.03	40.022807	-109.596724
7,550.00	1.41	344.12	7,548.36	35.84	-45.70	14,537,445.85	2,033,291.21	40.022814	-109.596726
7,646.00	0.97	0.46	7,644.34	37.79	-46.02	14,537,447.79	2,033,290.86	40.022819	-109.596728
7,740.00	1.06	350.36	7,738.32	39.44	-46.16	14,537,449.44	2,033,290.69	40.022823	-109.596728
7,835.00	0.88	343.15	7,833.31	41.01	-46.52	14,537,451.00	2,033,290.31	40.022828	-109.596729
7,930.00	0.79	348.69	7,928.30	42.35	-46.86	14,537,452.34	2,033,289.95	40.022831	-109.596731
8,025.00	0.97	333.48	8,023.29	43.71	-47.34	14,537,453.69	2,033,289.44	40.022835	-109.596732
8,120.00	1.06	356.77	8,118.27	45.31	-47.75	14,537,455.28	2,033,289.01	40.022840	-109.596734
8,214.00	0.88	19.89	8,212.26	46.85	-47.56	14,537,456.83	2,033,289.18	40.022844	-109.596733
8,309.00	0.97	13.73	8,307.25	48.32	-47.12	14,537,458.31	2,033,289.60	40.022848	-109.596732
8,404.00	0.95	47.61	8,402.23	49.63	-46.34	14,537,459.63	2,033,290.35	40.022851	-109.596729
8,498.00	0.88	36.41	8,496.22	50.74	-45.34	14,537,460.75	2,033,291.33	40.022854	-109.596725
8,593.00	0.79	58.21	8,591.21	51.67	-44.35	14,537,461.70	2,033,292.31	40.022857	-109.596722
8,688.00	0.70	108.83	8,686.21	51.83	-43.24	14,537,461.87	2,033,293.41	40.022857	-109.596718
8,783.00	0.70	119.29	8,781.20	51.36	-42.19	14,537,461.42	2,033,294.47	40.022856	-109.596714
8,878.00	0.53	122.98	8,876.19	50.83	-41.31	14,537,460.91	2,033,295.36	40.022855	-109.596711
8,973.00	0.70	138.36	8,971.19	50.16	-40.56	14,537,460.25	2,033,296.12	40.022853	-109.596708
9,067.00	0.97	139.68	9,065.18	49.13	-39.66	14,537,459.23	2,033,297.03	40.022850	-109.596705
9,162.00	1.23	132.30	9,160.16	47.83	-38.39	14,537,457.95	2,033,298.33	40.022846	-109.596700
9,257.00	1.23	130.19	9,255.14	46.48	-36.86	14,537,456.63	2,033,299.88	40.022843	-109.596695
9,352.00	1.28	140.63	9,350.12	45.00	-35.40	14,537,455.17	2,033,301.36	40.022839	-109.596690
9,446.00	1.41	131.07	9,444.09	43.43	-33.87	14,537,453.63	2,033,302.92	40.022834	-109.596684
9,541.00	1.85	144.08	9,539.05	41.42	-32.09	14,537,451.65	2,033,304.73	40.022829	-109.596678
9,636.00	1.58	148.03	9,634.01	39.07	-30.49	14,537,449.32	2,033,306.36	40.022822	-109.596672
9,731.00	1.49	156.82	9,728.98	36.82	-29.31	14,537,447.09	2,033,307.58	40.022816	-109.596668
9,826.00	1.58	150.23	9,823.94	34.55	-28.18	14,537,444.84	2,033,308.75	40.022810	-109.596664
9,920.00	1.49	139.86	9,917.91	32.49	-26.75	14,537,442.80	2,033,310.21	40.022804	-109.596659
10,015.00	1.32	130.63	10,012.86	30.84	-25.12	14,537,441.17	2,033,311.87	40.022800	-109.596653
10,110.00	1.14	147.59	10,107.86	29.33	-23.78	14,537,439.68	2,033,313.23	40.022796	-109.596648
10,204.00	1.49	149.70	10,201.83	27.48	-22.66	14,537,437.85	2,033,314.37	40.022791	-109.596644
10,299.00	1.76	136.17	10,296.79	25.36	-21.03	14,537,435.76	2,033,316.04	40.022785	-109.596638
10,395.00	1.85	150.23	10,392.75	22.95	-19.24	14,537,433.38	2,033,317.87	40.022778	-109.596632
10,488.00	1.93	158.49	10,485.70	20.19	-17.92	14,537,430.64	2,033,319.23	40.022771	-109.596627
10,582.00	2.29	155.77	10,579.63	17.01	-16.57	14,537,427.48	2,033,320.63	40.022762	-109.596622