

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

FORM 3

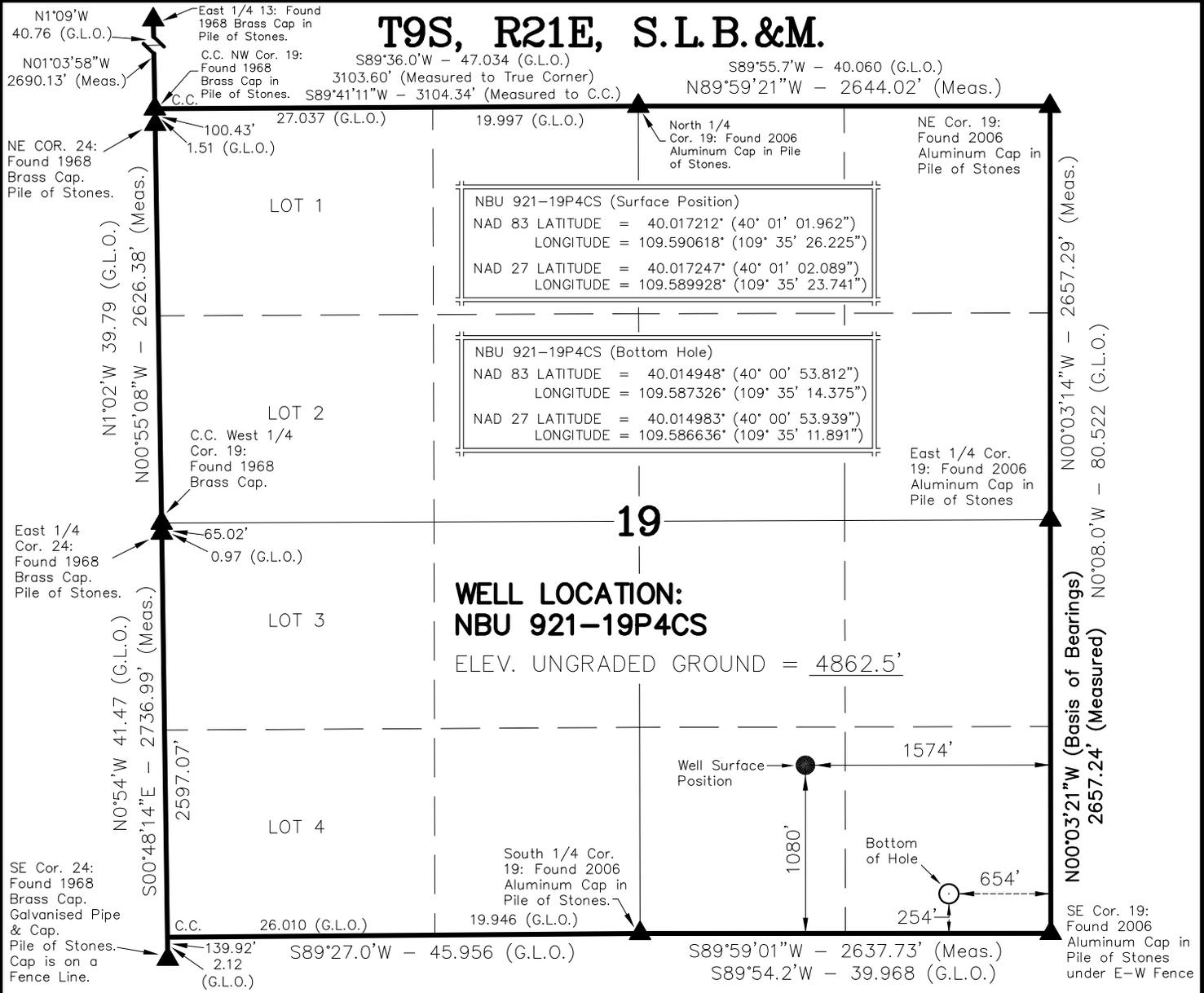
AMENDED REPORT 

<b>APPLICATION FOR PERMIT TO DRILL</b>						<b>1. WELL NAME and NUMBER</b> NBU 921-19P4CS	
<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 type="checkbox"/> DIRECTIONAL <input checked="" 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>	1080 FSL 1574 FEL		SWSE	19	9.0 S	21.0 E	S
<b>Top of Uppermost Producing Zone</b>	254 FSL 654 FEL		SESE	19	9.0 S	21.0 E	S
<b>At Total Depth</b>	254 FSL 654 FEL		SESE	19	9.0 S	21.0 E	S
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 254			<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> 370			<b>26. PROPOSED DEPTH</b> MD: 10544 TVD: 10260	
<b>27. ELEVATION - GROUND LEVEL</b> 4863			<b>28. BOND NUMBER</b> WYB000291			<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496	
<b>ATTACHMENTS</b>							
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>							
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER				<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN			
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)				<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER			
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)				<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP			
<b>NAME</b> Danielle Piernot			<b>TITLE</b> Regulatory Analyst			<b>PHONE</b> 720 929-6156	
<b>SIGNATURE</b>			<b>DATE</b> 07/22/2009			<b>EMAIL</b> danielle.piernot@anadarko.com	
<b>API NUMBER ASSIGNED</b> 43047505940000			<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	10544		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade HCP-110 LT&C	610	11.6			
	Grade I-80 LT&C	9934	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	2600		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade J-55 LT&C	2600	36.0			

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



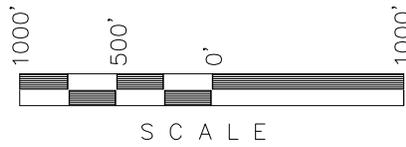
**NOTES:**

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
- 3. The Bottom of hole bears S48°06'31"E 1237.38' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack mtn NE 7.5 Min. Quadrangle as being 5238'.

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

**NBU 921-19P4CS  
WELL PLAT**  
254' FSL, 654' FEL (Bottom Hole)  
SE ¼ SE ¼ OF SECTION 19, T9S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.

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



**SURVEYOR'S CERTIFICATE**

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

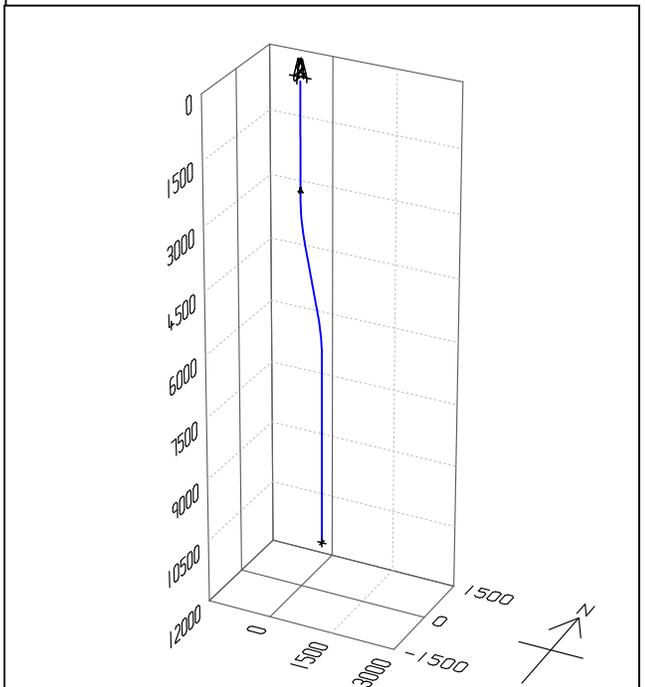
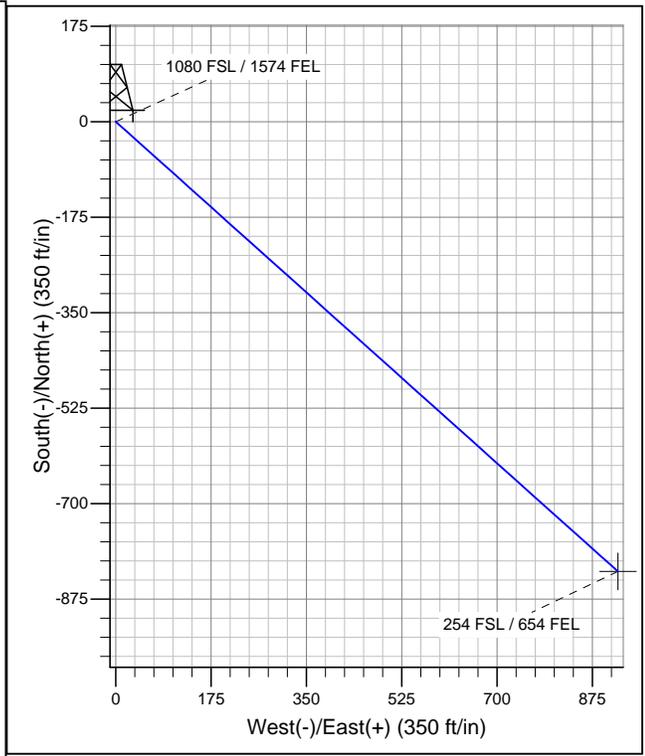
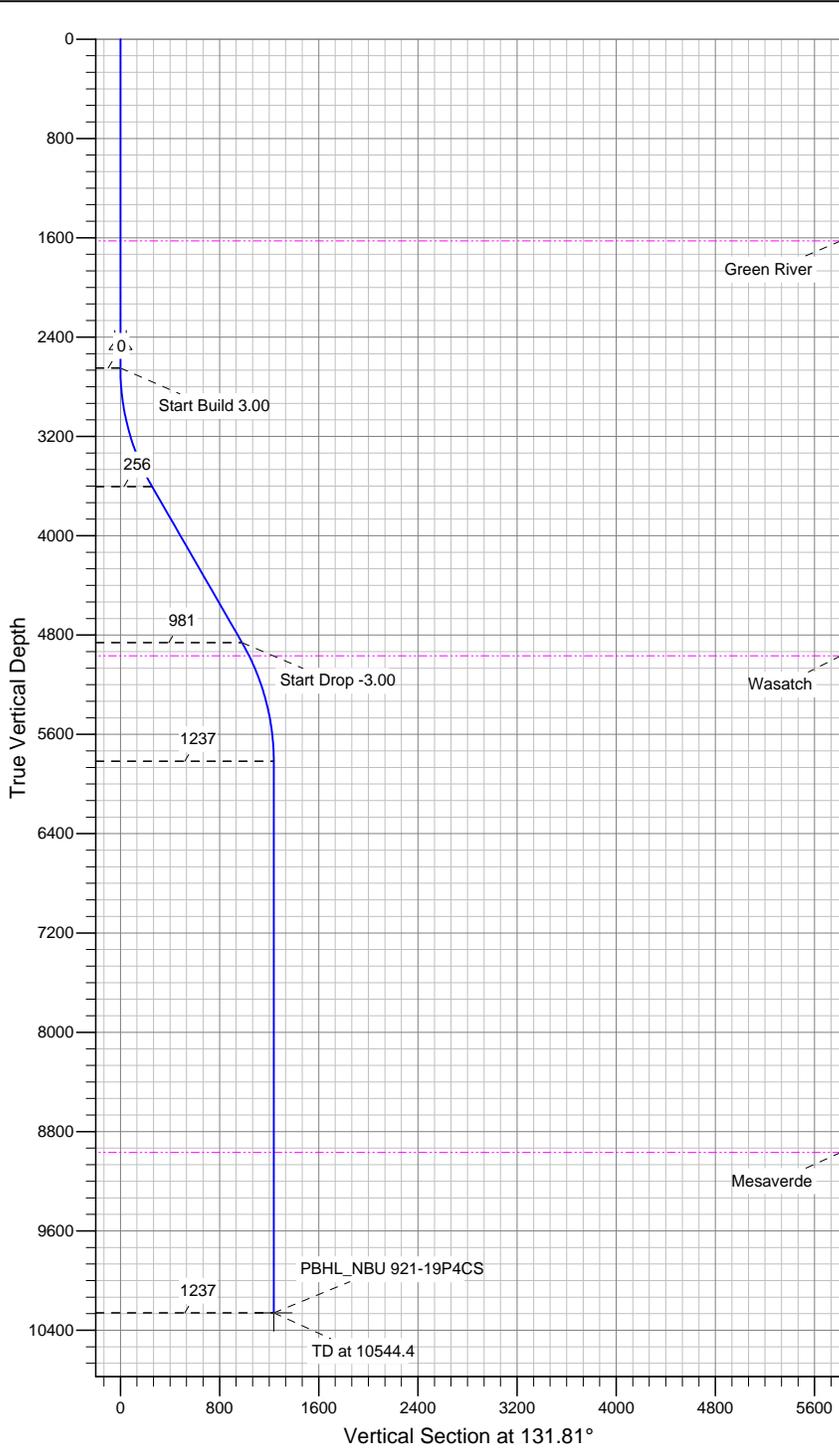
*Kathy R. Kay*  
No. 362251  
KOLBY R. KAY  
REGISTERED LAND SURVEYOR  
REGISTRATION No. 362251  
STATE OF UTAH

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

DATE SURVEYED: 01-13-09	SURVEYED BY: M.S.B.	<b>SHEET 2 OF 13</b>
DATE DRAWN: 02-09-09	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised:	



Well Name: P\_NBU 921-19P4CS  
 Surface Location: UINTAH\_NBU 921-19O PAD  
 NAD 1927 (NADCONUS) Universal Transverse Mercator (US Survey Feet)  
 UTAH - UTM (feet), NAD27, Zone 12N  
 Ground Elevation: 4862.0  
 Northing 14535448.87 Easting 2035226.66 Latitude 40.017247°N Longitude 109.589928°W



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	2650.0	0.00	0.00	2650.0	0.0	0.0	0.00	0.00	0.0
3	3650.0	30.00	131.81	3604.9	-170.6	190.7	3.00	131.81	255.9
4	5100.2	30.00	131.81	4860.8	-654.0	731.2	0.00	0.00	981.0
5	6100.2	0.00	0.00	5815.8	-824.5	921.9	3.00	180.00	1236.8
6	10544.4	0.00	0.00	10260.0	-824.5	921.9	0.00	0.00	1236.8



Azimuths to True North  
 Magnetic North: 11.37°

Magnetic Field  
 Strength: 52567.3snT  
 Dip Angle: 65.93°  
 Date: 4/22/2009  
 Model: IGRF200510

# **ROCKIES - PLANNING**

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

**UINTAH\_NBU 921-190 PAD**

**P\_NBU 921-19P4CS**

**P\_NBU 921-19P4CS**

**Plan: Plan #1 04-21-09 ZJRA6**

## **Standard Planning Report - Geographic**

**22 April, 2009**

## APC Planning Report - Geographic

<b>Database:</b> apc_edmp	<b>Local Co-ordinate Reference:</b> Well P_NBU 921-19P4CS
<b>Company:</b> ROCKIES - PLANNING	<b>TVD Reference:</b> WELL @ 4862.0ft (Original Well Elev)
<b>Project:</b> UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b> WELL @ 4862.0ft (Original Well Elev)
<b>Site:</b> UINTAH_NBU 921-19O PAD	<b>North Reference:</b> True
<b>Well:</b> P_NBU 921-19P4CS	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> P_NBU 921-19P4CS	
<b>Design:</b> Plan #1 04-21-09 ZJRA6	

<b>Project</b> UTAH - UTM (feet), NAD27, Zone 12N	
<b>Map System:</b> Universal Transverse Mercator (US Survey Fee	<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> UINTAH_NBU 921-19O PAD		
<b>Site Position:</b>	<b>Northing:</b> 14,535,450.28ft	<b>Latitude:</b> 40.017250°N
<b>From:</b> Lat/Long	<b>Easting:</b> 2,035,246.52ft	<b>Longitude:</b> 109.589857°W
<b>Position Uncertainty:</b> 0.0 ft	<b>Slot Radius:</b> "	<b>Grid Convergence:</b> 0.91 °

<b>Well</b> P_NBU 921-19P4CS			
<b>Well Position</b>	<b>+N/-S</b> 0.0 ft	<b>Northing:</b> 14,535,448.87 ft	<b>Latitude:</b> 40.017247°N
	<b>+E/-W</b> 0.0 ft	<b>Easting:</b> 2,035,226.66 ft	<b>Longitude:</b> 109.589928°W
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> 4,862.0 ft

<b>Wellbore</b> P_NBU 921-19P4CS					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/22/2009	11.37	65.93	52,567

<b>Design</b> Plan #1 04-21-09 ZJRA6				
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b> PLAN	<b>Tie On Depth:</b> 0.0		
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	10,260.0	0.0	0.0	131.81

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,650.0	0.00	0.00	2,650.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,650.0	30.00	131.81	3,604.9	-170.6	190.7	3.00	3.00	0.00	131.81	
5,100.2	30.00	131.81	4,860.8	-654.0	731.2	0.00	0.00	0.00	0.00	
6,100.2	0.00	0.00	5,815.8	-824.5	921.9	3.00	-3.00	0.00	180.00	
10,544.4	0.00	0.00	10,260.0	-824.5	921.9	0.00	0.00	0.00	0.00	PBHL_NBU 921-19

# APC

## Planning Report - Geographic

<b>Database:</b> apc_edmp	<b>Local Co-ordinate Reference:</b> Well P_NBU 921-19P4CS
<b>Company:</b> ROCKIES - PLANNING	<b>TVD Reference:</b> WELL @ 4862.0ft (Original Well Elev)
<b>Project:</b> UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b> WELL @ 4862.0ft (Original Well Elev)
<b>Site:</b> UINTAH_NBU 921-19O PAD	<b>North Reference:</b> True
<b>Well:</b> P_NBU 921-19P4CS	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> P_NBU 921-19P4CS	
<b>Design:</b> Plan #1 04-21-09 ZJRA6	

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	14,535,448.87	2,035,226.66	40.017247°N	109.589928°W	
1,625.0	0.00	0.00	1,625.0	0.0	0.0	14,535,448.87	2,035,226.66	40.017247°N	109.589928°W	
<b>Green River</b>										
2,500.0	0.00	0.00	2,500.0	0.0	0.0	14,535,448.87	2,035,226.66	40.017247°N	109.589928°W	
<b>Surface Casing</b>										
2,650.0	0.00	0.00	2,650.0	0.0	0.0	14,535,448.87	2,035,226.66	40.017247°N	109.589928°W	
3,650.0	30.00	131.81	3,604.9	-170.6	190.7	14,535,281.33	2,035,420.06	40.016779°N	109.589247°W	
5,100.2	30.00	131.81	4,860.8	-654.0	731.2	14,534,806.57	2,035,968.11	40.015451°N	109.587317°W	
5,221.8	26.35	131.81	4,968.0	-692.2	774.0	14,534,768.98	2,036,011.50	40.015346°N	109.587164°W	
<b>Wasatch</b>										
6,100.2	0.00	0.00	5,815.8	-824.5	921.9	14,534,639.03	2,036,161.51	40.014983°N	109.586636°W	
9,252.4	0.00	0.00	8,968.0	-824.5	921.9	14,534,639.03	2,036,161.51	40.014983°N	109.586636°W	
<b>Mesaverde</b>										
10,544.4	0.00	0.00	10,260.0	-824.5	921.9	14,534,639.03	2,036,161.51	40.014983°N	109.586636°W	

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
PBHL_NBU 921-19P4 - hit/miss target - Shape - Point	0.00	0.00	10,260.0	-824.5	921.9	14,534,639.03	2,036,161.51	40.014983°N	109.586636°W	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
2,500.0	2,500.0	Surface Casing	9-5/8	12-1/4		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
9,252.4	8,968.0	Mesaverde		0.00		
5,221.8	4,968.0	Wasatch		0.00		
1,625.0	1,625.0	Green River		0.00		

**NBU 921-19P4CS**

Pad: NBU 921-19O

Surface: 1,080' FSL 1,574' FEL (SW/4SE/4)

BHL: 254' FSL 654' FEL (SE/4SE/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	1,625'	
Birds Nest	1,894'	Water
Mahogany	2,394'	Water
Wasatch	4,968'	Gas
Mesaverde	8,018'	Gas
MVU2	8,968'	Gas
MVL1	9,517'	Gas
TVD	10,260'	
TD	10,544'	

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 10,544' TD, approximately equals 6,460 psi (calculated at 0.61 psi/foot).

Maximum anticipated surface pressure equals approximately 4,028 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 2,600	36.00	J-55	LTC	0.83	1.66	6.16
PRODUCTION	4-1/2"	0 to 9,934	11.60	I-80	LTC	7,780	6,350	201,000
	4-1/2"	9,934 to 10,544	11.60	HCP-110	LTC	1.88	1.10	2.01
						10,690	8,650	279,000
						79.66	1.35	48.28

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient 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 = 12.0 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 4,028 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD  
 (Burst Assumptions: TD = 12.0 ppg) 0.61 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)  
**MABHP 6,460 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
<b>Option 1</b>							
	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
SURFACE			<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>				
<b>Option 2</b>	LEAD	2,100'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	500	35%	12.60	1.81
	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	4,464'	Premium Lite II + 3% KCl + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	430	40%	11.00	3.38
	TAIL	6,080'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,490	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. No centralizers will be used.

**ADDITIONAL INFORMATION**

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

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

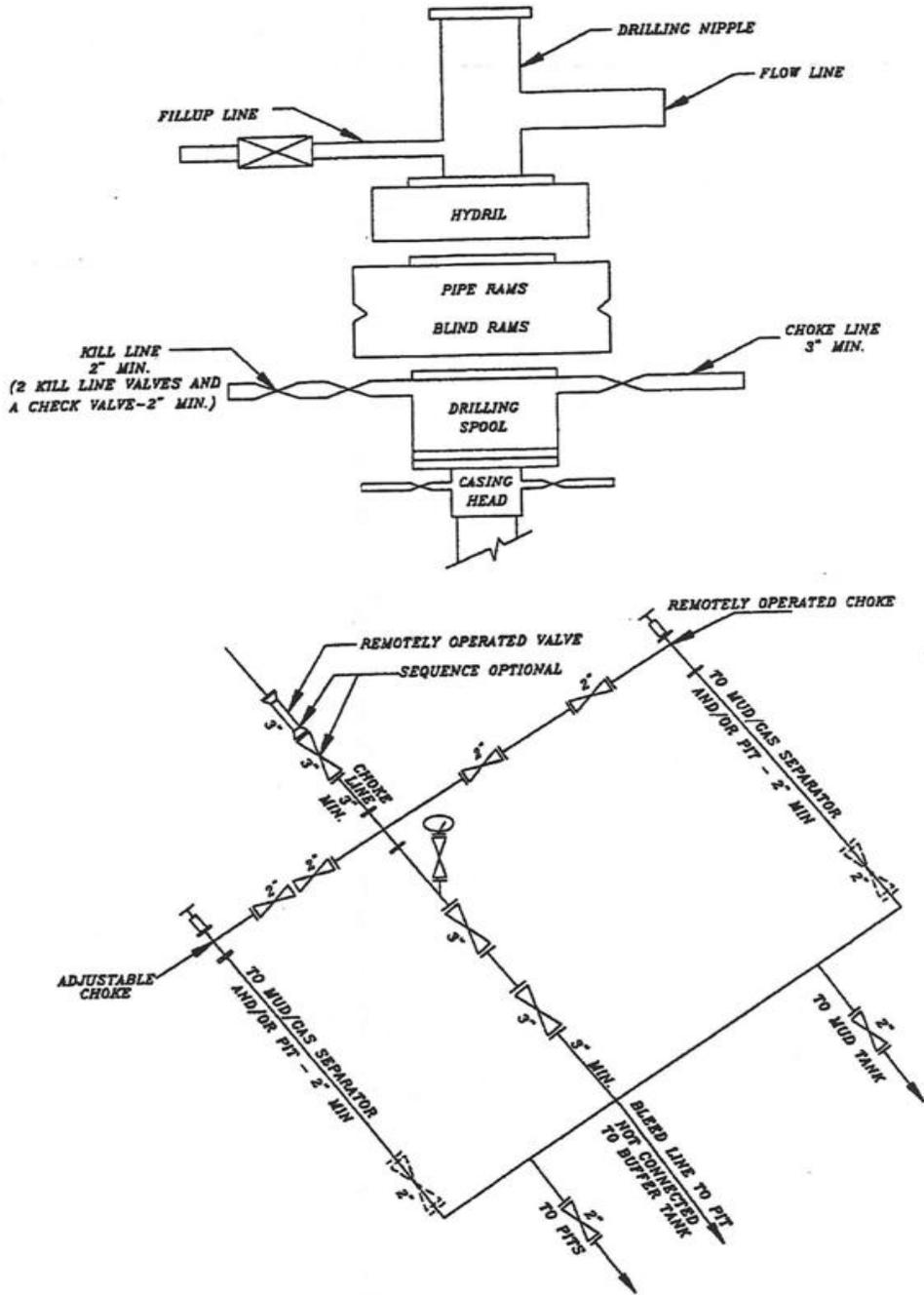
Surveys will be taken at 1,000' minimum intervals.

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

**DRILLING ENGINEER:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 John Huycke / Emile Goodwin

**DRILLING SUPERINTENDENT:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 John Merkel / Lovel Young

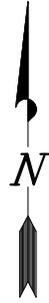
### EXHIBIT A NBU 921-19P4CS



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

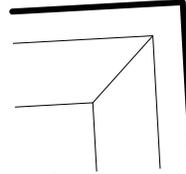
# WELL PAD INTERFERENCE PLAT

## DIRECTIONAL PAD – NBU CIGE 6-19-9-21



LATITUDE & LONGITUDE		
Bottom Hole – (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
921-19P4BS	40°00'57.438" 40.015955°	109°35'14.386" 109.587329°
921-19P4CS	40°00'53.812" 40.014948°	109°35'14.375" 109.587326°
921-19O4BS	40°00'56.616" 40.015727°	109°35'31.344" 109.592040°
921-19O1CS	40°01'00.143" 40.016706°	109°35'31.356" 109.592043°

LATITUDE & LONGITUDE		
Bottom Hole – (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
921-19P4BS	40°00'57.565" 40.015990°	109°35'11.902" 109.586639°
921-19P4CS	40°00'53.939" 40.014983°	109°35'11.891" 109.586636°
921-19O4BS	40°00'56.743" 40.015762°	109°35'28.860" 109.591350°
921-19O1CS	40°01'00.270" 40.016742°	109°35'28.871" 109.591353°



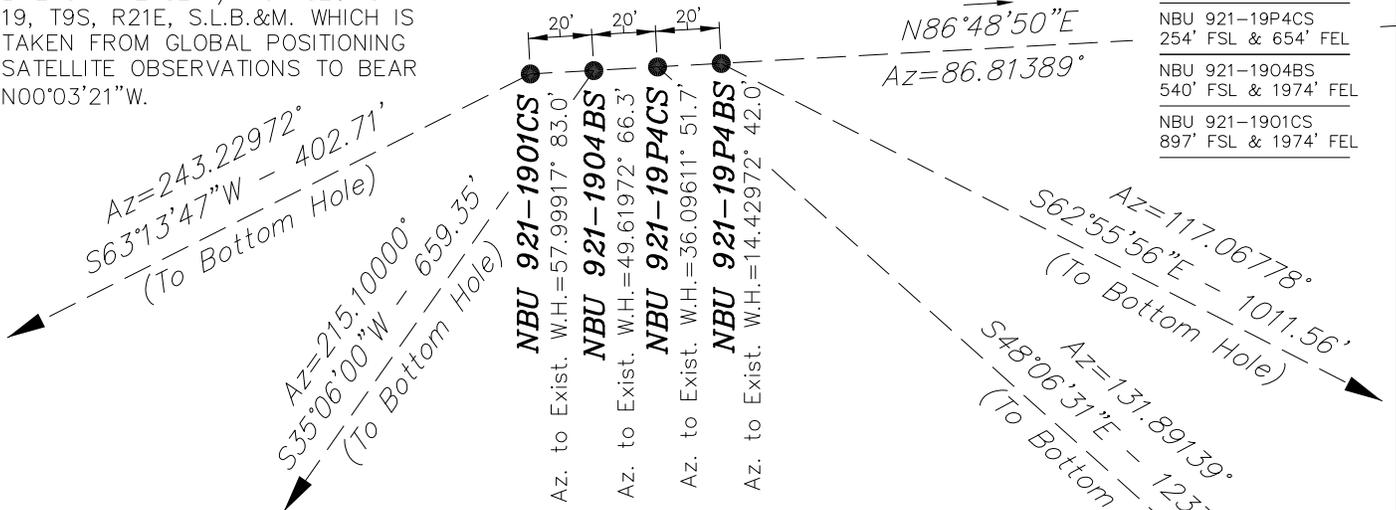
RELATIVE COORDINATES		
From Surface Position to Bottom Hole		
WELL	NORTH	EAST
921-19P4BS	-460'	901'
921-19P4CS	-826'	921'
921-19O4BS	-539'	-379'
921-19O1CS	-181'	-360'

### EXISTING WELL: NBU CIGE 6-19-9-21

BASIS OF BEARINGS IS THE EAST LINE OF THE SE 1/4 OF SECTION 19, T9S, R21E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°03'21"W.

#### BOTTOM HOLE FOOTAGES

- 921-19P4BS  
621' FSL & 654' FEL
- NBU 921-19P4CS  
254' FSL & 654' FEL
- NBU 921-19O4BS  
540' FSL & 1974' FEL
- NBU 921-19O1CS  
897' FSL & 1974' FEL

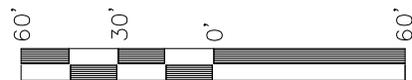


LATITUDE & LONGITUDE		
Surface Position – (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
921-19P4BS	40°01'01.973" 40.017215°	109°35'25.968" 109.590547°
921-19P4CS	40°01'01.962" 40.017212°	109°35'26.225" 109.590618°
921-19O4BS	40°01'01.951" 40.017208°	109°35'26.483" 109.590690°
921-19O1CS	40°01'01.940" 40.017205°	109°35'26.739" 109.590761°
Existing Well NBU CIGE 6-19-9-21	40°01'02.376" 40.017327°	109°35'25.835" 109.590510°

LATITUDE & LONGITUDE		
Surface Position – (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
921-19P4BS	40°01'02.100" 40.017250°	109°35'23.484" 109.589857°
921-19P4CS	40°01'02.089" 40.017247°	109°35'23.741" 109.589928°
921-19O4BS	40°01'02.078" 40.017244°	109°35'23.998" 109.590000°
921-19O1CS	40°01'02.067" 40.017241°	109°35'24.254" 109.590071°
Existing Well NBU CIGE 6-19-9-21	40°01'02.503" 40.017362°	109°35'23.350" 109.589820°

#### SURFACE POSITION FOOTAGES:

- 921-19P4BS  
1082' FSL & 1554' FEL
- NBU 921-19P4CS  
1080' FSL & 1574' FEL
- NBU 921-19O4BS  
1079' FSL & 1594' FEL
- NBU 921-19O1CS  
1078' FSL & 1614' FEL
- EXISTING WELL NBU CIGE 6-19-9-21  
1122' FSL & 1544' FEL

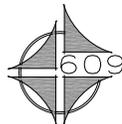


SCALE

**Kerr-McGee**  
**Oil & Gas Onshore, LP**

1099 18th Street – Denver, Colorado 80202

NBU 921-19P4BS, NBU 921-19P4CS,  
NBU 921-19O4BS & NBU 921-19O1CS  
LOCATED IN SECTION 19, T9S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.

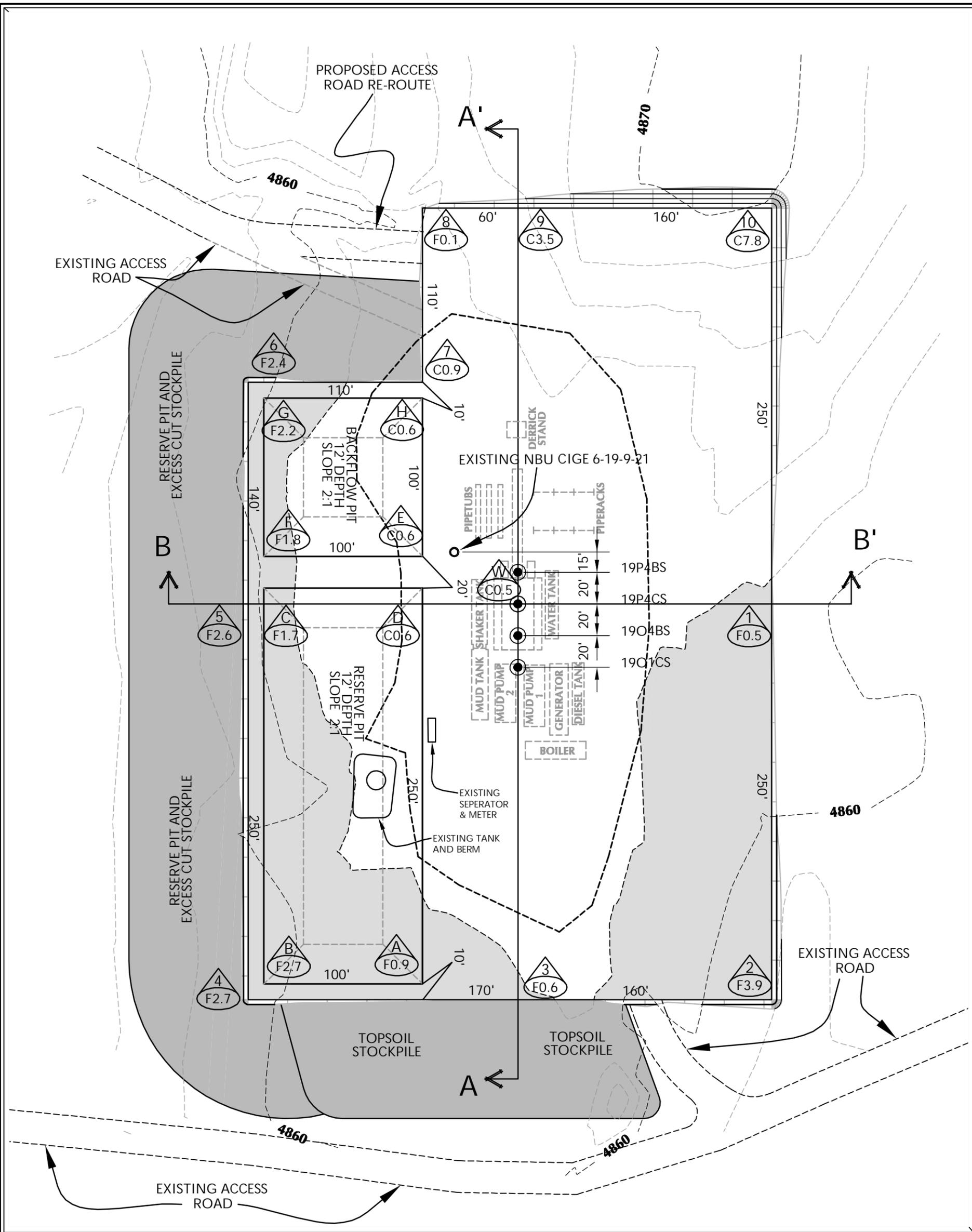


CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

DATE SURVEYED: 01-13-09	SURVEYED BY: M.S.B.
DATE DRAWN: 02-09-09	DRAWN BY: M.W.W.
	REVISED:

**Timberline**  
*Engineering & Land Surveying, Inc.*  
209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET  
**5**  
OF 13



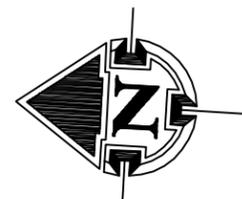
**WELL PAD NBU CIGE 6-19-9-21 QUANTITIES**

EXISTING GRADE @ CENTER OF WELL PAD = 4862.5'  
 FINISHED GRADE ELEVATION = 4862.0'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 5,506 C.Y.  
 TOTAL FILL FOR WELL PAD = 3,788 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,948 C.Y.  
 EXCESS MATERIAL = 1,718 C.Y.  
 TOTAL DISTURBANCE = 3.67 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 28,730 BARRELS  
 RESERVE PIT VOLUME  
 +/- 7,720 CY  
 BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
 +/- 9,490 BARRELS  
 BACKFLOW PIT VOLUME  
 +/- 2,660 CY

**WELL PAD LEGEND**

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



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

**KERR-MCGEE OIL & GAS  
 ONSHORE L.P.**

1099 18th Street - Denver, Colorado 80202

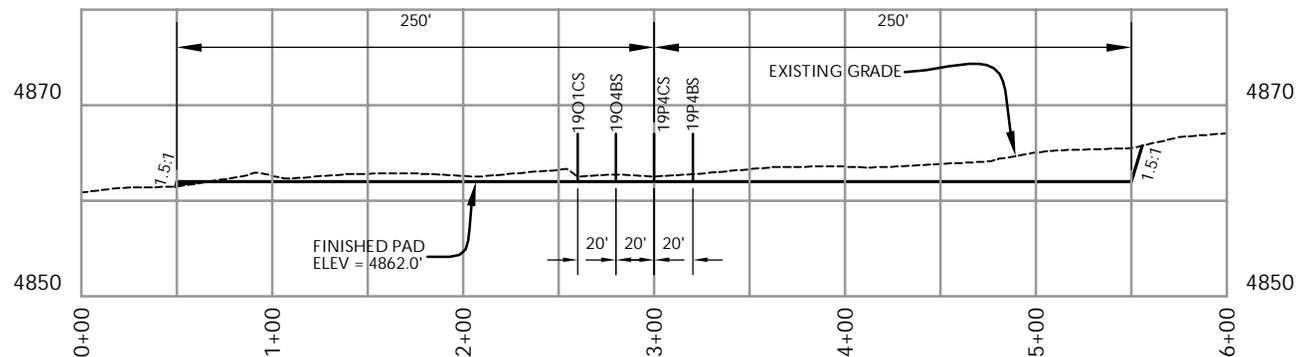


**CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

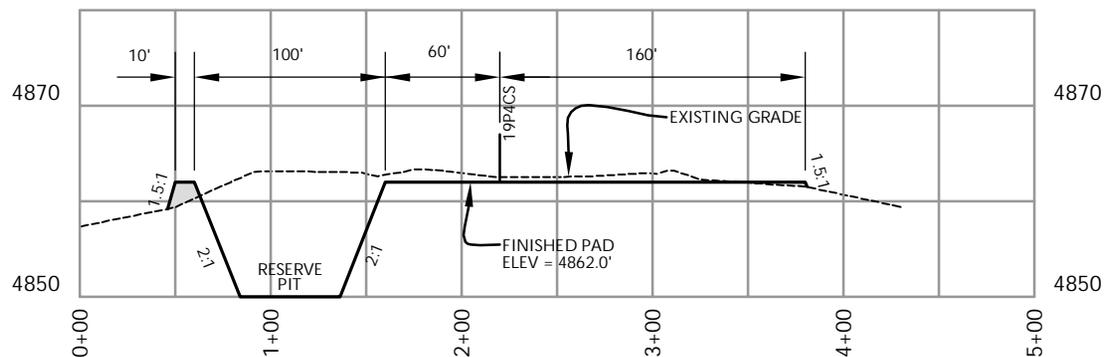
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REVISED:		<b>6</b> 6 OF 13

**WELL PAD - LOCATION LAYOUT**  
 NBU 921-19P4BS, NBU 921-19P4CS,  
 NBU 921-19O4BS & NBU 921-19O1CS  
 LOCATED IN SECTION 19, T.9S., R.21E.  
 S.L.B.&M., UINTAH COUNTY, UTAH

**Timberline** (435) 789-1365  
 Engineering & Land Surveying, Inc.  
 38 WEST 100 NORTH VERNAL, UTAH 84078



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

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

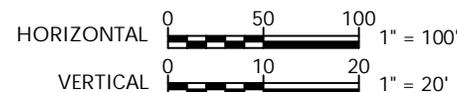
KERR-MCGEE OIL & GAS  
ONSHORE L.P.  
1099 18th Street - Denver, Colorado 80202



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

WELL PAD - CROSS SECTIONS  
NBU 921-19P4BS, NBU 921-19P4CS,  
NBU 921-19O4BS & NBU 921-19O1CS  
LOCATED IN SECTION 19, T.9S., R.21E.  
S.L.B.&M., UINTAH COUNTY, UTAH

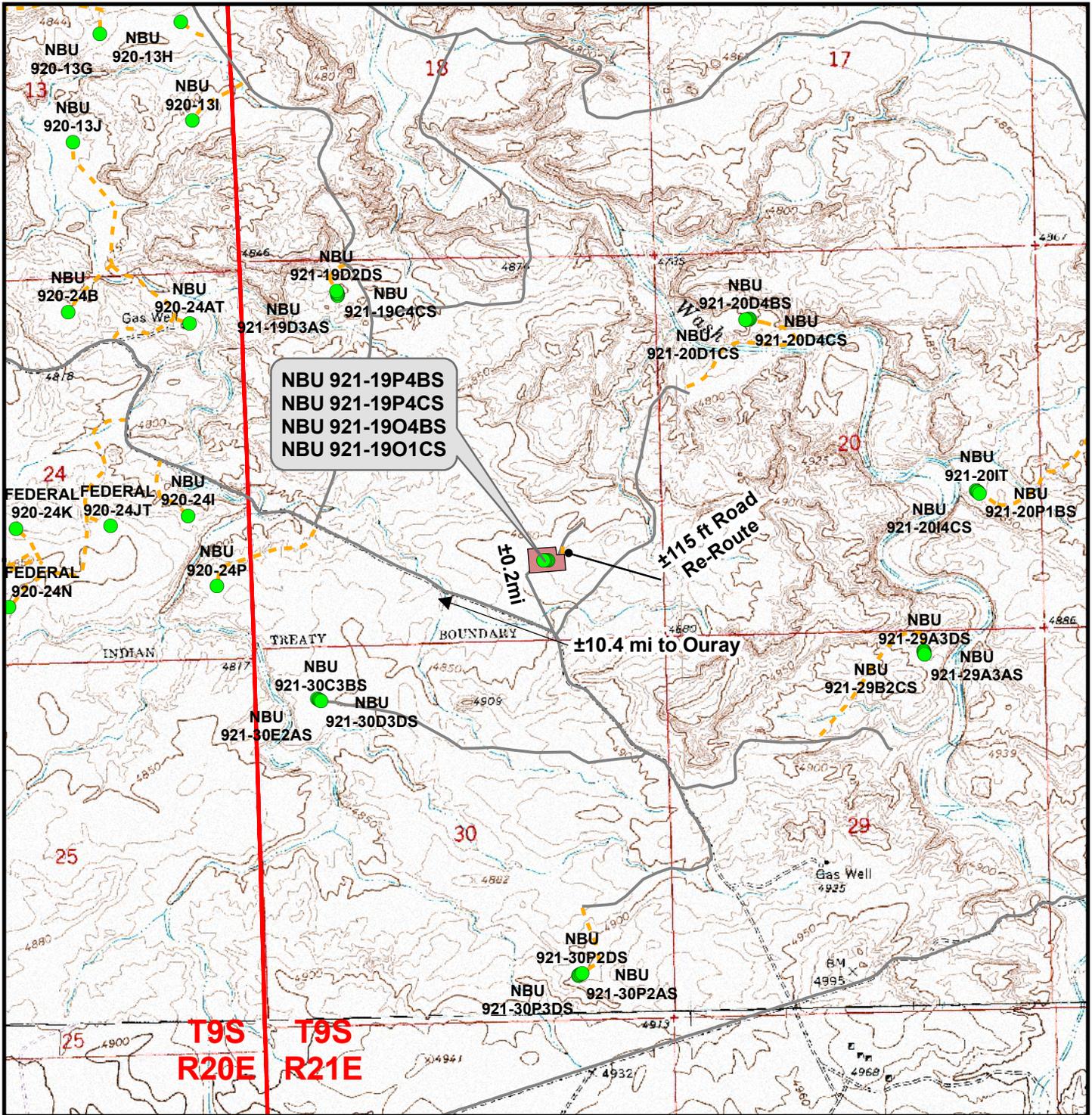
Scale: 1"=100'	Date: 3/16/09	SHEET NO:
REVISED:		<b>7</b> 7 OF 13



**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078

'APIWellNo:43047505940000'





**Legend**

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

Total Proposed Road Length: ±115ft

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

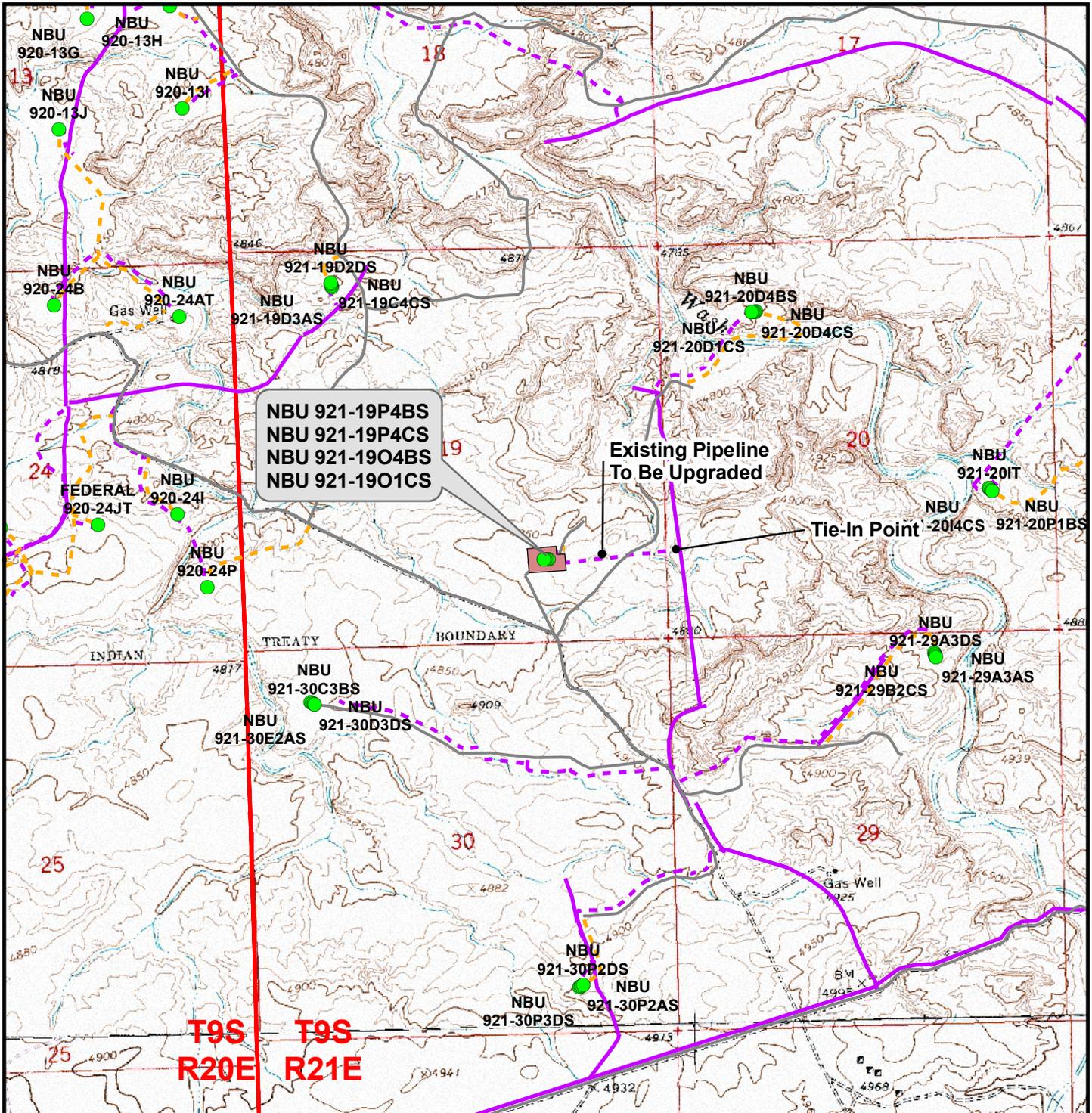
**NBU 921-19P4BS, NBU 921-19P4CS,  
NBU 921-19O4BS & NBU 921-19O1CS**  
Topo B  
Located In Section 19, T9S, R21E  
S.L.B.&M., Uintah County, Utah

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



Scale: 1" = 2000ft	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 24 Feb 2009	10
Revised:	Date:	





**Legend**

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

Proposed Pipeline Length From Tie-In Point To Edge Of Pad: ±1,605ft  
 Proposed Pipeline Length Around Pad: ±660ft

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

**NBU 921-19P4BS, NBU 921-19P4CS,  
 NBU 921-19O4BS & NBU 921-19O1CS**  
 Topo D  
 Located In Section 19, T9S, R21E  
 S.L.B.&M., Uintah County, Utah

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



Scale: 1" = 2000ft	NAD83 USP Central
Drawn: JELO	Date: 24 Feb 2009
Revised:	Date:

Sheet No:  
**12** 12 of 13

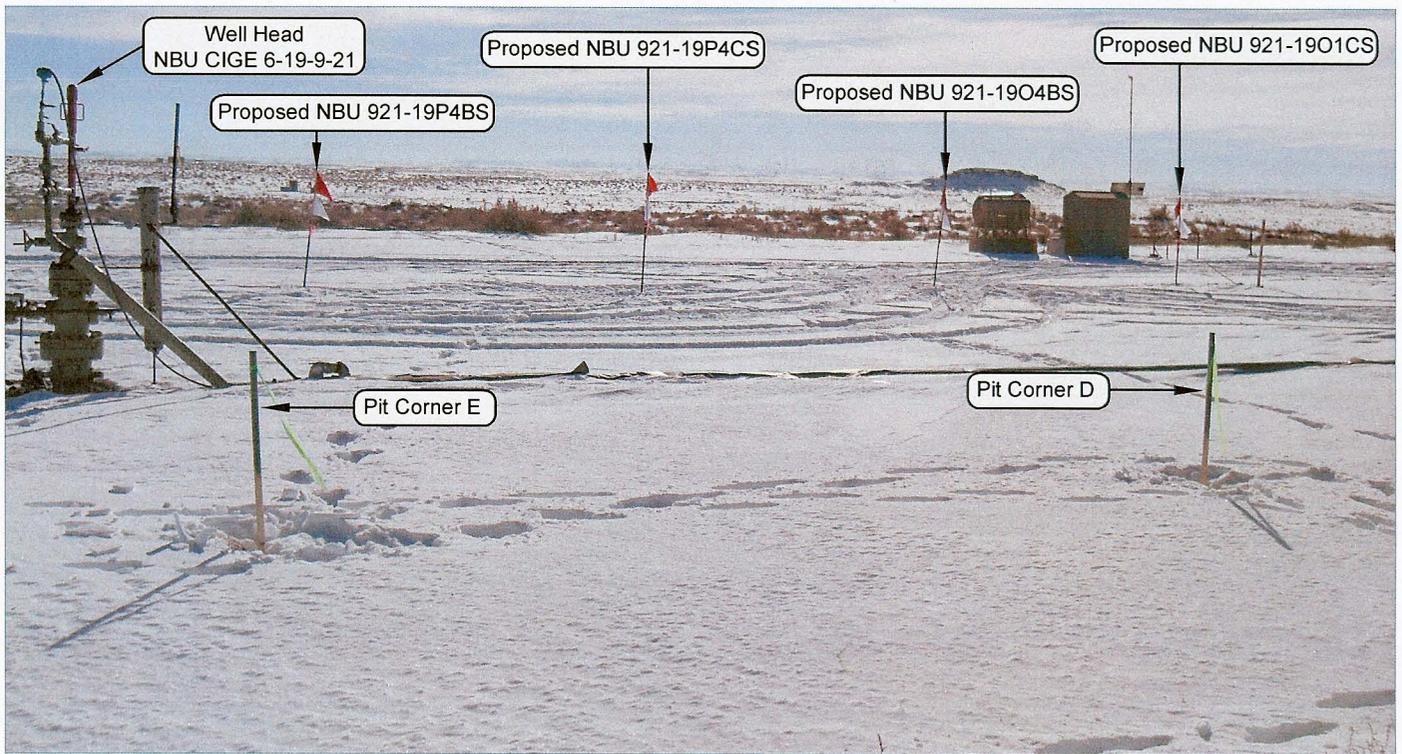


PHOTO VIEW: FROM PIT CORNER E TO LOCATION STAKES

CAMERA ANGLE: SOUTHERLY

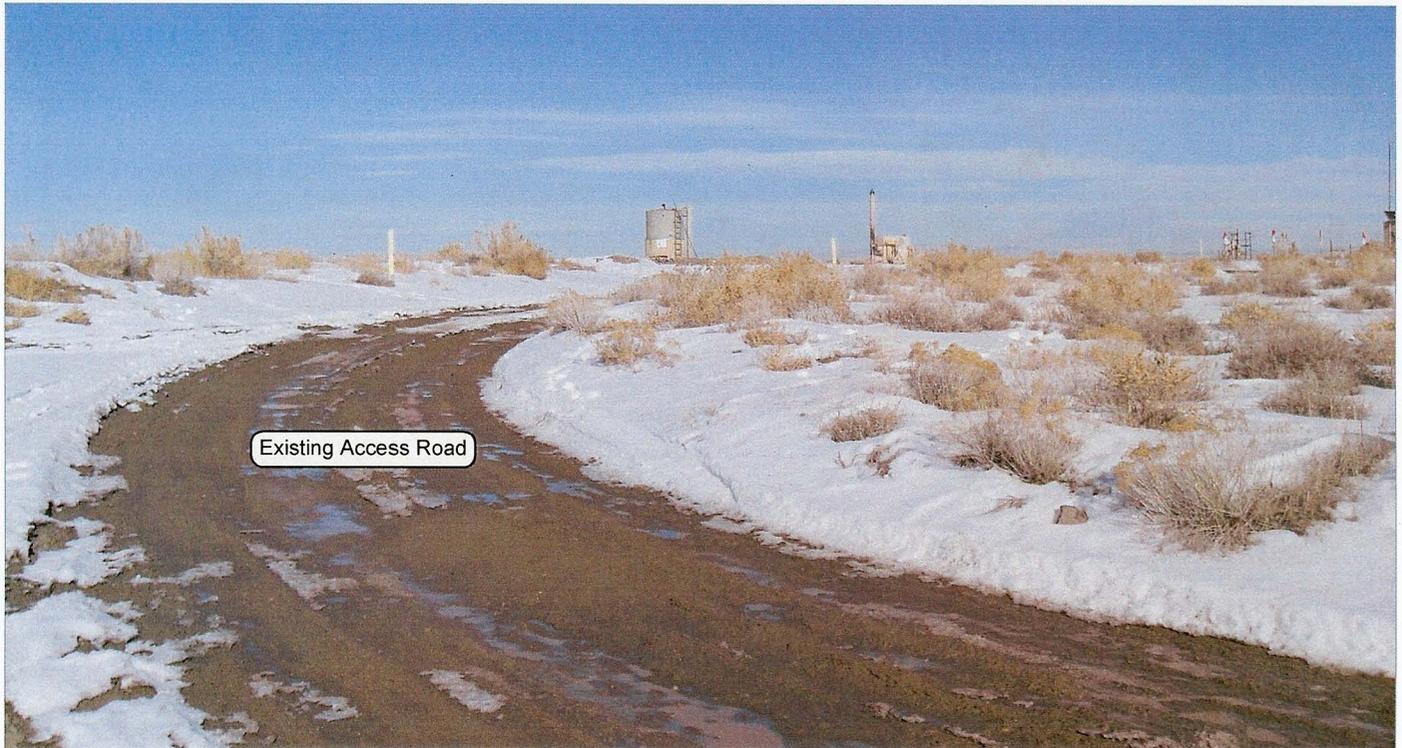


PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: NORTHEASTERLY

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



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 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
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NBU 921-19P4BS, NBU 921-19P4CS,  
 NBU 921-19O4BS & NBU 921-19O1CS  
 LOCATED IN SECTION 19, T9S, R21E,  
 S.L.B.&M. UINTAH COUNTY, UTAH.

**LOCATION PHOTOS**

DATE TAKEN: 01-13-09	
DATE DRAWN: 02-09-09	
TAKEN BY: M.S.B.	DRAWN BY: M.W.W.
REVISED:	

**Timberline** (435) 789-1365  
 Engineering & Land Surveying, Inc.  
 209 NORTH 300 WEST VERNAL, UTAH 84078

**SHEET**  
**8**  
**OF 13**

**Kerr-McGee Oil & Gas Onshore, LP  
NBU 921-19P4BS, NBU 921-19P4CS, NBU 921-19O4BS, & NBU 921-19O1CS  
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 EAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY THEN SOUTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 5.1 MILES TO A SECOND SERVICE ROAD TO THE NORTH. EXIT LEFT AND PROCEED IN A NORTHERLY DIRECTION ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.2 MILES TO THE CIGE 6-19-9-21 WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE WELL LOCATION IS APPROXIMATELY 41.3 MILES IN A SOUTHERLY DIRECTION.

**NBU 921-19O1CS**

Surface: 1,078' FSL 1,614' FEL (SW/4SE/4)  
BHL: 897' FSL 1,974' FEL (SW/4SE/4)

**NBU 921-19O4BS**

Surface: 1,079' FSL 1,594' FEL (SW/4SE/4)  
BHL: 540' FSL 1,974' FEL (SW/4SE/4)

**NBU 921-19P4BS**

Surface: 1,082' FSL 1,554' FEL (SW/4SE/4)  
BHL: 621' FSL 654' FEL (SE/4SE/4)

**NBU 921-19P4CS**

Surface: 1,080' FSL 1,574' FEL (SW/4SE/4)  
BHL: 254' FSL 654' FEL (SE/4SE/4)

Pad: NBU 921-19O  
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 locations in SW/4 SE/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.

Please contact Raleen White at 720-929-6666 to arrange an on-site meeting.

**Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. 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.

**2. Planned Access Roads:**

*See MDP for additional details on road construction.*

Approximately  $\pm 115'$  ( $\pm 0.02$  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.*

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

Please refer to Topo Map C.

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

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

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

**Approximately  $\pm 2,265'$  ( $\pm 0.4$  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

**5. 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.

**6. Source of Construction Materials:**

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

**7. 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

**8. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**9. 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.

**10. 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.

**11. 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

**12. Other Information:**

*See MDP for additional details on Other Information.*

**13. 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

July 22, 2009  
Date



Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779

June 9, 2009

Diana Mason  
Utah Department of Oil, Gas & Mining  
P.O. Box 145801  
Salt Lake City, Utah 54114-6100

RE: Directional Drilling Letter R649-3-11  
NBU 921-19P4CS  
T9S-R21E  
Section 19: SW/4SE/4 surface, SE/4SE/4 bottom hole  
1080' FSL, 1574' FEL (surface)  
254' FSL, 654' FEL (bottom hole)  
Uintah County, Utah

Dear Ms. Mason:

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

- Kerr-McGee's NBU 921-19P4CS is located within the Natural Buttes Unit Area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

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

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney  
Senior Staff Landman

'APIWellNo:43047505940000'

CLASS I REVIEW OF KERR-MCGEE OIL & GAS  
ONSHORE LP'S 50 PROPOSED WELL LOCATIONS  
IN T9S, R21E SECS. 19, 20, 21, 23, 28, 29 AND 30  
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. 09-11

February 23, 2009

United States Department of Interior (FLPMA)  
Permit No. 08-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117

Ute Tribal Permit No. A08-363

# **Paleontological Assessment for Anadarko Petroleum Corp.**

**NBU 921-19P4BS, P4CS, O4BS, O1CS  
Ouray SE Quadrangle  
Uintah County, Utah**

Prepared for  
**Anadarko Petroleum Corp.**  
and  
**Ute Tribe**  
**Uintah and Ouray Reservation**

Prepared by  
**SWCA Environmental Consultants**  
SWCA #UT09-14314-35



# 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**

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

**Wells:** NBU 921-19P Pad (Bores: NBU 921-19P4BS, NBU 921-19P4CS, NBU 921-19O1CS, NBU 921-19O4BS)

**Pipelines:** Proposed Pipelines leading to the NBU 921-19P

**Access Roads:** N/A

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

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

**Date:** 06/17/2009

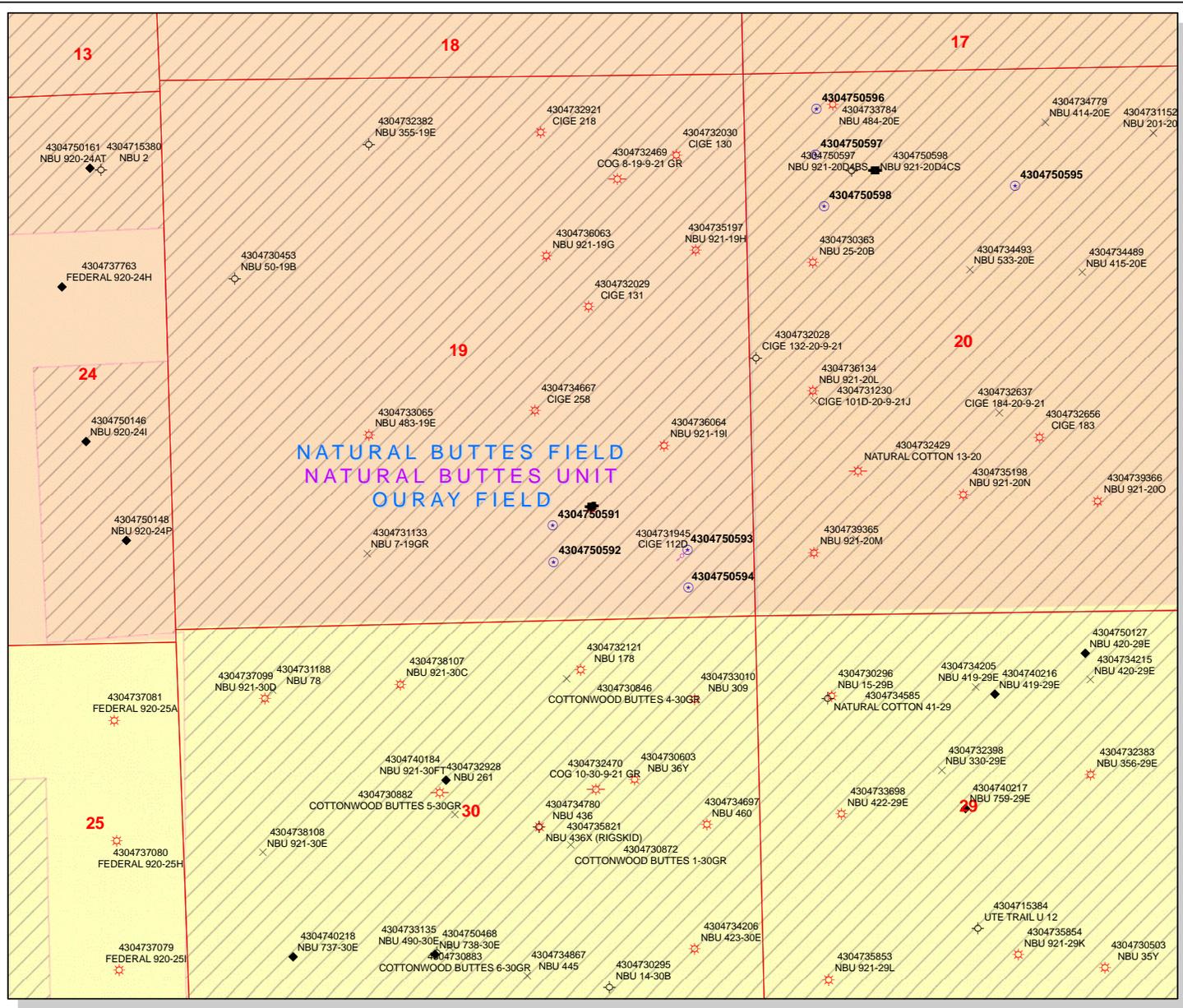
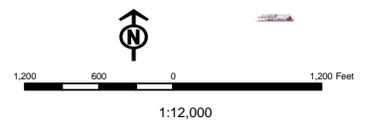
**Observer(s):** Grasslands Consulting, Inc. Biologists: Nick Hall, Dan Hamilton, Matt Kelahan, and Jonathan Sexauer. Technicians: Chad Johnson

**Weather:** Partly cloudy, 80-85°F, 0-5 mph winds with no precipitation.

**API Number: 4304750594**  
**Well Name: NBU 921-19P4CS**  
**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	<all other values>
EXPLORATORY	<Nub>
GAS STORAGE	APD
NF PP OIL	DRIL
NF SECONDARY	GI
PI OIL	GS
PP GAS	LA
PP GEOTHERM	NEW
PP OIL	OPS
SECONDARY	PA
TERMINATED	PGW
<b>Fields</b>	POW
<b>STATUS</b>	RET
ACTIVE	SOW
COMBINED	TA
Sections	TW
	WD
	WI
	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)

July 24, 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)		
43-047-50590	NBU 920-14H	Sec 14 T09S R20E 1562 FNL 0500 FEL
43-047-50589	NBU 920-14G	Sec 14 T09S R20E 2444 FNL 1947 FEL
43-047-50591	NBU 921-1901CS	Sec 19 T09S R21E 1078 FSL 1614 FEL BHL Sec 19 T09S R21E 0897 FSL 1974 FEL
43-047-50592	NBU 921-1904BS	Sec 19 T09S R21E 1079 FSL 1594 FEL BHL Sec 19 T09S R21E 0540 FSL 1974 FEL
43-047-50593	NBU 921-19P4BS	Sec 19 T09S R21E 1082 FSL 1554 FEL BHL Sec 19 T09S R21E 0621 FSL 0654 FEL
43-047-50594	NBU 921-19P4CS	Sec 19 T09S R21E 1080 FSL 1574 FEL BHL Sec 19 T09S R21E 0254 FSL 0654 FEL
43-047-50595	NBU 921-20B3CS	Sec 20 T09S R21E 0957 FNL 1312 FWL BHL Sec 20 T09S R21E 1144 FNL 2612 FEL
43-047-50596	NBU 921-20D1CS	Sec 20 T09S R21E 0961 FNL 1272 FWL BHL Sec 20 T09S R21E 0346 FNL 0720 FWL

Page 2

43-047-50597 NBU 921-20D4BS Sec 20 T09S R21E 0963 FNL 1252 FWL  
BHL Sec 20 T09S R21E 0798 FNL 0698 FWL

43-047-50598 NBU 921-20D4CS Sec 20 T09S R21E 0959 FNL 1292 FWL  
BHL Sec 20 T09S R21E 1306 FNL 0770 FWL

43-047-50599 NBU 921-20I4CS Sec 20 T09S R21E 1873 FSL 0843 FEL  
BHL Sec 20 T09S R21E 1507 FSL 0527 FEL

43-047-50600 NBU 920-20J4BS Sec 20 T09S R21E 1910 FSL 0891 FEL  
BHL Sec 20 T09S R21E 1734 FSL 1839 FEL

43-047-50601 NBU 921-20P1BS Sec 20 T09S R21E 1885 FSL 0859 FEL  
BHL Sec 20 T09S R21E 1140 FSL 0538 FEL

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

/s/ Michael L. Coulthard

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

MCoulthard:mc:7-24-09

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

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**APD RECEIVED:** 7/22/2009

**API NO. ASSIGNED:** 43047505940000

**WELL NAME:** NBU 921-19P4CS

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

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

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

**Permit Tech Review:**

**SURFACE:** 1080 FSL 1574 FEL

**Engineering Review:**

**BOTTOM:** 0254 FSL 0654 FEL

**Geology Review:**

**COUNTY:** UINTAH

**LATITUDE:** 40.01715

**LONGITUDE:** -109.58980

**UTM SURF EASTINGS:** 620349.00

**NORTHINGS:** 4430403.00

**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:**  
1 - Exception Location - dmason  
3 - Commingle - ddoucet  
4 - Federal Approval - dmason  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason



JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-19P4CS  
**API Well Number:** 43047505940000  
**Lease Number:** UTU 0581  
**Surface Owner:** INDIAN  
**Approval Date:** 8/11/2009

**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

**Exception Location:**

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

**Commingle:**

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

**General:**

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

**Conditions of Approval:**

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

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

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

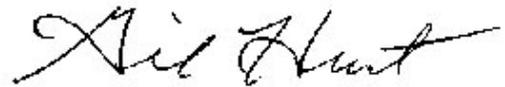
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <http://oilgas.ogm.utah.gov>

**Reporting Requirements:**

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

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

**Approved By:**



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 921-19P4CS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>9. API NUMBER:</b> 43047505940000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1080 FSL 1574 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE 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: 8/12/2010	<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 23, 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> 8/12/2010	



**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 43047505940000**

**API:** 43047505940000

**Well Name:** NBU 921-19P4CS

**Location:** 1080 FSL 1574 FEL QTR SWSE SEC 19 TWP 090S RNG 210E MER S

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

**Date Original Permit Issued:** 8/11/2009

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

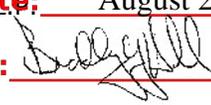
**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Signature:** Danielle Piernot

**Date:** 8/12/2010

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

**Date:** August 23, 2010

**By:** 

**RECEIVED** August 12, 2010

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**RECEIVED**

JUL 22 2009

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

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

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0581
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERRMCGEE OIL&GAS ONSHORE		7. If Unit or CA Agreement, Name and No. 891008900A
3a. Address PO BOX 173779 DENVER, CO 80202-3779		8. Lease Name and Well No. NBU 921-19P4CS
3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156		9. API Well No. 43047 50594
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SWSE 1080FSL 1574FEL 40.01721 N Lat, 109.59062 W Lon At proposed prod. zone SESE 254FSL 654FEL 40.01495 N Lat, 109.58733 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 11 MILES SOUTHEAST OF OURAY, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 19 T9S R21E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 254 FEET	16. No. of Acres in Lease 2399.60	12. County or Parish UINTAH
17. Spacing Unit dedicated to this well	13. State UT	18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 370 FEET
19. Proposed Depth 10544 MD 10260 TVD	20. BLM/BIA Bond No. on file WYB000291	21. Elevations (Show whether DF, KB, RT, GL, etc.) 4863 GL
22. Approximate date work will start 08/10/2009	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) DANIELLE E PIERNOT Ph: 720-929-6156	Date 07/22/2009
Title REGULATORY ANALYST		
Approved by (Signature)	Name (Printed/Typed) Jerry Kenczka	Date APR 29 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. **CONDITIONS OF APPROVAL ATTACHED**

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

Additional Operator Remarks (see next page)

Electronic Submission #72394 verified by the BLM Well Information System  
For KERRMCGEE OIL&GAS ONSHORE  
Committed to AFMSS for processing by GAIL JENKINS on 07/27/2009 ( )

**NOTICE OF APPROVAL**



MAY 04 2011

DIV. OF OIL, GAS & MINING

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

**Additional Operator Remarks:**

The Ute Indian Tribe is the surface owner for this well location.

The following well locations are on the NBU 921-190 Pad  
NBU 921-1901CS  
NBU 921-1904BS  
NBU 921-19P4BS  
NBU 921-19P4CS

The filing fee check for this well was submitted separately via overnight delivery on 07/21/09.

Please contact Danielle Piernot at 720-929-6156, or via e-mail at [danielle.piernot@anadarko.com](mailto:danielle.piernot@anadarko.com) with any questions and/or concerns regarding this APD.

Thank you for your assistance and time on this APD.



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:** SWSE, Sec. 19, T9S, R21E (S)  
SESE, Sec. 19, T9S, R21E (B)  
**Well No:** NBU 921-19P4CS      **Lease No:** UTU-0581  
**API No:** 43-047-50594      **Agreement:** Natural Buttes Unit

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

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

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

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

**NOTIFICATION REQUIREMENTS**

- |  |  |
|--|--|
| Construction Activity<br>(Notify Ute Tribe Energy & Minerals Dept.<br>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<br>(Notify Ute Tribe Energy & Minerals Dept.<br>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<br>(Notify BLM Petroleum Engineer)   | - Twenty-Four (24) hours prior to spudding the well.   |
| Casing String & Cementing<br>(Notify BLM Supv. Petroleum Tech.)  | - Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> .   |
| BOP & Related Equipment Tests<br>(Notify BLM Supv. Petroleum Tech.)                                      | - Twenty-Four (24) hours prior to initiating pressure tests.   |
| First Production Notice<br>(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)**

**Site-Specific Conditions of Approval:**

1. Paint old and new facilities "Shadow Gray."
2. Move the existing pipeline off the damage area of the well pad.
3. Monitor construction operations by a permitted archaeologist.
4. 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 shall be conducted prior to expansion of the well pad or pipeline upgrade if construction will take place during raptor nesting season (January 01 through September 30). If active raptor nests are identified during a new survey, KMG shall conduct its operations according to the seasonal restrictions detailed in the Uintah Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines (see Appendix D).
5. If project construction operations are not initiated before November 3, 2010, KMG shall conduct additional biological surveys in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures for Uinta Basin hookless cactus (See Appendix D) and conduct its operation according to its specifications.

**BIA Standard Conditions of Approval:**

1. Soil erosion will be mitigated by reseeding all disturbed areas.
2. 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.
3. 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.
4. 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.
5. 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.
6. Major low water crossings will be armored with pit run material to protect them from erosion.
7. All personnel shall refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.

8. 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.
9. 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.
10. 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.
11. If project construction operations are scheduled to occur after December 31, 2009, KMG shall 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 (See Appendix E) and conduct its operations according to applicable seasonal restrictions and spatial offsets.
12. 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 E).
13. All personnel shall refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
14. 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:**

1. A copy of Kerr McGee's Standard Operating Practices (dated 7/17/08 and approved 7/28/08) shall be on location.

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

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.

- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- In accordance with 43 CFR 3162.4-3, this well shall be reported on the "Monthly Report of Operations" (Oil and Gas Operations Report ((OGOR)) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report shall be filed in duplicate, directly with the Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217-0110, or call 1-800-525-7922 (303) 231-3650 for reporting information.
- 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.

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 921-19P4CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047505940000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1080 FSL 1574 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE 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: 7/11/2011  <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>07/11/2011</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> 7/11/2011



**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 43047505940000**

**API:** 43047505940000

**Well Name:** NBU 921-19P4CS

**Location:** 1080 FSL 1574 FEL QTR SWSE SEC 19 TWP 090S RNG 210E MER S

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

**Date Original Permit Issued:** 8/11/2009

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:** 7/11/2011

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

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 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 921-19P4CS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047505940000	
<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> 1080 FSL 1574 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE 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: 9/29/2011  <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input 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. MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 09/29/2011 AT 1430 HRS.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/30/2011	

## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
 Submitted By ANDY LYTLE Phone Number 720.929.6100  
 Well Name/Number NBU 921-19P4CS  
 Qtr/Qtr SWSE Section 19 Township 9S Range 21E  
 Lease Serial Number UTU 0581  
 API Number 4304750594

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

Date/Time 09/28/2011 12:00 HRS AM  PM

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

- Surface Casing  
 Intermediate Casing  
 Production Casing  
 Liner  
 Other

RECEIVED

SEP 28 2011

DIV. OF OIL, GAS &amp; MINING

Date/Time 10/20/2011 08:00 HRS AM  PM

BOPE

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

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

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT

435.828.0986 OR LOVEL YOUNG AT 435.781.7051

<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 921-19P4CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047505940000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1080 FSL 1574 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE 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: 9/29/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 50px;" type="text"/>

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

The operator request approval to change the surface casing size, please see attached drilling plan. The operator also requests the change to drilling options for the use of a Closed Loop system (please refer to page 8 in attachment). Please contact the undersigned if you have any questions and/or concerns. Please be advised that verbal authorization for the proposed actions was given by Engineer Robin Hansen (Vernal BLM) to Andy Lytle (Kerr-McGee) on Wednesday, September 28, 2011.

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

Date: 10/06/2011

By: *Derek Quist*

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/29/2011	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-19P4CS**

Surface: 1080 FSL / 1574 FWL SWSE  
 BHL: 254 FSL / 654 FEL SESE

Section 19 T9S R21E

Uintah 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	1613	
Birds Nest	1885	Water
Mahogany	2387	Water
Wasatch	4744	Gas
Mesaverde	7742	Gas
Sego	9984	Gas
TVD	10264	
TD	10264	

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 10264' TVD, approximately equals  
 6,569 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,296 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.

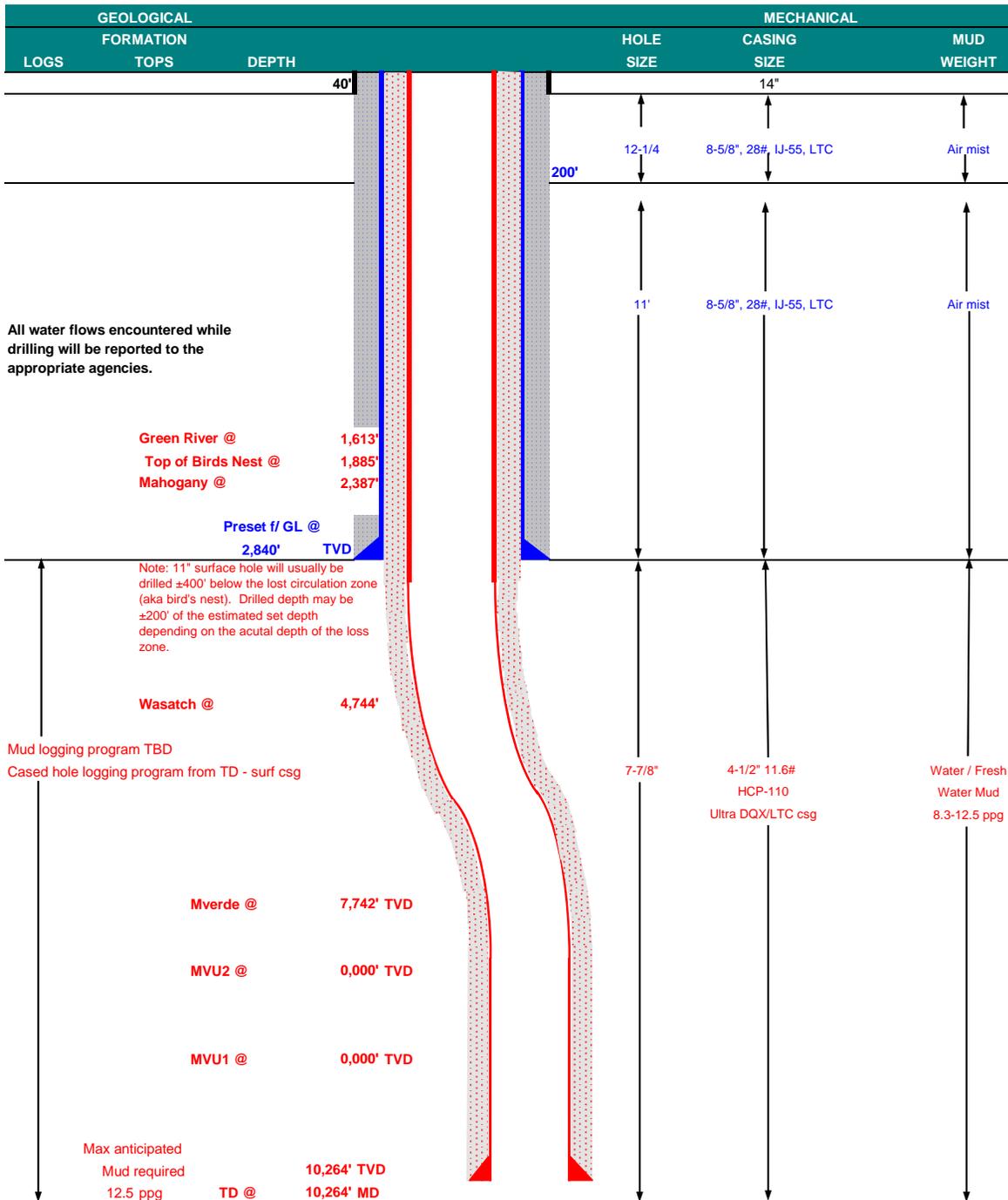
10. **Other Information:**

Please refer to the attached Drilling Program.



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	September 29, 2011	
WELL NAME	<b>NBU 921-19P4CS</b>		TD	10,264'	TVD 10,264' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
SURFACE LOCATION	SWSE 1080 FSL 1574 FWL	Sec 19	T 9S	R 21E	
	Latitude: 40.017212	Longitude: -109.590618	NAD 83		
BTM HOLE LOCATION	SESE 254 FSL 654 FEL	Sec 19	T 9S	R 21E	
	Latitude: 40.014948	Longitude: -109.587326	NAD 83		
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Tribal (Surface), UDOGM Tri-County Health Dept.				





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	LTC		DQX
							COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,840	28.00	IJ-55	LTC	1.90	1.41	5.00	N/A
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	1.19	1.30	279,000	367,174
	4-1/2"	5,000 to 10,264'	11.60	HCP-110	LTC	1.19	1.30	5.65	

**Surface casing:**

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe  
Fracture at surface shoe with 0.1 psi/ft gas gradient above

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

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.64 psi/ft = bottomhole gradient

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

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE	LEAD	2,340'	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	4,244'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	320	20%	11.00	3.38
	TAIL	6,020'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,420	35%	14.30	1.31

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

**ADDITIONAL INFORMATION**

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

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

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

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

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

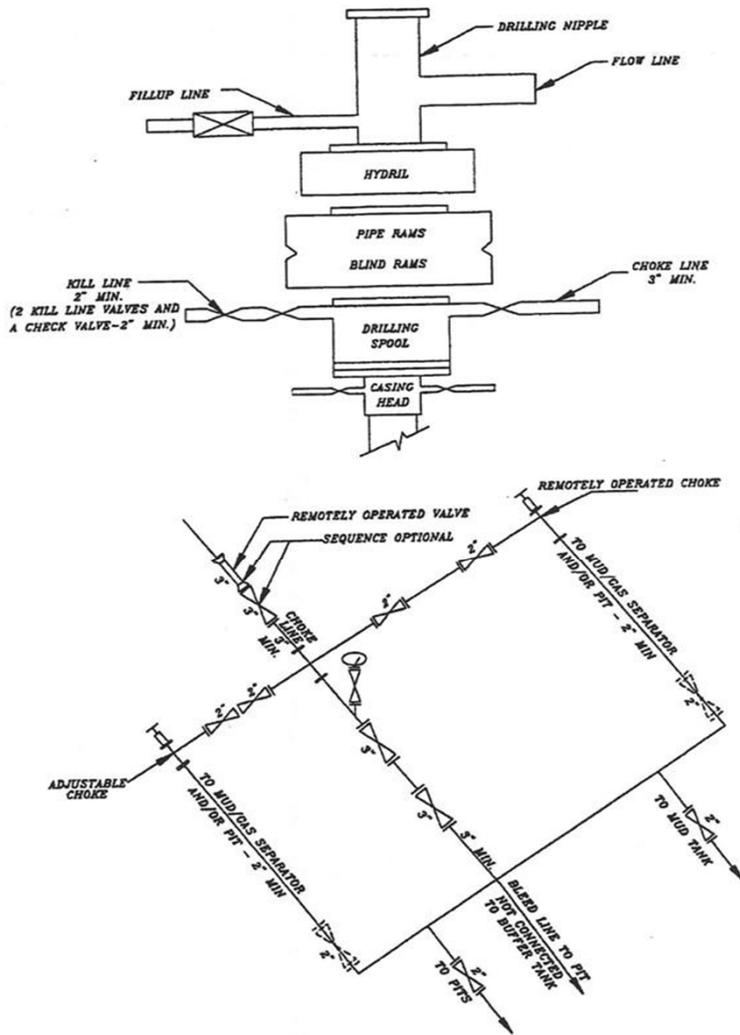
DATE: \_\_\_\_\_

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

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

**EXHIBIT A**  
**NBU 921-19P4CS**



**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.

<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 921-19P4CS
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1080 FSL 1574 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE Section: 19 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505940000
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<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"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 10/12/2011		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU AIR RIG ON OCT. 9, 2011. DRILLED SURFACE HOLE TO 2971'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regularatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 10/13/2011	

ENTITY ACTION FORM

Operator: KERR MCGEE OIL & GAS ONSHORE LP  
Address: 1368 SOUTH 1200 EAST  
city VERNAL  
state UT zip 84078

Operator Account Number: N 2995

Phone Number: (435) 781-7024

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750591	NBU 921-19O1CS		SWSE	19	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	9/29/2011			10/14/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL ON 09/29/2011 AT 0830 HRS. <i>BHL = SWSE</i>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750592	NBU 921-19O4BS		SWSE	19	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	9/29/2011			10/14/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL ON 09/29/2011 AT 1130 HRS. <i>BHL = SWSE</i>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750594	NBU 921-19P4CS		SWSE	19	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	9/29/2011			10/14/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL ON 09/29/2011 AT 1430 HRS. <i>BHL = SESE</i>							

ACTION CODES:

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

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

9/30/2011

Date

(5/2000)

RECEIVED

OCT 03 2011

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>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 921-19P4CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047505940000
<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> 1080 FSL 1574 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE 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: 11/17/2011  <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 checked="" type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	
	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
<p>The Operator requests approval to change from 4-1/2 inch I-80 11.6 lb. BTC/LTC casing to 4-1/2 inch I-80/HCP-110 11.6 lb. DXQ/LTC casing. All other aspects of the previously approved drilling plan will not change. Please see attached drilling program. Thank you.</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> 11/17/2011

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-19P4CS**

Surface:	1080 FSL / 1574 FEL	SWSE
BHL:	254 FSL / 654 FEL	SESE

Section 19 T9S R21E

Unitah County, Utah  
Mineral Lease: UTU 0581

**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2.a **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	1,613'	
Birds Nest	1,885'	Water
Mahogany	2,387'	Water
Wasatch	4,744'	Gas
Mesaverde	7,742'	Gas
Sego	9,984'	Gas
TVD	10,264'	
TD	10,264'	

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 10264' TVD, approximately equals  
6,569 psi (0.64 psi/ft = actual bottomhole gradient)

---

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

Maximum anticipated surface pressure equals approximately 4,296 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

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

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

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

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

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

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

**Background**

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

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

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

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

**Variance for BOPE Requirements**

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

**Variance for Mud Material Requirements**

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

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

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

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

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

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

#### **Variance for FIT Requirements**

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

#### **Conclusion**

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

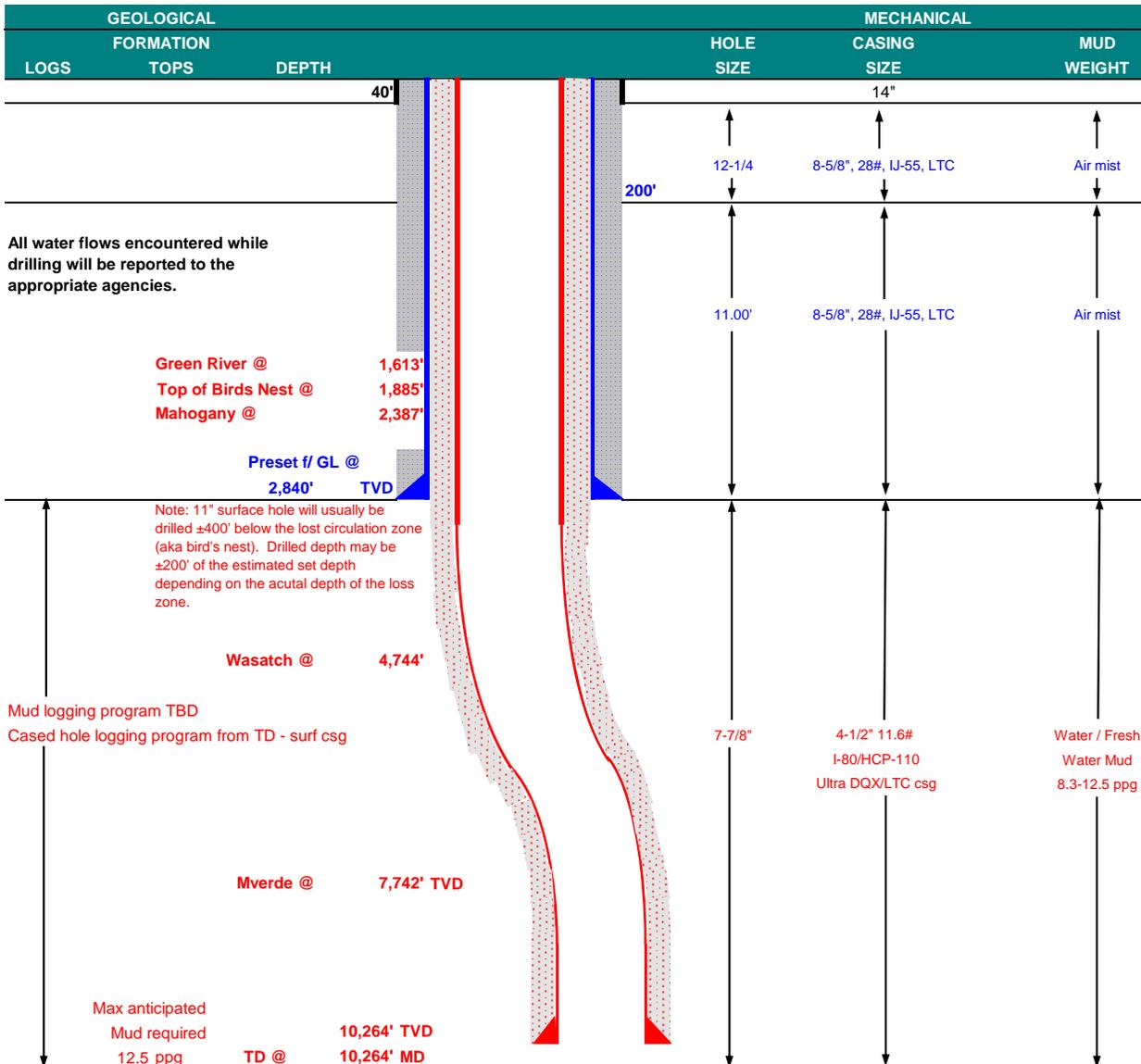
#### 10. **Other Information:**

Please refer to the attached Drilling Program



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP			DATE	November 17, 2011			
WELL NAME	NBU 921-19P4CS			TD	10,264'	TVD	10,264' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah		FINISHED ELEVATION	4,863'
SURFACE LOCATION	SWSE	1080 FSL	1574 FEL	Sec 19	T 9S	R 21E		
	Latitude:	40.017212	Longitude:	-109.590618		NAD 83		
BTM HOLE LOCATION	SESE	254 FSL	654 FEL	Sec 19	T 9S	R 21E		
	Latitude:	40.014948	Longitude:	-109.587326		NAD 83		
OBJECTIVE ZONE(S)	Wasatch/Mesaverde							
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Tribal (Surface), UDOGM Tri-County Health Dept.							





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	DQX
								TENSION	
CONDUCTOR	14"	0-40'							
SURFACE	8-5/8"	0 to 2,840	28.00	IJ-55	LTC	3,390	1,880	348,000	N/A
						7,780	6,350	5.00	N/A
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	1.11	0.95		267,035
						10,690	8,650	223,000	2.77
	4-1/2"	5,000 to 10,264'	11.60	HCP-110	LTC	1.53	1.30	4.51	

**Surface Casing:**

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

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

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

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

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE Option 1	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE Option 2	LEAD	2,340'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	220	35%	11.00	3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,244'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	320	20%	11.00	3.38
	TAIL	6,020'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,420	35%	14.30	1.31

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

**ADDITIONAL INFORMATION**

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

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

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

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

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

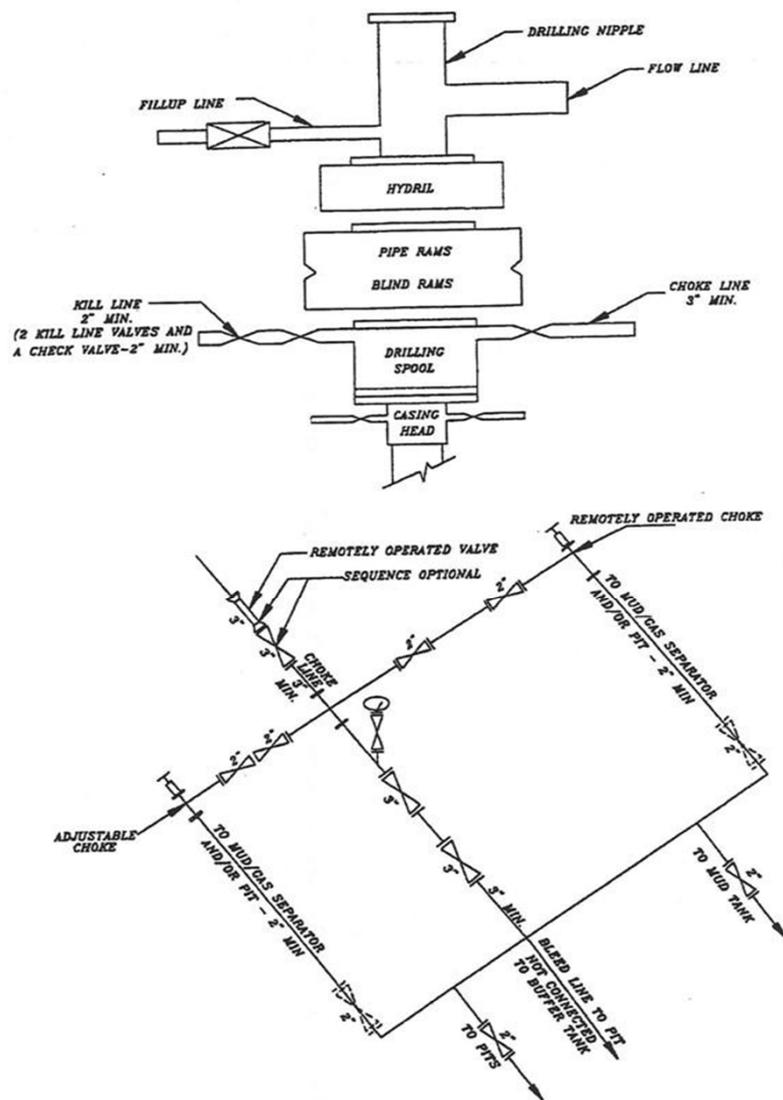
DATE:

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

DATE:

**EXHIBIT A**  
**NBU 921-19P4CS**



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

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 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 921-19P4CS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047505940000	
<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> 1080 FSL 1574 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE 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: 12/2/2011	<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.		
MIRU ROTARY RIG. FINISHED DRILLING FROM 2971' TO 10,220' ON DEC. 1, 2011. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING TO 5063'. RAN 4 1/2" 11.6# P110 CSG FROM 5063' TO 10,211'. CEMENTED PRODUCTION CASING. RELEASED H&P 298 RIG ON DEC. 2, 2011 @ 16:00 HRS. DETAILS OF CEMENTED JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL WAITING ON FINAL COMPLETION ACTIVITIES.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/6/2011	

**Carol Daniels - IBOP TEST NBU 921-19P4CS** *TOGS R21E S19 43-049-50594*

---

**From:** "Anadarko - H&P 298" <hp298@gesmail.net>  
**To:** <caroldaniels@utah.gov>  
**Date:** 11/24/2011 11:46 AM  
**Subject:** IBOP TEST NBU 921-19P4CS

---

Carol, we will be testing bop's on FRIDAY 11/25/2011 8-10 pm ,on H&P 298,nbu 921-19P4CS,  
Have a nice day

JIM

**RECEIVED**

**NOV 24 2011**

**DIV. OF OIL, GAS & MINING**

**Carol Daniels - IBOP TEST NBU 921-19P4CS** *TOGS R21E S19 43-049-50594*

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**DIV. OF OIL, GAS & MINING**

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 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 921-19P4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1080 FSL 1574 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE Section: 19 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505940000
<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: 1/30/2012	<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"/> 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 checked="" type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 01/30/2012 AT 1630 HRS. THE CHONROLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          February 07, 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> 2/7/2012	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No.  
UTU0581

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

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.  
UTU63047A

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

8. Lease Name and Well No.  
NBU 921-19P4CS

3. Address PO BOX 173779  
DENVER, CO 80217  
 3a. Phone No. (include area code)  
Ph: 720-929-6304

9. API Well No.  
43-047-50594

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*  
 At surface SWSE 1080FSL 1574FEL 40.017212 N Lat, 109.590618 W Lon  
 At top prod interval reported below SESE 276FSL 663FEL  
 At total depth SESE 235FSL 645FEL

10. Field and Pool, or Exploratory  
NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey  
or Area Sec 19 T9S R21E Mer SLB

12. County or Parish  
UINTAH  
 13. State  
UT

14. Date Spudded  
09/29/2011  
 15. Date T.D. Reached  
12/01/2011  
 16. Date Completed  
 D & A  Ready to Prod.  
01/30/2012

17. Elevations (DF, KB, RT, GL)\*  
4862 GL

18. Total Depth: MD 10220 TVD 10022  
 19. Plug Back T.D.: MD 10189 TVD 9991  
 20. Depth Bridge Plug Set: MD TVD

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

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

230C

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 IJ-55	28.0	0	2993		690		0	
7.875	4.500 I-80	11.6	0	5063		1586		210	
7.875	4.500 P-110	11.6	5063	10211					

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	9611							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WASATCH	7067	8194	7067 TO 8194	0.360	84	OPEN
B) MESAVERDE	8258	10090	8258 TO 10090	0.360	180	OPEN
C)						
D)						

26. Perforation Record

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

Depth Interval	Amount and Type of Material
7067 TO 10090	PUMP 8,869 BBLs SLICK H2O & 194,917 LBS 30/50 OTTAWA SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
01/30/2012	02/04/2012	24	→	0.0	2567.0	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	2025 SI	2877.0	→	0	2567	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	
			→						

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

ELECTRONIC SUBMISSION #131922 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

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MAR 06 2012

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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 BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1744 1996 2503 5180 8242

32. Additional remarks (include plugging procedure):

The first 210' of the surface hole was drilled with a 12 ?? bit. The remainder of surface hole was drilled with an 11? bit. DQX csg was run from surface to 5085' LTC P-110 csg was run from 5085' to 10,211'. 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 #131922 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE,L, sent to the Vernal**

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

Signature (Electronic Submission) Date 02/29/2012

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

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

Well: NBU 921-19P4CS YELLOW	Spud Conductor: 9/29/2011	Spud Date: 10/9/2011
Project: UTAH-UINTAH	Site: NBU 921-190 PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING	Start Date: 9/25/2011	End Date: 12/2/2011
Active Datum: RKB @4,888.00usft (above Mean Sea Level)	UWI: SW/SE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/9/2011	0:00 - 4:30	4.50	DRLSUR	01	B	P		MOVE RIG IN OFF THE NBU 921-1904BS T/NBU 921-19P4CS RIG UP.. SET CATWALK AND PIPE RACKS. RIG UP AND PRIME PIT PUMP AND MUD PUMP
	4:30 - 5:00	0.50	DRLSUR	01	B	P		INSTALL ROTATING HEAD
	5:00 - 7:00	2.00	DRLSUR	02	B	P		SPUD @ 05:00 DRLG 12 1/4" SURFACE HOLE F/40' T/210'
	7:00 - 7:30	0.50	DRLSUR	06	A	P		POOH F/DIRECTIONAL TOOLS
	7:30 - 10:00	2.50	DRLSUR			P		M/U 11" SURF. BIT,P/U DIR TOOLS & SCRIBE TIH T/120'
	10:00 - 15:00	5.00	DRLSUR	08	A	Z		WAIT ON MECHANIC, CHANGE OUT HYDRAULIC COOLER & CHANGE OUT SLOW WINCH LINE
	15:00 - 15:30	0.50	DRLSUR	06	A	P		RIH T/210'
	15:30 - 0:00	8.50	DRLSUR	02	B	P		DRILL/ SLIDE 11" SURFACE HOLE F/ 210"-1400 (1190' @ 140'/HR) PSI ON/ OFF 1460/1300, UP/ DOWN/ ROT 65/50/58. 136 SPM, 18-20K WOB, 41 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT
10/10/2011	0:00 - 12:00	12.00	DRLSUR	02	B	P		DRILL/ SLIDE 11" SURFACE HOLE F/ 1400', T/2270 (870' @ 72.5'/HR) PSI ON/ OFF 1550/1320, UP/ DOWN/ ROT 80/50/60. 136 SPM, 18-20K WOB, 40 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT
	12:00 - 0:00	12.00	DRLSUR	02	C	P		DRILL/ SLIDE 11" SURFACE HOLE F/ 2270 T/2960 (701' @ 57.5'/HR) PSI ON/ OFF 1640/1490, UP/ DOWN/ ROT 93/59/71. 136 SPM, 18-20K WOB, 41 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT
10/11/2011	0:00 - 1:00	1.00	DRLSUR	02	B	P		TD@01:00 DRILL/ SLIDE 11" SURFACE HOLE F/ 2270 T/2971 (11' @ 11'/HR) PSI ON/ OFF 1640/1490, UP/ DOWN/ ROT 93/59/71. 136 SPM, 18-20K WOB, 41 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT
	1:00 - 9:30	8.50	DRLSUR	08	A	Z		LOCATE & REMOVE 4 BROKEN HYDAULIC HOSES. WAIT ON & INSTALL HOSES.
	9:30 - 10:30	1.00	DRLSUR	05	D	P		CIRC. F/ CASING
	10:30 - 11:30	1.00	DRLSUR	08	A	Z		WAIT FOR MECHANIC TO DIAGNOSE & REPAIR HYDRAULIC PUMP PROBLEMS
	11:30 - 12:30	1.00	DRLSUR	05	D	P		CIR. F/ CASING
	12:30 - 16:00	3.50	DRLSUR	03	A	X		POOH T/1500 HAD TO BACK REAM OUT.
	16:00 - 17:30	1.50	DRLSUR	03	A	X		WASH & REAM T/BTTM.
	17:30 - 19:30	2.00	DRLSUR	05	D	P		CIRC. & COND. F/8 5/8 28# CASING
	19:30 - 0:00	4.50	DRLSUR	06	D	P		LDDS, BHA & DIR. TOOLS
10/12/2011	0:00 - 1:00	1.00	DRLSUR	12	A	P		MOVE CATWALK & PIPE RACKS, MOVE CASING TO WORK AREA, R/U T/RUN 8 5/8 CASING.
	1:00 - 4:00	3.00	DRLSUR	12	C	P		HOLD SAFTEY MEETING,RUN FLOAT SHOE ,SHOE JNT,BAFFLE & 65 JNTS 8 5/8" 28# LT&C CSG
	4:00 - 5:00	1.00	DRLSUR	12	C	P		WASH 88' (2JTS) T/BTTM W/THE SHOE SET @2971' & THE BAFFLE @2923' LAND CASING @ 05:00 67 JTS CASING TOTAL

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19P4CS YELLOW		Spud Conductor: 9/29/2011	Spud Date: 10/9/2011
Project: UTAH-UINTAH		Site: NBU 921-190 PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING		Start Date: 9/25/2011	End Date: 12/2/2011
Active Datum: RKB @4,888.00usft (above Mean Sea Level)		UWI: SWSE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	5:00 - 6:00	1.00	DRLSUR	12	A	P		RUN 200' 1" PIPE DOWN ANNULUS, MOVE RIG OFF HOLE, INSTALL CMT HEAD, R/U PRO PETRO CEMENTERS
	6:00 - 7:30	1.50	DRLSUR	12	E	P		HOLD SAFETY MEETING. TEST LINES TO 2000 PSI. PUMP 160 BBLS OF 8.4# H2O AHEAD, FULL RETURNS PUMP 20 BBLS OF 8.4# GEL WATER AHEAD. PUMP 240 SX(163 BBLS) 11# 3.82 YIELD LEAD CEMENT, PUMP 200 SX (41 BBLS) OF 15.8# 1.15 YIELD TAIL(2% CALC, 1/4# /SK OF FLOCELE).DROP PLUG ON FLY AND DISPLACE W182.4 BBLS OF 8.4# H2O. LIFT PRESSURE WAS 700 PSI, BUMP PLUG AND HOLD 1100 PSI FOR 5 MIN. FLOAT HELD, FULL RETURNS THRU OUT JOB ,30 BBLS LEAD CEMENT TO SURF, CEMENT STARTED TO FALL BACK
	7:30 - 8:00	0.50	DRLSUR	13	A	P		WAIT ON CEMENT
	8:00 - 8:30	0.50	DRLSUR	12	E	P		CEMENT FELL 15', TOPPED OFF CEMENT. RELEASE RIG 08:30 10/12/11
	8:30 - 8:30	0.00	DRLSUR					CONDUCTOR CASING: Cond. Depth set:40' Cement sx used:28
								SPUD DATE/TIME:10/9/2011 5:00
								SURFACE HOLE: Surface From depth:40' Surface To depth:2,971 Total SURFACE hours:35.50 Surface Casing size:8 5/8 28# # of casing joints ran:67 Casing set MD:2,971.0 # sx of cement:240/200/250 total 690 Cement blend (ppg):LEAD 11#, TAIL & TOP OUT 15.8 Cement yield (ft3/sk):LEAD 3.82, TAIL & TOP OUT 1.15 # of bbbls to surface:30 Describe cement issues:CEMENT STARTED FALLING, WAITED FOR AN HOUR AND THE CEMENT HELD Describe hole issues:NONE
11/26/2011	12:30 - 16:00	3.50	MIRU	01	C	P		SKID RIG 10' /JUMP SKID BEAMS, FROM BACK TO FRONT SKID 10' TO NBU 921-19P4CS/ LINE UP OVER WELL
	16:00 - 20:00	4.00	PRPSPD	14	A	P		NU BOP, / FLOWLINE / ADD, EXTENTION TO MUD LINE & CHOKE LINE
	20:00 - 0:00	4.00	PRPSPD	15	A	P		PRESSURE TEST PIPE RAMS, BLIND RAMS, IBOP, FLOOR VALVE, KILL LINES & KILL LINE VALVES, BOP WING VALVES , HCR VALVE + CHOKE LINE; INNER AND OUTER CHOKE VALVES & MANIFOLD TO 250 PSI LOW @ 5 MINUTES + 5000 PSI HIGH @ 10 MINUTES / TEST ANNULAR TO 250 PSI LOW @ 5 MINUTES + 2500 PSI HIGH @ 10 MINUTES / TEST SUPER CHOKE + SURFACE CASING TO 1500
11/27/2011	0:00 - 0:30	0.50	PRPSPD	15	A	P		TEST STRATA CHOKE EQUIP TO 3000 PSI
	0:30 - 1:00	0.50	PRPSPD	14	B	P		INSTALL WEAR BUSHING

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 921-19P4CS YELLOW		Spud Conductor: 9/29/2011	Spud Date: 10/9/2011
Project: UTAH-UINTAH		Site: NBU 921-190 PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING		Start Date: 9/25/2011	End Date: 12/2/2011
Active Datum: RKB @4,888.00usft (above Mean Sea Level)		UWI: SW/SE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	1:00 - 1:30	0.50	PRPSPD	23		P		PRE SPUD INSPECTION
	1:30 - 4:00	2.50	PRPSPD	06	A	P		PU M MTR / BIT / DIR TOOLS / MWD SCRIBE & SURFACE TEST / TRIP IN HOLE TO 2700' LEVEL DERRICK
	4:00 - 5:00	1.00	PRPSPD	07	B	P		INSTALL STRATA ROTA RUBBER, TIH TAG CMT @ 2924'
	5:00 - 6:00	1.00	PRPSPD	14	B	P		DRILL FLOAT TRAC 2924-2993
	6:00 - 7:00	1.00	DRLPRO	02	F	P		DRILL/ SURVEY F/2,993 TO 3,934 =941 '@134.4 FPH // WOB 16K-22K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 1790/1505 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 121/93/109 TORQUE ON/OFF BOTTOM 4K/3 K SLIDE 118' IN 105 MIN 12.5% OF FOOTAGE DRILLED, 25% OF HRS DRILLED MW 8.6 VIS 26/ NO FLARE.
	7:00 - 14:00	7.00	DRLPRO	02	D	P		RIG SERVICE
	14:00 - 14:30	0.50	DRLPRO	07	A	P		DRILL/ SURVEY F/3,934 TO 5105 =1171 '@123.2 FPH // WOB 16K-22K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2000/1690 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 150/115/130 TORQUE ON/OFF BOTTOM 10K/8 K SLIDE 85' IN 90 MIN 7% OF FOOTAGE DRILLED, 15% OF HRS DRILLED MW 8.7 VIS 27/ NO FLARE.
11/28/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/ SURVEY F/5,105 TO 5,910 =805 '@134 FPH // WOB 16K-22K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2100/1750 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 150/115/130 TORQUE ON/OFF BOTTOM 12K/9 K SLIDE 23' IN 25 MIN 7% OF FOOTAGE DRILLED, 2.8% OF HRS DRILLED MW 8.7 VIS 27/ NO FLARE.
	6:00 - 14:00	8.00	DRLPRO	02	D	P		DRILL/ SURVEY F/5,910 TO 6,768 =858 '@107.2 FPH // WOB 16K-22K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2120/1865 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 195/132/153 TORQUE ON/OFF BOTTOM 14K/13 K SLIDE 23' IN 30 MIN 3% OF FOOTAGE DRILLED, 6.2% OF HRS DRILLED MW 8.9 VIS 27/ NO FLARE.
	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	14:30 - 15:00	0.50	DRLPRO	07	C	P		CHANGE OUT STRATA ROTATING RUBBER
	15:00 - 0:00	9.00	DRLPRO	02	D	P		DRILL/SLIDE/ SURVEY F/5,768 TO 7,460 =692 '@76.8 FPH // WOB 16K-22K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2120/1865 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 212/136/158 TORQUE ON/OFF BOTTOM 15K/14 K SLIDE 55' IN 60 MIN 7% OF FOOTAGE DRILLED, 11% OF HRS DRILLED MW 8.8 VIS 27/ 5' FLARE ON CONN

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

Well: NBU 921-19P4CS YELLOW		Spud Conductor: 9/29/2011	Spud Date: 10/9/2011
Project: UTAH-UINTAH		Site: NBU 921-190 PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING		Start Date: 9/25/2011	End Date: 12/2/2011
Active Datum: RKB @4,888.00usft (above Mean Sea Level)		UWI: SW/SE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/29/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/SLIDE/ SURVEY F/7,460 TO 7,820 =360 '@60 FPH // WOB 16K-22K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2150/1875 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 226/138/172 TORQUE ON/OFF BOTTOM 15K/14 K SLIDE 26' IN 40 MIN 7% OF FOOTAGE DRILLED 11% OF HRS DRILLED MW 8.8 VIS 27/ 5' FLARE ON CONN.
	6:00 - 16:30	10.50	DRLPRO	02	D	P		DRILL/SLIDE/ SURVEY F/7,820 TO 8,563 =743 '@70.7 FPH // WOB 16K-22K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2450/2215 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 239/150/182 TORQUE ON/OFF BOTTOM 18K/17 K SLIDE 35' IN 75 MIN 4.7% OF FOOTAGE DRILLED 12% OF HRS DRILLED MW 9.0 VIS 34/ 15-20' FLARE RIG SERVICE
	16:30 - 17:00	0.50	DRLPRO	07	A	P		DRILL / SURVEY F/8,563 TO 9,020 =457 '@66.2FPH // WOB 16K-22K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2,650 / 2,340 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 251 /1 53 / 190 TORQUE ON/OFF BOTTOM 20K / 17 K MW 9.0 VIS 34/ 15-20' FLARE
	17:00 - 0:00	7.00	DRLPRO	02	D	P		DRILL / SURVEY F/9,020 TO 9,410 =350 '@58.3 FPH / WOB 16K-24K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2,710 / 2,575 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 255 /1 67 / 194 TORQUE ON/OFF BOTTOM 21K / 20 K MW 9.1 VIS 36 / 15-20' FLARE / MUD LOSS 40 BBLS / STRATA ANN PRESS 200 WORK TIGHT HOLE @ 9,400 / TOP DRIVE STALL OUT /BYPASS SHAKERS ,LCM TO 4%
11/30/2011	0:00 - 6:30	6.50	DRLPRO	02	D	P		DRILL / SLIDE / SURVEY F/9,410 TO 9,795 =385 '@58.3 FPH / WOB 16K-24K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2,950 / 2,800 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 250 /1 170 / 198 TORQUE ON/OFF BOTTOM 18K / 14 K / SLIDE 20' IN 40 MIN 5% OF FOOTAGE DRILLED 8.8% OF HRS DRILLED MW 10.6 VIS 38 / 10' FLARE / MUD LOSS 25 BBLS / STRATA ANN PRESS 150 RIG SERVICE
	6:30 - 7:00	0.50	DRLPRO	22	M	X		DRILL / SURVEY F/9,795 TO 10,145 =350 '@38.8 FPH / WOB 16K-24K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2,920 / 2,800 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 267 /171 / 209 TORQUE ON/OFF BOTTOM 20K / 16 K / MW 11.6 VIS 44 / MUD LOSS 40 BBLS
	7:00 - 14:30	7.50	DRLPRO	02	D	P		
	14:30 - 15:00	0.50	DRLPRO	07	A	P		
	15:00 - 0:00	9.00	DRLPRO	02	D	P		

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19P4CS YELLOW      Spud Conductor: 9/29/2011      Spud Date: 10/9/2011  
 Project: UTAH-UINTAH      Site: NBU 921-190 PAD      Rig Name No: PROPETRO 11/11, H&P 298/298  
 Event: DRILLING      Start Date: 9/25/2011      End Date: 12/2/2011  
 Active Datum: RKB @4,888.00usft (above Mean Sea Level)      UWI: SW/SE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/1/2011	0:00 - 3:00	3.00	DRLPRO	02	D	P		DRILL / SURVEY F/10,145 TO 10,220 TD =75 '@25 FPH / WOB 16K-24K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2,950 / 2,800 PSI / MUD MOTOR RPM 115 / PU/SO/ROT WT 267 /171 / 209 TORQUE ON/OFF BOTTOM 20K / 16 K / MW 11.6 VIS 44 LCM 8% / MUD LOSS 10 BBLs
	3:00 - 4:30	1.50	DRLPRO	05	C	P		CCH F/ WIPER TRIP
	4:30 - 10:00	5.50	DRLPRO	06	E	P		WIPER TRIP / BACK REAM OUT 5 STD, PUMP SLUG, TOH TO 6000',FILL PIPE TIH TIGHT SPOTS 6850,7000 CCH F/ CASING
	10:00 - 11:30	1.50	DRLPRO	05	D	P		TOH F/ CASING /, WORK OUT TIGHT SPOTS @ 5,063,4,500,FLOW CHECK @ CSG SHOE ,PULL STRATA ROT RUBBER,L/D MWD BREAK BIT L/D M MTR
	11:30 - 18:30	7.00	DRLPRO	06	D	P		PULL WEAR BUSHING, X/O BAILS
	18:30 - 19:30	1.00	DRLPRO	14	B	P		HOLD CTJSA WITH FRANKS CASERS & RIG CREWS,R/U CASING EQUIP
	19:30 - 21:30	2.00	DRLPRO	12	A	P		MU FE RUN 41/2,P-110,11.6# LTC CASING.
	21:30 - 0:00	2.50	DRLPRO	12	C	P		
12/2/2011	0:00 - 8:30	8.50	CSG	12	C	P		RUN 124 JTS P-110 11.6# LT&C(5174') & 121 JTS OF DQX,11.6# I-80 (5037)4.5 CASING + RELATED TOOLS / BREAKING CIRCULATION @ SELECTED INTERVALS / HOLDING CSG @ 10,211 FOR CIRC & CEMENTING / DQX JTS TORQUE TURNED &TORQUED AS PER TSI PERSONNAL
	8:30 - 10:00	1.50	CSG	05	D	P		CIRC CASING / RU FRANKS CASERS / HOLD SAFETY MEETING W/ BJ / 5' FLARE ON BTMS UP
	10:00 - 13:00	3.00	CSG	12	E	P		NSTALL BJ CMT HEAD , TEST PUMP & LINES TO 4,500 PSI,DROP BOTTOM PLUG,PUMP 25 BBLs FRESH WATER SPACER,486 SKS LEAD CEMENT @ 12.1 PPG, (PREM LITE II + .025 pps CELLO FLAKE + 5 pps KOL SEAL + .05 lb/sx STATIC FREE + 10% bwoc BENTONITE + .2% bwoc SODIUM META SILICATE + .35 % R-3 + 141.6% FRESH WATER / (12.24 gal/sx, 2.24 yield) + 1,100 SX TAIL @ 14.3 ppg (CLS G 50/50 POZ + 10% SALT + .05lbs/sx STATIC FREE + .2% R3 + .002 GPS FP-6L + 2% BENTONITE + 154.8 BBLs H2O / (5.90 gal/sx, 1.31 yield) / DROP TOP PLUG & DISPLACE W/ 158.BBLs H2O + ADDITIVES / PLUG DOWN @ 12:24 HOURS / FLOATS HELD W/ 2. BBLs H2O RETURNED TO INVENTORY/ GOOD CIRC THROUGH OUT / 15 BBLs CMT TO SURFACE / LIFT PRESSURE @3,000 PSI / BUMP PRESSURE TO 3,723 PSI / TOP OF TAIL CEMENT CALCULATED @ 3900 / RIG DOWN CMT EQUIP/ CSG SHOE 10,211,FC @ 10,191 TOP OF ,MKR JT MV 7,993,MKR JT WASATCH 5,037' / RD CEMENTERS
	13:00 - 14:00	1.00	CSG	14	A	P		FLUSH OUT & PICK UP BOP STACK,SET C-22 CSG SLIPS W/ 100K,CLEAN PITS /PREP TO SKID / RIG RELEASED TO NBU 921-19P4BS @ 16:00 PM 12/02/2011

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 921-19P4CS YELLOW	Wellbore No.	OH
Well Name	NBU 921-19P4CS	Wellbore Name	NBU 921-19P4CS
Report No.	1	Report Date	1/12/2012
Project	UTAH-UINTAH	Site	NBU 921-190 PAD
Rig Name/No.		Event	COMPLETION
Start Date	1/27/2012	End Date	1/30/2012
Spud Date	10/9/2011	Active Datum	RKB @4,888.00usft (above Mean Sea Level)
UWI	SW/SE/O/S/21/E/19/O/O/26/PM/S/1,080.00/E/O/1,574.00/O/O		

### 1.3 General

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

### 1.4 Initial Conditions

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

### 1.5 Summary

Gross Interval	7,067.0 (usft)-10,090.0 (usft)	Start Date/Time	1/23/2012 12:00AM
No. of Intervals	58	End Date/Time	1/23/2012 12:00AM
Total Shots	264	Net Perforation Interval	86.00 (usft)
Avg Shot Density	3.07 (shot/ft)	Final Surface Pressure	
		Final Press Date	

## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/23/2012 12:00AM	WASATCH/			7,067.0	7,068.0	3.00		0.360	EXP/	3.375	120.00				
													23.00	PRODUCTIO	
														N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/23/2012 12:00AM	WASATCH/			7,080.0	7,081.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,151.0	7,152.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,229.0	7,230.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,249.0	7,250.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,309.0	7,310.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,342.0	7,343.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,380.0	7,381.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,399.0	7,400.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,428.0	7,429.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,449.0	7,450.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,518.0	7,519.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,538.0	7,539.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,584.0	7,585.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,734.0	7,735.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,772.0	7,774.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,809.0	7,810.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,824.0	7,825.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,858.0	7,860.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			7,939.0	7,940.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			8,053.0	8,055.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	WASATCH/			8,192.0	8,194.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/23/2012 12:00AM	MESA VERDE/			8,258.0	8,260.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,277.0	8,279.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,340.0	8,342.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,387.0	8,388.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,398.0	8,399.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,440.0	8,442.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,472.0	8,474.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,510.0	8,512.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,536.0	8,538.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,702.0	8,704.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,728.0	8,730.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,768.0	8,769.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,821.0	8,822.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,860.0	8,862.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,958.0	8,960.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			8,996.0	8,998.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,110.0	9,112.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,204.0	9,206.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,238.0	9,240.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,328.0	9,330.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,390.0	9,391.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/23/2012 12:00AM	MESA VERDE/			9,430.0	9,432.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,472.0	9,474.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,554.0	9,555.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,582.0	9,584.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,647.0	9,648.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,665.0	9,666.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,692.0	9,694.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,752.0	9,754.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,777.0	9,778.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,815.0	9,816.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,863.0	9,864.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,873.0	9,874.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			9,980.0	9,982.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			10,022.0	10,024.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/23/2012 12:00AM	MESA VERDE/			10,088.0	10,090.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

3 Plots

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 921-19P4CS YELLOW		Spud Conductor: 9/29/2011		Spud Date: 10/9/2011	
Project: UTAH-UINTAH		Site: NBU 921-19O PAD		Rig Name No: SWABBCO 6/6	
Event: COMPLETION		Start Date: 1/27/2012		End Date: 1/30/2012	
Active Datum: RKB @4,888.00usft (above Mean Sea Level)		UWI: SW/SE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/9/2011	-							
1/12/2012	9:45 - 11:15	1.50	COMP	33		P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 10 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 31 PSI. 1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 85 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SWIFW
1/23/2012	7:00 - 7:30	0.50	COMP	48		P		HSM. RU & HIGH PSI LINES. WIRE LINE AWAIRNESS.
	7:30 - 18:00	10.50	COMP	36	B	P		MIRU SUPERIOR FRAC SERV & CASED HOLE SOLUTION WL.  PSI TEST FRAC LINES T/ 9500 PSI. LOST 900 PSI. NO VISABLE LEAKS. GOOD TEST.  PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.  FRAC STG 1)WHP 1072 PSI, BRK 4050 PSI @ 4.8 BPM. ISIP 3322 PSI, FG .77. CALC PERFS OPEN @ 44.6 BPM @ 5858 PSI = 97% HOLES OPEN. ISIP 3066 PSI, FG .75, NPI 256 PSI. MP 6165 PSI, MR 46.7 BPM, AP 5795 PSI, AR 45.8 BPM, PUMPED 30/50 OWATTA SAND. SWI, X-OVER FOR WL.
1/24/2012	6:45 - 7:00	0.25	COMP	48		P		PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 9839' P/U PERF AS PER DESIGN. POOH. SWIFN. HSM. WIRELINE AWAIRNESS. HIGH PSI LINES.

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

Well: NBU 921-19P4CS YELLOW		Spud Conductor: 9/29/2011	Spud Date: 10/9/2011
Project: UTAH-UINTAH		Site: NBU 921-190 PAD	Rig Name No: SWABBCCO 6/6
Event: COMPLETION		Start Date: 1/27/2012	End Date: 1/30/2012
Active Datum: RKB @4,888.00usft (above Mean Sea Level)		UWI: SW/SE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 18:00	11.00	COMP	36	B	P		<p>FRAC STG 2)WHP 2283 PSI, BRK 4151 PSI @ 4.9 BPM. ISIP 2660 PSI, FG .71. CALC PERFS OPEN @ 35.3 BPM @ 5055 PSI = 69% HOLES OPEN. ISIP 3089 PSI, FG .76, NPI 429 PSI. MP 6041 PSI, MR 50.8 BPM, AP 5407 PSI, AR 49.5 BPM, PUMPED 30/50 OWATTA SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 9614' P/U PERF AS PER DEIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 3)WHP 2169 PSI, BRK 2712 PSI @ 3.9 BPM. ISIP 2185 PSI, FG .67. CALC PERFS OPEN @ 50.4 BPM @ 5203 PSI = 97% HOLES OPEN. ISIP 2846 PSI, FG .74, NPI 661 PSI. MP 5705 PSI, MR 51.2 BPM, AP 4996 PSI, AR 50.6 BPM, PUMPED 30/50 OWATTA SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 4)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 9360' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 4)WHP 1270 PSI, BRK 2907 PSI @ 4.8 BPM. ISIP 1918 PSI, FG .65. CALC PERFS OPEN @ 46.9 BPM @ 5024 PSI = 83% HOLES OPEN. ISIP 2966 PSI, FG .76, NPI 1048 PSI. MP 5746 PSI, MR 51 BPM, AP 4957 PSI, AR 50.7 BPM, PUMPED 30/50 OWATTA SAND</p> <p>PERF STG 5)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 9028' P/U PERF AS PER DESIGN.</p> <p>FRAC STG 5)WHP 1881 PSI, BRK 3257 PSI @ 4.4 BPM. ISIP 2270 PSI, FG .69. CALC PERFS OPEN @ 50.6 BPM @ 5186 PSI = 100% HOLES OPEN. ISIP 2797 PSI, FG .75, NPI 527 PSI. MP 5633 PSI, MR 51.1 BPM, AP 4865 PSI, AR 50.7 BPM, PUMPED 30/50 OWATTA SAND SWIFN.</p>

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 921-19P4CS YELLOW		Spud Conductor: 9/29/2011	Spud Date: 10/9/2011
Project: UTAH-UINTAH		Site: NBU 921-190 PAD	Rig Name No: SWABBCO 6/6
Event: COMPLETION		Start Date: 1/27/2012	End Date: 1/30/2012
Active Datum: RKB @4,888.00usft (above Mean Sea Level)		UWI: SW/SE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/25/2012	7:00 - 18:00	11.00	COMP	36	B	P		<p>PERF STG 6) PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8746' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 6)WHP 928 PSI, BRK 2740 PSI @ 4.8 BPM. ISIP 1946 PSI, FG .66. CALC PERFS OPEN @ 50.6 BPM @ 4771 PSI = 100% HOLES OPEN. ISIP 2608 PSI, FG .74, NPI 662 PSI. MP 5117 PSI, MR 51 BPM, AP 4486 PSI, AR 50.4 BPM, PUMPED 30/50 OWATTA SAND</p> <p>PERF STAGE 7) PU 4 1/2 HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8492'. P/U PERF AS PER DESIGN.</p> <p>FRAC STAGE 7)WHP 1226 PSI, BRK 2720 PSI @ 4.8 BPM. ISIP 1810 PSI, FG .65. CALC PERFS OPEN @ 50.7 BPM @ 4751 PSI = 65% HOLES OPEN. ISIP 2533 PSI, FG .74, NPI 723 PSI. MP 5205 PSI, MR 53.2 BPM, AP 4312 PSI, AR 50.9 BPM, PUMPED 30/50 OWATTA SAND</p> <p>PERF STAGE 8) PU 4 1/2 HAL CBP, 3 1/8 EXP GUN. 23 GM, .36 HOLE SIZE, 120 DEG PHASING. SET CBP @ 8309'. P/U &amp; PERF AS PER DES.</p> <p>FRAC STAGE 8)WHP 1603 PSI, BRK 2772 PSI @ 3.9 BPM. ISIP 1957 PSI, FG .68. CALC PERFS OPEN @ 50.3 BPM @ 4932 PSI = 91% HOLES OPEN. ISIP 2803 PSI, FG .78, NPI 846 PSI. MP 5419 PSI, MR 52.9 BPM, AP 4740 PSI, AR 51.2 BPM, PUMPED 30/50 OWATTA SAND</p> <p>PERF STAGE 9) PU 4 1/2 HAL CBP, &amp; 3 1/8 EXP GUN. 23 GM, .36 HOLE SIZE, 120 DEG PHASING. SET CBP @ 7965'. P/U &amp; PERF AS PER DES.</p> <p>FRAC STAGE 9)WHP 1875 PSI, BRK 2289 PSI @ 4.7 BPM. ISIP 1885 PSI, FG .68. CALC PERFS OPEN @ 50 BPM @ 5176 PSI = 81% HOLES OPEN. ISIP 2829 PSI, FG .80, NPI 944 PSI. MP 5408 PSI, MR 50.8 BPM, AP 4591 PSI, AR 50.4 BPM, PUMPED 30/50 OWATTA SAND</p> <p>PERF STAGE 10) PU 4 1/2 HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 &amp; 120 DEG PHASING. SET CBP @ 7635. P/U &amp; PERF AS PER</p>

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 921-19P4CS YELLOW		Spud Conductor: 9/29/2011	Spud Date: 10/9/2011
Project: UTAH-UINTAH		Site: NBU 921-190 PAD	Rig Name No: SWABBCO 6/6
Event: COMPLETION		Start Date: 1/27/2012	End Date: 1/30/2012
Active Datum: RKB @4,888.00usft (above Mean Sea Level)		UWI: SW/SE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/26/2012	7:00 - 18:00	11.00	COMP	36	B	P		<p>DES. POOH. SWFN.</p> <p>FRAC STG 10)WHP 1236 PSI, BRK 2399 PSI @ 4.7 BPM. ISIP 1543 PSI, FG .64.</p> <p>CALC PERFS OPEN @ 50.7 BPM @ 4546 PSI = 88% HOLES OPEN.</p> <p>ISIP 2436 PSI, FG .76, NPI 893 PSI.</p> <p>MP 5534 PSI, MR 51.2 BPM, AP 4329 PSI, AR 50.5 BPM,</p> <p>PUMPED 30/50 OWATTA SAND</p> <p>PERF STAGE 11) PU 4 1/2 HAL CBP, 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 &amp; 120 DEG PHASING. SET CBP @ 7370'. P/U PERF AS PER DES.</p> <p>FRAC STAGE 11)WHP 1796 PSI, BRK 2424 PSI @ 3.8 BPM. ISIP 1997 PSI, FG .72.</p> <p>CALC PERFS OPEN @ 50.8 BPM @ 4352 PSI = 100% HOLES OPEN.</p> <p>ISIP 2276 PSI, FG .75, NPI 279 PSI.</p> <p>MP 4502 PSI, MR 53 BPM, AP 4040 PSI, AR 50.8 BPM,</p> <p>PUMPED 30/50 OWATTA SAND</p> <p>PU 4 1/2 HAL CBP RIH SET @ 7017'. POOH, DONE FRACING THIS WELL.</p> <p>TOTAL SAND = 194,917 LBS TOTAL CLFL = 8869 BBL JSA= TRAFIC ON LOC</p>
1/27/2012	7:00 - 7:15	0.25	COMP	48		P		<p>MIRU SPOT EQUIP BUILD UP LOC AROUND WELLHEAD TO SOFT SPOT TUBING FLOAT ND WELLHEAD NU BOPS RU FLOOR &amp; TUBING EQUIP NU FLOW LINE TO PIT &amp; SEPARATOR &amp; TEST TALLEY &amp; PU TUBING TAG PLUG @ 6980' RU DRILLING EQUIP PREP TO DRILL OUT MON SIW SDFW</p> <p>JSA= DRILLING PLUGS</p>
	7:15 - 15:00	7.75	COMP	30		P		
1/30/2012	7:00 - 7:15	0.25	COMP	48		P		

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19P4CS YELLOW	Spud Conductor: 9/29/2011	Spud Date: 10/9/2011
Project: UTAH-UINTAH	Site: NBU 921-190 PAD	Rig Name No: SWABBCO 6/6
Event: COMPLETION	Start Date: 1/27/2012	End Date: 1/30/2012
Active Datum: RKB @4,888.00usft (above Mean Sea Level)	UWI: SW/SE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 18:00	10.75	COMP	30		P		<p>NU RIG PUMP EST CIRC PRESS TEST BOPS TO 3000# DRILL THRU 1 ST PLUG @ 6980'</p> <p>PLUG #1] DRILL THRU HALLI 8K CBP @ 7017' IN 6 MIN W/ 200# INCREASE</p> <p>PLUG #2] CONTINUE TO RIH TAG SAND @ 7340' (25' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 7365' IN 10 MIN W/ 250# INCREASE.</p> <p>PLUG #3] CONTINUE TO RIH TAG SAND @ 7622' (20' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 7652' IN 11 MIN W/ 250# INCREASE</p> <p>PLUG #4] CONTINUE TO RIH TAG SAND @ 7935' (30' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 7965' IN 9 MIN W/ 200# INCREASE</p> <p>PLUG #5] CONTINUE TO RIH TAG SAND @ 8284' (25' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 8309' IN 8 MIN W/ 100# INCREASE</p> <p>PLUG #6] CONTINUE TO RIH TAG SAND @ 8477' (15' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 8492' IN 8 MIN W/ 200# INCREASE</p> <p>PLUG #7] CONTINUE TO RIH TAG SAND @ 8736' ( 10' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 8746' IN 10 MIN W/ 150# INCREASE</p> <p>PLUG #8] CONTINUE TO RIH TAG SAND @ 9008' (20' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 9028' IN 10 MIN W/ 150# INCREASE</p> <p>PLUG #9] CONTINUE TO RIH TAG SAND @ 9330' (30' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 9360' IN 9 MIN W/ 100# INCREASE</p> <p>PLUG #10] CONTINUE TO RIH TAG SAND @ 9589' (25' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 9614' IN 15 MIN W/ 100# INCREASE</p> <p>PLUG #11] CONTINUE TO RIH TAG SAND @ 9819' (20' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 9839' IN 5 MIN W/ 150# INCREASE</p> <p>PBTD] CONTINUE TO RIH TAG FILL @ 10137' (50' FILL) C/O TO PBTD @ 10187' CIRC CLEAN LD 19 JNTS LAND TUBING ON HNGR W/ 302 JNTS EOT @ 9611.43' RD PWR SWWL RD FLOOR &amp; TUBING EQUIP ND BOPS NU WELLHEAD DROP BALL PUMP OFF BIT @ 2300 PSI SIW 30 MIN TURN WELL OVER TO FBC RD MOVE TO NBU 921-1904BS</p> <p>TUBING DETAIL= K.B.....26.0</p>

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

Well: NBU 921-19P4CS YELLOW		Spud Conductor: 9/29/2011		Spud Date: 10/9/2011	
Project: UTAH-UJINTAH			Site: NBU 921-19O PAD		Rig Name No: SWABBCO 6/6
Event: COMPLETION			Start Date: 1/27/2012		End Date: 1/30/2012
Active Datum: RKB @4,888.00usft (above Mean Sea Level)			UWI: SW/SE/0/9/S/21/E/19/0/0/26/PM/S/1,080.00/E/0/1,574.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								HANGER.....1.0
								302 JNTS 2-3/8"
								L-80.....9582.23
								POBS.....2.2
								0
								EOT@.....9611.4
								3
								TOTAL FL PUMPED= 8869 BBLS
								RIG REC= 2600 BBLS

Project: UTAH - UTM (feet), NAD27, Zone 12N  
 Site: UINTAH\_NBU 921-190 PAD  
 Well: NBU 921-19P4CS  
 Wellbore: NBU 921-19P4CS  
 Section:  
 SHL: P\_NBU 921-19P4CS  
 Design: NBU 921-19P4CS  
 Latitude: 40.017247  
 Longitude: -109.589928  
 GL: 4862.01  
 KB: 26' rkb + 4862' gl @ 4888.00ft (H&P 298)

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4771.00	4904.32	Top Wasatch:
7815.00	7948.34	Top Mesaverde:
10057.00	10190.35	Top Sego:
10116.00	10249.35	Top Castlegate:
10482.00	10615.36	Top Blackhawk:

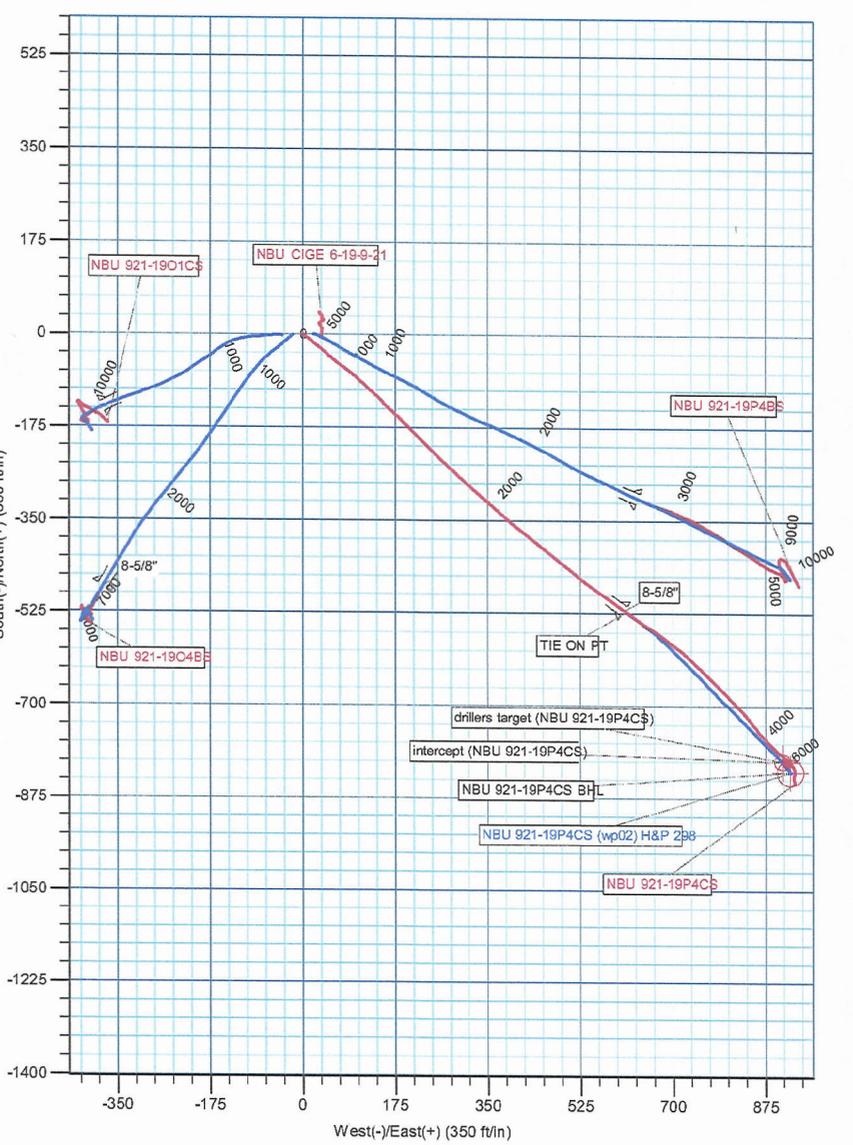
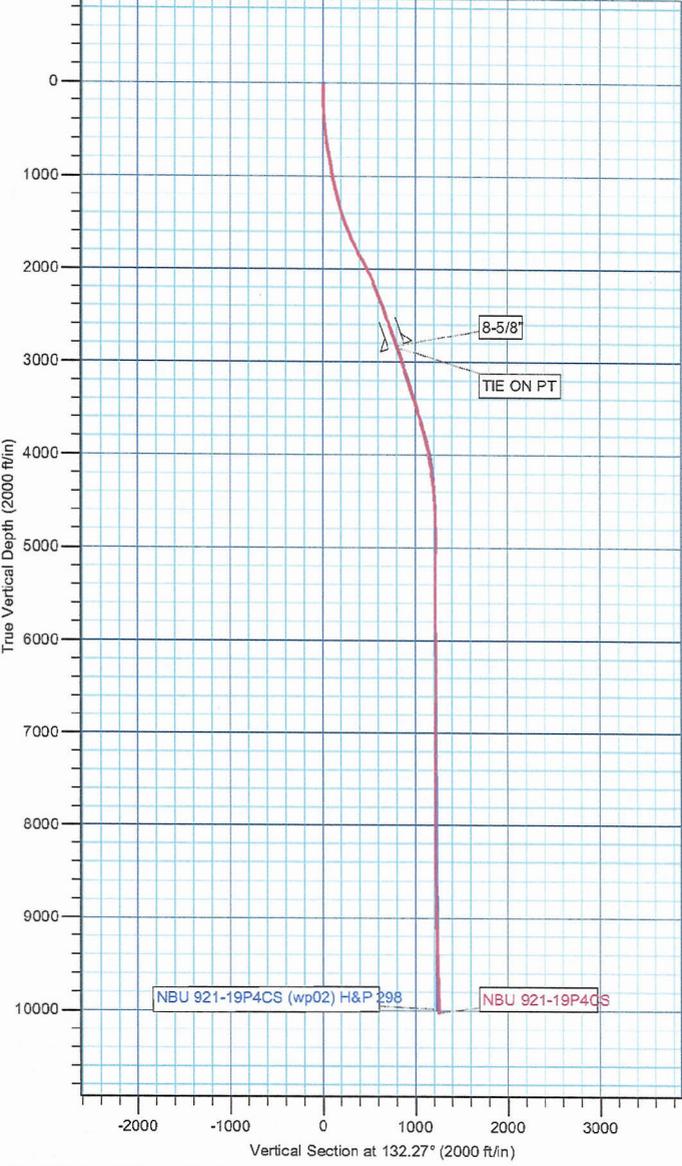
WELL DETAILS: NBU 921-19P4CS						
+N/-S	+E/-W	Northing	Ground Level: Easting	4862.01 Latitude	Longitude	Slot
0.00	0.00	14535448.87	2035226.66	40.017247	-109.589928	

CASING DETAILS			
TVD	MD	Name	Size
2748.48	2847.01	8-5/8"	8-5/8

T M  
 Azimuths to True North  
 Magnetic North: 11.37°  
 Magnetic Field  
 Strength: 52568.1nT  
 Dip Angle: 65.93°  
 Date: 4/22/2009  
 Model: IGRF200510

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
drillers target (NBU 921-19P4BS)	4304.00	-437.79	906.06	14535025.48	2036139.54	40.016045	-109.586693	Circle (Radius: 15.00)	
intercept (NBU 921-19P4BS)	4771.00	-439.06	907.02	14535024.22	2036140.51	40.016041	-109.586689	Point	
NBU 921-19P4BS BHL - first cylinder	10482.00	-457.78	921.06	14535005.72	2036154.85	40.015990	-109.586639	Circle (Radius: 25.00)	
NBU 921-19P4BS BHL - black hawk cylinder	11082.00	-457.78	921.06	14535005.72	2036154.85	40.015990	-109.586639	Circle (Radius: 100.00)	

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
2850.00	14.94	112.38	2751.37	-308.44	634.67	0.00	0.00	688.30	
3000.00	14.94	112.38	2896.30	-323.16	670.42	0.00	0.00	726.85	
3047.39	15.04	116.03	2942.09	-328.18	681.60	2.00	85.82	739.08	
3577.99	15.04	116.03	3454.51	-388.59	805.31	0.00	0.00	876.73	
4437.31	0.00	0.00	4304.00	-437.79	906.06	1.75	180.00	988.84	
4508.12	0.21	143.13	4374.81	-437.89	906.14	0.30	143.13	988.96	
11215.36	0.21	143.13	11082.00	-457.78	921.06	0.00	0.00	1011.28	



# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b> US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b> Well NBU 921-19P4CS	
<b>Project:</b> UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b> 26' rkb + 4862' gl @ 4888.00ft (H&P 298)	
<b>Site:</b> UINTAH_NBU 921-19O PAD	<b>MD Reference:</b> 26' rkb + 4862' gl @ 4888.00ft (H&P 298)	
<b>Well:</b> NBU 921-19P4CS	<b>North Reference:</b> True	
<b>Wellbore:</b> NBU 921-19P4CS	<b>Survey Calculation Method:</b> Minimum Curvature	
<b>Design:</b> NBU 921-19P4CS	<b>Database:</b> edmp	

<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> UINTAH_NBU 921-19O PAD					
<b>Site Position:</b>		<b>Northing:</b>	14,535,446.05 usft	<b>Latitude:</b>	40.017241
<b>From:</b> Lat/Long		<b>Easting:</b>	2,035,186.65 usft	<b>Longitude:</b>	-109.590071
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.91 °

<b>Well</b> NBU 921-19P4CS						
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,535,448.87 usft	<b>Latitude:</b>	40.017247
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,035,226.66 usft	<b>Longitude:</b>	-109.589928
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,862.01 ft

<b>Wellbore</b> NBU 921-19P4CS					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	4/22/2009	11.38	65.93	52,568

<b>Design</b> NBU 921-19P4CS					
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	22.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	22.00	0.00	0.00	132.27	

<b>Survey Program</b> Date 12/29/2011					
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
197.00	2,963.00	Survey #1 (NBU 921-19P4CS)	MWD	MWD - Standard	
3,033.00	10,220.00	Survey #2 (NBU 921-19P4CS)	MWD	MWD - Standard	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
22.00	0.00	0.00	22.00	0.00	0.00	0.00	0.00	0.00	0.00
197.00	1.59	114.50	196.98	-1.01	2.21	2.31	0.91	0.91	0.00
279.00	3.20	127.52	278.90	-2.87	5.06	5.68	2.06	1.96	15.88
362.00	4.94	128.88	361.69	-6.53	9.68	11.55	2.10	2.10	1.64
452.00	6.31	128.61	451.26	-12.05	16.56	20.36	1.52	1.52	-0.30
542.00	7.06	127.49	540.64	-18.50	24.81	30.81	0.85	0.83	-1.24
632.00	8.50	130.36	629.81	-26.17	34.27	42.97	1.66	1.60	3.19
722.00	9.19	131.11	718.74	-35.21	44.76	56.80	0.78	0.77	0.83
812.00	9.13	129.11	807.59	-44.44	55.71	71.11	0.36	-0.07	-2.22
902.00	9.75	127.86	896.38	-53.62	67.27	85.84	0.73	0.69	-1.39

# Anadarko Petroleum Corp

## Survey Report

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 921-19O PAD  
**Well:** NBU 921-19P4CS  
**Wellbore:** NBU 921-19P4CS  
**Design:** NBU 921-19P4CS

**Local Co-ordinate Reference:** Well NBU 921-19P4CS  
**TVD Reference:** 26' rkb + 4862' gl @ 4888.00ft (H&P 298)  
**MD Reference:** 26' rkb + 4862' gl @ 4888.00ft (H&P 298)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
992.00	10.44	126.99	984.98	-63.20	79.80	101.56	0.79	0.77	-0.97
1,082.00	11.69	129.86	1,073.31	-73.95	93.31	118.79	1.52	1.39	3.19
1,172.00	13.13	131.61	1,161.20	-86.58	107.95	138.12	1.65	1.60	1.94
1,262.00	15.31	133.61	1,248.44	-101.57	124.20	160.22	2.48	2.42	2.22
1,352.00	16.75	134.24	1,334.94	-118.81	142.10	185.07	1.61	1.60	0.70
1,442.00	18.56	133.86	1,420.70	-137.79	161.72	212.35	2.02	2.01	-0.42
1,532.00	20.13	133.74	1,505.61	-158.42	183.24	242.15	1.75	1.74	-0.13
1,622.00	22.25	135.11	1,589.52	-181.20	206.45	274.65	2.42	2.36	1.52
1,712.00	24.56	134.61	1,672.11	-206.41	231.80	310.36	2.58	2.57	-0.56
1,802.00	26.38	133.74	1,753.36	-233.37	259.56	349.04	2.06	2.02	-0.97
1,892.00	27.50	132.74	1,833.59	-261.30	289.27	389.81	1.34	1.24	-1.11
1,982.00	27.44	131.61	1,913.45	-289.17	320.03	431.33	0.58	-0.07	-1.26
2,072.00	26.94	131.36	1,993.50	-316.42	350.84	472.45	0.57	-0.56	-0.28
2,162.00	25.63	130.49	2,074.19	-342.53	380.95	512.29	1.52	-1.46	-0.97
2,252.00	23.75	128.24	2,155.97	-366.39	409.99	549.83	2.34	-2.09	-2.50
2,342.00	20.46	128.58	2,239.34	-387.42	436.53	583.61	3.66	-3.66	0.38
2,432.00	20.38	128.74	2,323.68	-407.04	461.05	614.95	0.11	-0.09	0.18
2,522.00	20.50	129.24	2,408.02	-426.81	485.48	646.33	0.24	0.13	0.56
2,612.00	20.31	129.74	2,492.37	-446.77	509.69	677.67	0.29	-0.21	0.56
2,702.00	20.13	127.49	2,576.82	-466.18	533.99	708.71	0.89	-0.20	-2.50
2,792.00	19.89	125.74	2,661.44	-484.46	558.59	739.21	0.82	-0.49	-1.94
2,882.00	19.69	125.24	2,746.18	-502.07	583.28	769.32	0.19	0.00	-0.56
2,963.00	19.37	125.49	2,822.52	-517.74	605.36	796.20	0.41	-0.40	0.31
3,033.00	19.13	124.24	2,888.61	-530.93	624.29	819.08	0.68	-0.34	-1.79
3,128.00	18.06	122.25	2,978.65	-547.55	649.62	849.00	1.31	-1.13	-2.09
3,222.00	17.25	125.83	3,068.22	-563.48	673.24	877.20	1.44	-0.86	3.81
3,317.00	17.22	127.28	3,158.96	-580.24	695.85	905.20	0.45	-0.03	1.53
3,411.00	17.25	129.11	3,248.74	-597.46	717.74	932.98	0.58	0.03	1.95
3,505.00	18.19	133.36	3,338.28	-616.33	739.22	961.57	1.70	1.00	4.52
3,600.00	18.19	135.61	3,428.53	-637.11	760.37	991.20	0.74	0.00	2.37
3,690.00	17.38	135.99	3,514.23	-656.81	779.54	1,018.63	0.91	-0.90	0.42
3,789.00	17.25	134.11	3,608.75	-677.67	800.35	1,048.06	0.58	-0.13	-1.90
3,884.00	15.88	135.74	3,699.80	-696.78	819.54	1,075.11	1.52	-1.44	1.72
3,978.00	15.00	140.12	3,790.41	-715.33	836.31	1,100.00	1.55	-0.94	4.66
4,073.00	12.44	143.11	3,882.70	-732.95	850.34	1,122.24	2.80	-2.69	3.15
4,167.00	10.88	141.11	3,974.75	-747.95	861.99	1,140.95	1.71	-1.66	-2.13
4,262.00	9.50	138.24	4,068.25	-760.78	872.84	1,157.60	1.55	-1.45	-3.02
4,356.00	7.69	135.74	4,161.19	-771.07	882.40	1,171.60	1.97	-1.93	-2.66
4,451.00	6.31	133.74	4,255.48	-779.23	890.60	1,183.16	1.47	-1.45	-2.11
4,545.00	5.38	130.74	4,348.99	-785.68	897.68	1,192.73	1.04	-0.99	-3.19
4,640.00	4.63	126.61	4,443.63	-790.87	904.13	1,201.00	0.88	-0.79	-4.35
4,734.00	3.75	124.61	4,537.38	-794.88	909.70	1,207.82	0.95	-0.94	-2.13
4,829.00	3.38	126.99	4,632.20	-798.33	914.50	1,213.69	0.42	-0.39	2.51

# Anadarko Petroleum Corp

## Survey Report

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 921-19O PAD  
**Well:** NBU 921-19P4CS  
**Wellbore:** NBU 921-19P4CS  
**Design:** NBU 921-19P4CS

**Local Co-ordinate Reference:** Well NBU 921-19P4CS  
**TVD Reference:** 26' rkb + 4862' gl @ 4888.00ft (H&P 298)  
**MD Reference:** 26' rkb + 4862' gl @ 4888.00ft (H&P 298)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,923.00	2.69	167.86	4,726.07	-802.15	917.18	1,218.24	2.36	-0.73	43.48
5,018.00	1.75	197.49	4,821.00	-805.72	917.21	1,220.66	1.53	-0.99	31.19
5,112.00	1.00	267.74	4,914.98	-807.12	915.96	1,220.68	1.81	-0.80	74.73
5,207.00	1.13	257.49	5,009.97	-807.35	914.21	1,219.55	0.24	0.14	-10.79
5,301.00	0.88	341.74	5,103.96	-806.87	913.08	1,218.39	1.45	-0.27	89.63
5,396.00	0.75	339.24	5,198.95	-805.60	912.63	1,217.20	0.14	-0.14	-2.63
5,490.00	0.50	338.74	5,292.94	-804.64	912.27	1,216.28	0.27	-0.27	-0.53
5,584.00	0.31	359.24	5,386.94	-804.00	912.12	1,215.74	0.25	-0.20	21.81
5,679.00	0.06	1.86	5,481.94	-803.70	912.11	1,215.53	0.26	-0.26	2.76
5,774.00	0.38	140.24	5,576.94	-803.89	912.32	1,215.81	0.45	0.34	145.66
5,868.00	0.56	150.24	5,670.93	-804.53	912.74	1,216.56	0.21	0.19	10.64
5,962.00	0.63	149.99	5,764.93	-805.37	913.23	1,217.49	0.07	0.07	-0.27
6,057.00	0.63	147.11	5,859.92	-806.26	913.78	1,218.49	0.03	0.00	-3.03
6,151.00	0.56	144.49	5,953.92	-807.07	914.32	1,219.44	0.08	-0.07	-2.79
6,246.00	0.50	138.24	6,048.91	-807.76	914.87	1,220.31	0.09	-0.06	-6.58
6,340.00	0.63	141.99	6,142.91	-808.47	915.46	1,221.22	0.14	0.14	3.99
6,435.00	0.88	142.61	6,237.90	-809.46	916.22	1,222.45	0.26	0.26	0.65
6,529.00	1.06	150.24	6,331.89	-810.79	917.09	1,223.99	0.24	0.19	8.12
6,624.00	0.94	280.84	6,426.88	-811.41	916.77	1,224.16	1.91	-0.13	137.47
6,718.00	0.81	279.49	6,520.87	-811.15	915.35	1,222.95	0.14	-0.14	-1.44
6,812.00	2.44	314.76	6,614.83	-809.63	913.28	1,220.39	1.96	1.73	37.52
6,907.00	2.06	345.36	6,709.76	-806.56	911.41	1,216.94	1.31	-0.40	32.21
7,001.00	0.25	31.61	6,803.74	-804.75	911.09	1,215.48	2.02	-1.93	49.20
7,096.00	0.25	66.11	6,898.74	-804.49	911.39	1,215.53	0.16	0.00	36.32
7,190.00	0.38	109.74	6,992.74	-804.51	911.87	1,215.90	0.28	0.14	46.41
7,285.00	0.56	122.24	7,087.73	-804.86	912.56	1,216.65	0.22	0.19	13.16
7,379.00	0.75	141.49	7,181.73	-805.59	913.33	1,217.71	0.31	0.20	20.48
7,474.00	0.75	142.74	7,276.72	-806.57	914.09	1,218.93	0.02	0.00	1.32
7,568.00	1.44	299.11	7,370.71	-806.49	913.43	1,218.39	2.29	0.73	166.35
7,663.00	1.38	299.36	7,465.68	-805.35	911.39	1,216.11	0.06	-0.06	0.26
7,757.00	1.19	300.49	7,559.66	-804.30	909.57	1,214.05	0.20	-0.20	1.20
7,852.00	1.06	341.86	7,654.64	-802.96	908.44	1,212.32	0.85	-0.14	43.55
7,946.00	0.94	42.36	7,748.63	-801.56	908.69	1,211.57	1.08	-0.13	64.36
8,040.00	1.06	65.36	7,842.62	-800.63	910.00	1,211.91	0.44	0.13	24.47
8,135.00	1.06	71.36	7,937.60	-799.98	911.63	1,212.68	0.12	0.00	6.32
8,229.00	1.19	79.24	8,031.58	-799.52	913.41	1,213.69	0.21	0.14	8.38
8,324.00	1.06	80.24	8,126.56	-799.19	915.25	1,214.82	0.14	-0.14	1.05
8,418.00	0.25	107.86	8,220.56	-799.11	916.30	1,215.55	0.90	-0.86	29.38
8,513.00	0.19	96.36	8,315.56	-799.19	916.66	1,215.86	0.08	-0.06	-12.11
8,607.00	0.56	109.24	8,409.55	-799.36	917.24	1,216.41	0.40	0.39	13.70
8,702.00	0.80	106.74	8,504.55	-799.70	918.32	1,217.44	0.25	0.25	-2.63
8,796.00	0.81	122.49	8,598.54	-800.25	919.51	1,218.68	0.23	0.01	16.76
8,886.00	1.06	144.24	8,688.53	-801.26	920.53	1,220.13	0.48	0.28	24.17

# Anadarko Petroleum Corp

## Survey Report

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 921-190 PAD  
**Well:** NBU 921-19P4CS  
**Wellbore:** NBU 921-19P4CS  
**Design:** NBU 921-19P4CS

**Local Co-ordinate Reference:** Well NBU 921-19P4CS  
**TVD Reference:** 26' rkb + 4862' gl @ 4888.00ft (H&P 298)  
**MD Reference:** 26' rkb + 4862' gl @ 4888.00ft (H&P 298)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,980.00	1.31	149.11	8,782.51	-802.89	921.59	1,222.00	0.29	0.27	5.18
9,075.00	1.63	158.11	8,877.47	-805.08	922.65	1,224.26	0.41	0.34	9.47
9,169.00	1.56	155.36	8,971.44	-807.48	923.68	1,226.64	0.11	-0.07	-2.93
9,269.00	1.69	153.61	9,071.40	-810.04	924.91	1,229.27	0.14	0.13	-1.75
9,363.00	2.13	152.74	9,165.34	-812.83	926.32	1,232.19	0.47	0.47	-0.93
9,457.00	2.31	155.11	9,259.27	-816.10	927.92	1,235.58	0.21	0.19	2.52
9,551.00	1.69	179.11	9,353.22	-819.21	928.74	1,238.27	1.09	-0.66	25.53
9,646.00	2.06	183.99	9,448.17	-822.31	928.64	1,240.29	0.42	0.39	5.14
10,024.00	2.44	177.24	9,825.88	-837.13	928.56	1,250.19	0.12	0.10	-1.79
10,119.00	2.19	173.36	9,920.80	-840.95	928.86	1,252.99	0.31	-0.26	-4.08
10,170.00	2.25	172.11	9,971.76	-842.91	929.11	1,254.49	0.15	0.12	-2.45
10,220.00	2.25	172.11	10,021.72	-844.85	929.38	1,256.00	0.00	0.00	0.00

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,963.00	2,822.52	-517.74	605.36	TIE ON PT
10,170.00	9,971.76	-842.91	929.11	LAST SVY
10,220.00	10,021.72	-844.85	929.38	PROJECTION

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

# **US ROCKIES REGION PLANNING**

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

**UINTAH\_NBU 921-190 PAD**

**NBU 921-19P4CS**

**NBU 921-19P4CS**

**Design: NBU 921-19P4CS**

## **Survey Report - Geographic**

**29 December, 2011**

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-19P4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' rkb + 4862' gl @ 4888.00ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-19O PAD	<b>MD Reference:</b>	26' rkb + 4862' gl @ 4888.00ft (H&P 298)
<b>Well:</b>	NBU 921-19P4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-19P4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-19P4CS	<b>Database:</b>	edmp

<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>	UINTAH_NBU 921-19O PAD		
<b>Site Position:</b>		<b>Northing:</b>	14,535,446.05 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,035,186.65 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.017241
		<b>Longitude:</b>	-109.590071
		<b>Grid Convergence:</b>	0.91 °

<b>Well</b>	NBU 921-19P4CS		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 14,535,448.87 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 2,035,226.66 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b> ft
			<b>Latitude:</b> 40.017247
			<b>Longitude:</b> -109.589928
			<b>Ground Level:</b> 4,862.01 ft

<b>Wellbore</b>	NBU 921-19P4CS		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>
	IGRF200510	4/22/2009	11.38
			<b>Dip Angle (°)</b> 65.93
			<b>Field Strength (nT)</b> 52,568

<b>Design</b>	NBU 921-19P4CS		
<b>Audit Notes:</b>			
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL
		<b>Tie On Depth:</b>	22.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>
	22.00	0.00	0.00
			<b>Direction (°)</b> 132.27

<b>Survey Program</b>	Date 12/29/2011		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>
197.00	2,963.00	Survey #1 (NBU 921-19P4CS)	MWD
3,033.00	10,220.00	Survey #2 (NBU 921-19P4CS)	MWD
			<b>Description</b>
			MWD - Standard
			MWD - Standard

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
22.00	0.00	0.00	22.00	0.00	0.00	14,535,448.87	2,035,226.66	40.017247	-109.589928
197.00	1.59	114.50	196.98	-1.01	2.21	14,535,447.90	2,035,228.88	40.017244	-109.589920
279.00	3.20	127.52	278.90	-2.87	5.06	14,535,446.08	2,035,231.76	40.017239	-109.589910
362.00	4.94	128.88	361.69	-6.53	9.68	14,535,442.50	2,035,236.44	40.017229	-109.589894
452.00	6.31	128.61	451.26	-12.05	16.56	14,535,437.09	2,035,243.41	40.017214	-109.589869
542.00	7.06	127.49	540.64	-18.50	24.81	14,535,430.77	2,035,251.76	40.017196	-109.589840
632.00	8.50	130.36	629.81	-26.17	34.27	14,535,423.25	2,035,261.34	40.017175	-109.589806
722.00	9.19	131.11	718.74	-35.21	44.76	14,535,414.38	2,035,271.96	40.017150	-109.589768
812.00	9.13	129.11	807.59	-44.44	55.71	14,535,405.33	2,035,283.06	40.017125	-109.589729
902.00	9.75	127.86	896.38	-53.62	67.27	14,535,396.33	2,035,294.76	40.017100	-109.589688
992.00	10.44	126.99	984.98	-63.20	79.80	14,535,386.94	2,035,307.44	40.017074	-109.589643

# Anadarko Petroleum Corp

## Survey Report - Geographic

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 921-190 PAD  
**Well:** NBU 921-19P4CS  
**Wellbore:** NBU 921-19P4CS  
**Design:** NBU 921-19P4CS

**Local Co-ordinate Reference:** Well NBU 921-19P4CS  
**TVD Reference:** 26' rkb + 4862' gl @ 4888.00ft (H&P 298)  
**MD Reference:** 26' rkb + 4862' gl @ 4888.00ft (H&P 298)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,082.00	11.69	129.86	1,073.31	-73.95	93.31	14,535,376.41	2,035,321.13	40.017044	-109.589595	
1,172.00	13.13	131.61	1,161.20	-86.58	107.95	14,535,364.01	2,035,335.97	40.017009	-109.589543	
1,262.00	15.31	133.61	1,248.44	-101.57	124.20	14,535,349.28	2,035,352.45	40.016968	-109.589485	
1,352.00	16.75	134.24	1,334.94	-118.81	142.10	14,535,332.32	2,035,370.62	40.016921	-109.589421	
1,442.00	18.56	133.86	1,420.70	-137.79	161.72	14,535,313.66	2,035,390.53	40.016869	-109.589351	
1,532.00	20.13	133.74	1,505.61	-158.42	183.24	14,535,293.37	2,035,412.38	40.016812	-109.589274	
1,622.00	22.25	135.11	1,589.52	-181.20	206.45	14,535,270.96	2,035,435.95	40.016750	-109.589191	
1,712.00	24.56	134.61	1,672.11	-206.41	231.80	14,535,246.16	2,035,461.69	40.016680	-109.589101	
1,802.00	26.38	133.74	1,753.36	-233.37	259.56	14,535,219.64	2,035,489.88	40.016606	-109.589001	
1,892.00	27.50	132.74	1,833.59	-261.30	289.27	14,535,192.18	2,035,520.02	40.016530	-109.588895	
1,982.00	27.44	131.61	1,913.45	-289.17	320.03	14,535,164.80	2,035,551.23	40.016453	-109.588785	
2,072.00	26.94	131.36	1,993.50	-316.42	350.84	14,535,138.05	2,035,582.46	40.016378	-109.588675	
2,162.00	25.63	130.49	2,074.19	-342.53	380.95	14,535,112.42	2,035,612.98	40.016307	-109.588568	
2,252.00	23.75	128.24	2,155.97	-366.39	409.99	14,535,089.02	2,035,642.39	40.016241	-109.588464	
2,342.00	20.46	128.58	2,239.34	-387.42	436.53	14,535,068.41	2,035,669.26	40.016183	-109.588369	
2,432.00	20.38	128.74	2,323.68	-407.04	461.05	14,535,049.19	2,035,694.09	40.016129	-109.588282	
2,522.00	20.50	129.24	2,408.02	-426.81	485.48	14,535,029.80	2,035,718.83	40.016075	-109.588195	
2,612.00	20.31	129.74	2,492.37	-446.77	509.69	14,535,010.23	2,035,743.36	40.016020	-109.588108	
2,702.00	20.13	127.49	2,576.82	-466.18	533.99	14,534,991.21	2,035,767.96	40.015967	-109.588021	
2,792.00	19.69	125.74	2,661.44	-484.46	558.59	14,534,973.32	2,035,792.84	40.015917	-109.587934	
2,882.00	19.69	125.24	2,746.18	-502.07	583.28	14,534,956.10	2,035,817.81	40.015869	-109.587845	
2,963.00	19.37	125.49	2,822.52	-517.74	605.36	14,534,940.78	2,035,840.13	40.015826	-109.587767	
3,033.00	19.13	124.24	2,888.61	-530.93	624.29	14,534,927.89	2,035,859.27	40.015789	-109.587699	
3,128.00	18.06	122.25	2,978.65	-547.55	649.62	14,534,911.68	2,035,884.86	40.015744	-109.587609	
3,222.00	17.25	125.83	3,068.22	-563.48	673.24	14,534,896.12	2,035,908.73	40.015700	-109.587524	
3,317.00	17.22	127.28	3,158.96	-580.24	695.85	14,534,879.72	2,035,931.60	40.015654	-109.587443	
3,411.00	17.25	129.11	3,248.74	-597.46	717.74	14,534,862.84	2,035,953.76	40.015607	-109.587365	
3,505.00	18.19	133.36	3,338.28	-616.33	739.22	14,534,844.32	2,035,975.54	40.015555	-109.587289	
3,600.00	18.19	135.61	3,428.53	-637.11	760.37	14,534,823.88	2,035,997.02	40.015498	-109.587213	
3,690.00	17.38	135.99	3,514.23	-656.81	779.54	14,534,804.48	2,036,016.49	40.015444	-109.587145	
3,789.00	17.25	134.11	3,608.75	-677.67	800.35	14,534,783.96	2,036,037.63	40.015386	-109.587070	
3,884.00	15.88	135.74	3,699.80	-696.78	819.54	14,534,765.15	2,036,057.12	40.015334	-109.587002	
3,978.00	15.00	140.12	3,790.41	-715.33	836.31	14,534,746.87	2,036,074.18	40.015283	-109.586942	
4,073.00	12.44	143.11	3,882.70	-732.95	850.34	14,534,729.48	2,036,088.49	40.015235	-109.586892	
4,167.00	10.88	141.11	3,974.75	-747.95	861.99	14,534,714.66	2,036,100.37	40.015193	-109.586850	
4,262.00	9.50	138.24	4,068.25	-760.78	872.84	14,534,702.01	2,036,111.43	40.015158	-109.586812	
4,356.00	7.69	135.74	4,161.19	-771.07	882.40	14,534,691.87	2,036,121.14	40.015130	-109.586777	
4,451.00	6.31	133.74	4,255.48	-779.23	890.60	14,534,683.84	2,036,129.48	40.015107	-109.586748	
4,545.00	5.38	130.74	4,348.99	-785.68	897.68	14,534,677.50	2,036,136.65	40.015090	-109.586723	
4,640.00	4.63	126.61	4,443.63	-790.87	904.13	14,534,672.41	2,036,143.19	40.015076	-109.586700	
4,734.00	3.75	124.61	4,537.38	-794.88	909.70	14,534,668.49	2,036,148.82	40.015065	-109.586680	
4,829.00	3.38	126.99	4,632.20	-798.33	914.50	14,534,665.12	2,036,153.67	40.015055	-109.586663	
4,923.00	2.69	167.86	4,726.07	-802.15	917.18	14,534,661.34	2,036,156.41	40.015045	-109.586653	
5,018.00	1.75	197.49	4,821.00	-805.72	917.21	14,534,657.77	2,036,156.50	40.015035	-109.586653	
5,112.00	1.00	267.74	4,914.98	-807.12	915.96	14,534,656.35	2,036,155.27	40.015031	-109.586658	
5,207.00	1.13	257.49	5,009.97	-807.35	914.21	14,534,656.09	2,036,153.53	40.015030	-109.586664	
5,301.00	0.88	341.74	5,103.96	-806.87	913.08	14,534,656.66	2,036,152.39	40.015032	-109.586668	
5,396.00	0.75	339.24	5,198.95	-805.60	912.63	14,534,657.82	2,036,151.92	40.015035	-109.586669	
5,490.00	0.50	338.74	5,292.94	-804.64	912.27	14,534,658.78	2,036,151.54	40.015038	-109.586671	
5,584.00	0.31	359.24	5,386.94	-804.00	912.12	14,534,659.41	2,036,151.38	40.015039	-109.586671	
5,679.00	0.06	1.86	5,481.94	-803.70	912.11	14,534,659.72	2,036,151.37	40.015040	-109.586671	
5,774.00	0.38	140.24	5,576.94	-803.89	912.32	14,534,659.53	2,036,151.58	40.015040	-109.586671	
5,868.00	0.56	150.24	5,670.93	-804.53	912.74	14,534,658.90	2,036,152.02	40.015038	-109.586669	
5,962.00	0.63	149.99	5,764.93	-805.37	913.23	14,534,658.06	2,036,152.52	40.015036	-109.586667	
6,057.00	0.63	147.11	5,859.92	-806.26	913.78	14,534,657.18	2,036,153.08	40.015033	-109.586665	

# Anadarko Petroleum Corp

## Survey Report - Geographic

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 921-190 PAD  
**Well:** NBU 921-19P4CS  
**Wellbore:** NBU 921-19P4CS  
**Design:** NBU 921-19P4CS

**Local Co-ordinate Reference:** Well NBU 921-19P4CS  
**TVD Reference:** 26' rkb + 4862' gl @ 4888.00ft (H&P 298)  
**MD Reference:** 26' rkb + 4862' gl @ 4888.00ft (H&P 298)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
6,151.00	0.56	144.49	5,953.92	-807.07	914.32	14,534,656.38	2,036,153.64	40.015031	-109.586663	
6,246.00	0.50	138.24	6,048.91	-807.76	914.87	14,534,655.70	2,036,154.19	40.015029	-109.586661	
6,340.00	0.63	141.99	6,142.91	-808.47	915.46	14,534,654.99	2,036,154.79	40.015027	-109.586659	
6,435.00	0.88	142.61	6,237.90	-809.46	916.22	14,534,654.02	2,036,155.57	40.015024	-109.586657	
6,529.00	1.06	150.24	6,331.89	-810.79	917.09	14,534,652.70	2,036,156.47	40.015021	-109.586653	
6,624.00	0.94	280.84	6,426.88	-811.41	916.77	14,534,652.08	2,036,156.15	40.015019	-109.586655	
6,718.00	0.81	279.49	6,520.87	-811.15	915.35	14,534,652.31	2,036,154.73	40.015020	-109.586660	
6,812.00	2.44	314.76	6,614.83	-809.63	913.28	14,534,653.80	2,036,152.63	40.015024	-109.586667	
6,907.00	2.06	345.36	6,709.76	-806.56	911.41	14,534,656.84	2,036,150.71	40.015032	-109.586674	
7,001.00	0.25	31.61	6,803.74	-804.75	911.09	14,534,658.65	2,036,150.37	40.015037	-109.586675	
7,096.00	0.25	66.11	6,898.74	-804.49	911.39	14,534,658.91	2,036,150.66	40.015038	-109.586674	
7,190.00	0.38	109.74	6,992.74	-804.51	911.87	14,534,658.90	2,036,151.14	40.015038	-109.586672	
7,285.00	0.56	122.24	7,087.73	-804.86	912.56	14,534,658.55	2,036,151.84	40.015037	-109.586670	
7,379.00	0.75	141.49	7,181.73	-805.59	913.33	14,534,657.84	2,036,152.62	40.015035	-109.586667	
7,474.00	0.75	142.74	7,276.72	-806.57	914.09	14,534,656.87	2,036,153.40	40.015032	-109.586664	
7,568.00	1.44	299.11	7,370.71	-806.49	913.43	14,534,656.95	2,036,152.74	40.015033	-109.586667	
7,663.00	1.38	299.36	7,465.68	-805.35	911.39	14,534,658.06	2,036,150.68	40.015036	-109.586674	
7,757.00	1.19	300.49	7,559.66	-804.30	909.57	14,534,659.08	2,036,148.83	40.015039	-109.586680	
7,852.00	1.06	341.86	7,654.64	-802.96	908.44	14,534,660.39	2,036,147.69	40.015042	-109.586684	
7,946.00	0.94	42.36	7,748.63	-801.56	908.69	14,534,661.79	2,036,147.92	40.015046	-109.586683	
8,040.00	1.06	65.36	7,842.62	-800.63	910.00	14,534,662.75	2,036,149.21	40.015049	-109.586679	
8,135.00	1.06	71.36	7,937.60	-799.98	911.63	14,534,663.42	2,036,150.83	40.015051	-109.586673	
8,229.00	1.19	79.24	8,031.58	-799.52	913.41	14,534,663.91	2,036,152.61	40.015052	-109.586667	
8,324.00	1.06	80.24	8,126.56	-799.19	915.25	14,534,664.27	2,036,154.44	40.015053	-109.586660	
8,418.00	0.25	107.86	8,220.56	-799.11	916.30	14,534,664.37	2,036,155.49	40.015053	-109.586656	
8,513.00	0.19	96.36	8,315.56	-799.19	916.66	14,534,664.30	2,036,155.84	40.015053	-109.586655	
8,607.00	0.56	109.24	8,409.55	-799.36	917.24	14,534,664.14	2,036,156.43	40.015052	-109.586653	
8,702.00	0.80	106.74	8,504.55	-799.70	918.32	14,534,663.81	2,036,157.51	40.015051	-109.586649	
8,796.00	0.81	122.49	8,598.54	-800.25	919.51	14,534,663.28	2,036,158.71	40.015050	-109.586645	
8,886.00	1.06	144.24	8,688.53	-801.26	920.53	14,534,662.28	2,036,159.75	40.015047	-109.586641	
8,980.00	1.31	149.11	8,782.51	-802.89	921.59	14,534,660.67	2,036,160.84	40.015043	-109.586637	
9,075.00	1.63	158.11	8,877.47	-805.08	922.65	14,534,658.50	2,036,161.93	40.015037	-109.586634	
9,169.00	1.56	155.36	8,971.44	-807.48	923.68	14,534,656.12	2,036,163.00	40.015030	-109.586630	
9,269.00	1.69	153.61	9,071.40	-810.04	924.91	14,534,653.58	2,036,164.26	40.015023	-109.586626	
9,363.00	2.13	152.74	9,165.34	-812.83	926.32	14,534,650.81	2,036,165.72	40.015015	-109.586621	
9,457.00	2.31	155.11	9,259.27	-816.10	927.92	14,534,647.56	2,036,167.37	40.015006	-109.586615	
9,551.00	1.69	179.11	9,353.22	-819.21	928.74	14,534,644.47	2,036,168.24	40.014998	-109.586612	
9,646.00	2.06	183.99	9,448.17	-822.31	928.64	14,534,641.36	2,036,168.19	40.014989	-109.586612	
10,024.00	2.44	177.24	9,825.88	-837.13	928.56	14,534,626.55	2,036,168.34	40.014949	-109.586613	
10,119.00	2.19	173.36	9,920.80	-840.95	928.86	14,534,622.73	2,036,168.71	40.014938	-109.586611	
10,170.00	2.25	172.11	9,971.76	-842.91	929.11	14,534,620.78	2,036,168.99	40.014933	-109.586611	
10,220.00	2.25	172.11	10,021.72	-844.85	929.38	14,534,618.84	2,036,169.29	40.014927	-109.586610	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
2,963.00	2,822.52	-517.74	605.36	TIE ON PT	
10,170.00	9,971.76	-842.91	929.11	LAST SVY	
10,220.00	10,021.72	-844.85	929.38	PROJECTION	