

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

FORM 3

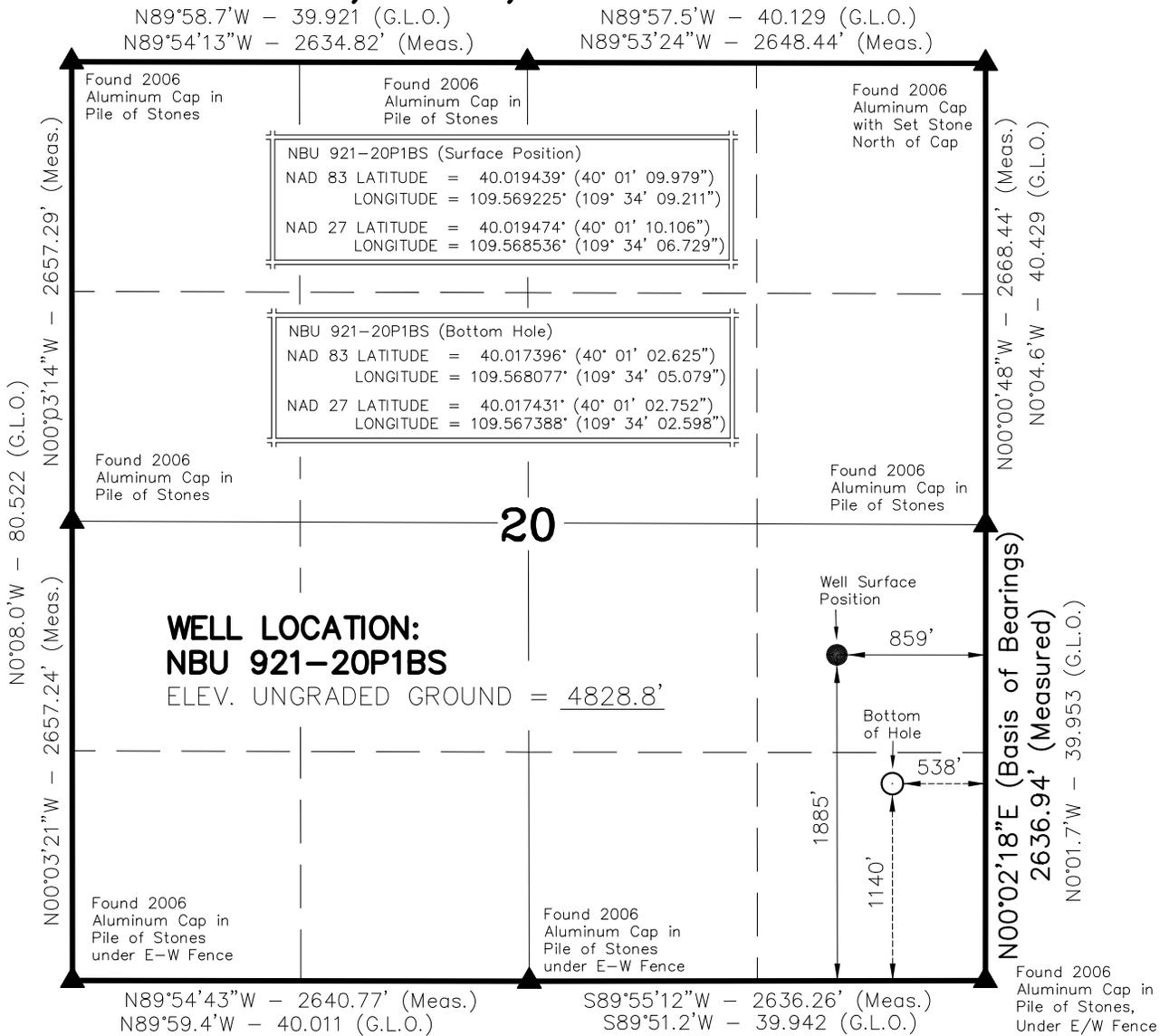
AMENDED REPORT 

<b>APPLICATION FOR PERMIT TO DRILL</b>						<b>1. WELL NAME and NUMBER</b> NBU 921-20P1BS	
<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 0575			<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>	1885 FSL 859 FEL	NESE	20	9.0 S	21.0 E	S	
<b>Top of Uppermost Producing Zone</b>	1140 FSL 538 FEL	SESE	20	9.0 S	21.0 E	S	
<b>At Total Depth</b>	1140 FSL 538 FEL	SESE	20	9.0 S	21.0 E	S	
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 538			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 1600	
			<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 370			<b>26. PROPOSED DEPTH</b> MD: 10293 TVD: 10160	
<b>27. ELEVATION - GROUND LEVEL</b> 4829			<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> 43047506010000			<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	10293		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade HCP-110 LT&C	510	11.6			
	Grade I-80 LT&C	9783	11.6			

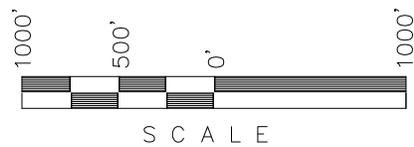
<b>Proposed Hole, Casing, and Cement</b>						
<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>		
Surf	12.25	9.625	0	2560		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade J-55 LT&C	2560	36.0			

# 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 S23°17'46"E 810.90' 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'.

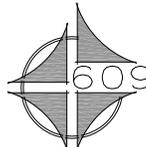


**SURVEYOR'S CERTIFICATE**

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*  
 REGISTERED LAND SURVEYOR  
 REGISTRATION NO. 362251  
 STATE OF UTAH

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



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

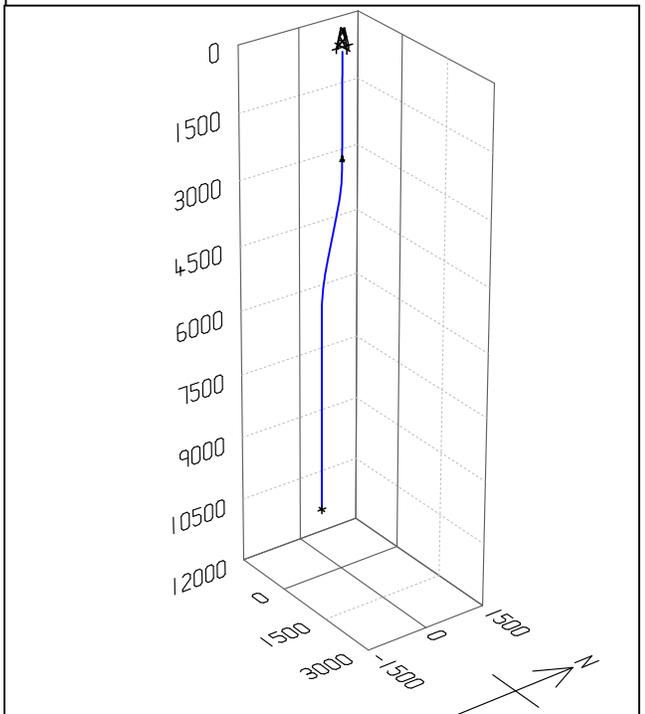
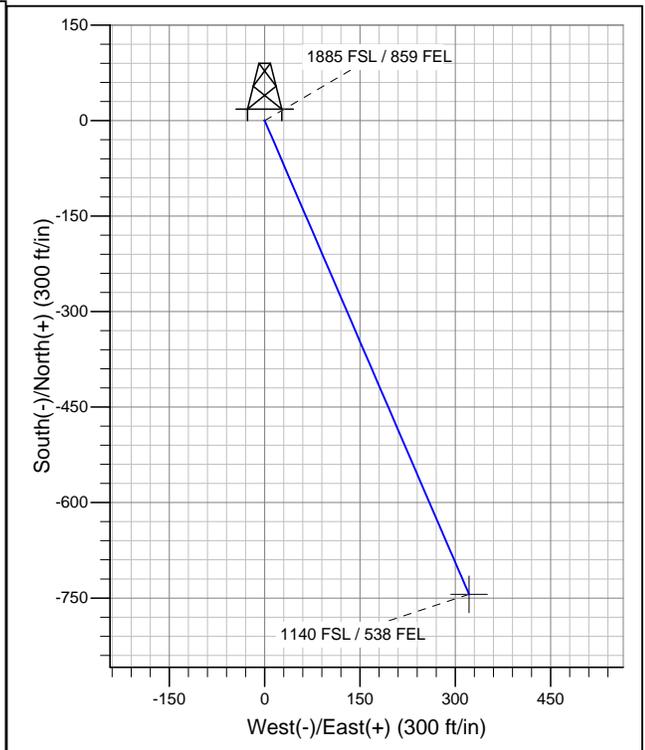
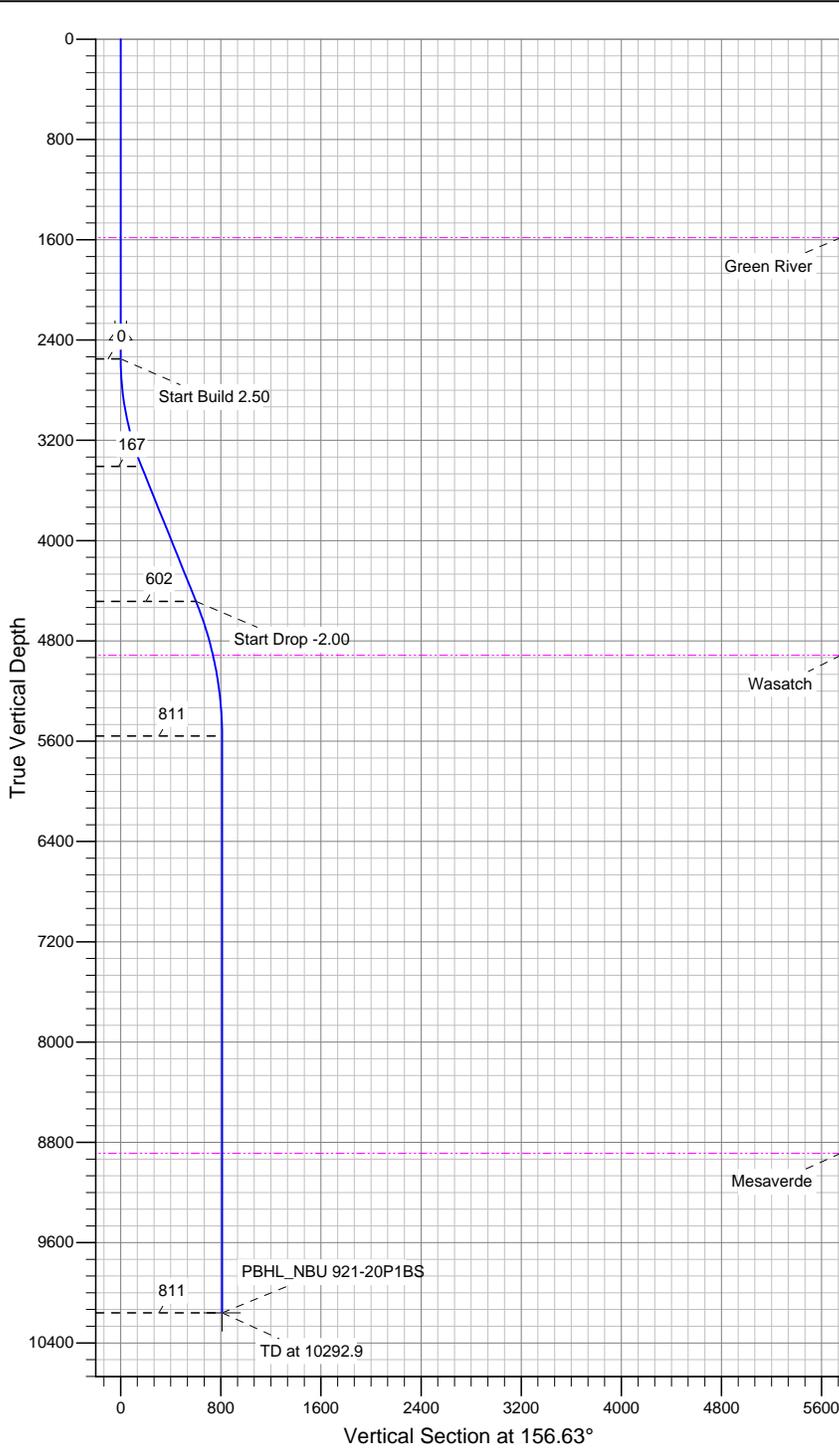
**NBU 921-20P1BS**  
**WELL PLAT**  
 1140' FSL, 538' FEL (Bottom Hole)  
 SE ¼ SE ¼ OF SECTION 20, T9S, R21E,  
 S.L.B.&M. UINTAH COUNTY, UTAH.

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

DATE SURVEYED: 01-16-09	SURVEYED BY: M.S.B.	<b>SHEET</b> <b>3</b> <b>OF 13</b>
DATE DRAWN: 02-11-09	DRAWN BY: E.M.S.	
SCALE: 1" = 1000'	Date Last Revised:	



Well Name: P\_NBU 921-20P1BS  
 Surface Location: UINTAH\_NBU 921-20I PAD  
 NAD 1927 (NADCON CONUS) Universal Transverse Mercator (US Survey Feet)  
 UTAH - UTM (feet), NAD27, Zone 12N  
 Ground Elevation: 4828.0  
 Northing 14536355.37 Easting 2041203.45 Latitude 40.019474°N Longitude 109.568536°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	2550.0	0.00	0.00	2550.0	0.0	0.0	0.00	0.00	0.0
3	3430.0	22.00	156.63	3408.5	-153.2	66.2	2.50	156.63	166.9
4	4591.4	22.00	156.63	4485.3	-552.6	238.7	0.00	0.00	601.9
5	5691.4	0.00	0.00	5558.5	-744.1	321.5	2.00	180.00	810.5
6	10292.9	0.00	0.00	10160.0	-744.1	321.5	0.00	0.00	810.5



Azimuths to True North  
 Magnetic North: 11.37°

Magnetic Field  
 Strength: 52571.5snT  
 Dip Angle: 65.93°  
 Date: 4/23/2009  
 Model: IGRF200510

# **ROCKIES - PLANNING**

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

**UINTAH\_NBU 921-20I PAD**

**P\_NBU 921-20P1BS**

**P\_NBU 921-20P1BS**

**Plan: Plan #1 04-23-09 ZJRA6**

## **Standard Planning Report - Geographic**

**23 April, 2009**

## APC Planning Report - Geographic

<b>Database:</b> apc_edmp	<b>Local Co-ordinate Reference:</b> Well P_NBU 921-20P1BS
<b>Company:</b> ROCKIES - PLANNING	<b>TVD Reference:</b> WELL @ 4828.0ft (Original Well Elev)
<b>Project:</b> UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b> WELL @ 4828.0ft (Original Well Elev)
<b>Site:</b> UINTAH_NBU 921-20I PAD	<b>North Reference:</b> True
<b>Well:</b> P_NBU 921-20P1BS	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> P_NBU 921-20P1BS	
<b>Design:</b> Plan #1 04-23-09 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 921-20I PAD		
<b>Site Position:</b>	<b>Northing:</b> 14,536,379.26ft	<b>Latitude:</b> 40.019541°N
<b>From:</b> Lat/Long	<b>Easting:</b> 2,041,171.42ft	<b>Longitude:</b> 109.568649°W
<b>Position Uncertainty:</b> 0.0 ft	<b>Slot Radius:</b> "	<b>Grid Convergence:</b> 0.92 °

<b>Well</b> P_NBU 921-20P1BS			
<b>Well Position</b>	<b>+N/-S</b> 0.0 ft	<b>Northing:</b> 14,536,355.37 ft	<b>Latitude:</b> 40.019474°N
	<b>+E/-W</b> 0.0 ft	<b>Easting:</b> 2,041,203.45 ft	<b>Longitude:</b> 109.568536°W
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> 4,828.0 ft

<b>Wellbore</b> P_NBU 921-20P1BS					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/23/2009	11.37	65.93	52,572

<b>Design</b> Plan #1 04-23-09 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 (°)
	10,160.0	0.0	0.0	156.63

<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	
2,550.0	0.00	0.00	2,550.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,430.0	22.00	156.63	3,408.5	-153.2	66.2	2.50	2.50	0.00	156.63	
4,591.4	22.00	156.63	4,485.3	-552.6	238.7	0.00	0.00	0.00	0.00	
5,691.4	0.00	0.00	5,558.5	-744.1	321.5	2.00	-2.00	0.00	180.00	
10,292.9	0.00	0.00	10,160.0	-744.1	321.5	0.00	0.00	0.00	0.00	PBHL_NBU 921-20

# APC

## Planning Report - Geographic

<b>Database:</b>	apc_edmp	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-20P1BS
<b>Company:</b>	ROCKIES - PLANNING	<b>TVD Reference:</b>	WELL @ 4828.0ft (Original Well Elev)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	WELL @ 4828.0ft (Original Well Elev)
<b>Site:</b>	UINTAH_NBU 921-20I PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-20P1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-20P1BS		
<b>Design:</b>	Plan #1 04-23-09 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	14,536,355.37	2,041,203.45	40.019474°N	109.568536°W	
1,584.0	0.00	0.00	1,584.0	0.0	0.0	14,536,355.37	2,041,203.45	40.019474°N	109.568536°W	
<b>Green River</b>										
2,400.0	0.00	0.00	2,400.0	0.0	0.0	14,536,355.37	2,041,203.45	40.019474°N	109.568536°W	
<b>Surface Casing</b>										
2,550.0	0.00	0.00	2,550.0	0.0	0.0	14,536,355.37	2,041,203.45	40.019474°N	109.568536°W	
3,430.0	22.00	156.63	3,408.5	-153.2	66.2	14,536,203.26	2,041,272.09	40.019053°N	109.568300°W	
4,591.4	22.00	156.63	4,485.3	-552.6	238.7	14,535,806.71	2,041,451.05	40.017957°N	109.567683°W	
5,042.3	12.98	156.63	4,915.0	-676.9	292.4	14,535,683.30	2,041,506.74	40.017616°N	109.567492°W	
<b>Wasatch</b>										
5,691.4	0.00	0.00	5,558.5	-744.1	321.5	14,535,616.57	2,041,536.85	40.017431°N	109.567388°W	
9,018.9	0.00	0.00	8,886.0	-744.1	321.5	14,535,616.57	2,041,536.85	40.017431°N	109.567388°W	
<b>Mesaverde</b>										
10,292.9	0.00	0.00	10,160.0	-744.1	321.5	14,535,616.57	2,041,536.85	40.017431°N	109.567388°W	

Targets										
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL_NBU 921-20P1	- plan hits target center	0.00	0.00	10,160.0	-744.1	321.5	14,535,616.57	2,041,536.85	40.017431°N	109.567388°W
	- Point									

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
2,400.0	2,400.0	Surface Casing	9-5/8	12-1/4		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
5,042.3	4,915.0	Wasatch		0.00		
9,018.9	8,886.0	Mesaverde		0.00		
1,584.0	1,584.0	Green River		0.00		

**NBU 921-20P1BS**

Pad: NBU 921-20IT

Surface: 1,885' FSL 859' FEL (NE/4SE/4)

BHL: 1,140' FSL 538' FEL (SE/4SE/4)

Sec. 20 T9S R21E

Uintah, Utah

Mineral Lease: UTU 0575

**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	1,584'	
Birds Nest	1,859'	Water
Mahogany	2,359'	Water
Wasatch	4,915'	Gas
Mesaverde	7,898'	Gas
MVU2	8,886'	Gas
MVL1	9,427'	Gas
TVD	10,160'	
TD	10,293'	

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 10,293' TD, approximately equals 6,306 psi (calculated at 0.61 psi/foot).

Maximum anticipated surface pressure equals approximately 3,989 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 2,560	36.00	J-55	LTC	0.85	1.69	6.26
PRODUCTION	4-1/2"	0 to 9,783	11.60	I-80	LTC	7,780	6,350	201,000
	4-1/2"	9,783 to 10,293	11.60	HCP-110	LTC	1.90	1.09	2.06
						10,690	8,650	279,000
						95.28	1.36	57.75

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 3,989 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 6,306 psi**

### CEMENT PROGRAM

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE Option 1	LEAD 500'	Premium cmt + 2% CaCl + 0.25 pps flocele	215	60%	15.60	1.18
	TOP OUT CMT (6 jobs) 1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele Premium cmt + 2% CaCl	380	0%	15.60	1.18
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>						
SURFACE Option 2	LEAD 2,060'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	490	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 4,413'	Premium Lite II + 3% KCl + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	420	40%	11.00	3.38
	TAIL 5,880'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,440	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.

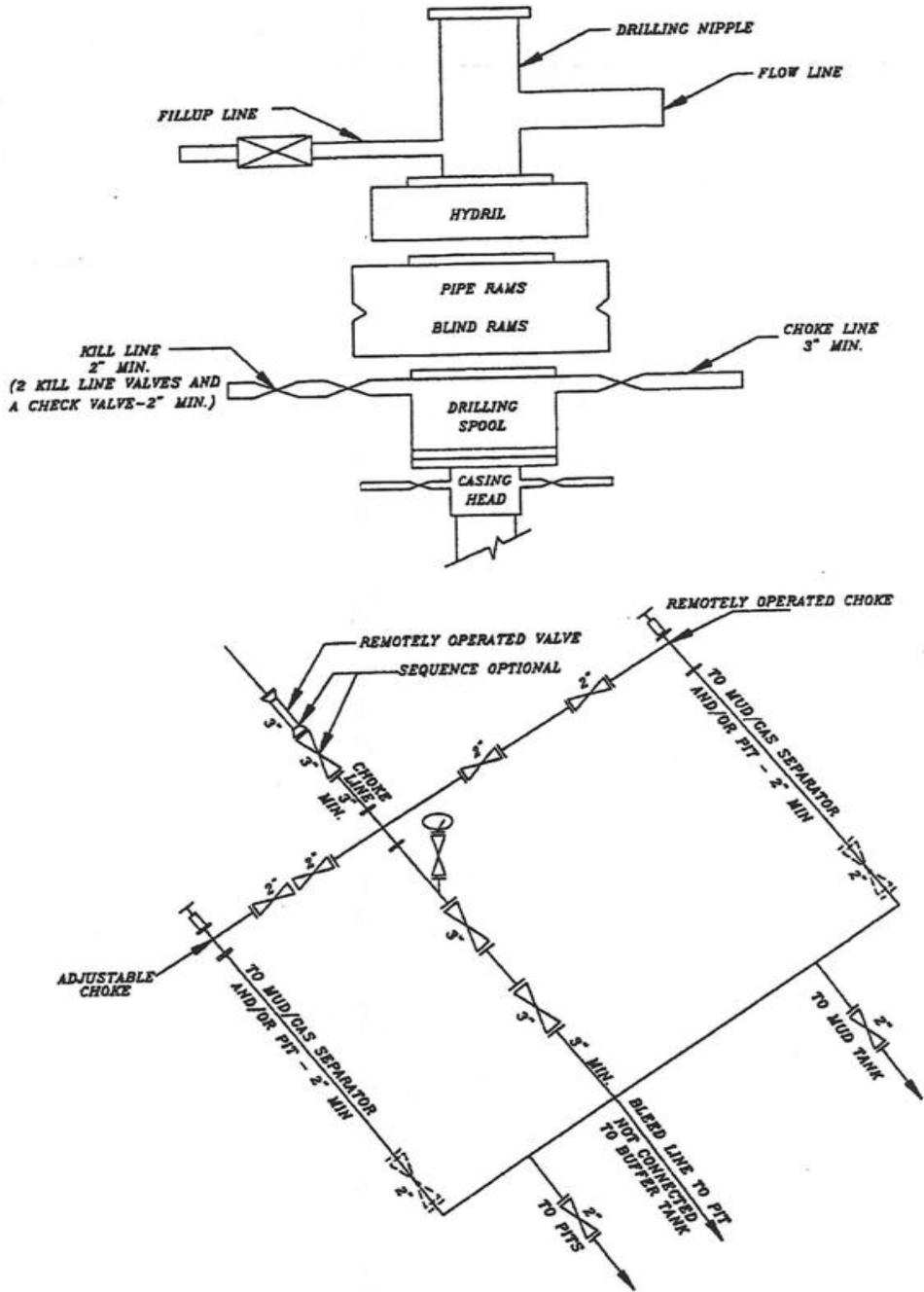
Surveys will be taken at 1,000' minimum intervals.

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 921-20P1BS



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

# WELL PAD INTERFERENCE PLAT

## DIRECTIONAL PAD - CIGE 70

### SURFACE POSITION FOOTAGES:

NBU 921-20J4BS  
1910' FSL, 891' FEL

NBU 921-20IT  
1898' FSL, 875' FEL

NBU 921-20P1BS  
1885' FSL, 859' FEL

NBU 921-20I4CS  
1873' FSL, 843' FEL

CIGE 70 (Existing Well Head)  
1896' FSL, 802' FEL

Existing EOG Well Head  
NAD 83

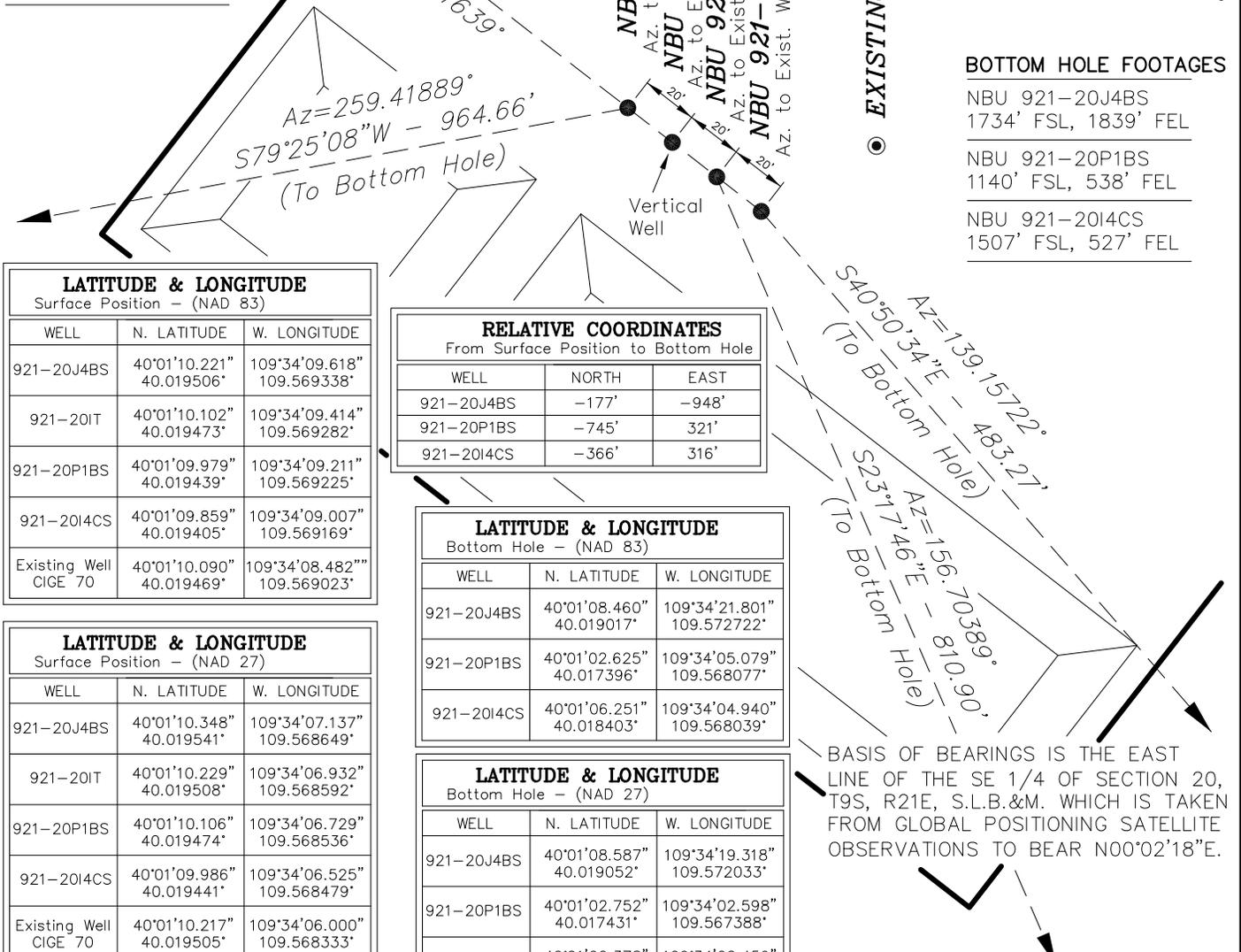
N. LATITUDE = 40.019820° (40° 01' 11.352")  
W. LONGITUDE = 109.568643° (109° 34' 07.114")  
NAD 27  
N. LATITUDE = 40.019855° (40° 01' 11.479")  
W. LONGITUDE = 109.567953° (109° 34' 04.632")

### BOTTOM HOLE FOOTAGES

NBU 921-20J4BS  
1734' FSL, 1839' FEL

NBU 921-20P1BS  
1140' FSL, 538' FEL

NBU 921-20I4CS  
1507' FSL, 527' FEL



LATITUDE & LONGITUDE Surface Position - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
921-20J4BS	40°01'10.221" 40.019506°	109°34'09.618" 109.569338°
921-20IT	40°01'10.102" 40.019473°	109°34'09.414" 109.569282°
921-20P1BS	40°01'09.979" 40.019439°	109°34'09.211" 109.569225°
921-20I4CS	40°01'09.859" 40.019405°	109°34'09.007" 109.569169°
Existing Well CIGE 70	40°01'10.090" 40.019469°	109°34'08.482" 109.569023°

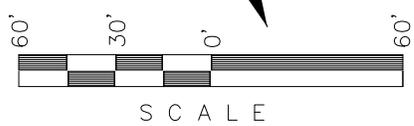
RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
921-20J4BS	-177'	-948'
921-20P1BS	-745'	321'
921-20I4CS	-366'	316'

LATITUDE & LONGITUDE Bottom Hole - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
921-20J4BS	40°01'08.460" 40.019017°	109°34'21.801" 109.572722°
921-20P1BS	40°01'02.625" 40.017396°	109°34'05.079" 109.568077°
921-20I4CS	40°01'06.251" 40.018403°	109°34'04.940" 109.568039°

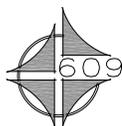
LATITUDE & LONGITUDE Surface Position - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
921-20J4BS	40°01'10.348" 40.019541°	109°34'07.137" 109.568649°
921-20IT	40°01'10.229" 40.019508°	109°34'06.932" 109.568592°
921-20P1BS	40°01'10.106" 40.019474°	109°34'06.729" 109.568536°
921-20I4CS	40°01'09.986" 40.019441°	109°34'06.525" 109.568479°
Existing Well CIGE 70	40°01'10.217" 40.019505°	109°34'06.000" 109.568333°

LATITUDE & LONGITUDE Bottom Hole - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
921-20J4BS	40°01'08.587" 40.019052°	109°34'19.318" 109.572033°
921-20P1BS	40°01'02.752" 40.017431°	109°34'02.598" 109.567388°
921-20I4CS	40°01'06.378" 40.018438°	109°34'02.459" 109.567350°

BASIS OF BEARINGS IS THE EAST LINE OF THE SE 1/4 OF SECTION 20, T9S, R21E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°02'18"E.



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



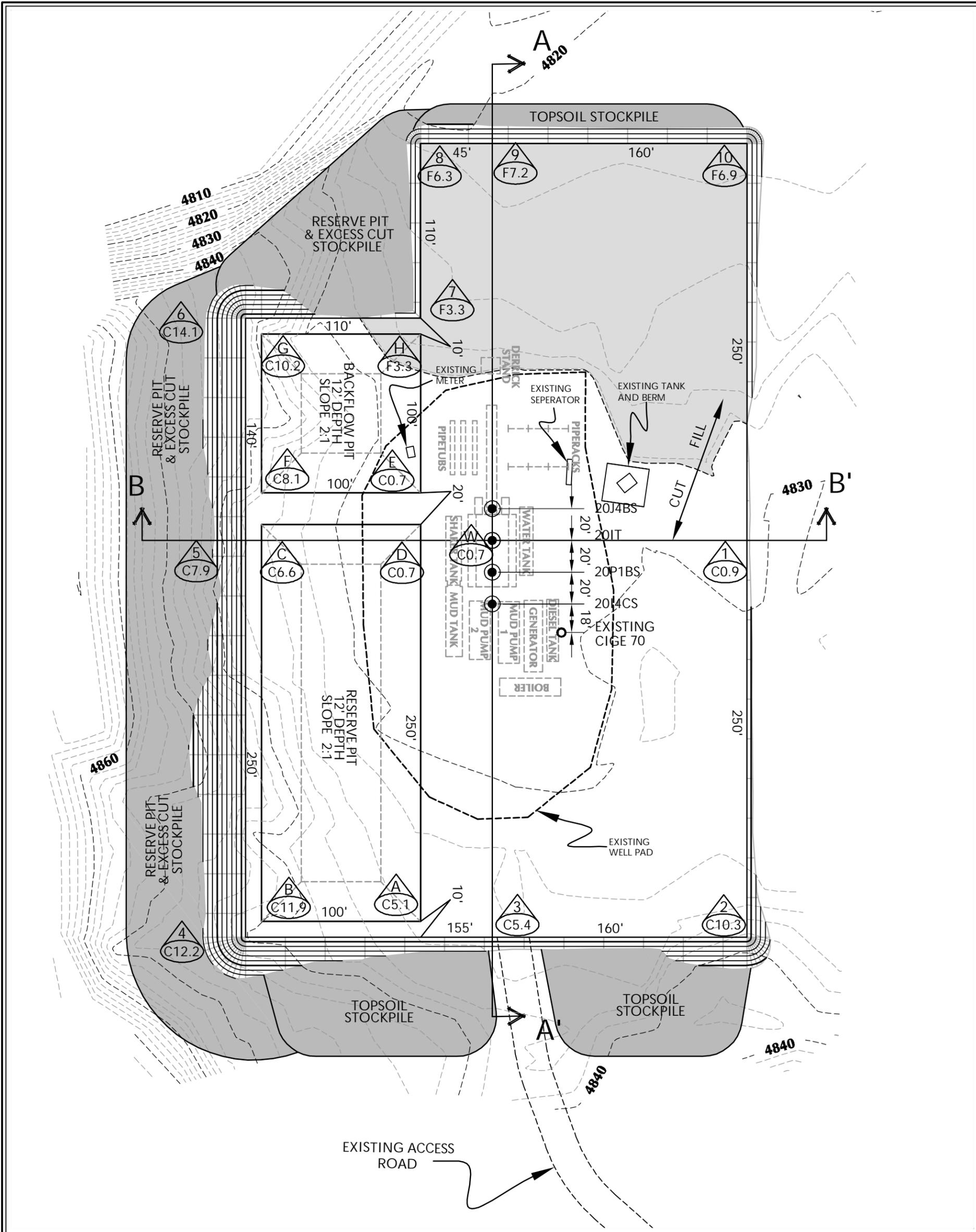
CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

DATE SURVEYED: 01-16-09	SURVEYED BY: M.S.B.
DATE DRAWN: 02-11-09	DRAWN BY: E.M.S.
REVISED:	

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

SHEET  
**5**  
OF 13

NBU 921-20J4BS, NBU 921-20IT,  
NBU 921-20P1BS & NBU 921-20I4CS  
LOCATED IN SECTION 20, T9S, R21E,  
S.L.B.&M. UINTAH COUNTY, UTAH.



**WELL PAD CIGE 70 QUANTITIES**

EXISTING GRADE @ CENTER OF WELL PAD = 4,828.9'  
 FINISHED GRADE ELEVATION = 4,828.2'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 14,901 C.Y.  
 TOTAL FILL FOR WELL PAD = 7,378 C.Y.  
 TOPSOIL @ 6" DEPTH = 2,409 C.Y.  
 EXCESS MATERIAL = 7,523 C.Y.  
 TOTAL DISTURBANCE = 3.83 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

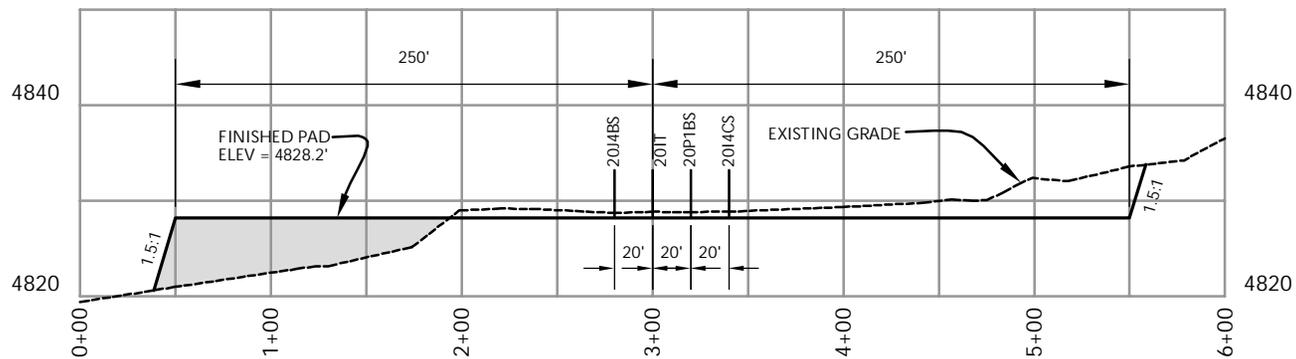


**609 CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

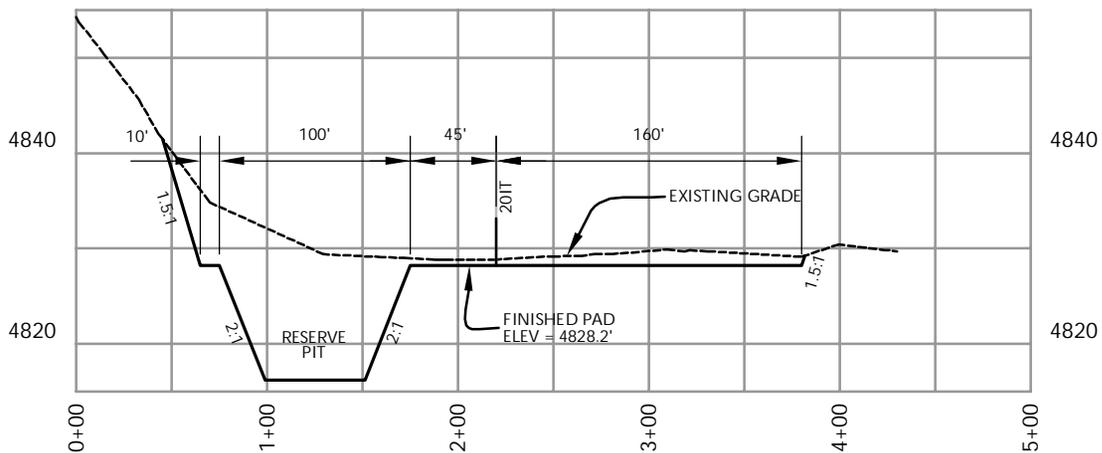
Scale: 1"=60'	Date: 3/18/09	SHEET NO:
REVISED:		<b>6</b> 6 OF 13

**WELL PAD - LOCATION LAYOUT**  
 NBU 921-20J4BS, NBU 921-20IT,  
 NBU 921-20P1BS & NBU 921-20I4CS  
 LOCATED IN SECTION 20, 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

WELL PAD - CROSS SECTIONS  
NBU 921-20J4BS, NBU 921-20IT,  
NBU 921-20P1BS & NBU 921-2014CS  
LOCATED IN SECTION 20, T.9S., R.21E.  
S.L.B.&M., Uintah County, Utah



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

Scale: 1"=100'

Date: 3/18/09

SHEET NO:

7

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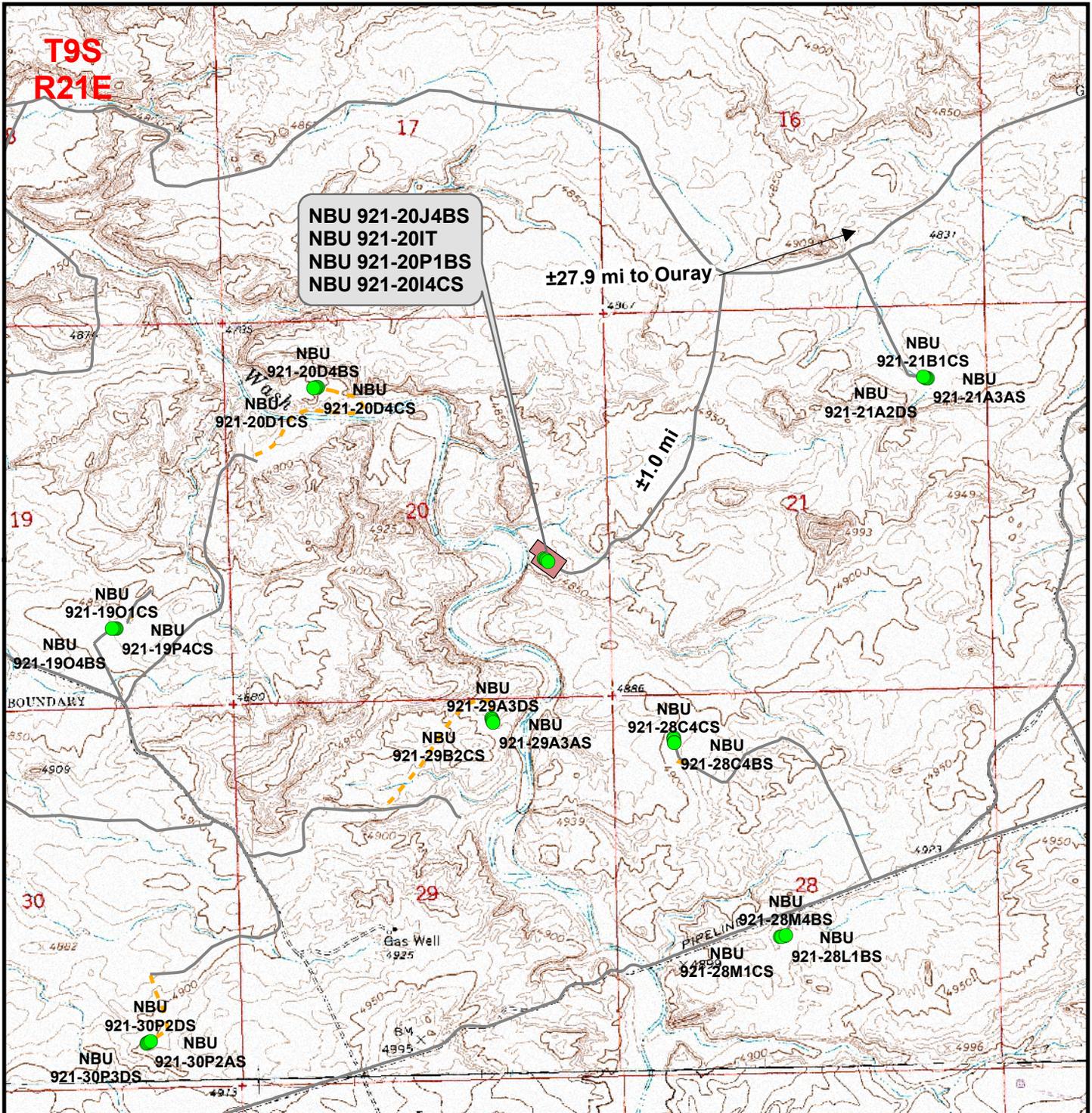
REVISED:



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

'APIWellNo:43047506010000'





**Legend**

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

Total Proposed Road Length: ±0ft

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

**NBU 921-20J4BS, NBU 921-20IT,  
NBU 921-20P1BS & NBU 921-20I4CS**  
Topo B  
Located In Section 20, T9S, R21E  
S.L.B.&M., Uintah County, Utah

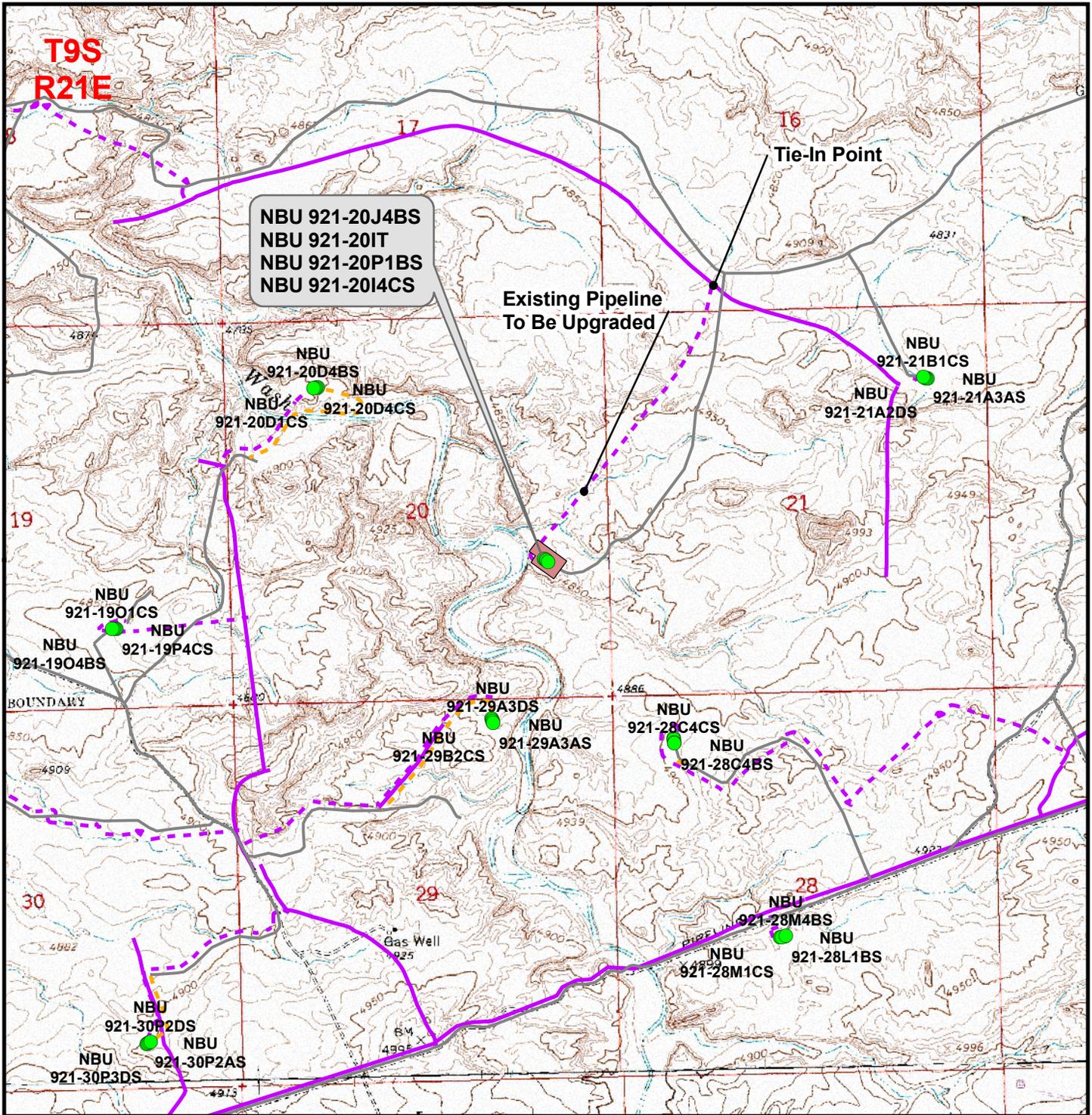
**609**  
CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



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

Sheet No:  
**10** 10 of 13





**Legend**

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

Proposed Pipeline Length From Tie-In Point To Edge Of Pad: ±4,630ft  
 Proposed Pipeline Length Around Pad: ±660ft

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

**NBU 921-20J4BS, NBU 921-20IT,  
 NBU 921-20P1BS & NBU 921-20I4CS**  
 Topo D  
 Located In Section 20, 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

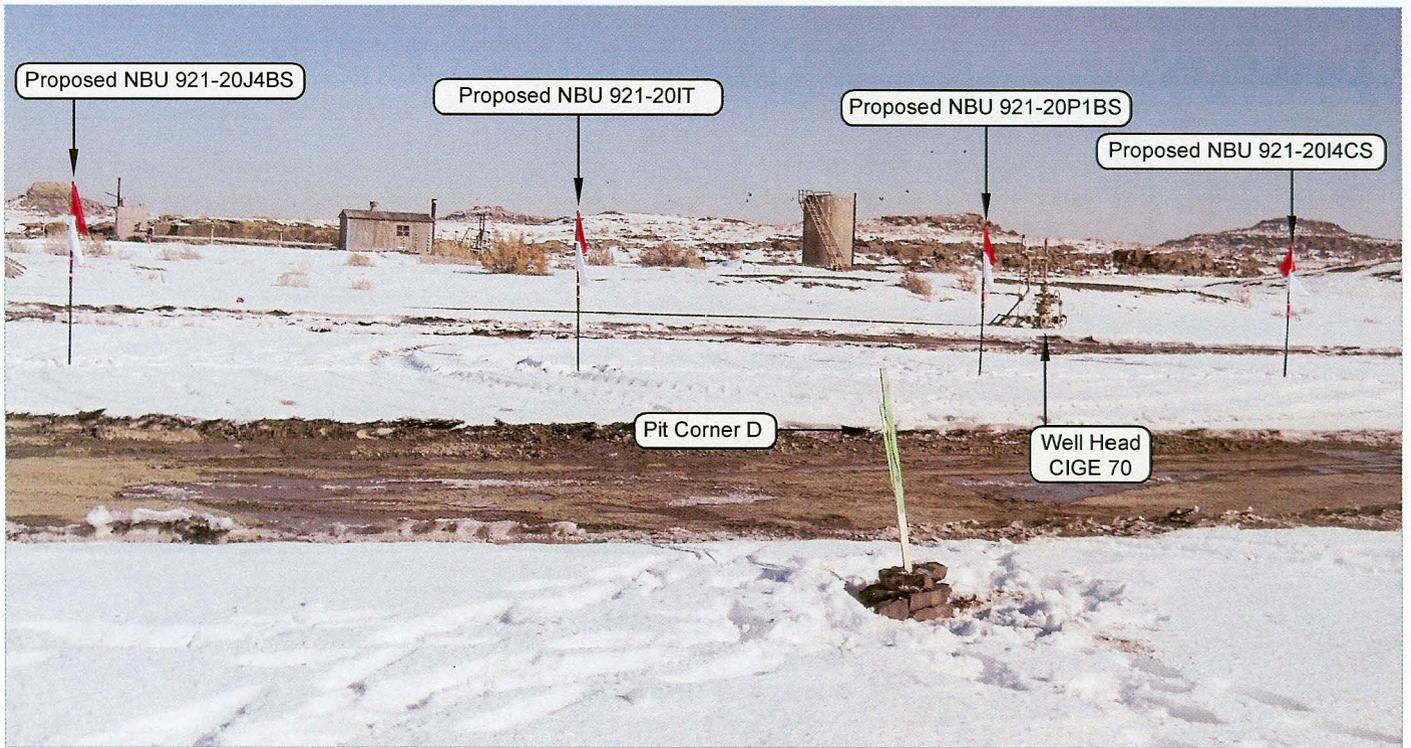


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

CAMERA ANGLE: NORTHEASTERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: WESTERLY

**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  
 Fax 307-674-0182

NBU 921-20J4BS, NBU 921-20IT,  
 NBU 921-20P1BS & NBU 921-20I4CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M. UINTAH COUNTY, UTAH.

**LOCATION PHOTOS**

TAKEN BY: M.S.B.		DATE TAKEN: 01-16-09
DRAWN BY: E.M.S.		DATE DRAWN: 02-11-09
		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 921-20J4BS, NBU 921-20IT, NBU 921-20P1BS & NBU 921-20I4CS**  
**Section 20, 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 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 11.4 MILES TO A CLASS D COUNTY ROAD TO THE SOUTHWEST. EXIT LEFT AND PROCEED IN A SOUTHWESTERLY DIRECTION ALONG THE CLASS D COUNTY ROAD APPROXIMATELY 1.8 MILES TO A SECOND CLASS D COUNTY ROAD TO THE NORTH. EXIT RIGHT AND PROCEED IN A NORTH BY NORTHWEST DIRECTION ALONG THE SECOND CLASS D COUNTY ROAD APPROXIMATELY 0.3 MILES TO A THIRD CLASS D COUNTY ROAD TO THE NORTH. EXIT RIGHT AND PROCEED IN A NORTHERLY, THEN NORTHEASTERLY, THEN NORTHERLY DIRECTION ALONG THE THIRD CLASS D COUNTY ROAD APPROXIMATELY 2.0 MILES TO A SERVICE ROAD TO THE SOUTHWEST. EXIT LEFT AND PROCEED IN A SOUTHWESTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 1.2 MILES TO A SECOND SERVICE ROAD TO THE SOUTH. EXIT LEFT AND PROCEED IN A SOUTH BY SOUTHWEST DIRECTION APPROXIMATELY 1.0 MILES TO THE CIGE 70 WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 59.6 MILES IN A SOUTHERLY DIRECTION.

**NBU 921-20I4CS**

Surface: 1,873' FSL 843' FEL (NE/4SE/4)

BHL: 1,507' FSL 527' FEL (NE/4SE/4)

**NBU 921-20J4BS**

Surface: 1,910' FSL 891' FEL (NE/4SE/4)

BHL: 1,734' FSL 1,839' FEL (NW/4SE/4)

**NBU 921-20P1BS**

Surface: 1,885' FSL 859' FEL (NE/4SE/4)

BHL: 1,140' FSL 538' FEL (SE/4SE/4)

Approved well on pad: NBU 921-20IT  
1,898' FSL 875' FEL (NE/4 SE/4) – Vertical well

Pad: NBU 921-20IT

Sec. 20 T9S R21E

Uintah, Utah

Mineral Lease: UTU 0575

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 NE/4 SE/4 of Section 20 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.*

No new access road is proposed, as the road was previously included with the NBU 921-20IT APD. 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 ±5,290' (±1.0 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

The equipment (new and old infrastructure) will be painted Shadow Grey.

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

'APIWellNo:43047506010000'



Kerr-McGee Oil & Gas Onshore LP  
P.O. 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 921-20P1BS  
T9S-R21E  
Section 20: NE/4SE/4 surface, SE/4SE/4 bottom hole  
1885' FSL, 859' FEL (surface)  
1140' FSL, 538' 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 921-20P1BS 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:43047506010000'

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

**IPC #09-71**

# **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Multi-Well Pad and Pipeline  
Upgrade for "NBU #921-20J4BS, IT, P1BS & I4CS"  
(Sec. 16, 20 & 21, T 9 S, R 21 E)**

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

May 12, 2009

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



# Grasslands Consulting, Inc.

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

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

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

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

**Wells:** NBU 921-20I Pad (Bores: NBU 921-20J4BS2, NBU 921-20I4CS2, NBU 921-20P1BS2)

**Pipelines:** Proposed pipeline to 921-20I well pad

**Access Roads:** N/A

**Location:** Section 20, 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: Jay Slocum, Dan Hamilton, Matt Kelahan, and Jonathan Sexauer, BJ Lukins, Nick Hall, Chris Gayer. Technician: Chad Johnson.

**Weather:** Partly cloudy, 75-80°F, 0-5 mph winds with no precipitation.



# 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
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(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:** 43047506010000

**WELL NAME:** NBU 921-20P1BS

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

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** NESE 20 090S 210E

**Permit Tech Review:**

**SURFACE:** 1885 FSL 0859 FEL

**Engineering Review:**

**BOTTOM:** 1140 FSL 0538 FEL

**Geology Review:**

**COUNTY:** UINTAH

**LATITUDE:** 40.01943

**LONGITUDE:** -109.56851

**UTM SURF EASTINGS:** 622162.00

**NORTHINGS:** 4430685.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 0575

**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 921-20P1BS  
**API Well Number:** 43047506010000  
**Lease Number:** UTU 0575  
**Surface Owner:** INDIAN  
**Approval Date:** 8/10/2009

**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

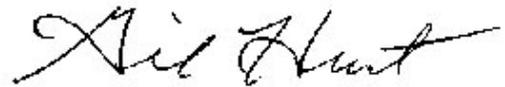
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <http://oilgas.ogm.utah.gov>

**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 0575
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<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>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 921-20P1BS
------------------------------------	---

<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506010000
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<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
---	--	--

<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1885 FSL 0859 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 20 Township: 09.0S Range: 21.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH
---	---

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/10/2010  <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.

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 09, 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> 8/9/2010



**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 43047506010000**

**API:** 43047506010000

**Well Name:** NBU 921-20P1BS

**Location:** 1885 FSL 0859 FEL QTR NESE SEC 20 TWP 090S RNG 210E MER S

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

**Date Original Permit Issued:** 8/10/2009

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

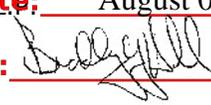
**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Signature:** Danielle Piernot

**Date:** 8/9/2010

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

**Date:** August 09, 2010

**By:** 

**RECEIVED** August 09, 2010

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

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

JUL 23 2009

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. UTU0575
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 LP Contact: DANIELLE E PIERNOT Email: Danielle.Piernot@anadarko.com		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 921-20P1BS
3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156		9. API Well No. 43-047-50401
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NESE 1885FSL 859FEL 40.01944 N Lat, 109.56923 W Lon At proposed prod. zone SESE 1140FSL 538FEL 40.01740 N Lat, 109.56808 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 29 MILES SOUTHEAST OF OURAY, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 20 T9S R21E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 538 FEET	16. No. of Acres in Lease 1600.00	12. County or Parish UINTAH
17. Spacing Unit dedicated to this well	18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 370 FEET	13. State UT
19. Proposed Depth 10293 MD 10160 TVD	20. BLM/BIA Bond No. on file WYB000291	21. Elevations (Show whether DF, KB, RT, GL, etc.) 4829 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:

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

25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE E PIERNOT Ph: 720-929-6156	Date 07/23/2009
Title REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date APR 26 2011
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

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

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make 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 #72422 verified by the BLM Well Information System  
For KERRMCGEE OIL&GAS ONSHORE LP, sent to the Vernal  
Committed to AFMSS for processing by GAIL JENKINS on 07/27/2009 (DIV. OF OIL, GAS & MINING)

RECEIVED

MAY 16 2011

UDOGM

NOS and posted 7-27-09

AFMSS#

NOTICE OF APPROVAL

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

096XJ5471AE

NO NOS

CONDITIONS OF APPROVAL ATTACHED



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: NESE, Sec. 20, T9S R21E  
Well No: NBU 921-20P1BS      Lease No: UTU-0575  
API No: 43-047-50601      Agreement: Natural Buttes Unit

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

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

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

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

**NOTIFICATION REQUIREMENTS**

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

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

- Paint new "Shadow Gray."
- Monitoring by a permitted paleontologist during construction operations.
- In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix D), a raptor survey should be conducted prior to construction of the proposed location, pipeline, or access road if construction would take place during raptor nesting season (January 1 through September 30) and conduct its operations according to specifications in the guidelines.
- If project construction operations are not initiated before June 17, 2010, KMG should 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:**

- Soil erosion will be mitigated by reseeding all disturbed areas.
- The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.
- An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.
- The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.
- A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- Major low water crossings will be armored with pit run material to protect them from erosion.
- All personnel should refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.

- If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
- Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
- If project construction operations are scheduled to occur after December 31, 2009, KMG should conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002. If active raptor nest are indentified during a new survey, KMG should conduct its operations according to the seasonal restrictions detailed in the Uinta basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines (See Appendix D).
- USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix D).
- All personnel should refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

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

**SITE SPECIFIC DOWNHOLE COAs:**

- A copy of Kerr McGee's Standard Operating Practices (SOP version: dated 7/17/2008 and approved 7/28/2008) shall be on location.
- A variance is granted to the operators APD request to not conduct a pressure integrity test (also known as a formation integrity test – FIT), covering 5M BOPE systems, as covered in Onshore Order #2 Drilling Operations III. B i. "pressure integrity test of each casing shoe".

**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](mailto: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.

<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 0575
<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>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 921-20P1BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506010000
<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> 1885 FSL 0859 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 20 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: 6/16/2011	<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 checked="" type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 50px;" type="text"/>

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

Kerr-McGee Oil and Gas Onshore, L.P. (Kerr-McGee) respectfully requests to change the total depth (TD) to include the Blackhawk formation, which is in the Mesaverde group for this well. In addition, Kerr-McGee respectfully requests approval in the well design, which includes hole and casing size changes. Please see the attached for additional details. Please contact the undersigned if you have any questions and/or comments. Thank you.

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

**Date:** 06/20/2011

**By:**

<b>NAME (PLEASE PRINT)</b> Laura Abrams	<b>PHONE NUMBER</b> 720 929-6356	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 6/15/2011	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-20P1BS**

Surface: 1885 FSL / 859 FEL      NESE  
 BHL: 1140 FSL / 538 FEL      SESE

Section 20 T9S R21E

Unitah County, Utah  
 Mineral Lease: UTU 0575

**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	1617	
Birds Nest	1875	Water
Mahogany	2249	Water
Wasatch	4938	Gas
Mesaverde	7876	Gas
MVU2	8929	Gas
MVL1	9425	Gas
Sego	10190	Gas
Castlegate	10287	Gas
MN5	10626	Gas
TVD	11226	
TD	11358	

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 11226' TVD, approximately equals  
7,460 psi (0.66 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,991 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

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

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

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

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

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

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

**Background**

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

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

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

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

***Variance for BOPE Requirements***

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

***Variance for Mud Material Requirements***

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

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

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

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

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

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

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

***Conclusion***

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

10. **Other Information:**

*Please refer to the attached Drilling Program.*





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	BTC
								TENSION	
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,700	28.00	IJ-55	LTC	2.00	1.49	5.26	N/A
PRODUCTION	4-1/2"	0 to 11,358	11.60	HCP-110	LTC or BTC	10,690	8,650	279,000	367,000
						1.19	1.14	2.64	3.48

**Surface casing:**

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

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

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

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

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

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD	
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15	
<b>Option 1</b>			+ 0.25 pps flocele					
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15	
			+ 2% CaCl + 0.25 pps flocele					
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>						
<b>Option 2</b>	LEAD	2,200'	65/35 Poz + 6% Gel + 10 pps gilsonite	200	35%	11.00	3.82	
			+ 0.25 pps Flocele + 3% salt BWOW					
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15	
			+ 0.25 pps flocele					
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15	
PRODUCTION	LEAD	4,438'	Premium Lite II +0.25 pps	330	20%	11.00	3.38	
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	6,920'	50/50 Poz/G + 10% salt + 2% gel	1,630	35%	14.30	1.31	
			+ 0.1% R-3					

\*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

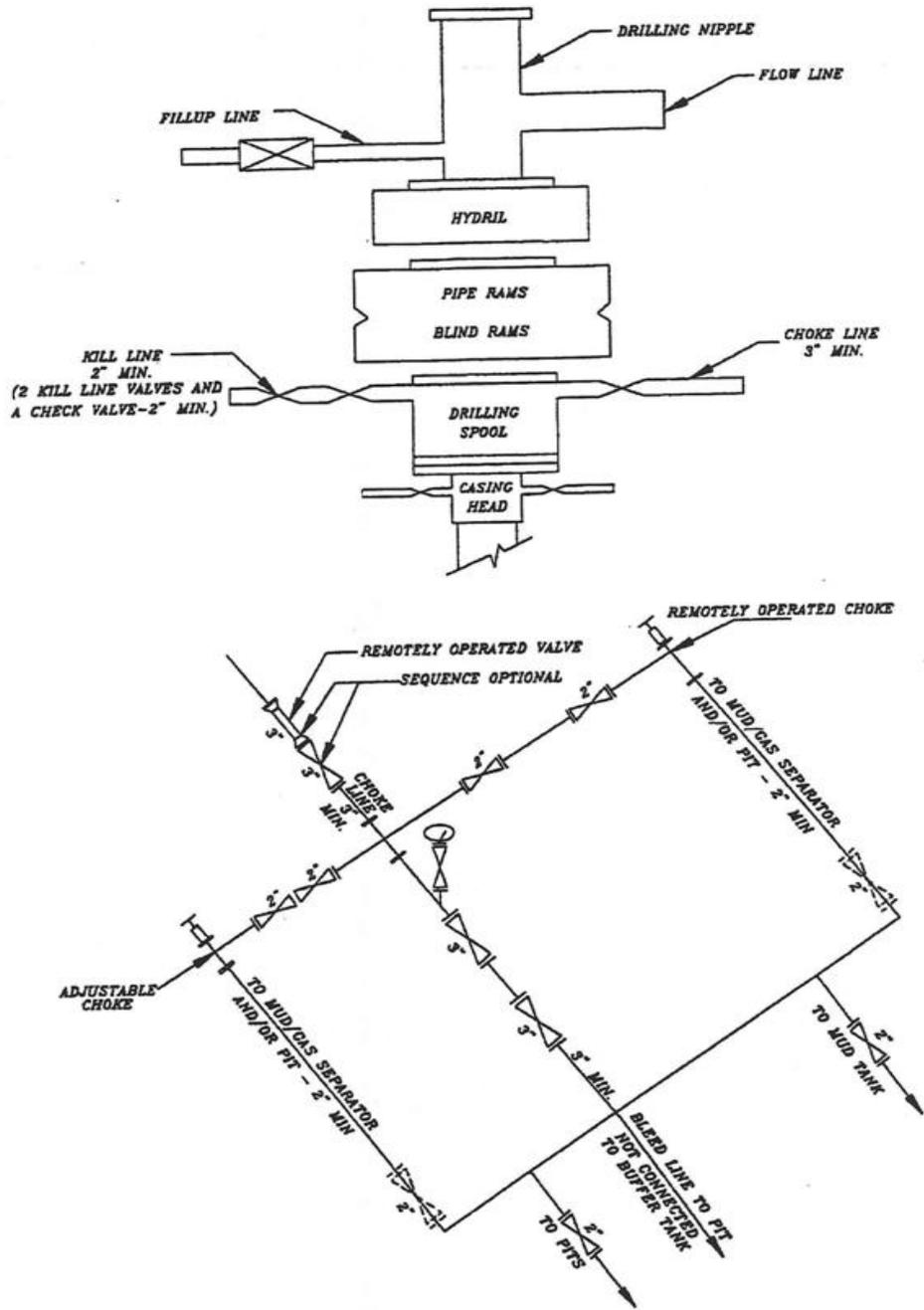
**DATE:**

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:**

### EXHIBIT A NBU 921-20P1BS



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

## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
 Submitted By SHEILA WOPSOCK Phone Number 435.781.7024  
 Well Name/Number NBU 921-20P1BS  
 Qtr/Qtr NE/SE Section 20 Township 9S Range 21E  
 Lease Serial Number UTU-0575  
 API Number 4304750601

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

Date/Time 07/01/2011 1000 HRS AM  PM

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

- Surface Casing  
 Intermediate Casing  
 Production Casing  
 Liner  
 Other

RECEIVED

JUN 30 2011

DIV. OF OIL, GAS &amp; MINING

Date/Time 07/12/2011 0800 HRS AM  PM

BOPE

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

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

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT  
KENNY GATHINGS AT 435.781.7048 FOR MORE

<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 0575
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>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 921-20P1BS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506010000	
<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> 1885 FSL 0859 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 20 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: 7/2/2011  <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 07/02/2011 AT 0800 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> 7/7/2011	

<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 0575
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>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 921-20P1BS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506010000	
<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> 1885 FSL 0859 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 20 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: 7/13/2011	<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 AIR RIG ON JULY 10, 2011. DRILLED SURFACE HOLE TO 2830'. 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> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/14/2011	

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

FORM 6

ENTITY ACTION FORM

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

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750599	NBU 921-20I4CS		NESE	20	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	7/1/2011			7/20/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSTMVD</u> SPUD WELL ON 07/01/2011 AT 0900 HRS. <u>BHL= NESE</u>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304740136	NBU 921-20IT		NESE	20	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	7/1/2011			7/20/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>MVRD=WSTMVD</u> SPUD WELL ON 07/01/2011 AT 0900 HRS.							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750601	NBU 921-20P1BS		NESE	20	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	7/2/2011			7/20/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSTMVD</u> SPUD WELL ON 07/02/2011 AT 0800 HRS. <u>BHL= SESE</u>							

ACTION CODES:

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

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

7/7/2011

Date

(5/2000)

RECEIVED

JUL 07 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 0575
<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 921-20P1BS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>9. API NUMBER:</b> 43047506010000
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1885 FSL 0859 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 20 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 type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/8/2011	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

MIRU ROTARY RIG. FINISHED DRILLING FROM 2830' TO 11339' ON SEPT 5, 2011. RAN 4-1/2" 11.6# P-110 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED H&P RIG 298 ON SEPT 8, 2011 @ 00:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.

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

<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> 9/8/2011	

**Carol Daniels - NBU 921-20P1BS PRODUCTION CASING**

---

**From:** "Anadarko - H&P 298"

**To:**

**Date:** 9/5/2011 6:34 AM

**Subject:** NBU 921-20P1BS PRODUCTION CASING

---

*TOGS R21E S=20  
43-047-50601*

Carol, we will be running 4 1/2 production casing & cementing tuesday 9/06/11 1-3 PM on the NBU 921-20P1BS .

THANKS

JIM MURRAY  
H&P 298  
435 828-0957

**RECEIVED**

**SEP 07 2011**

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

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
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 921-20P1BS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506010000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1885 FSL 0859 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESE Section: 20 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: 4/13/2012	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input checked="" type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input style="width: 100px;" type="text"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
<p>THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 04/13/2015 AT 0815 HRS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.</p>		
<p><b>Accepted by the Utah Division of Oil, Gas and Mining</b></p> <p><b>FOR RECORD ONLY</b></p> <p>April 24, 2012</p>		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/17/2012	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other		5. Lease Serial No. UTU0575	
b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr. Other _____		6. If Indian, Allottee or Tribe Name	
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE		7. Unit or CA Agreement Name and No. UTU63047A	
3. Address 1099 18TH STREET, SUITE 1800 DENVER, CO 80202		8. Lease Name and Well No. NBU 921-20P1BS	
3a. Phone No. (include area code) Ph: 720-929-6029		9. API Well No. 43-047-50601	
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface NESE 1885FSL 859FEL 40.019439 N Lat, 109.569225 W Lon At top prod interval reported below SESE 1121FSL 530FEL At total depth SESE 1104FSL 518FEL <i>BHL by HSM</i>		10. Field and Pool, or Exploratory NATURAL BUTTES	
14. Date Spudded 07/02/2011		11. Sec., T., R., M., or Block and Survey or Area Sec 20 T9S R21E Mer SLB	
15. Date T.D. Reached 09/05/2011		12. County or Parish UINTAH	
16. Date Completed <input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod. 04/13/2012		13. State UT	
17. Elevations (DF, KB, RT, GL)* 4828 GL			
18. Total Depth: MD 11339 TVD 11223	19. Plug Back T.D.: MD 11307 TVD 11191	20. Depth Bridge Plug Set: MD TVD	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) CBL/GR/COLLARS-BHV-SD/DSN/ACTR		22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit analysis)	

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

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
12.250	9.625 J-55	36.0	0	2842		600		0	
7.875	4.500 P-110	11.6	0	11330		2080		900	

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	10670							

25. Producing Intervals			26. Perforation Record			
Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	10780	11167	10780 TO 11167	0.360	54	OPEN
B)						
C)						
D)						

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

Depth Interval	Amount and Type of Material
10780 TO 11167	PUMP 2,947 LBS XLINK GEL & 158,460 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
04/13/2012	04/14/2012	24	→	0.0	1235.0	200.0			FLOWS FROM WELL
Choke Size	Tbg. Press. Flwg. ST	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
18/64	575	1500.0	→	0	1235	200		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. ST	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 #139947 VERIFIED BY THE BLM WELL INFORMATION SYSTEM  
\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

**RECEIVED**  
**JUN 12 2012**  
DIV. OF OIL, GAS & MINING

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	1706
				BIRD'S NEST	1986
				MAHOGANY	2460
				WASATCH	5054
				MESAVERDE	7907

32. Additional remarks (include plugging procedure):  
Attached is the chronological well history, perforation report & final survey.  
A casing patch was set from 3081.62 to 3103.12; details in completion chrono attached.

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 #139947 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal

Name (please print) CARA MAHLER Title AUTHORIZED REPRESENTATIVE

Signature (Electronic Submission) Date 06/07/2012

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

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

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE		Spud Conductor: 7/1/2011	Spud Date: 7/10/2011
Project: UTAH-UINTAH		Site: NBU 921-201 PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING		Start Date: 8/28/2011	End Date: 9/7/2011
Active Datum: RKB @4,854.00usft (above Mean Sea Level)		UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/10/2011	19:30 - 20:00	0.50	MIRU	01	C	P		MOVE RIG IN OFF THE NBU 921-2014CS
	20:00 - 20:30	0.50	MIRU	01	B	P		RIG UP ,PREPARE TO SPUD WELL
	20:30 - 21:00	0.50	DRLSUR	06	A	P		P/U 1.83 DEG BENT HOUSING HUNTING MTR SN 8014 . 7/8 LOBE .17 RPM. M/U 12.1/4" Q507 SN 7133231 1ST RUN, W/ 7-18'S. INSTALL RUBBER
	21:00 - 22:30	1.50	DRLSUR	02	B	P		SPUD SURFACE 07/10/2011 @ 21:00 HRS. DRILL 12.1/4" SURFACE HOLE F/40'-210' (170' @ 113'/HR) PSI ON/ OFF 700/450, UP/ DOWN/ ROT 27/22/25. 500 GPM, 45 RPM ON TOP DRIVE, 15-18K WOB
	22:30 - 23:30	1.00	DRLSUR	06	A	P		TOH T/P/U DIR TOOLS
	23:30 - 0:00	0.50	DRLSUR	06	A	P		START T/P/U DIR TOOLS
7/11/2011	0:00 - 2:00	2.00	DRLSUR	06	A	P		CONT T/P/U DIR. TOOLS & SCRIBE, TIH T/210'
	2:00 - 7:00	5.00	DRLSUR	02	D	P		DRILL/ SLIDE 12 1/4" SURFACE HOLE F/210' -680' (470' @ 94'/HR) PSI ON/ OFF 1100/810, UP/ DOWN/ ROT 45/40/42. 130 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, 90 RPM ON MM , CIRCULATING RESERVE PIT
	7:00 - 7:30	0.50	DRLSUR	07	A	P		SERVICE RIG
7/11/2011	7:30 - 16:00	8.50	DRLSUR	02	D	P		DRILL/ SLIDE 12 1/4" SURFACE HOLE F/680' -1340' (660' @ 78'/HR) PSI ON/ OFF 1460/1170, UP/ DOWN/ ROT 64/46/56. 130 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, 90 RPM ON MM CIRCULATING RESERVE PIT
	16:00 - 0:00	8.00	DRLSUR	02	D	P		DRILL/ SLIDE 12 1/4" SURFACE HOLE F/1340' -1850' (510' @ 64'/HR) PSI ON/ OFF 1520/1300, UP/ DOWN/ ROT 70/50/60. 130 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, 90 RPM ON MM CIRCULATING RESERVE PIT
	7/12/2011	0:00 - 7:00	7.00	DRLSUR	02	D	P	
7/12/2011	7:00 - 19:30	12.50	DRLSUR	02	D	P		DRILL/ SLIDE 12 1/4" SURFACE HOLE F/2210' -2830' (620' @ 50'/HR) PSI ON/ OFF 1900/1750, UP/ DOWN/ ROT 85/60/75. 130 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, 90 RPM ON MM CIRCULATING RESERVE PIT(TD 12 1/4" SURF. HOLE)
	19:30 - 21:30	2.00	DRLSUR	05	C	P		CIRC & COND HOLE F/L/D & 9 5/8" 36# SURF. CSG RUN
	21:30 - 23:00	1.50	DRLSUR	06	D	P		L/D DRILL PIPE T/1700'
	23:00 - 23:30	0.50	DRLSUR	05	C	P		DISPLACE HOLE W/130 BBLs 12.2 PPG MUD T/CONTROL GAS
	23:30 - 0:00	0.50	DRLSUR	06	D	P		CONT T/L/D DRILL PIPE
7/13/2011	0:00 - 3:00	3.00	DRLSUR	06	D	P		CONT. T/L/D DP,BHA & DIR. TOOLS
	3:00 - 4:00	1.00	CSG	12	A	P		MOVE CATWALK AND PIPE RACKS, MOVE CSG OVER TO WORK AREA, R/U T/RUN 9 5/8" 36# SURF. CSG

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE Spud Conductor: 7/1/2011 Spud Date: 7/10/2011  
 Project: UTAH-UINTAH Site: NBU 921-20I PAD Rig Name No: PROPETRO 11/11, H&P 298/298  
 Event: DRILLING Start Date: 8/28/2011 End Date: 9/7/2011  
 Active Datum: RKB @4,854.00usft (above Mean Sea Level) UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	4:00 - 10:30	6.50	CSG	12	C	P		HOLD SAFTEY MEETING,RUN FLOAT SHOE ,SHOE JNT,BAFFLE & 63 JNTS 9 5/8" 36# LT&C CSG W/THE SHOE SET @2820' & THE BAFFLE @2775'(FILL CSG WASH CSG DOWN F/2770' T/2820')
	10:30 - 11:00	0.50	CSG	12	A	P		RUN 100' 1" PIPE DOWN ANNULS,INSTALL CEMENT HEAD,R/U PRO PETRO CEMENTERS
	11:00 - 12:00	1.00	CSG	12	E	P		HOLD SAFETY MEETING. TEST LINES TO 2000 PSI. PUMP 70 BBLs OF 8.4# H2O AHEAD,FULL RETURNS PUMP 20 BBLs OF 8.4# GEL WATER AHEAD. PUMP 250 SX(170 BBLs) 11# 3.82 YIELD LEAD CEMENT, PUMP 225 SX (46 BBLs) OF 15.8# 1.15 YIELD TAIL(2% CALC, 1/4# /SK OF FLOCELE).DROP PLUG ON FLY AND DISPLACE W211 BBLs OF 8.4# H2O. LIFT PRESSURE WAS 690 PSI, BUMP PLUG AND HOLD 1200 PSI FOR 5 MIN. FLOAT HELD,FULL RETURNS THRU OUT JOB ,20 BBLs LEAD CEMENT TO SURF,CEMENT FELL BACK
	12:00 - 12:30	0.50	CSG	12	F	P		TOP OUT THRU 1" PIPE W/75 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE, CEMENT TO SURF,CEMENT FELL BACK
	12:30 - 14:30	2.00	CSG	13	A	P		WAIT ON CEMENT
	14:30 - 15:00	0.50	CSG	12	F	P		TOP OUT W/50 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE, CEMENT TO SURF. STAYED @ SURF.(RIG RELEASED @ 15:00 07/13/2011)
	15:00 - 15:00	0.00	CSG					CONDUCTOR CASING: Cond. Depth set:40' Cement sx used:28  SPUD DATE/TIME:7/10/2011 21:00  SURFACE HOLE: Surface From depth:40' Surface To depth:2830' Total SURFACE hours:42.50 Surface Casing size:9 5/8" 36# # of casing joints ran:64 JNTS Casing set MD:2820' # sx of cement:250/225/125 Cement blend (ppg):11.0/15.8/15.8 Cement yield (ft3/sk):3.82/1.15/1.15 # of bbls to surface: Describe cement issues:NONE
8/28/2011	19:00 - 23:30	4.50	MIRU	01	C	P		PREPARE & SKID RIG 20' CENTER RIG OVER WELL
	23:30 - 0:00	0.50	MIRU	01	B	P		RU RT
8/29/2011	0:00 - 0:30	0.50	PRPSPD	14	A	P		NU BOP'S
	0:30 - 1:30	1.00	PRPSPD	01	B	P		CHANGE OUT BAILS & ELEVATORS
	1:30 - 2:00	0.50	PRPSPD	07	C	P		CHANGE OUT SWIVEL PKG
	2:00 - 2:30	0.50	PRPSPD	15	A	P		TEST 9 5/8 CSG TO 1500 PSI - OK
	2:30 - 5:30	3.00	PRPSPD	15	A	P		TEST BOP'S & EQUIPMENT AS PER PROGRAM 250/5000 PSI / 250/2500 PSI ON ANNULAR
	5:30 - 6:00	0.50	PRPSPD	14	B	P		INSTALL WEAR BUSHING

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE      Spud Conductor: 7/1/2011      Spud Date: 7/10/2011  
 Project: UTAH-UINTAH      Site: NBU 921-201 PAD      Rig Name No: PROPETRO 11/11, H&P 298/298  
 Event: DRILLING      Start Date: 8/28/2011      End Date: 9/7/2011  
 Active Datum: RKB @4,854.00usft (above Mean Sea Level)      UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 7:30	1.50	PRSPD	06	A	P		PU & MU DIRECTIONAL BHA#1 W/ WEATHERFORD SCRIBE / ORIENTATE AND TEST SAME
	7:30 - 9:00	1.50	PRSPD	06	A	P		TIH TO 2,800' TAG CEMENT
	9:00 - 9:30	0.50	PRSPD	23		P		PRE SPUD MTG & INSPECTION
	9:30 - 11:30	2.00	PRSPD	09	A	P		SLIP & CUT 126' OF DRILL LINE
	11:30 - 12:00	0.50	PRSPD	07	B	P		LEVEL DERRICK
	12:00 - 12:30	0.50	DRLPRO	02	F	P		DRILL CEMENT & SHOE TRACK F/ 2,800' TO 2,842' CLEAN OUT RAT HOLE TO 2,852'
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/ 2,852' TO 4,435' = 1583' @ 137.65 FPH // WOB 18K-21K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2200/2000 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 135/110/120 TORQUE ON/OFF BOTTOM 8K/6K / SLIDE 190' IN 110 MIN 12% OF FOOTAGE DRILLED 15% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 1.5 PPG // MUD WT 9.0 / VIS 29 / OIL SHOW @ 3,300' / 40' FLARE ON CONN GAS / BOP DRILL
8/30/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/ 4,435' TO 5,280' = 845' @ 140.83 FPH // WOB 18K-21K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2200/2000 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 135/110/120 TORQUE ON/OFF BOTTOM 8K/6K / SLIDE 52' IN 50 MIN 6% OF FOOTAGE DRILLED 13% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 1.5 PPG // MUD WT 9.0 / VIS 29 / 15' TO 20' FLARE ON CONN GAS
	6:00 - 14:00	8.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/ 5,280' TO 6,395' = 1,115' @ 139.37 FPH // WOB 18K-21K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2200/2000 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 170/125/150 TORQUE ON/OFF BOTTOM 12K/10K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 1.5 PPG // MUD WT 9.1 / VIS 29 / 3' FLARE ON CONN GAS
	14:00 - 14:30	0.50	DRLPRO	07	A	P		SERVICE RIG @ 6,395'
	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/ 6,395' TO 7,125' = 730' @ 76.84 FPH // WOB 18K-21K / TOP DRIVE RPM 40-60 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2200/2000 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 198/136/162 TORQUE ON/OFF BOTTOM 14K/12K / SLIDE 74' IN 75 MIN 10% OF FOOTAGE DRILLED 13% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 1.5 PPG // MUD WT 9.4 / VIS 31
8/31/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/ 7,125' TO 7,435' = 310' @ 51.66 FPH // WOB 18K-23K / TOP DRIVE RPM 40-50 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2200/2000 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 198/136/162 TORQUE ON/OFF BOTTOM 14K/12K / MUD WT 9.4 / VIS 31

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE      Spud Conductor: 7/1/2011      Spud Date: 7/10/2011  
 Project: UTAH-UINTAH      Site: NBU 921-201 PAD      Rig Name No: PROPETRO 11/11, H&P 298/298  
 Event: DRILLING      Start Date: 8/28/2011      End Date: 9/7/2011  
 Active Datum: RKB @4,854.00usft (above Mean Sea Level)      UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 15:00	9.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/ 7,435' TO 7,908' = 473'@ 52.5 FPH // WOB 18K-26K / TOP DRIVE RPM 30-50 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2150/1965 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 215/138/172 TORQUE ON/OFF BOTTOM 14K/13K / MUD WT 9.7 / VIS 34
	15:00 - 15:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/ 7,908' TO 8285' = 377'@ 44.3 FPH // WOB 18K-26K / TOP DRIVE RPM 30-50 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2150/1965 PSI / MUD MOTOR RPM 119 / PU/SO/ROT WT 226/148/179 TORQUE ON/OFF BOTTOM 16K/14K / SLIDE 15' IN 30 MIN 3% OF FOOTAGE DRILLED 5% OF HRS DRILLED / MUD WT 10.0 / VIS 36 / 5' FLARE ON CONN
9/1/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/ SURVEY F/ 8,285 TO 8,530= 245"@ 40.8 FPH // WOB 18K-26K / TOP DRIVE RPM 30-50 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2250/2050 PSI / MUD MOTOR RPM 118 / PU/SO/ROT WT 220/148/180 TORQUE ON/OFF BOTTOM 14K/13K / MUD WT 10.1/ VIS 37 / NO MUD LOSS
	6:00 - 14:00	8.00	DRLPRO	02	D	P		DRILL/ SURVEY F/ 8,530 TO 8,948= 415"@ 40.8 FPH // WOB 18K-26K / TOP DRIVE RPM 30-50 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2500/2150 PSI / MUD MOTOR RPM 118 / PU/SO/ROT WT 237/156/185 TORQUE ON/OFF BOTTOM 17K/16K / MUD WT 10.4 VIS 37 / NO MUD LOSS
	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRILL/ SURVEY F/ 8,948 TO 9,405= 457"@ 48.1 FPH // WOB 18K-26K / TOP DRIVE RPM 30-50 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2400/2200 PSI / MUD MOTOR RPM 118/ PU/SO/ROT WT 244/160/196 TORQUE ON/OFF BOTTOM 19K/17K / MUD WT 10.9 VIS 38 / 10' FLARE / NO MUD LOSS
9/2/2011	0:00 - 3:00	3.00	ALL	08	B	Z		RIG REPAIR / WASH OUT IN TOP DRIVE S-PIPE ( MUD LINE) PULL 1 STD INSTALL CIRC SWEDGE IN DP CIRC W/ FILL UP HOSE / REPAIR W/O W/ WELDER TRIP IN 1 STD
	3:00 - 6:00	3.00	DRLPRO	02	D	P		DRILL/ SURVEY F/ 9,405 - 9,525 =125' @ 40 FPH 18-26 / TOP DRIVE RPM 30-50 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2400/2200 PSI / MUD MOTOR RPM 118/ PU/SO/ROT WT 244/160/196 TORQUE ON/OFF BOTTOM 19K/17K / MUD WT 10.9 VIS 38 / 10' FLARE / NO MUD LOSS
	6:00 - 13:30	7.50	DRLPRO	02	D	P		DRILL/ SURVEY F/ 9,525 - 9,800 =275 @36.6 FPH / 18-26 / TOP DRIVE RPM 30-50 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2500/2350 PSI / MUD MOTOR RPM 118/ PU/SO/ROT WT 257/160/198 TORQUE ON/OFF BOTTOM 19K/17K / MUD WT 11.0 VIS 40 / NO MUD LOSS
	13:30 - 14:00	0.50	DRLPRO	07	A	P		RIG SERVICE

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

Well: NBU 921-20P1BS BLUE      Spud Conductor: 7/1/2011      Spud Date: 7/10/2011  
 Project: UTAH-UINTAH      Site: NBU 921-201 PAD      Rig Name No: PROPETRO 11/11, H&P 298/298  
 Event: DRILLING      Start Date: 8/28/2011      End Date: 9/7/2011  
 Active Datum: RKB @4,854.00usft (above Mean Sea Level)      UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	14:00 - 0:00	10.00	DRLPRO	02	D	P		DRILL/ SURVEY F/ 9,800 - 10,125 =325' @ 32.5 FPH 18-26 / TOP DRIVE RPM 30-50 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2600/2350 PSI / MUD MOTOR RPM 118/ PU/SO/ROT WT 256/160/202 TORQUE ON/OFF BOTTOM 19K/17K / MUD WT 11.3 VIS 42/ 6-8' FLARE / NO MUD LOSS
9/3/2011	0:00 - 4:30	4.50	DRLPRO	02	D	P		DRILL/ SURVEY F/ 10,125 - 10,279 =154' @ 34.2 FPH 18-26 / TOP DRIVE RPM 30-50 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2650/2375 PSI / MUD MOTOR RPM 118/ PU/SO/ROT WT 260/172/202 TORQUE ON/OFF BOTTOM 19K/17K / MUD WT 11.3 VIS 42/ 6-8' FLARE / NO MUD LOSS
	4:30 - 6:00	1.50	DRLPRO	05	C	P		CCH /PREP F/ BIT TRIP,BUILD & PUMP SLUG
	6:00 - 11:30	5.50	DRLPRO	06	A	P		TRIP OUT F/ BIT / STRAIGHT PULL 5 STDS 340K ,PUMP SLUG TOH/ TIGHT SPOT @ 4769' / FLOW CHECK @ CASING SHOE,TOH,PULL ROTATING RUBBER/ TOH W/ BHA
	11:30 - 12:30	1.00	DRLPRO	06	A	P		L/D MWD/ FUNCT TEST PIPE & BLIND RAMS CHANGE OUT BIT & MUD MOTOR/ INSTALL MWD TOOL / SCRIBE & SURFACE TEST TOOLS / LEAVE OUT 3 STDS HWDP
	12:30 - 17:30	5.00	DRLPRO	06	A	P		TIH TO CASING SHOE,CHECK DERRICK FOR LEVEL/ INSTALL ROTATING HEAD / BREAK CIRC / CIH/ BREAK CIRC @6200',CIH WASH 95' TO BTM 1' FILL
	17:30 - 0:00	6.50	DRLPRO	02	D	P		DRILL/ SURVEY F/ 10,279 - 10,475 =196' @ 30.1 FPH 18-26 / TOP DRIVE RPM 30-50 / PUMP 100-110 SPM = 450-495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2625/2400 PSI / MUD MOTOR RPM 72-79/ PU/SO/ROT WT 260/172/202 TORQUE ON/OFF BOTTOM 19K/17K / MUD WT 11.8 VIS 42 / 15' FLARE / NO MUD LOSS
9/4/2011	0:00 - 8:00	8.00	DRLPRO	02	D	P		DRILL/ SURVEY F/ 10,475 - 10,633 =158' @ 19.76 FPH / WOB 18-26 / TOP DRIVE RPM 30-50 / PUMP 100-110 SPM = 450-495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2725/2575 PSI / MUD MOTOR RPM 72-79/ PU/SO/ROT WT 245/171/198 TORQUE ON/OFF BOTTOM 19K/17K / MUD WT 11.9 VIS 40 / 15' FLARE ON CONN / NO MUD LOSS
	8:00 - 10:00	2.00	DRLPRO	05	B	P		CIRC COND MUD FOR BIT TRIP,SPOT 50 BBLS 12.4 MUD ON BTM
	10:00 - 15:00	5.00	DRLPRO	06	A	P		TRIP OUT F/ BIT / FLOW CHECK @ CASING SHOE / HOLE GOOD NO PROBLEMS ,PULL ROTATING RUBBER/ TOH W/ BHA X/O BITS
	15:00 - 20:00	5.00	DRLPRO	06	A	P		TIH TO CASING SHOE,CHECK DERRICK FOR LEVEL/ INSTALL ROTATING HEAD / BREAK CIRC / CIH/ BREAK CIRC @7000,CIH TO 10,513
	20:00 - 20:30	0.50	DRLPRO	03	D	P		W & R 120 TO BTM 5' FILL

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE      Spud Conductor: 7/1/2011      Spud Date: 7/10/2011  
 Project: UTAH-UINTAH      Site: NBU 921-201 PAD      Rig Name No: PROPETRO 11/11, H&P 298/298  
 Event: DRILLING      Start Date: 8/28/2011      End Date: 9/7/2011  
 Active Datum: RKB @4,854.00usft (above Mean Sea Level)      UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	20:30 - 0:00	3.50	DRLPRO	02	D	P		DRILL/ SURVEY F/ 10,633 - 10,755 =122 @ 34.8 FPH / WOB 18-26 / TOP DRIVE RPM 30-50 / PUMP 100-110 SPM = 450-495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2675/2525 PSI / MUD MOTOR RPM 72-79/ PU/SO/ROT WT 260/168/206 TORQUE ON/OFF BOTTOM 16K/17K / MUD WT 12.1 VIS 4/ 20 BBL MUD LOSS / LCM TO 3%
9/5/2011	0:00 - 6:00	6.00	DRLPRO	02	C	P		DRILL/ SURVEY F/ 10,755 - 10,990 =235 @ 39.1 FPH / WOB 18-26 / TOP DRIVE RPM 30-50 / PUMP 100-110 SPM = 450-495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2675/2525 PSI / MUD MOTOR RPM 72-79/ PU/SO/ROT WT 260/168/206 TORQUE ON/OFF BOTTOM 16K/17K / MUD WT 12.1 VIS 41 LCM 3%/ 20 BBL MUD LOSS
	6:00 - 14:00	8.00	DRLPRO	02	D	P		DRILL/ SURVEY F/ 10,990 - 11,339 TD=349 @ 43.6 FPH / WOB 18-26 / TOP DRIVE RPM 30-50 / PUMP 105 SPM = 472 GPM / PUMP PRESSURE ON/OFF BOTTOM 2865/2650 PSI / MUD MOTOR RPM 75/ PU/SO/ROT WT 261/175/213 TORQUE ON/OFF BOTTOM 18K/17K / MUD WT 12.3 VIS 41 LCM 3%/NO MUD LOSS
	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SERVICE BOP DRILL
	14:30 - 15:30	1.00	DRLPRO	05	C	P		CCH, PUMP SWEEP/ CHECKING THE BTC THREADS ON 4 1/2 CASING FOUND 2/3 OFTHE 11,350' STRING TO BE BAD / BUNNING BRINGING ANOTHER 11,000' BTC
	15:30 - 23:30	8.00	DRLPRO	06	D	P		PUMP SLUG, WIPER TRIP TO CSG SHOE / NO TIGHT SPOTS,HOLE GOOD,FLOW CHECK & FILL PIPE@ SHOE, 7000, 9200 , WIPE OUT TIGHT SPOT@ 8867, TIH, WASH 95' TO BTM ,NO FILL CIRC & COND F/ LOGS
9/6/2011	23:30 - 0:00	0.50	DRLPRO	05	A	P		CCH,PUMP SWEEP, BTMS UP GAS 6320 U ,10 FT FLARE MUD CUT FROM 12.3 TO 12.0#
	0:00 - 2:00	2.00	DRLPRO	05	C	P		SPOT 50 BBLs 12.6 MUD ,PULL 8 STDS PUMP SLUG TOH F/ E-LOGS / NO PROBLEMS PULL MWD TOOL,BREAK BIT L/D M MTR /FUNCT TEST PIPE & BLIND RAMS
	2:00 - 8:00	6.00	DRLPRO	06	B	P		HSM W/ HALLIBURTON & RIG CREW/ R/U AND RUN TRIPLE COMBO / DRILLER TD 11,339 LOGGER TD 11,336 ,LOG OUT TO SURFACE R/D SAME
	8:00 - 14:00	6.00	DRLPRO	11	G	P		M/U TRI-CONE BIT ON BIT SUB, TIH W/ HWDP,INSTALL ROTATING HEAD, BREAK CIRC @ CSG SHOE,,7000 ,WASH 95' TO BTM
	14:00 - 19:30	5.50	DRLPRO	06	E	Z		CCH / WHILE GETTING 4 1/2 CASING READY
	19:30 - 22:00	2.50	DRLPRO	05	A	Z		TOH,F CSG / PULL ,5 STDS,PUMP SLUG TOH
9/7/2011	22:00 - 0:00	2.00	DRLPRO	06	D	Z		RIG REPAIR / REPLACE BLOWN HYDRAULIC HOSE ON ST80
	0:00 - 1:00	1.00	ALL	08	A	Z		FINISH TOH,NO TIGHT SPOTS,HOLE TOOK PROPER FLUID, FLOW CHECK @ CSG SHOE,PULL ROT RUBBER,,BREAK BIT & BIT SUB,FUNCT TEST PIPE & BLIND RAMS
	1:00 - 4:30	3.50	DRLPRO	06	D	Z		PULL WEAR BUSHING,CHANGE TO 18' BAILS
	4:30 - 5:30	1.00	CSG	14	B	P		HSM W/ RIG CREW & KIMZEY CASERS, RU CSG EQUIP
	5:30 - 7:00	1.50	CSG	12	A	P		

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 921-20P1BS BLUE		Spud Conductor: 7/1/2011		Spud Date: 7/10/2011	
Project: UTAH-UINTAH		Site: NBU 921-20I PAD		Rig Name No: PROPETRO 11/11, H&P 298/298	
Event: DRILLING		Start Date: 8/28/2011		End Date: 9/7/2011	
Active Datum: RKB @4,854.00usft (above Mean Sea Level)		UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 18:00	11.00	CSG	12	C	P		MU FLOAT EQUIP RUN 274 JTS P-110 11.6# BT&C 4.5 CASING + RELATED TOOLS / BREAKING CIRCULATION @ SELECTED INTERVALS / HOLDING CSG @ 11,330 FOR CIRC & CEMENTING CIRC CASING / RD KIMZEY CASERS
	18:00 - 19:30	1.50	CSG	05	D	P		
	19:30 - 22:30	3.00	CSG	12	E	P		SAFETY MEETING (REVIEW J.S.A.) M.I.R.U. BJ EQUIPMENT / TEST PUMPS & LINES TO 4,500 PSI / PUMP 5 BBLS H2O / 10 BBL (20 SKS) SCAVENGER @11.3 ppg 2.83 yield + 607 SX LEAD CEMENT @ 12.3 ppg (PREM LITE II + .25 pps CELLO FLAKE + 5 pps KOL SEAL + .05 lb/sx STATIC FREE + 10% bwoc BENTONITE + .2% bwoc SODIUM META SILICATE + .4 % R-3 + 241.9 BBLS FRESH WATER / (16.74 gal/sx, 2.12 yield) + 1473 SX TAIL @ 14.3 ppg (CLS G 50/50 POZ + 10% SALT + .05lbs/sx STATIC FREE + .2% R3 + .002 GPS FP-6L + 2% BENTONITE + 206.9 BBLS H2O / (5.90 gal/sx, 1.31 yield) / DROP PLUG & DISPLACE W/ 175.5 BBLS H2O + ADDITIVES / PLUG DOWN @ 2200 HOURS / FLOATS HELD W/ 2 BBLS H2O RETURNED TO INVENTORY/ GOOD CIRC THROUGHOUT W/ 13 BBLS LEAD TO PIT LIFT PRESSURE @3400 PSI / BUMP PRESSURE TO 3660 PSI / TOP OF TAIL CEMENT CALCULATED @ 3979 / RIG DOWN CMT EQUIP/ CSG SHOE 11,330,FC @ 11,308/ TOP OF MKR JT MV 7910 ,MKR JT WASATCH 4808
	22:30 - 23:30	1.00	CSG	14	A	P		FLUSH OUT & PICK UP BOP STACK,SET CASING SLIPS W/ 105K,CUT OFF LD LANDING JT

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE	Spud Conductor: 7/1/2011	Spud Date: 7/10/2011
Project: UTAH-UINTAH	Site: NBU 921-201 PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING	Start Date: 8/28/2011	End Date: 9/7/2011
Active Datum: RKB @4,854.00usft (above Mean Sea Level)	UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
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23:30	- 0:00	0.50	CSG	01	A	P		PREP TO SKID,RIG RELEASED TO NBU 921-20IT @ 00:00 9/8/2011
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CONDUCTOR CASING:  
Cond. Depth set:40'  
Cement sx used:28

SPUD DATE/TIME:7/10/2011 21:00

SURFACE HOLE:  
Surface From depth:40'  
Surface To depth:2830'  
Total SURFACE hours:42.50  
Surface Casing size:9 5/8" 36#  
# of casing joints ran:64 JNTS  
Casing set MD:2820'  
# sx of cement:250/225/125  
Cement blend (ppg.):11.0/15.8/15.8  
Cement yield (ft3/sk):3.82/1.15/1.15  
# of bbls to surface:13  
Describe cement issues:13 BBLS CMT TO PIT  
Describe hole issues:NONE

PRODUCTION:  
Rig Move/Skid start date/time:8/28/2011 19:00  
Rig Move/Skid finish date/time:8/29/2011 0:01  
Total MOVE hours:5.0  
Prod Rig Spud date/time:8/29/2011 12:30  
Rig Release date/time:9/8/2011 0:00  
Total SPUD to RR hours:227.5  
Planned depth MD11,339  
Planned depth TVD11,226  
Actual MD:11,339  
Actual TVD:11,226  
Open Wells \$:\$1,002,444  
AFE \$:\$1,118,386  
Open wells \$/ft:\$88.41

PRODUCTION HOLE:  
Prod. From depth:2,852  
Prod. To depth:11,339  
Total PROD hours: 145.5  
Log Depth:11,336  
Production Casing size:4 1/2  
# of casing joints ran:274  
Casing set MD:11,330.0  
# sx of cement:2,100  
Cement blend (ppg.):11.3/12.3/14.3  
Cement yield (ft3/sk):2.83/2.12/1.31  
Est. TOC (Lead & Tail) or 2 Stage :0/3950  
Describe cement issues:13 BBLS CMT TO PIT  
Describe hole issues:NONE

DIRECTIONAL INFO:DIRECTIONAL  
KOP:176

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE		Spud Conductor: 7/1/2011		Spud Date: 7/10/2011	
Project: UTAH-UINTAH		Site: NBU 921-20I PAD			Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING		Start Date: 8/28/2011		End Date: 9/7/2011	
Active Datum: RKB @4,854.00usft (above Mean Sea Level)			UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								Max angle:22.44 Departure:629.00 Max dogleg MD:3.10 / 2944 CHANGE OUT 4 1/2 CASING STRING / HAULED IN FOR THIS WELL A TOTAL OF 702 JTS OF 4 1/2 P-110 BTC CSG A TOTAL OF 299 WERE REJECTED (42 %) DUE TO DARKENED THREADS / SENT 44 JTS GOOD PIPE TO R 139

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 921-20P1BS BLUE	Wellbore No.	OH
Well Name	NBU 921-20P1BS	Wellbore Name	NBU 921-20P1BS
Report No.	1	Report Date	11/4/2011
Project	UTAH-UINTAH	Site	NBU 921-20I PAD
Rig Name/No.		Event	COMPLETION
Start Date	11/4/2011	End Date	11/18/2011
Spud Date	7/10/2011	Active Datum	RKB @4,854.00usft (above Mean Sea Level)
UWI	NE/SE/O9/S21/E20/O0/26/PM/S/1885/E/O/859/O/O		

1.3 General

Contractor	JW WIRELINE	Job Method	PERFORATE	Supervisor	STEVE WALL, SR.
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	10,780.0 (usft)-11,167.0 (u	Start Date/Time	
No. of Intervals	12	End Date/Time	
Total Shots	54	Net Perforation Interval	18.00 (usft)
Avg Shot Density	3.00 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

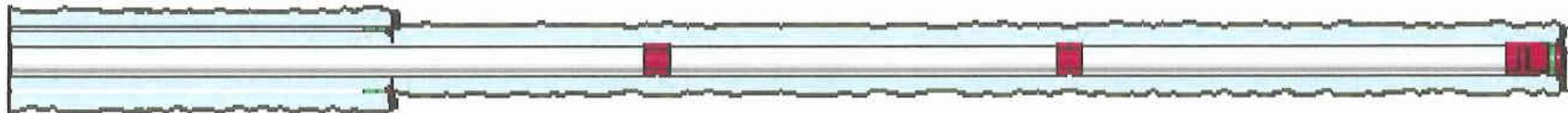
Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
	MESAVERDE/			10,780.0	10,781.0	3.00		0.360			120.00		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
	MESAVERDE/			10,785.0	10,786.0	3.00		0.360			120.00		23.00	PRODUCTIO N	
	MESAVERDE/			10,797.0	10,799.0	3.00		0.360			120.00		23.00	PRODUCTIO N	
	MESAVERDE/			10,822.0	10,824.0	3.00		0.360			120.00		23.00	PRODUCTIO N	
	MESAVERDE/			10,858.0	10,860.0	3.00		0.360			120.00		23.00	PRODUCTIO N	
	MESAVERDE/			10,879.0	10,880.0	3.00		0.360			120.00		23.00	PRODUCTIO N	
	MESAVERDE/			10,950.0	10,952.0	3.00		0.360			120.00		23.00	PRODUCTIO N	
	MESAVERDE/			10,964.0	10,965.0	3.00		0.360			120.00		23.00	PRODUCTIO N	
	MESAVERDE/			10,976.0	10,977.0	3.00		0.360			120.00		23.00	PRODUCTIO N	
	MESAVERDE/			11,058.0	11,060.0	3.00		0.360			120.00		23.00	PRODUCTIO N	
	MESAVERDE/			11,091.0	11,093.0	3.00		0.360			120.00		23.00	PRODUCTIO N	
	MESAVERDE/			11,166.0	11,167.0	3.00		0.360			120.00		23.00	PRODUCTIO N	

3 Plots

3.1 Wellbore Schematic



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

Well: NBU 921-20P1BS BLUE		Spud Conductor: 7/1/2011		Spud Date: 7/10/2011	
Project: UTAH-UINTAH		Site: NBU 921-20I PAD		Rig Name No: ROYAL WELL SERVICE 2/2	
Event: COMPLETION		Start Date: 11/4/2011		End Date: 11/18/2011	
Active Datum: RKB @4,854.00usft (above Mean Sea Level)			UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/4/2011	11:00 - 15:00	4.00	COMP	33		P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 38 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 31 PSI. 1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 200 PSI. 2ND PSI TEST T/ 9000 PSI. HELD FOR 30 MIN. LOST 163 PSI. 3RD PSI TEST T/ 9000 PSI. HELD FOR 30 MIN. LOST 150 PSI. 4TH PSI TEST T/ 9000 PSI. HELD FOR 15 MIN. LOST 178 PSI. ACTS LIKE FLOAT COLLAR LEAKING WILL SET CIBP IN A.M. AND RETEST FRAC VALVE & CSG NO COMMUNICATION WITH SURFACE CSG BLEED OFF PSI. SWIFN
	7:00 - 15:00	8.00	COMP	37		P		RU CASD HOLE SOLUTIONS SET CIBP @ 11226, PRESSURE TO 9000 PSI , LOST 225 PSI IN 30 MIN. SET ANOTHER CIBP @ 11212 PRESSURED TO 9075 LOST 324 IN 30 MIN, PUMP UP TO 9000 HELD FOR 4 MIN DROPPED 2000 PSI INSTANTLY CONTINUED TO DROP TO 4646 BLED WELL DOWN SWI  NOTE:( LOST PRESSURE IN CSG). CEMENT TOP @ 900 ' PER SCHLUMBERGER CBL DATED 10/18/2011, HOLE OR SPLIT IN PIPE BELOW CEMENT TOP. SURFACE CASING STAYED FULL, AFTER LOSING PRESSURE IN 4 1/2 CSG
11/16/2011	14:00 - 14:15	0.25	COMP	48		P		WAIT ON COMPLETION RIG TO FIND CSG, PROBLEM HSM & JSA W/ROYAL WELL SERVICE
	14:15 - 17:00	2.75	COMP	30	A	P		MIRU - SPOT EQUIP. SICP 0 PSI. NDWH, NU BOPs. R/U FLOOR & TBG EQUIP. PREP & TALLY TBG. PU 4" RETRIEVE-A-MATIC PKR & RIH ON 67 JTS 2 3/8 TBG. EOT @ 2139'. SWI - SDFN. DRAIN UP SURFACE EQUIP. FREEZE PROTECT WH. PREP TO P/T CSG IN AM.
11/17/2011	6:45 - 7:00	0.25	COMP	48		P		HSM & JSA W/ROYAL WELL SERVICE

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE      Spud Conductor: 7/1/2011      Spud Date: 7/10/2011  
 Project: UTAH-UINTAH      Site: NBU 921-201 PAD      Rig Name No: ROYAL WELL SERVICE 2/2  
 Event: COMPLETION      Start Date: 11/4/2011      End Date: 11/18/2011  
 Active Datum: RKB @4,854.00usft (above Mean Sea Level)      UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 18:00	11.00	COMP	33	C	P		<p>SICP 0 PSI. EOT @ 2137'. THAW OUT BOPs. RU PMP &amp; LINES. CIRC 10 BBLS DWN TBG TO PIT. PT TBG TO 4100 PSI. (450 PSI LOSS IN 20 MIN). PT CSG TO 4150. (0 PSI LOSS IN 15 MIN). RIH W/32 JTS. EOT @ 3148'. PT TBG TO 4050 PSI &amp; HOLD 15 MIN. (100 PSI LOSS) PT CSG TO 4000 PSI &amp; HOLD 5 MIN (2000 PSI LOSS) PULL 8 STDS TBG. EOT @ 2646'. PT CSG TO 4175 PSI &amp; HOLD 15 MIN (25 PSI LOSS) RIH W/4 STDS TBG. EOT @ 2897'. PT CSG TO 4175 PSI &amp; HOLD 15 MIN (25 PSI LOSS). RIH W/2 STDS TBG. EOT @ 3022'. PT CSG TO 4200 PSI &amp; HOLD 5 MIN (550 PSI LOSS). BUMP PSI BACK TO 4200 PSI &amp; HOLD 15 MIN. (250 PSI LOSS) RIH W/1 STD TBG. EOT @ 3085'. PT CSG TO 4100 PSI &amp; HOLD 15 MIN (0 PSI LOSS) RIH W/1 JT. EOT @ 3117'. PT TBG TO 4000 PSI &amp; HOLD 15 MIN. (0 PSI LOSS) PT CSG TO 4100 PSI (IMMEDIATE PSI LOSS) LD 1 JT &amp; RIH W/10' &amp; 6' PUP JTS. EOT @ 3101'. PT TBG TO 4100 PSI &amp; HOLD 15 MIN (25 PSI LOSS). LD 6' PUP JT. EOT @ 3094.95'. PT TBG TO 4100 PSI &amp; HOLD 15 MIN (75 PSI LOSS). LD 10' PUP JT &amp; PU 6' PUP JT. EOT @ 3091'. PT TBG TO 4100 PSI &amp; HOLD 10 MIN (0 PSI LOSS). LD 6' PUP JT. SET PKR @ 3084'. PT CSG TO 4100 PSI. (IMMEDIATE PSI LOSS). SET PKR @ 3079'. PT CSG TO 4100 PSI. (IMMEDIATE PSI LOSS). SET PKR @ 3077'. PT CSG TO 4100 PSI (IMMEDIATE PSI LOSS) SET PKR @ 3073'. PT CSG TO 4500 PSI &amp; HOLD 10 MIN. (0 PSI LOSS) SET PKR @ 3085'. PT TBG TO 4200 PSI. (0 PSI LOSS). SET PKR @ 3079'. PT TBG TO 4100 PSI &amp; HOLD 15 MIN. (0 PSI LOSS) BLEED OFF TBG. RELEASE PKR. POOH &amp; STD BK 5 STDS IN DRK. SWI - SDFN.</p> <p>CASING LEAK BETWEEN 3073' &amp; 3079' BY TBG TALLY. CSG COLLAR @ 3078' BY SLB LOG OF 10/18/11.</p>
11/18/2011	7:00 - 7:15	0.25	COMP	48	I	P		HSM & JSA W/ROYAL WELL SERVICE.
	7:15 - 14:00	6.75	COMP	31	I	P		POOH W/TBG & LD ON FLOAT. LD PKR. ND BOPs, NUWH. SWI - RACK EQUIP. & RD SERVICE UNIT. ROAD RIG TO NBU 1022-7C PAD.
1/16/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, RIGGING DWN & WATCHING PINCH PIONTS
	7:30 - 11:00	3.50	COMP	30	A	P		RD OFF NBU 920-12LT, MIRU, BLEAD OFF 500 PSI,
	11:00 - 12:00	1.00	COMP	30	F	P		ND WH NU BOPS, RU FLOOR & TBG EQUIP.
	12:00 - 17:00	5.00	COMP	31	I	P		TALLY & PU 37/8 BIT & 144 JTS 23/8 L-80 OFF FLOAT, EOT @ 4562', POOH L/D BIT, SWI SDFN.
1/17/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, WORKING W WASH PIPE TOOLS.

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE		Spud Conductor: 7/1/2011	Spud Date: 7/10/2011
Project: UTAH-UINTAH		Site: NBU 921-20I PAD	Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION		Start Date: 11/4/2011	End Date: 11/18/2011
Active Datum: RKB @4,854.00usft (above Mean Sea Level)		UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:30 - 19:30	12.00	COMP	31	I	P		SICP 0, CSG HAD WTR @ SURFACE, RU WASH PIPE TOOLS, PU 3 13/16 OD SHOE, 2 JTS WASH PIPE, TOP SUB, RIH W/ 96 JTS EOT @ 3129' POOH L/D WASH PIPE. RU JW RIH SET 8-K CBP @ 3093' 15' BELOW LEAKING COLLAR @ 3078'. POOH RD JW. PU & RIH W/ HOMCO INTERNAL CSG PATCH TAG UP ON PLUG @ 3150.12' THIS DEPTH IS NOT RIGHT, FOUND OUT LOG AS PROBLEM, PLUG WAS SET @ 3135' PULLED UP 47' W/ PATCH & SET @ 3103.12' BTM, 3091.62' MIDDLE, 3081.62' TOP PULL 3 JTS EOT @ 3026' SWI SDFN.
1/18/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, TRIPPING TBG & TESTING CSG.
	7:30 - 11:00	3.50	COMP	31	I	P		SICP 0, POOH L/D SETTING TOOL, ND BOPS NU FV, WAIT TILL 13:15, TEST CSG TO 1,195 PSI FOR 15 MIN, LOST 23 PSI, TEST TO 3600 PSI FOR 15 MIN, LOST 969 PSI. TEST TO 6,223 PSI FOR 30 MIN, LOST 3307 PSI. NOT HOLDING, RD B&C.
	11:00 - 15:30	4.50	COMP					
	15:30 - 17:30	2.00	COMP					ORDER PKR F/ TOWN, RIH W/ 4 1/2 32-A PKR & 96 JTS PU 10' PUP TAG TOP OF PATCH @ 3076' 4'IN ON SUB. L/D SUB SET PKR @ 3072', TEST CSG TO 3500 PSI NO PSI LOSS, TEST TBG TO 3500 PSI LOST 1500 PSI IN 2 MIN. UNSET PKR SWI DRAIN EQUIP, SDFN.
1/19/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, WORKING W/ WIRE LINE CREW.
	7:30 - 8:30	1.00	COMP	31	I	P		SICP 0, POOH W/ 96 JTS 23/8 L/D PKR.
	8:30 - 9:30	1.00	COMP	41	A			RU JW RIH W/ GAMA & CCL TAG UP @ 3135'RUN LOG UP CCL @ 3119' BTM PATCH, WLM 3087' CCL @ 3078', TOP OF PATCH @ WLM 3067', MADE CALL TO RUN 2ND PATCH ACROSS COLLAR @ 3119'.RD JW.
	9:30 - 19:00	9.50	COMP	46	E	P		WAIT ON PATCH TO ARIVE.WHILE WAITING RIH W/ HAL 8-K CBP TO SET BELOW PATCH TO TEST, COULDN'T GET TROUGH PATCH. WAIT ON MILL, PU RIH W/ 3 5/8 TAPPED MILL, BS, & 96 JTS WORK TROUGH PATCH. IT WAS TIGHT.WORK UP & DWN TROUGH PATCH SEVERAL TIMES. POOH L/D MILL & BS.SHUT RAMS PRESSURE ON CSG TO 3500 PSI.NOT HOLDING, RIH W/ BAKER 8-K CBP COULDT GET IN PATCH AGAIN.
1/20/2012	6:45 - 7:00	0.25	COMP	48		P		HSM. TRIPPING HAZARDS
	7:00 - 18:00	11.00	COMP	31	I	P		OPEN WELL 0 PSI. PU 3 5/8 CSG SWEGE + BUMPER SUB ( 2' STROKE ) + X-OVER. RIH W/ 96 JTS, TAG TOP OF PATCH @ 3067'. WORK 3 5/8 CSG SWEGE THROUGH 20' PATCH. ( TOP 1' STACK OUT W/ TBG T/ GET THROUGH. BTM 1 1/2' STACK OUT W/ TBG T/ WORK THROUGH. ) WORK THROUGH PATCH FOR 30 MIN. POOH W/ TBG. LD CSG SWEG & BUMPER SUB. RU JW WIRE LINE. PU 4 1/2 8K BAKER CBP. RIH TAG TOP OF CSG PATCH @ 3067'. COULD NOT GET INTO CSG PATCH W/ CBP. POOH W/ WIRE LINE. LD BAKER 8K CBP. RDMO JW WIRE LINE. SWIFWE. (( WAIT FOR PATCH MILLING TOOL. ))

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

Well: NBU 921-20P1BS BLUE		Spud Conductor: 7/1/2011		Spud Date: 7/10/2011	
Project: UTAH-UINTAH		Site: NBU 921-201 PAD		Rig Name No: ROYAL WELL SERVICE 2/2	
Event: COMPLETION		Start Date: 11/4/2011		End Date: 11/18/2011	
Active Datum: RKB @4,854.00usft (above Mean Sea Level)			UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/23/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, WORKING W/ TOOL HAND MILLING ON PATCH.
	7:30 - 10:00	2.50	COMP	31	I	P		SICP 0, PU SECTION MILLING TOOL, STABILIZER, JARS, 4- 31/8 COLLARS, X/O, & 92 JTS 23/8 TAG UP ON PATCH, RU DRLG EQUIP, BROIKE CIRC, DRILLED 1' OF PATCH, HAD BAD LEAK IN RIG TANK, CIRC CLEAN HAD TO SHUT DWN.
	10:00 - 13:30	3.50	COMP	46	E	P		WAIT ON ANOTHER CIRC TNK TO ARIVE. SWITCHED OUT TNKS
	13:30 - 17:00	3.50	COMP	44	D	P		BROKE CIRC, DRILL ANOTHER 3' CIRC WELL CLEAN SWI SDFN.
1/24/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, WORKING W/ RIG PUMP & SWIVEL
	7:30 - 17:00	9.50	COMP	44	D	P		SICP 0, BROKE CIRC CONTINUE MILLING ON PATCH.MADE 9' TODAY, TOTAL 13' SO FAR. CIRC CLEAN DRAIN EQUIP SWI SDFN
1/25/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, WORKING W/ SWIVEL & RIG PUMP.
	7:30 - 14:45	7.25	COMP	44	D	P		SICP 0, BROKE CIRC, MILL UP REM 7' OF PATCH, WORK TROUGH PATCH AREA, CIRC CLEAN.
	14:45 - 17:00	2.25	COMP	31	I	P		RD SWIVEL, POOH W/ 92 23/8 TBG, L/D BHA. SWI SDFN.
1/26/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, WORKING W/ PKR HAND & WORKING AROUND PRESSURE.
	7:30 - 10:00	2.50	COMP	31	C	P		SICP 0, PU RIH W/ 41/2 32-A PKR & 97 JTS SET PKR @ 3103', TEST TBG TO 3500 PSI NO LEAK. TEST CSG TO 3500 PSI, LEAKING 1400 PSI IN 2 MIN TWICE. UNSET PKR.
	10:00 - 14:30	4.50	COMP	31	I			POOH W/ 97 JTS L/D PKR PU RBS 37/8 MILL, CSG SCRAPPER, X/O, 1- 3 1/16 COLLAR, X/O, TBG PUP. RIH W/ 97 JTS 23/8 TAG CBP @ 3127.80'. POOH 1 JT EOT @ 3109' RU SWIVEL, BROKE CIRC WORK MILL F/ 3109' UP TO 3046' 30' ON BOTH SIDES OF COLLAR. RD SWIVEL. WENT DWN & CIRC ON CBP NO JUNK ON BTM, POOH L/D MILL ASSEMBLY.
	14:30 - 22:30	8.00	COMP	31	I	P		SET UP & PU SALTEL 12.84' PATCH, RIH W/ 98 JTS TAG CBP @ 3135' PULL UP 52' SET PATCH, AS OF PROCEDURE. PULLOUT OF PATCH, TEST CSG TO 2500 PSI W/ RIG PUMP FOR 10 MIN GOOD TEST. RUN TOOLS BACK TROUGH PATCH PULL BACK OUT OF PATCH SWI DRAIN EQUIP.
1/27/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, POOH W/ TBG, LAYING DWN PATCH SETTING TOOLS.
	7:30 - 11:00	3.50	COMP	31	I	P		SICP 0, POOH W/ TBG L/D PATCH SETTING TOOLS.TEST CSG TO 4,000 PSI FOR 10 MIN GOOD TEST W/ RIG PUMP. RU CASED HOLE RIH W/ 3.60 " OD PLUG SETTING TOOL TROUGH PATCH. POOH RIH W/ BAKER 8-K CBP TO SEE IF IT WILL GO TROUGH PATCH OK. POOH RD CASED HOLE.

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE		Spud Conductor: 7/1/2011	Spud Date: 7/10/2011
Project: UTAH-UINTAH		Site: NBU 921-201 PAD	Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION		Start Date: 11/4/2011	End Date: 11/18/2011
Active Datum: RKB @4,854.00usft (above Mean Sea Level)		UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	11:00 - 18:30	7.50	COMP	31	I	P		PU RIH W/ 35/8 BIT & TBG TAG UP ON CBP @ 3135' RU DRLG EQUIP, D/O CBP RIH TO 4591 ' W/ TBG, NOTHING TAGGED, POOH W/ 144 JTS L/D BIT.ND BOPS NU FV. RU B&C TEST CSG TO 1075 PSI FOR 15 MIN, LOST 19 PSI, TEST TO 3581 PSI LOST 88 PSI, TEST TO 9,056 PSI LOST 375 PSI IN 10 MIN. TEST TO 9181 PSI LOST 231 PSI IN 5 MIN. TEST TO 9150 PSI LOST 575 PSI IN 15 MIN, 1100 IN 30 MIN. BLEAD DWN TO 5450 LOST 225 PSI IN 15 MIN. BLEAD DWN TO 5037 PSI LOST 206 PSI IN 15 MIN. RD B&C SWI SDFN.
1/30/2012	7:00 - 15:00	8.00	COMP	46	A	P		STANDBY FOR ORDERS
1/31/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, PROPER PPE.
	7:30 - 13:00	5.50	COMP	31	I	P		SICP 0, ND FV, NU BOPS, RU FLOOR, RIH W/ 144 JTS 23/8 L-80 OUT OF DERICK. POOH L/D SAME. ND BOPS NU FV, SWI RDMOL.
3/29/2012	7:00 - 7:30	0.50	COMP	48		P		381 JTS 23/8 L-80 ON FLOAT ON LOCATION HSM, WORKING W/ FISHING TOOL HAND * EQUIP.
	7:30 - 9:00	1.50	COMP	30	F	P		ND FV, NU BOPS, RU FLOOR & EQUIP.
	9:00 - 18:30	9.50	COMP	31	B	P		TALLY & PU SPEAR, X/O SUB, BS,JARS,4-31/3 COLLARS,INT,X/O,PUP JT, 92 JTS 23/8 L-80 OFF FLOAT, TAG & SPEAR INTO PATCH, SET JARS OFF 15,000# OVER 1 TIME PATCH CAME FREE, POOH SLOW PATCH DRAGGING,GOT TO WELL HEAD TOP OFF PATCH HUNG UP IN WELL HEAD, STRIPPED OFF BOPS, 10,000 # 41/2 HANGER SPOOL FISH IS IN 4"X11' SPOOL, BROKE BOLTS & STRIP OUT PATCH, NU NEW 11"X4' SPOOL & 10K TBG HEAD NU BOPS SWI SDFN.
3/30/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, LAYING DOWN FISHING TOOLS.
	7:30 - 18:30	11.00	COMP	31	I	P		SICP 0,RUN FISHING BHA L/D SAME. PU RIH W/ 37/8 BIT & 90 JTS 23/8 L-80 OUT OF DERICK PU 8 JTS TAG UP @ 3132' PUSHED TO 3185' W/ 2 MORE JTS WOULDN'T MOVE, RU SWMVEL BROKE CIRC DRILL UP, CONTINUE TO PU TBG, HIT PLUG & HAD TO DRILL TROUGH 2 MORE TIMES C/O TO 11,203' TOTAL 354 JTS IN. CIRC WELL CLEAN W/ 160 BBLs T-MAC. L/D 10 JTS ON FLOAT SWI SDFN.
4/2/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, LAYING DOWN TBG ON FLOAT.
	7:30 - 12:30	5.00	COMP	31	I	P		SICP 0, LD REM 344 JTS 23/8 L-80 ON FLOAT. L/D BIT.
	12:30 - 19:30	7.00	COMP	34				RU CASSED HOLE, RUN 41/2 GUAGE RING & JUNK BASKET TO 11,170' POOH RIH PERF WELL ASOF PROCEDURE, POOH RIH W/ BAKER MODEL D PERMENENT PKR AS OF PROCEDURE & SET TOP @ 10,690' BTM @ 10,725.31' POOH RD CASSED HOLE SWI SDFN.
4/3/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, PICKING UP 27/8 TBG OFF RACKS.
	7:30 - 17:00	9.50	COMP	31	I	P		578SICP 200 PSI, BLEAD OFF PSI, X/O EQUIP TO 27/8. TALLY & PU BAKER SEAL ASS & 279 JTS 27/8 L-80 OFF RACKS EOT @ 8886' SWI SDFN
4/4/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, PUMPING PKR FLUID.

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20P1BS BLUE	Spud Conductor: 7/1/2011	Spud Date: 7/10/2011
Project: UTAH-UINTAH	Site: NBU 921-20I PAD	Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 11/4/2011	End Date: 11/18/2011
Active Datum: RKB @4,854.00usft (above Mean Sea Level)	UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:30 - 18:00	10.50	COMP	31	I	P		<p>SICP 500 PSI, BLEAD OFF PSI, PU REM 58 JTS 27/8 L-80 TAG PKR GOT SPACED OUT UNSTUNG OUT OF PKR, MIX &amp; PICKLE CSG W/ PKR FLUID, PU 6' 27/8 PUP &amp; HANGER STUNG INTO PKR &amp; LAND W/ 20,000# COMPRESSION, TEST CSG TO 1,000 PSI NO COMMUNICATION W/ TBG. TRY TO UNSREW LANDING JT IT GUALDED, LIFT BOPS UNLAND TBG, CHANGED OUT HANGER, ND BOPS NU SINGLE VALVE FRAC VALVE.RIG DOWN MOVE TO NBU 920-24I, SDFN.</p> <p>KB = 26'            41/2 HANGER W/ 27/8 THREADS = .83'            27/8 PUP JT = 6'            336 JTS 27/8 L-80 W/ SLIM HOLE COLLARS = 10,666.52'            X/O 27/8 X 23/8 = .56' W/ SEAL ASSMBLY INSIDE PKR.            10,699.91' TBG LANDED IN 20,000# COMPRESION</p> <p>41/2 MODEL D PERMENENT PKR = 2.55' ( TOP @ 10,690' W.L.M. ) SET BY WIRE LINE.            B GUIDE X 23/8 8RD = .63'            23/8 L-80 PUP JT = 6.20'            41/2 CENTRALIZER = .86'            LANDING NIPPLE 1.875 = .94'            23/8 L-80 PUP JT = 10.05'            23/8 L-80 PUP JT = 6.16'            LANDING NIPPLE 1.875 W/ 1.791 NO GO = 1.05'            23/8 L-80 PUP JT = 6.20'            WIRE LINE ENTRY GUIED = .67'            ( BTM OF ASSEMBLY @ 10,725.31' W.L.M. )</p>
4/10/2012	10:00 - 12:30	2.50	COMP	33		P		<p>NU 4 1/2' FRAC VALVE ON TOP OF A SINGLE, 4 1/2' FRAC VALVE            RU B &amp; C QUICK TEST TEST VALVES AND RING GASKET TO 9000            PSI, HELD TEN MINUTES GOOD SWMFN</p>
4/11/2012	-							
4/12/2012	7:00 - 9:00	2.00	COMP	36	B	P		MOVE IN RIG UP HALLIBURTON FRAC CREW.

**US ROCKIES REGION**

**Operation Summary Report**

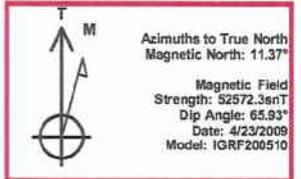
Well: NBU 921-20P1BS BLUE	Spud Conductor: 7/1/2011	Spud Date: 7/10/2011
Project: UTAH-UINTAH	Site: NBU 921-20I PAD	Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 11/4/2011	End Date: 11/18/2011

Active Datum: RKB @4,854.00usft (above Mean Sea Level)      UWI: NE/SE/0/9/S/21/E/20/0/0/26/PM/S/1885/E/0/859/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	9:00 - 15:30	6.50	COMP	36	B	P		FRAC STAGE 1 AS PER DESIGN W/ 30/50 OTTOWA SAND AND 25# XLINK GEL. BRK DWN STG 1 @ 6300#. EST INJ RT @ 11 BPM @ 5160#. ISIP 2151#, FG .64. PUMP 250# OF BIOVERT DIVERTER IN 26.2 BBLS GEL.  PUMPS LOST PRIME. TEAR PUMPS DWN FOUND VALVES IN FRAC PUMPS FAILED. REBUILD 30 VALVES AND CONT TO FRAC.  TREAT STAGE 2 AS PER DESIGN.  AVG PSI FOR JOB 7017# AVG RATE 17.7 BPM MAX PSI 7983# MAX RATE 20.8 BPM  TOTAL 30/50 SAND 158,460# TOTAL CLEAN FLUID 2946.8 BBLS  FINAL ISIP 3053#, NPI 902#, FG .70  RDMO HALLIBURTON. ND FRAC VAVLES. NUWH. R/U FLOW BACK EQUIP. BEG FLOW BACK WELL TURNED TO SALES AT 815 HR ON 4/13/2012 - 1900 MCFD, 1080 BWPD, FCP 0#(PACKER IN HOLE), FTP 1300#, CK 18/64 WELL IP'D ON 4/14/2012 - 1235 MCFD, 0 BOPD, 432 BWPD, CP 0#, FTP 450#, CK 20/64, LP 0#, 24 HRS
4/13/2012	8:15 -		PROD	50				
4/14/2012	7:00 -			50				

**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 921-20I PAD  
**Well:** NBU 921-20P1BS  
**Wellbore:** NBU 921-20P1BS  
**Section:**  
 SHL:  
 Design: NBU 921-20P1BS (wp02)  
 Latitude: 40.019474  
 Longitude: -109.568536  
 GL: 4828.01  
 KB: 26° RKB + 4828° GL @ 4854.01ft (H&P 298)

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4938.01	5057.57	Top Wasatch (TOP OF CYLINDER)
7876.02	7995.58	Top Mesaverde
8929.02	9048.58	MVU21
9425.02	9544.58	MVL1

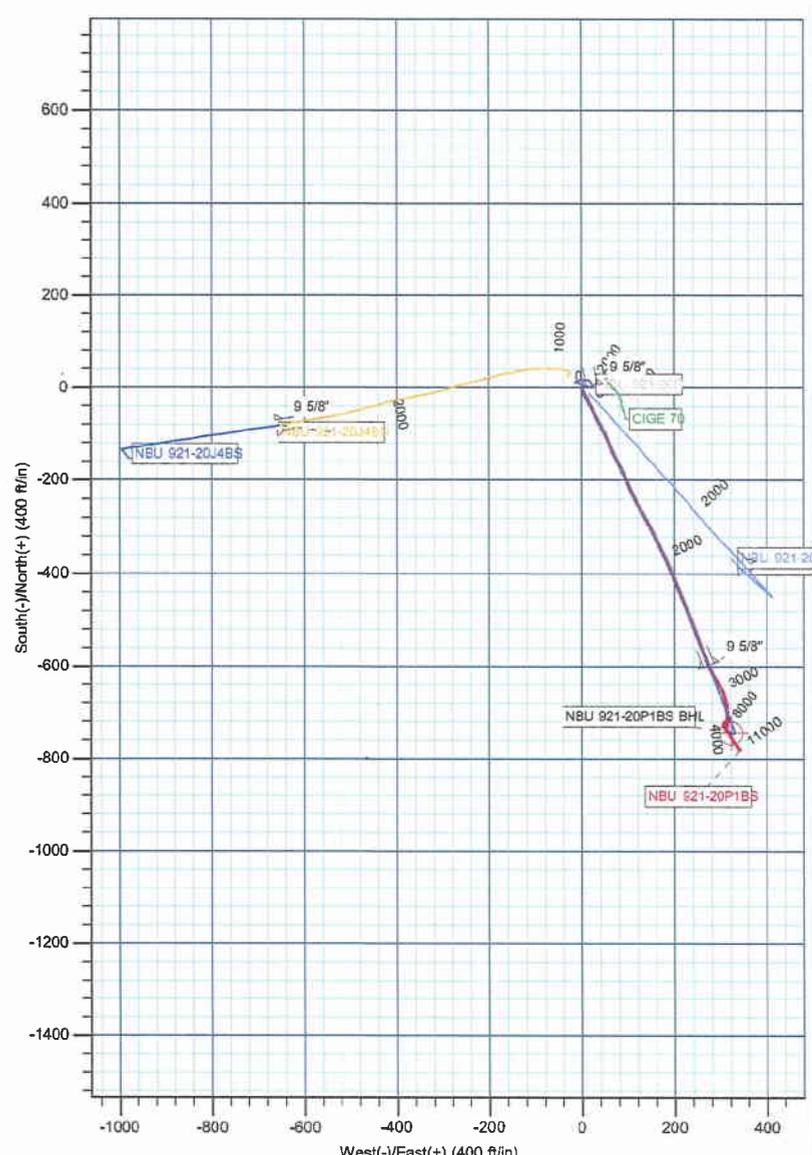
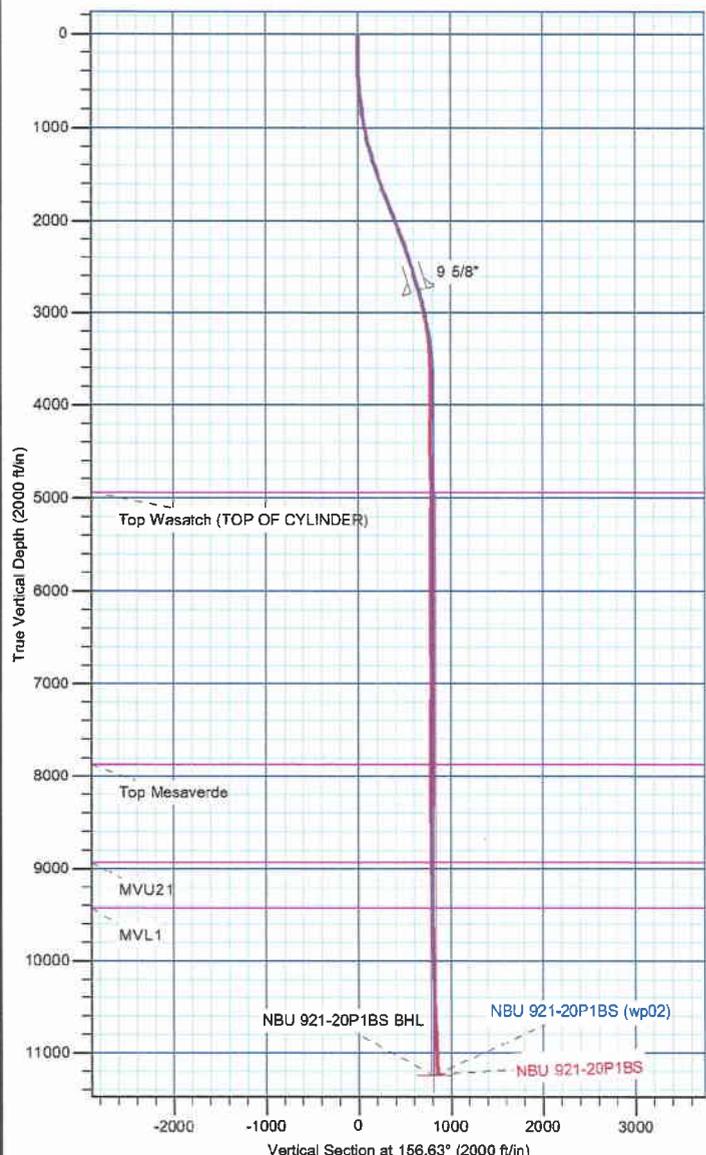


WELL DETAILS: NBU 921-20P1BS						
+N/-S	+E/-W	Northing	Ground Level: Easting	4828.01 Latitude	Longitude	Slot
0.00	0.00	14536355.37	2041203.45	40.019474	-109.568536	

CASING DETAILS			
TVD	MD	Name	Size
2761.83	2864.01	9 5/8"	9-5/8

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
NBU 921-20P1BS BHL	11248.02	-744.06	321.48	14535616.57	2041536.85	40.017431	-109.567388	Circle (Radius: 25.00)	

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
2832.01	16.93	158.77	2731.21	-588.20	269.64	0.00	0.00	646.90	
2982.01	16.93	158.77	2874.71	-628.91	285.46	0.00	0.00	690.55	
3829.95	0.07	274.93	3710.39	-744.80	330.01	2.00	179.80	814.60	
11367.58	0.07	274.93	11248.02	-744.06	321.48	0.00	0.00	810.55	



# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20P1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20I PAD	<b>MD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Well:</b>	NBU 921-20P1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20P1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20P1BS	<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 921-20I PAD			
<b>Site Position:</b>		<b>Northing:</b>	14,536,367.50 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,041,187.57 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	0 "
		<b>Latitude:</b>	40.019508
		<b>Longitude:</b>	-109.568592
		<b>Grid Convergence:</b>	0.92 °

<b>Well</b> NBU 921-20P1BS			
<b>Well Position</b>	+N/-S 0.00 ft	<b>Northing:</b>	14,536,355.37 usft
	+E/-W 0.00 ft	<b>Easting:</b>	2,041,203.45 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40.019474
		<b>Longitude:</b>	-109.568536
		<b>Ground Level:</b>	4,828.01 ft

<b>Wellbore</b> NBU 921-20P1BS					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/23/2009	11.37	65.93	52,572

<b>Design</b> NBU 921-20P1BS					
<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>	
	0.00	0.00	0.00		0.00

<b>Survey Program</b> Date 9/29/2011					
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
198.00	2,832.00	Survey #1 (NBU 921-20P1BS)	MWD	MWD - Standard	
2,944.00	11,339.00	Survey #2 (NBU 921-20P1BS)	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
198.00	0.29	2.36	198.00	0.45	0.02	0.45	0.16	0.16	0.00
280.00	0.44	152.88	280.00	0.37	0.17	0.37	0.86	0.18	183.56
372.00	1.30	160.80	371.99	-0.93	0.67	-0.93	0.94	0.93	8.61
462.00	2.44	162.64	461.94	-3.72	1.58	-3.72	1.27	1.27	2.04
552.00	3.69	159.64	551.81	-8.26	3.16	-8.26	1.40	1.39	-3.33
642.00	5.00	155.52	641.55	-14.55	5.79	-14.55	1.50	1.46	-4.58
732.00	6.94	153.02	731.06	-22.97	9.89	-22.97	2.17	2.16	-2.78
822.00	8.56	153.14	820.23	-33.79	15.38	-33.79	1.80	1.80	0.13
912.00	9.75	152.14	909.08	-46.50	21.97	-46.50	1.33	1.32	-1.11

**Anadarko Petroleum Corp**  
Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20P1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20I PAD	<b>MD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Well:</b>	NBU 921-20P1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20P1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20P1BS	<b>Database:</b>	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)
1,002.00	11.31	153.89	997.57	-61.16	29.41	-61.16	1.77	1.73	1.94
1,092.00	13.13	151.89	1,085.52	-78.11	38.11	-78.11	2.08	2.02	-2.22
1,182.00	14.72	155.47	1,172.88	-97.53	47.68	-97.53	2.01	1.77	3.98
1,272.00	16.00	155.64	1,259.66	-119.23	57.54	-119.23	1.42	1.42	0.19
1,362.00	17.19	154.39	1,345.91	-142.52	68.41	-142.52	1.38	1.32	-1.39
1,452.00	17.38	153.77	1,431.85	-166.57	80.10	-166.57	0.29	0.21	-0.69
1,542.00	18.69	153.89	1,517.42	-191.58	92.39	-191.58	1.46	1.46	0.13
1,632.00	19.25	156.27	1,602.54	-218.11	104.70	-218.11	1.06	0.62	2.64
1,722.00	20.94	152.52	1,687.06	-245.96	118.10	-245.96	2.36	1.88	-4.17
1,812.00	21.77	151.52	1,770.88	-274.90	133.48	-274.90	1.01	0.92	-1.11
1,902.00	21.25	152.27	1,854.61	-304.01	149.02	-304.01	0.65	-0.58	0.83
1,992.00	21.81	152.77	1,938.33	-333.31	164.26	-333.31	0.65	0.62	0.56
2,082.00	22.00	156.14	2,021.84	-363.60	178.73	-363.60	1.41	0.21	3.74
2,172.00	22.44	155.39	2,105.15	-394.63	192.70	-394.63	0.58	0.49	-0.83
2,262.00	20.00	158.39	2,189.05	-424.56	205.53	-424.56	2.97	-2.71	3.33
2,352.00	18.76	157.42	2,273.95	-452.23	216.75	-452.23	1.42	-1.38	-1.08
2,442.00	18.13	157.39	2,359.32	-478.52	227.69	-478.52	0.70	-0.70	-0.03
2,532.01	17.94	159.14	2,444.90	-504.40	238.01	-504.40	0.64	-0.21	1.94
2,622.01	17.63	160.39	2,530.60	-530.20	247.52	-530.20	0.55	-0.34	1.39
2,712.01	17.25	158.77	2,616.46	-555.47	256.93	-555.47	0.69	-0.42	-1.80
2,772.01	16.93	158.77	2,673.81	-571.91	263.31	-571.91	0.53	-0.53	0.00
2,832.00	16.93	158.77	2,731.21	-588.19	269.64	-588.19	0.00	0.00	0.00
<b>tie on</b>									
2,832.01	16.93	158.77	2,731.21	-588.20	269.64	-588.20	0.00	0.00	0.00
2,944.00	14.02	151.60	2,839.15	-615.34	282.00	-615.34	3.10	-2.60	-6.40
3,038.00	12.41	148.59	2,930.66	-633.97	292.68	-633.97	1.86	-1.71	-3.20
3,133.00	11.10	155.39	3,023.67	-651.00	301.81	-651.00	2.00	-1.38	7.16
3,227.00	8.63	162.37	3,116.27	-665.95	307.72	-665.95	2.91	-2.63	7.43
3,322.00	8.94	169.87	3,210.16	-680.01	311.17	-680.01	1.25	0.33	7.89
3,417.00	7.94	176.00	3,304.13	-693.83	312.93	-693.83	1.41	-1.05	6.45
3,511.00	5.88	178.00	3,397.44	-705.11	313.55	-705.11	2.21	-2.19	2.13
3,606.00	5.19	181.00	3,492.00	-714.27	313.65	-714.27	0.79	-0.73	3.16
3,700.00	2.88	187.12	3,585.76	-720.87	313.28	-720.87	2.50	-2.46	6.51
3,794.00	1.06	209.37	3,679.70	-723.97	312.56	-723.97	2.06	-1.94	23.67
3,889.00	0.94	296.75	3,774.69	-724.39	311.43	-724.39	1.46	-0.13	91.98
3,983.00	0.81	256.75	3,868.68	-724.19	310.10	-724.19	0.65	-0.14	-42.55
4,078.00	1.25	235.87	3,963.67	-724.93	308.59	-724.93	0.60	0.46	-21.98
4,172.00	1.06	329.50	4,057.66	-724.75	307.30	-724.75	1.80	-0.20	99.61
4,267.00	1.44	301.75	4,152.63	-723.37	305.84	-723.37	0.74	0.40	-29.21
4,361.00	1.06	40.75	4,246.62	-722.09	305.40	-722.09	2.04	-0.40	105.32
4,456.00	1.06	76.87	4,341.61	-721.22	306.83	-721.22	0.69	0.00	38.02
4,550.00	1.25	101.75	4,435.59	-721.23	308.68	-721.23	0.56	0.20	26.47
4,645.00	1.44	116.37	4,530.56	-721.97	310.76	-721.97	0.41	0.20	15.39

# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20P1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20I PAD	<b>MD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Well:</b>	NBU 921-20P1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20P1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20P1BS	<b>Database:</b>	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)
4,740.00	1.06	167.00	4,625.54	-723.36	312.03	-723.36	1.18	-0.40	53.29
4,834.00	1.19	161.87	4,719.52	-725.14	312.53	-725.14	0.17	0.14	-5.46
4,928.00	1.25	147.37	4,813.50	-726.93	313.39	-726.93	0.33	0.06	-15.43
5,023.00	0.75	167.37	4,908.49	-728.41	314.08	-728.41	0.63	-0.53	21.05
5,118.00	0.94	322.12	5,003.48	-728.40	313.74	-728.40	1.74	0.20	162.90
5,212.00	0.75	317.37	5,097.47	-727.34	312.85	-727.34	0.22	-0.20	-5.05
5,307.00	0.63	311.50	5,192.47	-726.53	312.04	-726.53	0.15	-0.13	-6.18
5,401.00	0.25	302.87	5,286.46	-726.08	311.48	-726.08	0.41	-0.40	-9.18
5,495.00	0.19	242.62	5,380.46	-726.04	311.17	-726.04	0.24	-0.06	-64.10
5,590.00	0.13	258.87	5,475.46	-726.13	310.92	-726.13	0.08	-0.06	17.11
5,684.00	0.25	266.50	5,569.46	-726.17	310.61	-726.17	0.13	0.13	8.12
5,779.00	0.44	254.75	5,664.46	-726.27	310.05	-726.27	0.21	0.20	-12.37
5,873.00	0.44	251.00	5,758.46	-726.49	309.36	-726.49	0.03	0.00	-3.99
5,968.00	0.38	236.75	5,853.45	-726.78	308.75	-726.78	0.12	-0.06	-15.00
6,062.00	0.44	221.75	5,947.45	-727.22	308.25	-727.22	0.13	0.06	-15.96
6,156.00	0.44	208.62	6,041.45	-727.80	307.84	-727.80	0.11	0.00	-13.97
6,251.00	0.75	213.75	6,136.44	-728.64	307.32	-728.64	0.33	0.33	5.40
6,345.00	0.81	197.37	6,230.44	-729.79	306.78	-729.79	0.24	0.06	-17.43
6,440.00	1.13	327.12	6,325.43	-729.64	306.07	-729.64	1.85	0.34	136.58
6,534.00	1.81	30.50	6,419.40	-727.58	306.32	-727.58	1.75	0.72	67.43
6,628.00	0.88	115.87	6,513.38	-726.62	307.72	-726.62	2.07	-0.99	90.82
6,723.00	0.94	131.12	6,608.37	-727.45	308.97	-727.45	0.26	0.06	16.05
6,818.00	1.19	137.37	6,703.35	-728.69	310.22	-728.69	0.29	0.26	6.58
6,912.00	0.25	249.00	6,797.35	-729.48	310.69	-729.48	1.39	-1.00	118.76
7,007.00	0.56	242.12	6,892.35	-729.77	310.09	-729.77	0.33	0.33	-7.24
7,101.00	0.63	214.37	6,986.34	-730.41	309.39	-730.41	0.31	0.07	-29.52
7,196.00	0.75	349.50	7,081.34	-730.23	308.98	-730.23	1.34	0.13	142.24
7,291.00	0.69	348.00	7,176.33	-729.06	308.75	-729.06	0.07	-0.06	-1.58
7,385.00	0.25	336.62	7,270.33	-728.32	308.55	-728.32	0.48	-0.47	-12.11
7,479.00	0.38	355.50	7,364.33	-727.82	308.44	-727.82	0.18	0.14	20.09
7,574.00	0.19	33.87	7,459.32	-727.38	308.51	-727.38	0.27	-0.20	40.39
7,669.00	0.13	69.37	7,554.32	-727.21	308.70	-727.21	0.12	-0.06	37.37
7,763.00	0.25	67.37	7,648.32	-727.09	308.99	-727.09	0.13	0.13	-2.13
7,858.00	0.25	67.00	7,743.32	-726.93	309.37	-726.93	0.00	0.00	-0.39
7,952.00	0.38	132.87	7,837.32	-727.06	309.78	-727.06	0.38	0.14	70.07
8,047.00	0.19	127.50	7,932.32	-727.37	310.14	-727.37	0.20	-0.20	-5.65
8,142.00	0.56	129.87	8,027.32	-727.77	310.62	-727.77	0.39	0.39	2.49
8,236.00	0.63	270.37	8,121.32	-728.06	310.46	-728.06	1.19	0.07	149.47
8,331.00	0.75	245.25	8,216.31	-728.31	309.37	-728.31	0.34	0.13	-26.44
8,426.00	0.63	236.00	8,311.30	-728.87	308.37	-728.87	0.17	-0.13	-9.74
8,520.00	0.50	240.37	8,405.30	-729.36	307.59	-729.36	0.15	-0.14	4.65
8,614.00	0.56	205.00	8,499.29	-729.98	307.04	-729.98	0.35	0.06	-37.63
8,709.00	0.50	151.25	8,594.29	-730.76	307.04	-730.76	0.51	-0.06	-56.58

# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b> US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b> Well NBU 921-20P1BS
<b>Project:</b> UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b> 26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Site:</b> UINTAH_NBU 921-20I PAD	<b>MD Reference:</b> 26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Well:</b> NBU 921-20P1BS	<b>North Reference:</b> True
<b>Wellbore:</b> NBU 921-20P1BS	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> NBU 921-20P1BS	<b>Database:</b> 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)	
8,804.00	0.44	143.12	8,689.29	-731.42	307.46	-731.42	0.09	-0.06	-8.56	
8,898.00	0.69	142.37	8,783.28	-732.15	308.02	-732.15	0.27	0.27	-0.80	
8,992.00	0.63	140.12	8,877.28	-733.00	308.70	-733.00	0.07	-0.06	-2.39	
9,087.00	0.81	121.62	8,972.27	-733.75	309.60	-733.75	0.31	0.19	-19.47	
9,181.00	0.94	131.00	9,066.26	-734.61	310.75	-734.61	0.21	0.14	9.98	
9,275.00	0.88	145.87	9,160.25	-735.71	311.74	-735.71	0.26	-0.06	15.82	
9,370.00	0.94	143.75	9,255.23	-736.94	312.61	-736.94	0.07	0.06	-2.23	
9,464.00	0.56	140.87	9,349.23	-737.92	313.36	-737.92	0.41	-0.40	-3.06	
9,559.00	0.88	149.75	9,444.22	-738.91	314.02	-738.91	0.36	0.34	9.35	
9,653.00	1.00	140.87	9,538.21	-740.17	314.90	-740.17	0.20	0.13	-9.45	
9,748.00	0.81	134.75	9,633.19	-741.29	315.90	-741.29	0.22	-0.20	-6.44	
9,842.00	0.81	151.00	9,727.19	-742.33	316.69	-742.33	0.24	0.00	17.29	
9,937.00	1.13	143.37	9,822.17	-743.67	317.58	-743.67	0.36	0.34	-8.03	
10,032.00	1.13	166.37	9,917.15	-745.34	318.36	-745.34	0.47	0.00	24.21	
10,126.00	1.25	161.50	10,011.13	-747.21	318.90	-747.21	0.17	0.13	-5.18	
10,221.00	1.31	150.62	10,106.11	-749.14	319.76	-749.14	0.26	0.06	-11.45	
10,324.00	1.50	153.00	10,209.08	-751.36	320.95	-751.36	0.19	0.18	2.31	
10,418.00	1.69	155.25	10,303.04	-753.72	322.09	-753.72	0.21	0.20	2.39	
10,513.00	1.75	154.75	10,398.00	-756.30	323.29	-756.30	0.07	0.06	-0.53	
10,607.00	1.81	145.75	10,491.95	-758.83	324.74	-758.83	0.30	0.06	-9.57	
10,702.00	1.88	142.75	10,586.90	-761.31	326.53	-761.31	0.13	0.07	-3.16	
10,796.00	2.19	142.12	10,680.85	-763.95	328.57	-763.95	0.33	0.33	-0.67	
10,891.00	2.19	143.50	10,775.78	-766.85	330.76	-766.85	0.06	0.00	1.45	
10,985.00	2.25	147.25	10,869.71	-769.84	332.83	-769.84	0.17	0.06	3.99	
11,080.00	2.38	143.50	10,964.63	-773.00	335.01	-773.00	0.21	0.14	-3.95	
11,175.00	2.38	144.00	11,059.55	-776.18	337.34	-776.18	0.02	0.00	0.53	
11,269.00	2.25	142.75	11,153.47	-779.23	339.61	-779.23	0.15	-0.14	-1.33	
<b>last mwd</b>										
11,339.00	2.25	142.75	11,223.42	-781.41	341.27	-781.41	0.00	0.00	0.00	
<b>projection</b>										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
2,832.00	2,731.21	-588.19	269.64	tie on	
11,269.00	11,153.47	-779.23	339.61	last mwd	
11,339.00	11,223.42	-781.41	341.27	projection	

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

# **US ROCKIES REGION PLANNING**

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

**UINTAH\_NBU 921-20I PAD**

**NBU 921-20P1BS**

**NBU 921-20P1BS**

**Design: NBU 921-20P1BS**

## **Survey Report - Geographic**

**29 September, 2011**

**Anadarko Petroleum Corp**  
Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20P1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20I PAD	<b>MD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Well:</b>	NBU 921-20P1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20P1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20P1BS	<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 921-20I PAD				
<b>Site Position:</b>		<b>Northing:</b>	14,536,367.50 usft	<b>Latitude:</b>	40.019508
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,041,187.57 usft	<b>Longitude:</b>	-109.568592
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	0 "	<b>Grid Convergence:</b>	0.92 °

<b>Well</b>	NBU 921-20P1BS					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,536,355.37 usft	<b>Latitude:</b>	40.019474
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,041,203.45 usft	<b>Longitude:</b>	-109.568536
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,828.01 ft

<b>Wellbore</b>	NBU 921-20P1BS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	4/23/2009	11.37	65.93	52,572

<b>Design</b>	NBU 921-20P1BS				
<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>	
	0.00	0.00	0.00	0.00	

<b>Survey Program</b>	<b>Date</b>	9/29/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
198.00	2,832.00	Survey #1 (NBU 921-20P1BS)	MWD	MWD - Standard	
2,944.00	11,339.00	Survey #2 (NBU 921-20P1BS)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Map Northing (usft)</b>	<b>Map Easting (usft)</b>	<b>Latitude</b>	<b>Longitude</b>	
22.00	0.00	0.00	22.00	0.00	0.00	14,536,355.37	2,041,203.45	40.019474	-109.568536	
198.00	0.29	2.36	198.00	0.45	0.02	14,536,355.82	2,041,203.46	40.019475	-109.568536	
280.00	0.44	152.88	280.00	0.37	0.17	14,536,355.75	2,041,203.61	40.019475	-109.568536	
372.00	1.30	160.80	371.99	-0.93	0.67	14,536,354.46	2,041,204.14	40.019472	-109.568534	
462.00	2.44	162.64	461.94	-3.72	1.58	14,536,351.68	2,041,205.09	40.019464	-109.568531	
552.00	3.69	159.64	551.81	-8.26	3.16	14,536,347.16	2,041,206.74	40.019451	-109.568525	
642.00	5.00	155.52	641.55	-14.55	5.79	14,536,340.92	2,041,209.47	40.019434	-109.568516	
732.00	6.94	153.02	731.06	-22.97	9.89	14,536,332.57	2,041,213.70	40.019411	-109.568501	
822.00	8.56	153.14	820.23	-33.79	15.38	14,536,321.84	2,041,219.37	40.019381	-109.568481	
912.00	9.75	152.14	909.08	-46.50	21.97	14,536,309.23	2,041,226.16	40.019346	-109.568458	
1,002.00	11.31	153.89	997.57	-61.16	29.41	14,536,294.69	2,041,233.84	40.019306	-109.568431	

# Anadarko Petroleum Corp

## Survey Report - Geographic

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 921-20I PAD  
**Well:** NBU 921-20P1BS  
**Wellbore:** NBU 921-20P1BS  
**Design:** NBU 921-20P1BS

**Local Co-ordinate Reference:** Well NBU 921-20P1BS  
**TVD Reference:** 26' RKB + 4828' GL @ 4854.01ft (H&P 298)  
**MD Reference:** 26' RKB + 4828' GL @ 4854.01ft (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
1,092.00	13.13	151.89	1,085.52	-78.11	38.11	14,536,277.89	2,041,242.81	40.019260	-109.568400
1,182.00	14.72	155.47	1,172.88	-97.53	47.68	14,536,258.63	2,041,252.69	40.019206	-109.568366
1,272.00	16.00	155.64	1,259.66	-119.23	57.54	14,536,237.08	2,041,262.90	40.019147	-109.568331
1,362.00	17.19	154.39	1,345.91	-142.52	68.41	14,536,213.97	2,041,274.14	40.019083	-109.568292
1,452.00	17.38	153.77	1,431.85	-166.57	80.10	14,536,190.11	2,041,286.21	40.019017	-109.568250
1,542.00	18.69	153.89	1,517.42	-191.58	92.39	14,536,165.30	2,041,298.90	40.018948	-109.568206
1,632.00	19.25	156.27	1,602.54	-218.11	104.70	14,536,138.97	2,041,311.64	40.018875	-109.568162
1,722.00	20.94	152.52	1,687.06	-245.96	118.10	14,536,111.34	2,041,325.48	40.018799	-109.568115
1,812.00	21.77	151.52	1,770.88	-274.90	133.48	14,536,082.65	2,041,341.32	40.018719	-109.568060
1,902.00	21.25	152.27	1,854.61	-304.01	149.02	14,536,053.80	2,041,357.34	40.018639	-109.568004
1,992.00	21.81	152.77	1,938.33	-333.31	164.26	14,536,024.74	2,041,373.04	40.018559	-109.567950
2,082.00	22.00	156.14	2,021.84	-363.60	178.73	14,535,994.70	2,041,388.00	40.018476	-109.567898
2,172.00	22.44	155.39	2,105.15	-394.63	192.70	14,535,963.89	2,041,402.47	40.018391	-109.567848
2,262.00	20.00	158.39	2,189.05	-424.56	205.53	14,535,934.17	2,041,415.77	40.018308	-109.567802
2,352.00	18.76	157.42	2,273.95	-452.23	216.75	14,535,906.68	2,041,427.44	40.018232	-109.567762
2,442.00	18.13	157.39	2,359.32	-478.52	227.69	14,535,880.57	2,041,438.80	40.018160	-109.567723
2,532.01	17.94	159.14	2,444.90	-504.40	238.01	14,535,854.86	2,041,449.53	40.018089	-109.567686
2,622.01	17.63	160.39	2,530.60	-530.20	247.52	14,535,829.23	2,041,459.46	40.018018	-109.567652
2,712.01	17.25	158.77	2,616.46	-555.47	256.93	14,535,804.10	2,041,469.27	40.017949	-109.567619
2,772.01	16.93	158.77	2,673.81	-571.91	263.31	14,535,787.77	2,041,475.92	40.017904	-109.567596
2,832.00	16.93	158.77	2,731.21	-588.19	269.64	14,535,771.59	2,041,482.50	40.017859	-109.567573
<b>tie on</b>									
2,832.01	16.93	158.77	2,731.21	-588.20	269.64	14,535,771.59	2,041,482.50	40.017859	-109.567573
2,944.00	14.02	151.60	2,839.15	-615.34	282.00	14,535,744.65	2,041,495.30	40.017785	-109.567529
3,038.00	12.41	148.59	2,930.66	-633.97	292.68	14,535,726.19	2,041,506.28	40.017733	-109.567491
3,133.00	11.10	155.39	3,023.67	-651.00	301.81	14,535,709.31	2,041,515.68	40.017687	-109.567459
3,227.00	8.63	162.37	3,116.27	-665.95	307.72	14,535,694.45	2,041,521.82	40.017646	-109.567437
3,322.00	8.94	169.87	3,210.16	-680.01	311.17	14,535,680.45	2,041,525.51	40.017607	-109.567425
3,417.00	7.94	176.00	3,304.13	-693.83	312.93	14,535,666.67	2,041,527.48	40.017569	-109.567419
3,511.00	5.88	178.00	3,397.44	-705.11	313.55	14,535,655.39	2,041,528.29	40.017538	-109.567417
3,606.00	5.19	181.00	3,492.00	-714.27	313.65	14,535,646.23	2,041,528.53	40.017513	-109.567416
3,700.00	2.88	187.12	3,585.76	-720.87	313.28	14,535,639.63	2,041,528.27	40.017495	-109.567418
3,794.00	1.06	209.37	3,679.70	-723.97	312.56	14,535,636.52	2,041,527.60	40.017486	-109.567420
3,889.00	0.94	296.75	3,774.69	-724.39	311.43	14,535,636.09	2,041,526.48	40.017485	-109.567424
3,983.00	0.81	256.75	3,868.68	-724.19	310.10	14,535,636.26	2,041,525.14	40.017486	-109.567429
4,078.00	1.25	235.87	3,963.67	-724.93	308.59	14,535,635.50	2,041,523.64	40.017484	-109.567434
4,172.00	1.06	329.50	4,057.66	-724.75	307.30	14,535,635.65	2,041,522.35	40.017484	-109.567439
4,267.00	1.44	301.75	4,152.63	-723.37	305.84	14,535,637.02	2,041,520.87	40.017488	-109.567444
4,361.00	1.06	40.75	4,246.62	-722.09	305.40	14,535,638.29	2,041,520.41	40.017491	-109.567446
4,456.00	1.06	76.87	4,341.61	-721.22	306.83	14,535,639.18	2,041,521.82	40.017494	-109.567441
4,550.00	1.25	101.75	4,435.59	-721.23	308.68	14,535,639.20	2,041,523.67	40.017494	-109.567434
4,645.00	1.44	116.37	4,530.56	-721.97	310.76	14,535,638.49	2,041,525.77	40.017492	-109.567427
4,740.00	1.06	167.00	4,625.54	-723.36	312.03	14,535,637.12	2,041,527.06	40.017488	-109.567422
4,834.00	1.19	161.87	4,719.52	-725.14	312.53	14,535,635.36	2,041,527.59	40.017483	-109.567420
4,928.00	1.25	147.37	4,813.50	-726.93	313.39	14,535,633.58	2,041,528.47	40.017478	-109.567417
5,023.00	0.75	167.37	4,908.49	-728.41	314.08	14,535,632.11	2,041,529.19	40.017474	-109.567415
5,118.00	0.94	322.12	5,003.48	-728.40	313.74	14,535,632.11	2,041,528.85	40.017474	-109.567416
5,212.00	0.75	317.37	5,097.47	-727.34	312.85	14,535,633.16	2,041,527.94	40.017477	-109.567419
5,307.00	0.63	311.50	5,192.47	-726.53	312.04	14,535,633.95	2,041,527.12	40.017479	-109.567422
5,401.00	0.25	302.87	5,286.46	-726.08	311.48	14,535,634.39	2,041,526.55	40.017480	-109.567424
5,495.00	0.19	242.62	5,380.46	-726.04	311.17	14,535,634.43	2,041,526.24	40.017481	-109.567425
5,590.00	0.13	258.87	5,475.46	-726.13	310.92	14,535,634.33	2,041,525.99	40.017480	-109.567426
5,684.00	0.25	266.50	5,569.46	-726.17	310.61	14,535,634.29	2,041,525.68	40.017480	-109.567427
5,779.00	0.44	254.75	5,664.46	-726.27	310.05	14,535,634.18	2,041,525.13	40.017480	-109.567429
5,873.00	0.44	251.00	5,758.46	-726.49	309.36	14,535,633.95	2,041,524.44	40.017479	-109.567432

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20P1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20I PAD	<b>MD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Well:</b>	NBU 921-20P1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20P1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20P1BS	<b>Database:</b>	edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,968.00	0.38	236.75	5,853.45	-726.78	308.75	14,535,633.65	2,041,523.84	40.017479	-109.567434
6,062.00	0.44	221.75	5,947.45	-727.22	308.25	14,535,633.20	2,041,523.34	40.017477	-109.567436
6,156.00	0.44	208.62	6,041.45	-727.80	307.84	14,535,632.61	2,041,522.94	40.017476	-109.567437
6,251.00	0.75	213.75	6,136.44	-728.64	307.32	14,535,631.77	2,041,522.43	40.017473	-109.567439
6,345.00	0.81	197.37	6,230.44	-729.79	306.78	14,535,630.61	2,041,521.91	40.017470	-109.567441
6,440.00	1.13	327.12	6,325.43	-729.64	306.07	14,535,630.75	2,041,521.20	40.017471	-109.567443
6,534.00	1.81	30.50	6,419.40	-727.58	306.32	14,535,632.81	2,041,521.42	40.017476	-109.567442
6,628.00	0.88	115.87	6,513.38	-726.62	307.72	14,535,633.79	2,041,522.81	40.017479	-109.567437
6,723.00	0.94	131.12	6,608.37	-727.45	308.97	14,535,632.98	2,041,524.06	40.017477	-109.567433
6,818.00	1.19	137.37	6,703.35	-728.69	310.22	14,535,631.77	2,041,525.34	40.017473	-109.567428
6,912.00	0.25	249.00	6,797.35	-729.48	310.69	14,535,630.98	2,041,525.82	40.017471	-109.567427
7,007.00	0.56	242.12	6,892.35	-729.77	310.09	14,535,630.68	2,041,525.22	40.017470	-109.567429
7,101.00	0.63	214.37	6,986.34	-730.41	309.39	14,535,630.03	2,041,524.53	40.017469	-109.567431
7,196.00	0.75	349.50	7,081.34	-730.23	308.98	14,535,630.20	2,041,524.12	40.017469	-109.567433
7,291.00	0.69	348.00	7,176.33	-729.06	308.75	14,535,631.37	2,041,523.87	40.017472	-109.567434
7,385.00	0.25	336.62	7,270.33	-728.32	308.55	14,535,632.11	2,041,523.66	40.017474	-109.567434
7,479.00	0.38	355.50	7,364.33	-727.82	308.44	14,535,632.60	2,041,523.55	40.017476	-109.567435
7,574.00	0.19	33.87	7,459.32	-727.38	308.51	14,535,633.05	2,041,523.60	40.017477	-109.567435
7,669.00	0.13	69.37	7,554.32	-727.21	308.70	14,535,633.22	2,041,523.79	40.017477	-109.567434
7,763.00	0.25	67.37	7,648.32	-727.09	308.99	14,535,633.34	2,041,524.07	40.017478	-109.567433
7,858.00	0.25	67.00	7,743.32	-726.93	309.37	14,535,633.51	2,041,524.45	40.017478	-109.567432
7,952.00	0.38	132.87	7,837.32	-727.06	309.78	14,535,633.38	2,041,524.87	40.017478	-109.567430
8,047.00	0.19	127.50	7,932.32	-727.37	310.14	14,535,633.08	2,041,525.23	40.017477	-109.567429
8,142.00	0.56	129.87	8,027.32	-727.77	310.62	14,535,632.69	2,041,525.72	40.017476	-109.567427
8,236.00	0.63	270.37	8,121.32	-728.06	310.46	14,535,632.40	2,041,525.56	40.017475	-109.567428
8,331.00	0.75	245.25	8,216.31	-728.31	309.37	14,535,632.13	2,041,524.48	40.017474	-109.567432
8,426.00	0.63	236.00	8,311.30	-728.87	308.37	14,535,631.56	2,041,523.49	40.017473	-109.567435
8,520.00	0.50	240.37	8,405.30	-729.36	307.59	14,535,631.05	2,041,522.71	40.017471	-109.567438
8,614.00	0.56	205.00	8,499.29	-729.98	307.04	14,535,630.43	2,041,522.17	40.017470	-109.567440
8,709.00	0.50	151.25	8,594.29	-730.76	307.04	14,535,629.64	2,041,522.19	40.017468	-109.567440
8,804.00	0.44	143.12	8,689.29	-731.42	307.46	14,535,628.99	2,041,522.62	40.017466	-109.567438
8,898.00	0.69	142.37	8,783.28	-732.15	308.02	14,535,628.27	2,041,523.19	40.017464	-109.567436
8,992.00	0.63	140.12	8,877.28	-733.00	308.70	14,535,627.43	2,041,523.88	40.017461	-109.567434
9,087.00	0.81	121.62	8,972.27	-733.75	309.60	14,535,626.69	2,041,524.80	40.017459	-109.567431
9,181.00	0.94	131.00	9,066.26	-734.61	310.75	14,535,625.86	2,041,525.96	40.017457	-109.567427
9,275.00	0.88	145.87	9,160.25	-735.71	311.74	14,535,624.77	2,041,526.97	40.017454	-109.567423
9,370.00	0.94	143.75	9,255.23	-736.94	312.61	14,535,623.55	2,041,527.86	40.017451	-109.567420
9,464.00	0.56	140.87	9,349.23	-737.92	313.36	14,535,622.59	2,041,528.62	40.017448	-109.567417
9,559.00	0.88	149.75	9,444.22	-738.91	314.02	14,535,621.61	2,041,529.29	40.017445	-109.567415
9,653.00	1.00	140.87	9,538.21	-740.17	314.90	14,535,620.36	2,041,530.20	40.017442	-109.567412
9,748.00	0.81	134.75	9,633.19	-741.29	315.90	14,535,619.26	2,041,531.21	40.017439	-109.567408
9,842.00	0.81	151.00	9,727.19	-742.33	316.69	14,535,618.23	2,041,532.02	40.017436	-109.567405
9,937.00	1.13	143.37	9,822.17	-743.67	317.58	14,535,616.90	2,041,532.93	40.017432	-109.567402
10,032.00	1.13	166.37	9,917.15	-745.34	318.36	14,535,615.25	2,041,533.74	40.017428	-109.567399
10,126.00	1.25	161.50	10,011.13	-747.21	318.90	14,535,613.39	2,041,534.31	40.017422	-109.567398
10,221.00	1.31	150.62	10,106.11	-749.14	319.76	14,535,611.47	2,041,535.20	40.017417	-109.567394
10,324.00	1.50	153.00	10,209.08	-751.36	320.95	14,535,609.26	2,041,536.43	40.017411	-109.567390
10,418.00	1.69	155.25	10,303.04	-753.72	322.09	14,535,606.93	2,041,537.60	40.017405	-109.567386
10,513.00	1.75	154.75	10,398.00	-756.30	323.29	14,535,604.36	2,041,538.85	40.017397	-109.567382
10,607.00	1.81	145.75	10,491.95	-758.83	324.74	14,535,601.86	2,041,540.34	40.017391	-109.567377
10,702.00	1.88	142.75	10,586.90	-761.31	326.53	14,535,599.41	2,041,542.17	40.017384	-109.567370
10,796.00	2.19	142.12	10,680.85	-763.95	328.57	14,535,596.80	2,041,544.24	40.017376	-109.567363
10,891.00	2.19	143.50	10,775.78	-766.85	330.76	14,535,593.94	2,041,546.49	40.017369	-109.567355
10,985.00	2.25	147.25	10,869.71	-769.84	332.83	14,535,590.98	2,041,548.60	40.017360	-109.567348
11,080.00	2.38	143.50	10,964.63	-773.00	335.01	14,535,587.86	2,041,550.83	40.017352	-109.567340

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20P1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20I PAD	<b>MD Reference:</b>	26' RKB + 4828' GL @ 4854.01ft (H&P 298)
<b>Well:</b>	NBU 921-20P1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20P1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20P1BS	<b>Database:</b>	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,175.00	2.38	144.00	11,059.55	-776.18	337.34	14,535,584.72	2,041,553.22	40.017343	-109.567332
11,269.00	2.25	142.75	11,153.47	-779.23	339.61	14,535,581.71	2,041,555.53	40.017335	-109.567324
last mwd									
11,339.00	2.25	142.75	11,223.42	-781.41	341.27	14,535,579.55	2,041,557.23	40.017329	-109.567318
projection									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
2,832.00	2,731.21	-588.19	269.64	tie on	
11,269.00	11,153.47	-779.23	339.61	last mwd	
11,339.00	11,223.42	-781.41	341.27	projection	

Checked By: _____	Approved By: _____	Date: _____
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