

**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 921-20K1BS								
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES								
<b>4. TYPE OF WELL</b> Gas Well      Coalbed Methane Well: NO						<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES								
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.						<b>7. OPERATOR PHONE</b> 720 929-6515								
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217						<b>9. OPERATOR E-MAIL</b> julie.jacobson@anadarko.com								
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU0575			<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>		
LOCATION AT SURFACE		1722 FSL 2440 FEL		NWSE		20		9.0 S		21.0 E		S		
Top of Uppermost Producing Zone		2564 FSL 2134 FWL		NESW		20		9.0 S		21.0 E		S		
At Total Depth		2564 FSL 2134 FWL		NESW		20		9.0 S		21.0 E		S		
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 2134			<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> 629			<b>26. PROPOSED DEPTH</b> MD: 11523 TVD: 11350								
<b>27. ELEVATION - GROUND LEVEL</b> 4887			<b>28. BOND NUMBER</b> WYB000291			<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> 43-8496								
<b>Hole, Casing, and Cement Information</b>														
<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Length</b>	<b>Weight</b>	<b>Grade &amp; Thread</b>	<b>Max Mud Wt.</b>	<b>Cement</b>		<b>Sacks</b>	<b>Yield</b>	<b>Weight</b>			
Surf	11	8.625	0 - 2900	28.0	J-55 LT&C	0.2	Type V		180	1.15	15.8			
							Class G		270	1.15	15.8			
Prod	7.875	4.5	0 - 11523	11.6	HCP-110 LT&C	12.5	Premium Lite High Strength		360	3.38	12.0			
							50/50 Poz		1650	1.31	14.3			
<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> 11/29/2012				<b>EMAIL</b> danielle.piernot@anadarko.com						
<b>API NUMBER ASSIGNED</b> 43047533730000				<b>APPROVAL</b>  Permit Manager										

**Kerr-McGee Oil & Gas Onshore. L.P.**

**NBU 921-20K1BS**  
 Surface: 1722 FSL / 2440 FEL      NWSE  
 BHL: 2564 FSL / 2134 FWL      NESW

Section 20 T9S R21E

Unitah County, Utah  
 Mineral Lease: UTU 0575

**ONSHORE ORDER NO. 1**

**DRILLING PROGRAM**

1. & 2.a **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,691'	
Birds Nest	1,948'	Water
Mahogany	2,454'	Water
Wasatch	5,038'	Gas
Mesaverde	8,033'	Gas
Sego	10,301'	Gas
Castlegate	10,376'	Gas
Blackhawk	10,750'	Gas
TVD =	11,350'	
TD =	11,523'	

- 2.c Kerr McGee Oil & Gas Onshore LP (Kerr McGee) may elect to drill to (i) the Blackhawk formation (part of the Mesaverde Group), (ii) to a shallower depth within the Mesaverde Group, or (iii) to the Wasatch Formation. If Kerr McGee drills to the Blackhawk formation, please refer to Blackhawk as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr-McGee drills to a shallower depth in the Mesaverde Group or to the Wasatch Formation, please refer to the attached Wasatch/Mesaverde Drilling Program which includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the shallower formations.

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

6. **Evaluation Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

7. **Abnormal Conditions:**

**7.a Blackhawk (Part of Mesaverde Group)**

Maximum anticipated bottom hole pressure calculated at 11350' TVD, approximately equals  
 7,264 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,751 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))

**7.b Wasach Formation/Mesaverde Group**

Maximum anticipated bottom hole pressure calculated at 10301' TVD, approximately equals  
 6,284 psi (0.61 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 4,045 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 Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program  
 Onshore Order #2 – Air Drilling Variance

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

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

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

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

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

**Background**

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

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through  
 a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may

be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

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

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

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

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

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

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

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

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

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

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

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

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

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

**Conclusion**

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

10. **Other Information:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program





**KERR-McGEE OIL & GAS ONSHORE LP**  
**Blackhawk Drilling Program**

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	DQX
								TENSION	
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,900	28.00	IJ-55	LTC	1.86	1.39	4.89	N/A
						10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	1.19	1.17		3.40
	4-1/2"	5,000 to 11,523'	11.60	HCP-110	LTC	1.19	1.17	4.56	

**Surface Casing:**

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

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

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

**Production casing:**

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

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

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE	LEAD	2,400'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	220	35%	11.00	3.82
Option 2	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,533'	Premium Lite II + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	350	35%	12.00	3.38
	TAIL	6,990'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,650	35%	14.30	1.31

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

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

**ADDITIONAL INFORMATION**

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

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

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

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

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Travis Hansell

**DATE:**

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:**





**KERR-McGEE OIL & GAS ONSHORE LP**  
**Wasatch/Mesaverde Drilling Program**

**CASING PROGRAM**

							DESIGN FACTORS			
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	LTC	DQX
		TENSION								
CONDUCTOR	14"	0-40'					3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to 2,900	28.00	IJ-55	LTC	1.86	1.39	4.89	N/A
PRODUCTION	4-1/2"	0	to 5,000	11.60	I-80	DQX	1.11	0.99		267,035
	4-1/2"	5,000	to 10,474'	11.60	HCP-110	LTC	1.53	1.35	223,000	4.30

**Surface Casing:**

(Burst Assumptions: TD = 12.0 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 @ 7000 psi) 0.61 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
<b>Option 1</b>							
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
<b>Option 2</b>	LEAD	2,400'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	220	35%	11.00	3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,534'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	350	35%	12.00	3.38
	TAIL	5,940'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,400	35%	14.30	1.31

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained  
 \*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

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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.

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**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Travis Hansell

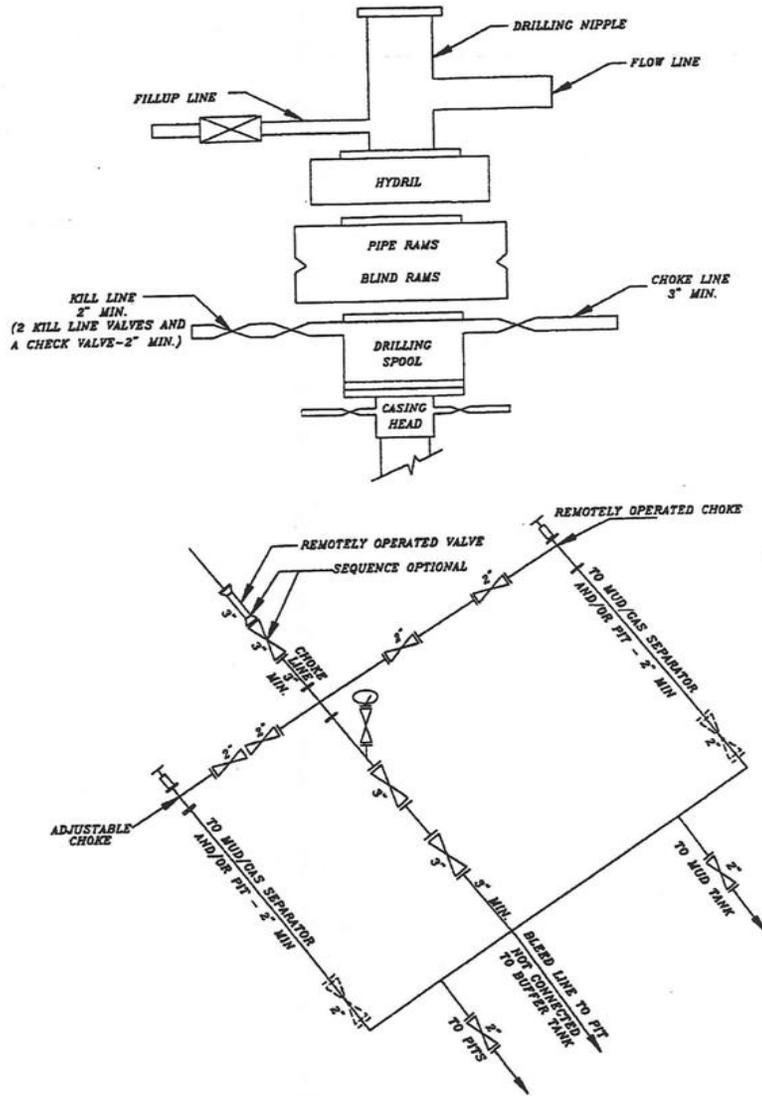
**DATE:**

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

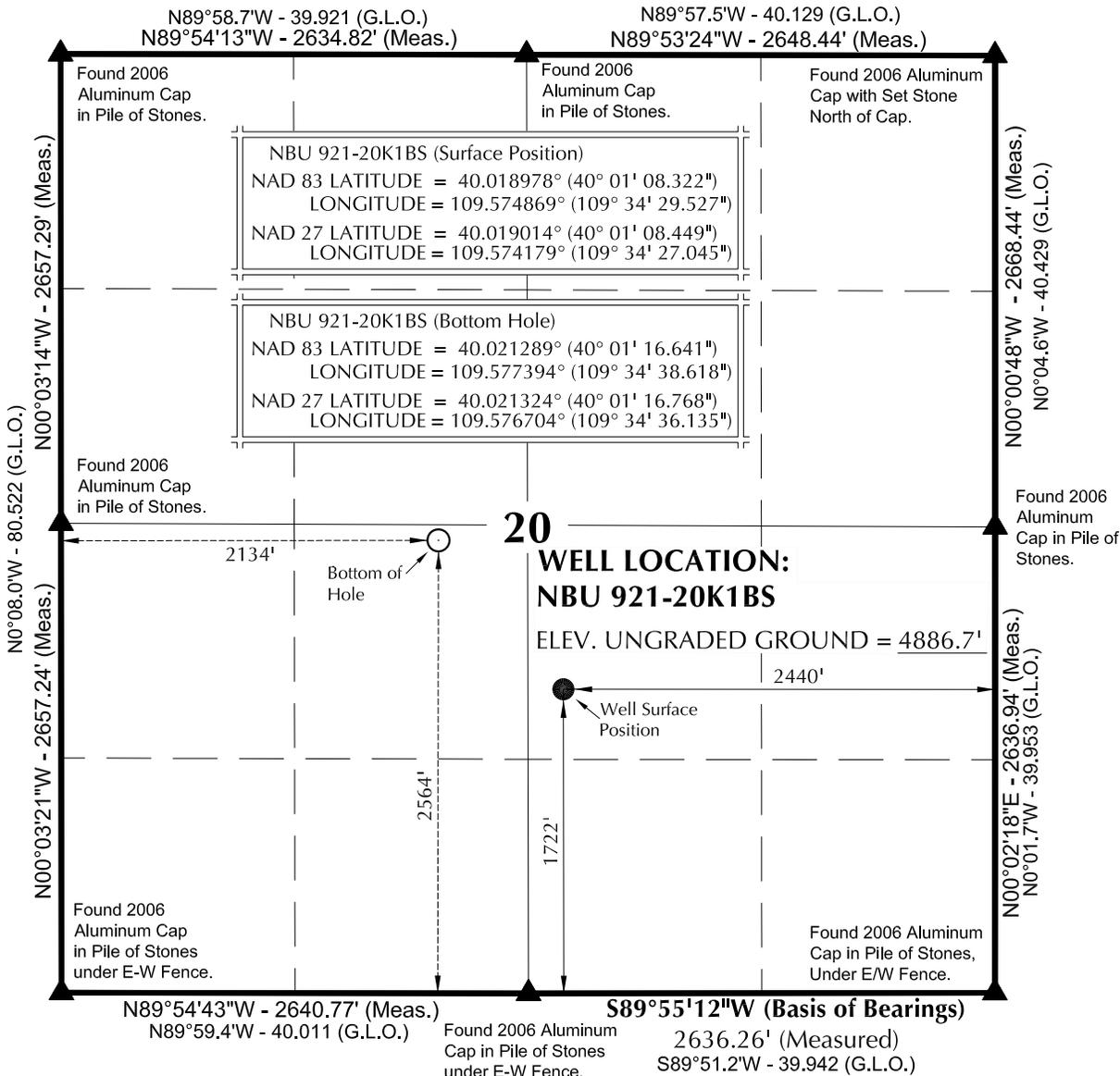
**DATE:**

**EXHIBIT A**  
**NBU 921-20K1BS**



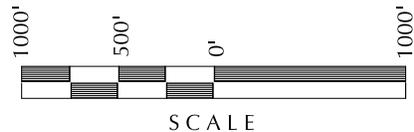
**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

# 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 N39°57'46"W 1099.76' 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.

John R. Laughlin  
 PROFESSIONAL LAND SURVEYOR  
 REGISTRATION No. 6028691  
 STATE OF UTAH

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



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

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

DATE SURVEYED: 4-4-12	SURVEYED BY: A.F.	SHEET NO: <b>4</b>
DATE DRAWN: 4-4-12	DRAWN BY: T.J.R.	
SCALE: 1" = 1000'		4 OF 19

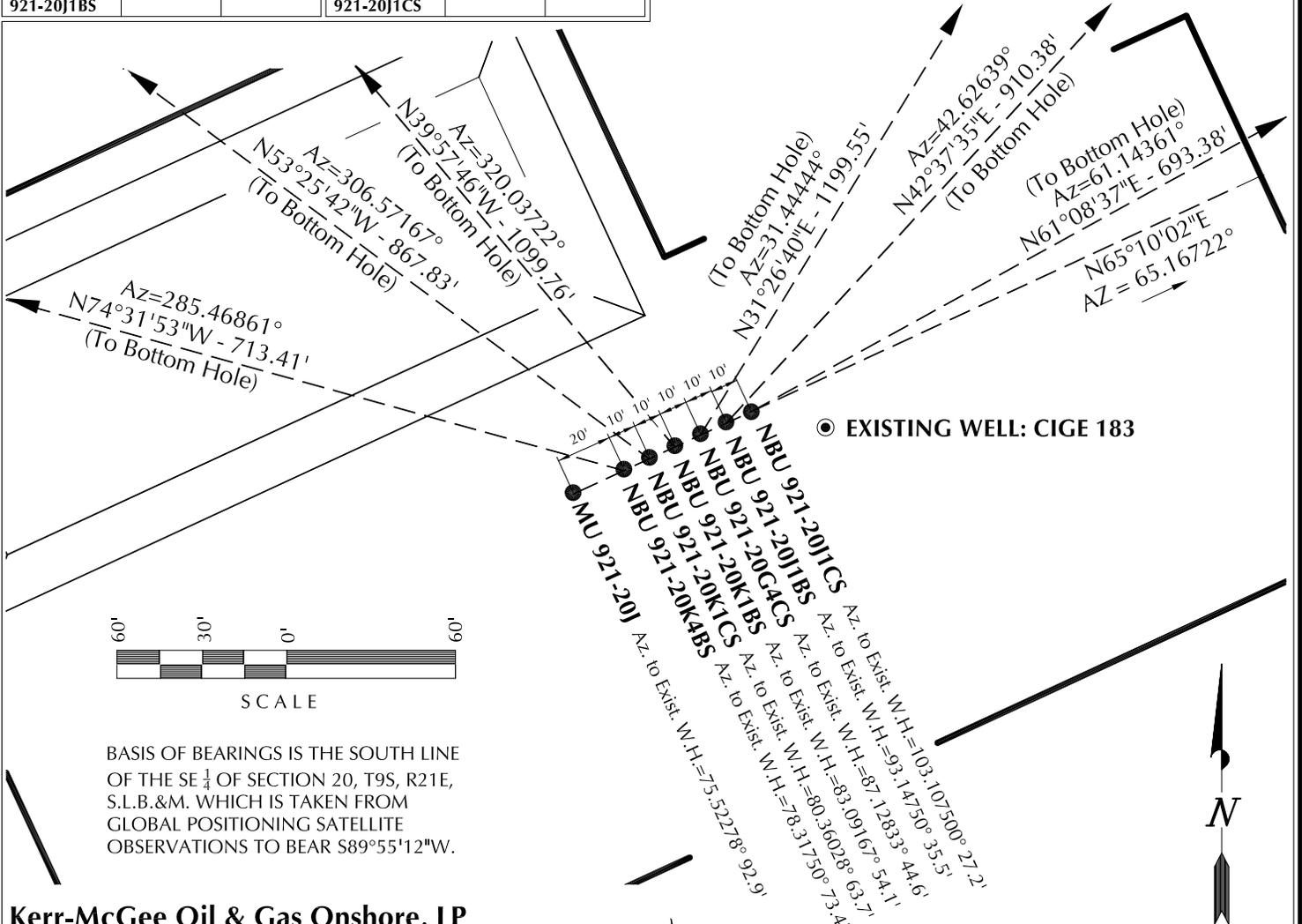
**WELL PAD: NBU 921-20J**

**NBU 921-20K1BS**  
**WELL PLAT**  
 2564' FSL, 2134' FWL (Bottom Hole)  
 NE ¼ SW ¼ OF SECTION 20, T9S, R21E,  
 S.L.B.&M., UTAH COUNTY, UTAH.

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
MU 921-20J	40°01'08.156"	109°34'29.993"	40°01'08.283"	109°34'27.510"	1705' FSL 2477' FEL					
NBU 921-20K4BS	40°01'08.239"	109°34'29.760"	40°01'08.366"	109°34'27.278"	1713' FSL 2458' FEL	40°01'10.110"	109°34'38.599"	40°01'10.237"	109°34'36.116"	1903' FSL 2134' FWL
NBU 921-20K1CS	40°01'08.280"	109°34'29.644"	40°01'08.407"	109°34'27.161"	1717' FSL 2449' FEL	40°01'13.380"	109°34'38.608"	40°01'13.507"	109°34'36.125"	2234' FSL 2134' FWL
NBU 921-20K1BS	40°01'08.322"	109°34'29.527"	40°01'08.449"	109°34'27.045"	1722' FSL 2440' FEL	40°01'16.641"	109°34'38.618"	40°01'16.768"	109°34'36.135"	2564' FSL 2134' FWL
NBU 921-20G4CS	40°01'08.364"	109°34'29.410"	40°01'08.491"	109°34'26.928"	1726' FSL 2431' FEL	40°01'18.482"	109°34'21.385"	40°01'18.610"	109°34'18.903"	2563' FSL 1806' FEL
NBU 921-20J1BS	40°01'08.405"	109°34'29.293"	40°01'08.532"	109°34'26.811"	1730' FSL 2422' FEL	40°01'15.031"	109°34'21.381"	40°01'15.158"	109°34'18.899"	2399' FSL 1806' FEL
NBU 921-20J1CS	40°01'08.447"	109°34'29.177"	40°01'08.574"	109°34'26.695"	1734' FSL 2413' FEL	40°01'11.761"	109°34'21.379"	40°01'11.888"	109°34'18.897"	2068' FSL 1806' FEL
CIGE 183	40°01'08.387"	109°34'28.837"	40°01'08.514"	109°34'26.355"	1728' FSL 2387' FEL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 921-20K4BS	190.3'	-687.6'	NBU 921-20K1CS	517.1'	-697.0'	NBU 921-20K1BS	842.9'	-706.4'	NBU 921-20G4CS	1023.4'	625.8'
NBU 921-20J1BS	669.8'	616.5'	NBU 921-20J1CS	334.6'	607.3'						



**Kerr-McGee Oil & Gas Onshore, LP**  
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**WELL PAD - NBU 921-20J**

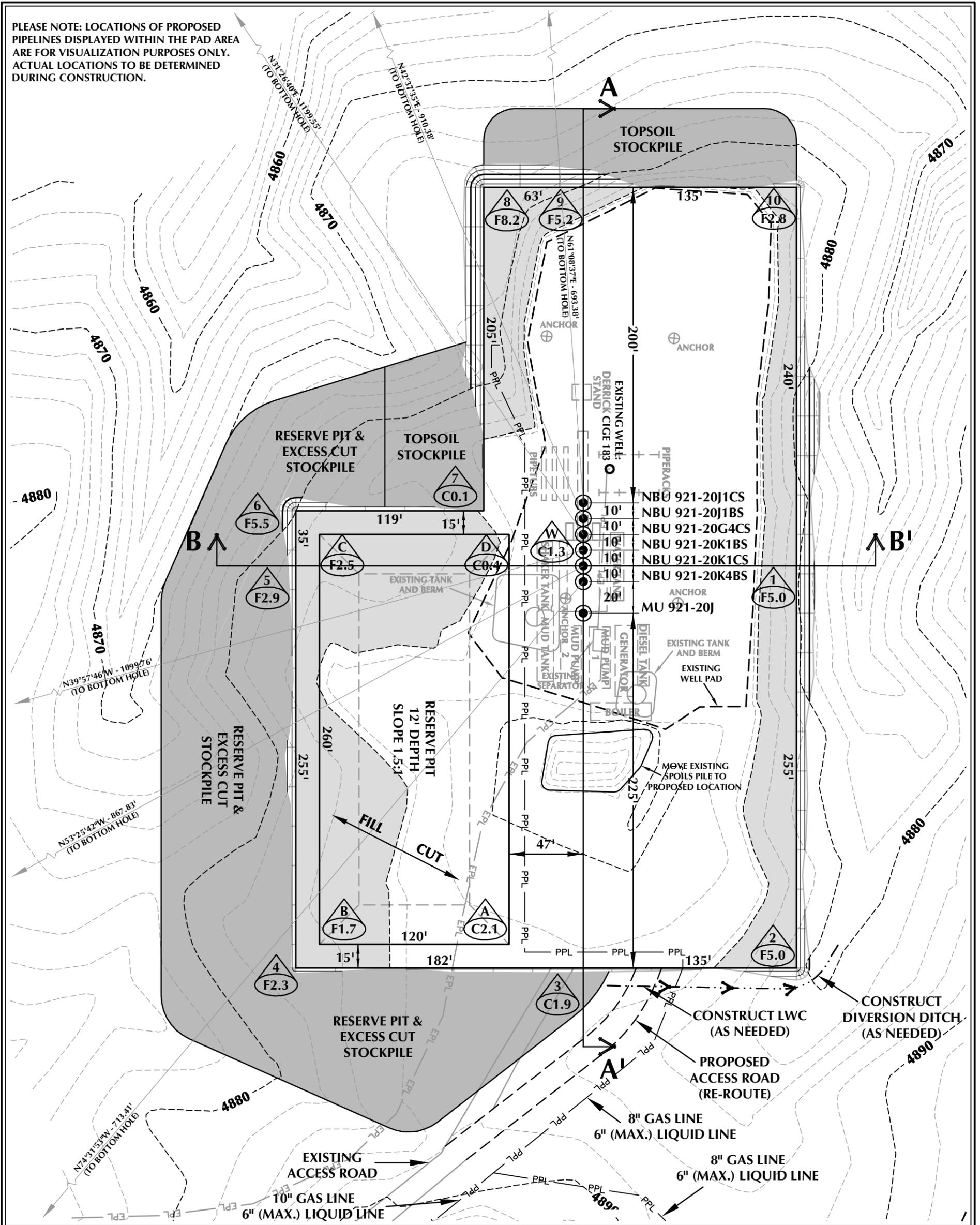
**WELL PAD INTERFERENCE PLAT**  
WELLS - MU 921-20J,  
NBU 921-20K4BS, NBU 921-20K1CS,  
NBU 921-20K1BS, NBU 921-20G4CS,  
NBU 921-20J1BS & NBU 921-20J1CS  
LOCATED IN SECTION 20, T9S, R21E,  
S.L.B.&M., UTAH COUNTY, UTAH.

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

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

DATE SURVEYED: 4-4-12	SURVEYED BY: A.F.	SHEET NO: <b>8</b>
DATE DRAWN: 4-4-12	DRAWN BY: T.J.R.	
SCALE: 1" = 60'		8 OF 19

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



**WELL PAD - NBU 921-20J DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 4886.8'  
 FINISHED GRADE ELEVATION = 4885.5'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.26 ACRES  
 TOTAL DISTURBANCE AREA = 4.71 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

**Kerr-McGee Oil & Gas Onshore, LP**  
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**WELL PAD - NBU 921-20J**

WELL PAD - LOCATION LAYOUT  
 MU 921-20J,  
 NBU 921-20K4BS, NBU 921-20K1CS,  
 NBU 921-20K1BS, NBU 921-20G4CS,  
 NBU 921-20J1BS & NBU 921-20J1CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH



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 2155 North Main Street  
 Sheridan, WY 82801  
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**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 6,176 C.Y.  
 TOTAL FILL FOR WELL PAD = 4,812 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,745 C.Y.  
 EXCESS MATERIAL = 1,364 C.Y.

**RESERVE PIT QUANTITIES**

TOTAL CUT FOR RESERVE PIT  
 +/- 11,020 C.Y.  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 42,290 BARRELS

**WELL PAD LEGEND**

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

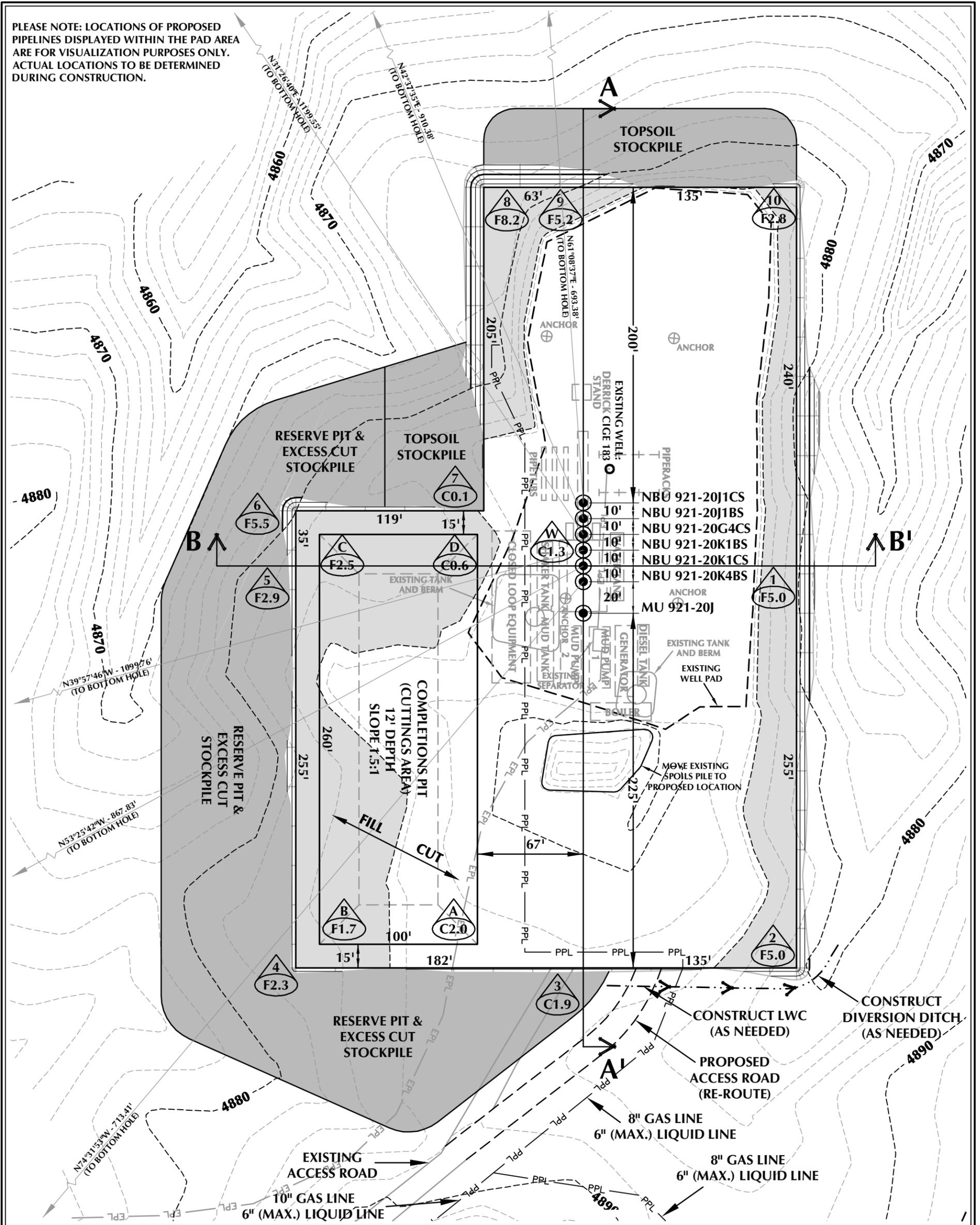


HORIZONTAL 0 30' 60' 1" = 60'  
 2' CONTOURS

SCALE: 1"=60' DATE: 4/17/12 SHEET NO:  
 REVISED: DJD 5/18/12 **9** 9 OF 19

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

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



**WELL PAD - NBU 921-20J (CLOSED LOOP) DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 4886.8'  
 FINISHED GRADE ELEVATION = 4885.5'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.26 ACRES  
 TOTAL DISTURBANCE AREA = 4.71 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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

**WELL PAD - NBU 921-20J**

WELL PAD - LOCATION LAYOUT  
 MU 921-20J,  
 NBU 921-20K4BS, NBU 921-20K1CS,  
 NBU 921-20K1BS, NBU 921-20G4CS,  
 NBU 921-20J1BS & NBU 921-20J1CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M., UTAH COUNTY, UTAH



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

**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 6,176 C.Y.  
 TOTAL FILL FOR WELL PAD = 4,812 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,745 C.Y.  
 EXCESS MATERIAL = 1,364 C.Y.

**COMPLETIONS PIT QUANTITIES**

TOTAL CUT FOR COMPLETIONS PIT  
 +/- 8,870 C.Y.  
 COMPLETIONS PIT CAPACITY  
 (2' OF FREEBOARD)  
 +/- 33,770 BARRELS

**WELL PAD LEGEND**

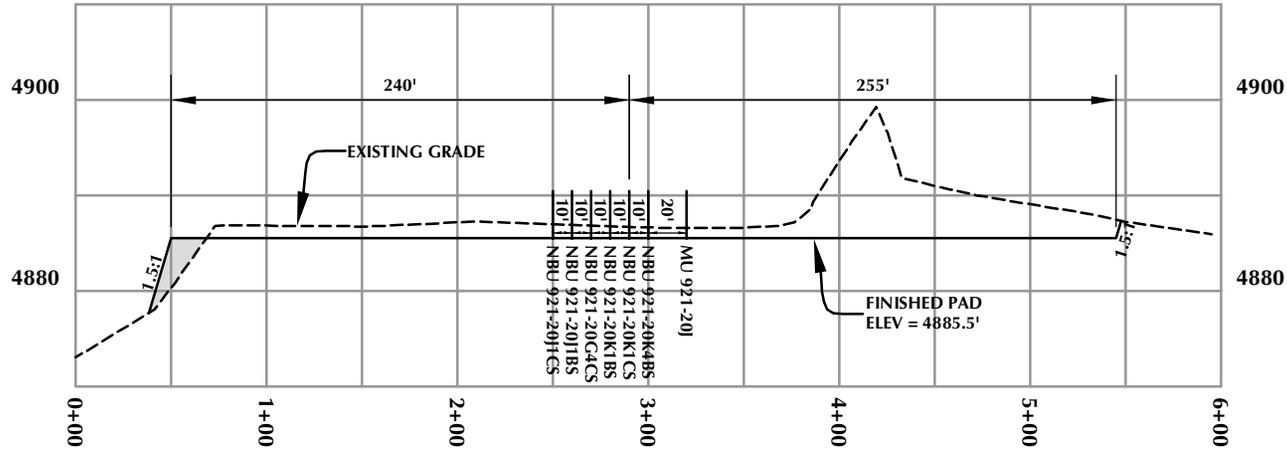
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PROPOSED PIPELINE
- EXISTING PIPELINE



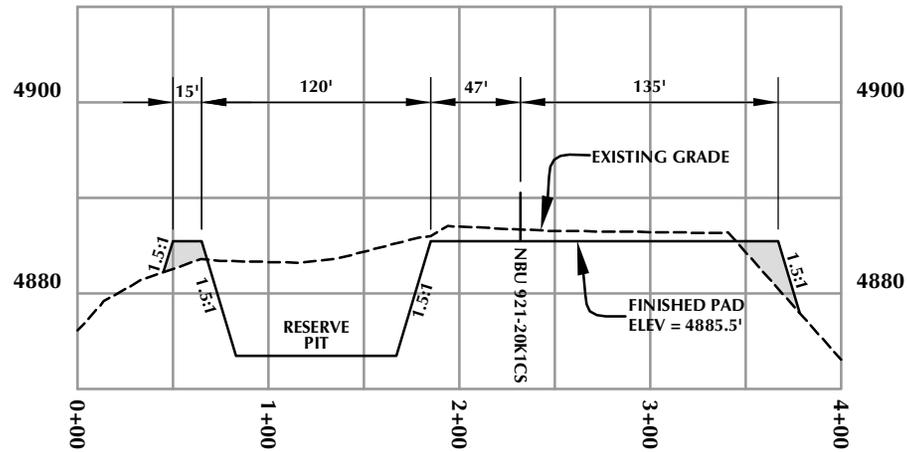
HORIZONTAL 0 30' 60' 1" = 60'  
 2' CONTOURS

SCALE: 1"=60' DATE: 4/17/12 SHEET NO:  
 REVISED: DJD 5/18/12 **9B** 9B OF 19

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**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

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

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

**WELL PAD - NBU 921-20J**

**WELL PAD - CROSS SECTIONS**  
MU 921-20J,

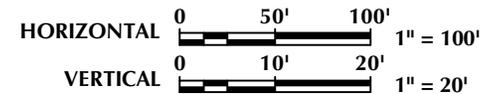
NBU 921-20K4BS, NBU 921-20K1CS,  
NBU 921-20K1BS, NBU 921-20G4CS,  
NBU 921-20J1BS & NBU 921-20J1CS  
LOCATED IN SECTION 20, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH



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

(435) 789-1365



Scale: 1"=100'

Date: 4/17/12

SHEET NO:

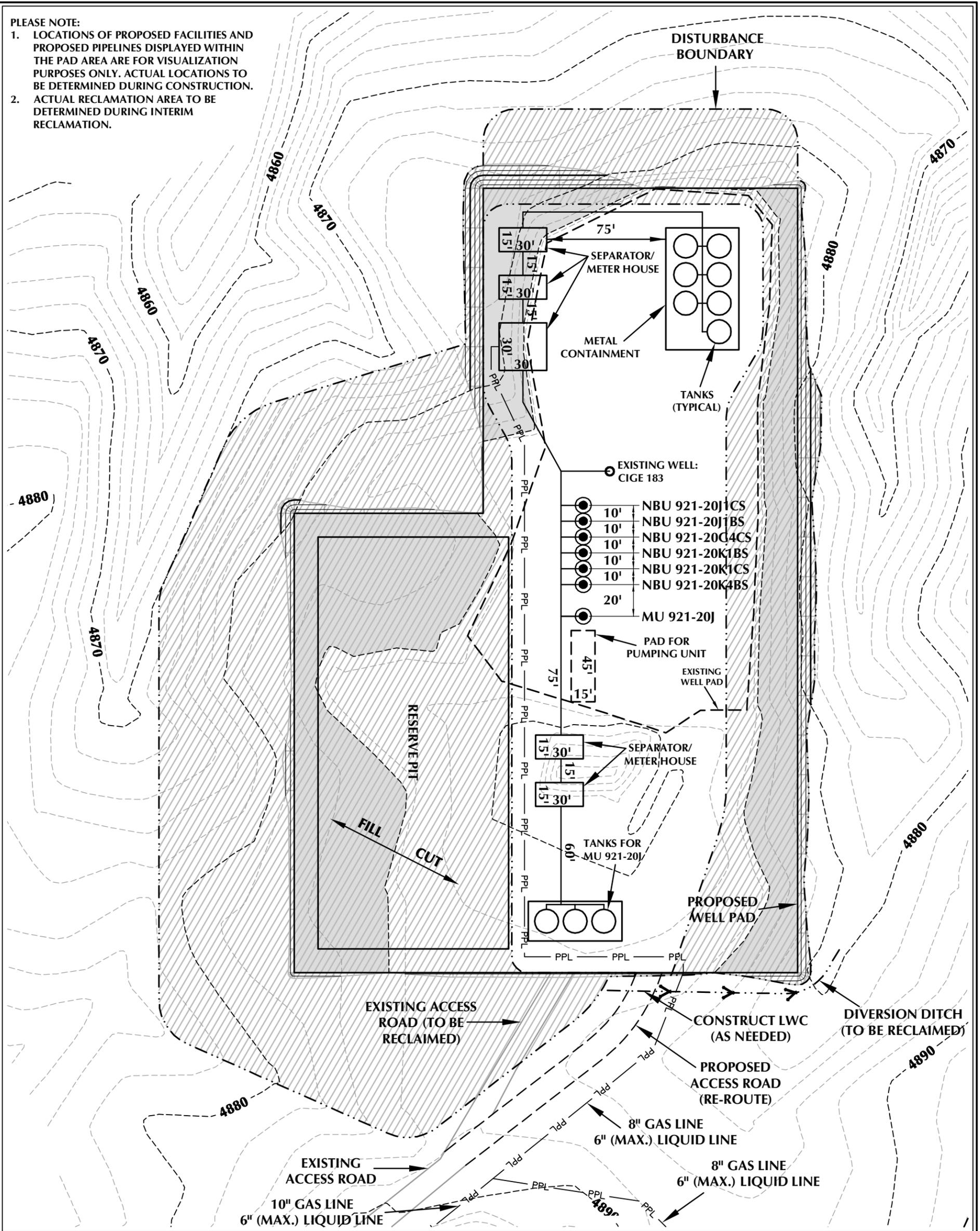
REVISED:

DJD  
5/18/12

**10** 10 OF 19

**PLEASE NOTE:**

1. LOCATIONS OF PROPOSED FACILITIES AND PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.
2. ACTUAL RECLAMATION AREA TO BE DETERMINED DURING INTERIM RECLAMATION.



**WELL PAD - NBU 921-20J DESIGN SUMMARY**

TOTAL DISTURBANCE AREA = 4.71 ACRES (INCLUDING EXISTING)  
 RECLAMATION AREA = 3.14 ACRES  
 TOTAL WELL PAD AREA AFTER RECLAMATION = 1.57 ACRES

**WELL PAD LEGEND**

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



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

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 1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 921-20J**

WELL PAD - RECLAMATION LAYOUT  
 MU 921-20J,  
 NBU 921-20K4BS, NBU 921-20K1CS,  
 NBU 921-20K1BS, NBU 921-20G4CS,  
 NBU 921-20J1BS & NBU 921-20J1CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH



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

SCALE: 1"=60' DATE: 4/17/12 SHEET NO:  
 REVISED: DJD 11 11 OF 19  
 5/18/12

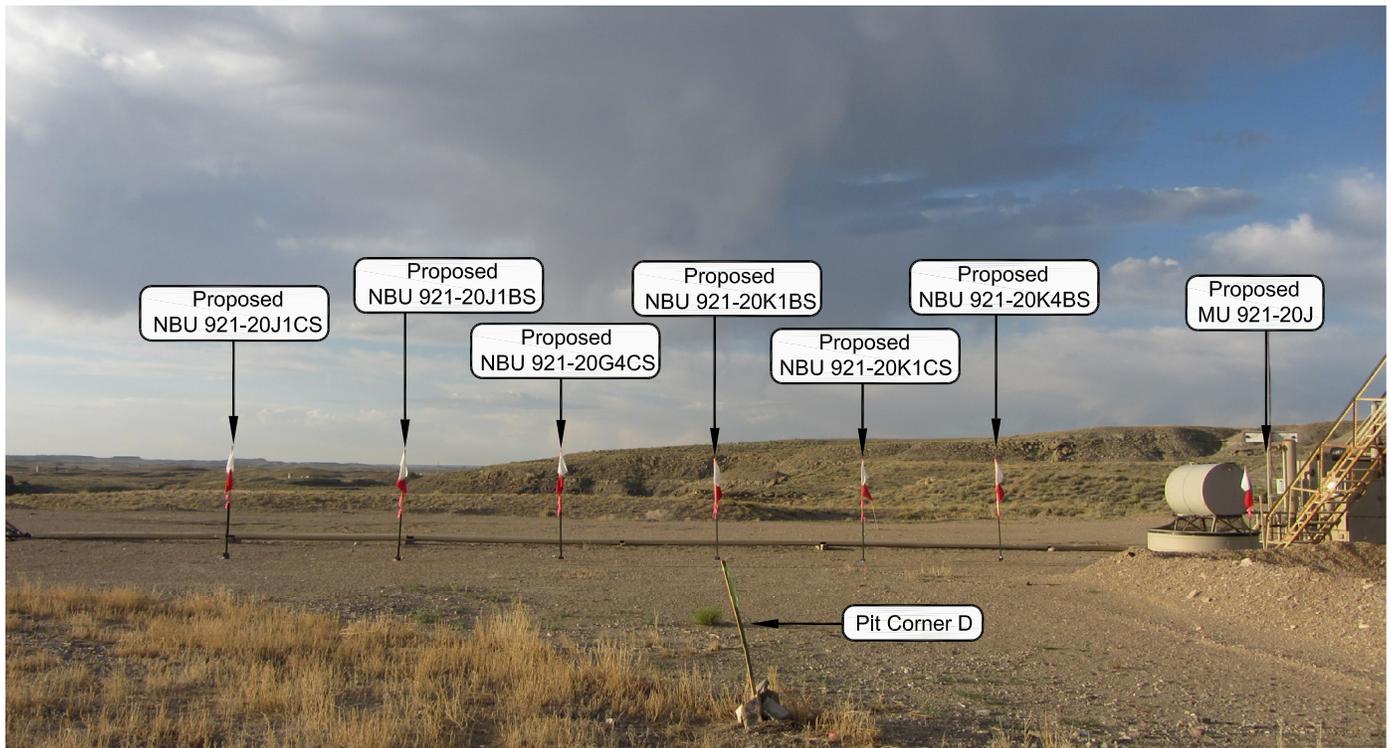


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: SOUTHEASTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHEASTERLY

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**WELL PAD - NBU 921-20J**

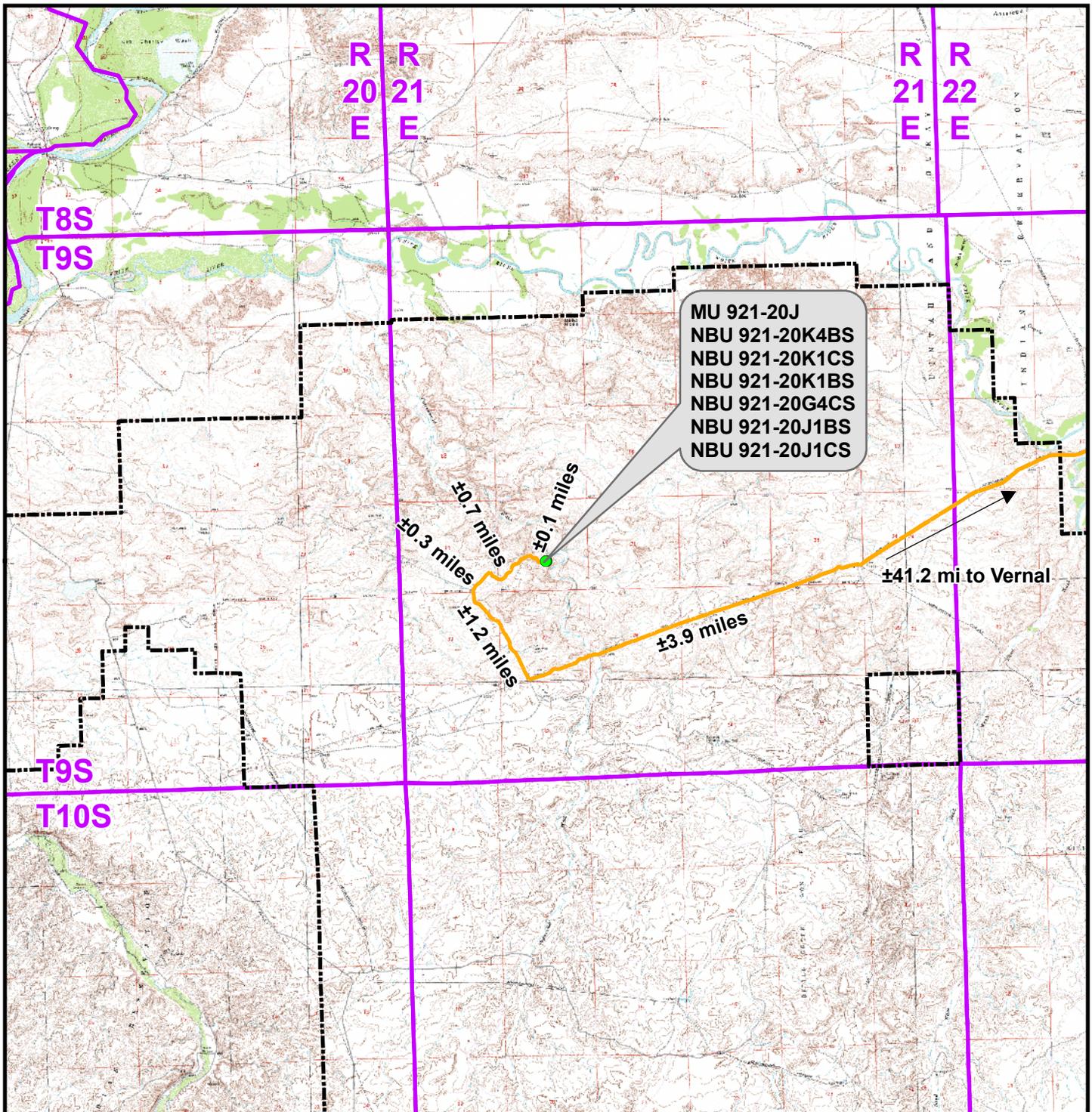
LOCATION PHOTOS  
 MU 921-20J,  
 NBU 921-20K4BS, NBU 921-20K1CS,  
 NBU 921-20K1BS, NBU 921-20G4CS,  
 NBU 921-20J1BS & NBU 921-20J1CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH.



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 Sheridan WY 82801  
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 Fax 307-674-0182

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

DATE PHOTOS TAKEN: 4-4-12	PHOTOS TAKEN BY: A.F.	SHEET NO: <b>12</b>
DATE DRAWN: 4-4-12	DRAWN BY: T.J.R.	
Date Last Revised: 5-16-12 T.J.R.		12 OF 19



MU 921-20J  
 NBU 921-20K4BS  
 NBU 921-20K1CS  
 NBU 921-20K1BS  
 NBU 921-20G4CS  
 NBU 921-20J1BS  
 NBU 921-20J1CS

**Legend**

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

Distance From Well Pad - NBU 921-20J To Unit Boundary: ±14,971ft

**WELL PAD - NBU 921-20J**

TOPO A  
 MU 921-20J,  
 NBU 921-20K4BS, NBU 921-20K1CS,  
 NBU 921-20K1BS, NBU 921-20G4CS,  
 NBU 921-20J1BS & NBU 921-20J1CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**Kerr-McGee Oil &  
 Gas Onshore L.P.**

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 Denver, Colorado 80202



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



SCALE: 1:100,000

NAD83 USP Central

SHEET NO:

DRAWN: TL

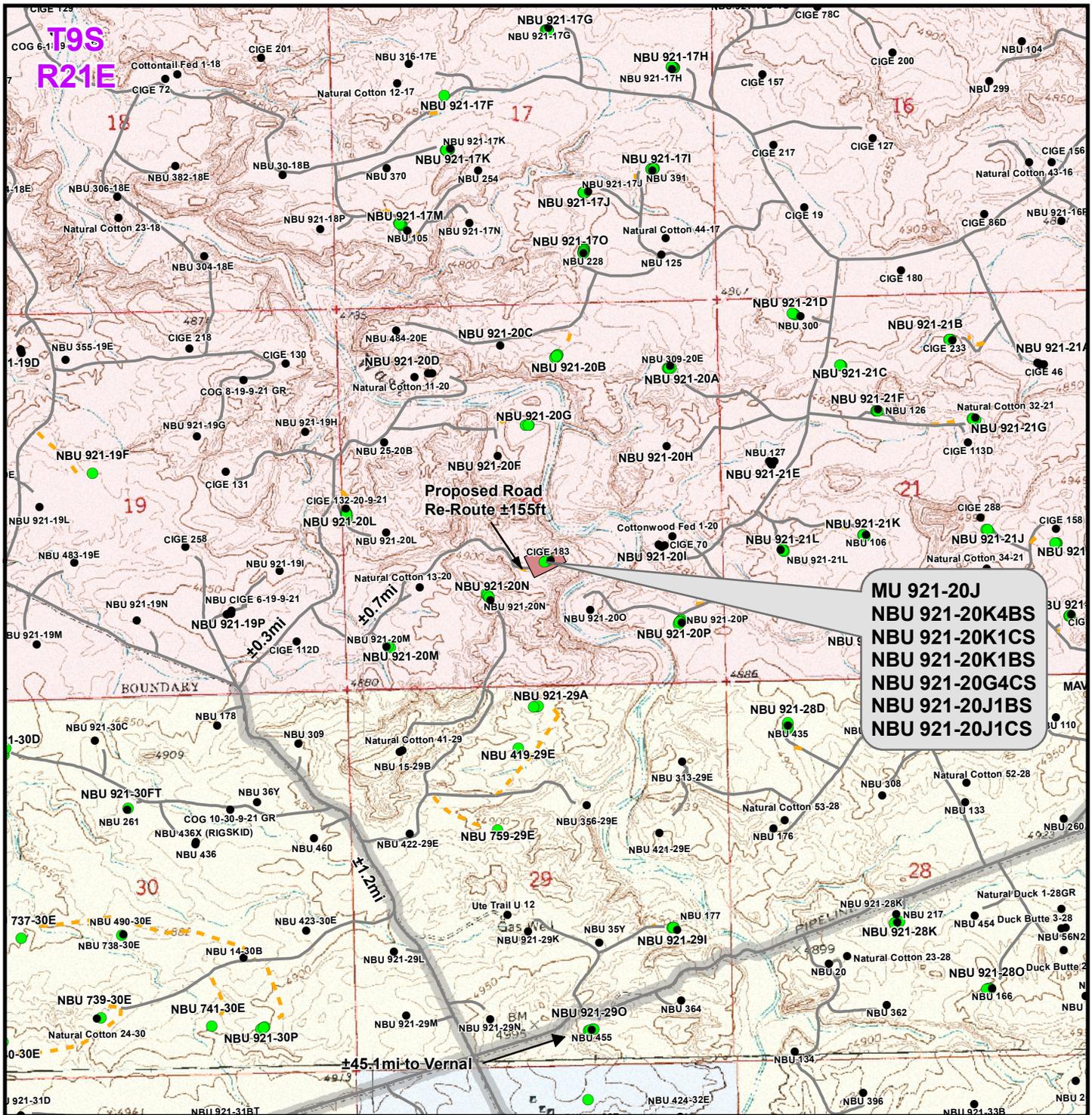
DATE: 17 Apr 2012

**13**

REVISED: TL

DATE: 17 May 2012

13 OF 19



**MU 921-20J**  
**NBU 921-20K4BS**  
**NBU 921-20K1CS**  
**NBU 921-20K1BS**  
**NBU 921-20G4CS**  
**NBU 921-20J1BS**  
**NBU 921-20J1CS**

**Legend**

- Well - Proposed
- Well - Existing
- Well Pad
- Road - Proposed
- Road - Existing
- County Road
- Bureau of Land Management
- Indian Reservation
- State
- Private

Total Proposed Road Re-Route Length: ±155ft

**WELL PAD - NBU 921-20J**

TOPO B  
 MU 921-20J,  
 NBU 921-20K4BS, NBU 921-20K1CS,  
 NBU 921-20K1BS, NBU 921-20G4CS,  
 NBU 921-20J1BS & NBU 921-20J1CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M., Uintah County, Utah

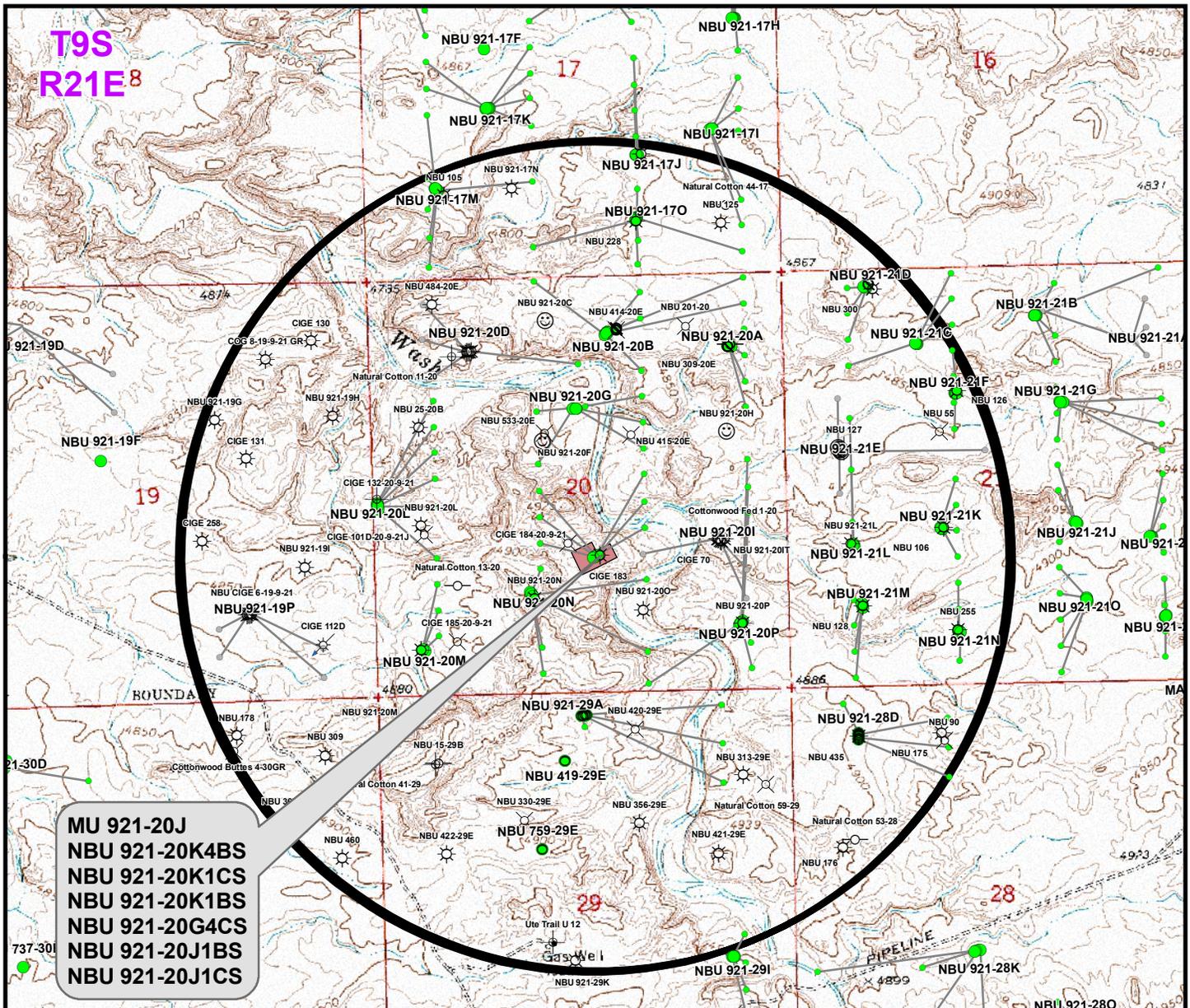
**Kerr-McGee Oil &  
 Gas Onshore L.P.**

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 Denver, Colorado 80202



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

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO:	<b>14</b>
DRAWN: TL	DATE: 17 Apr 2012	14 OF 19	
REVISED: TL	DATE: 17 May 2012		



**MU 921-20J**  
**NBU 921-20K4BS**  
**NBU 921-20K1CS**  
**NBU 921-20K1BS**  
**NBU 921-20G4CS**  
**NBU 921-20J1BS**  
**NBU 921-20J1CS**

Well locations derived from Utah Division of Oil, Gas and Mining (UDOGM) of Oil, Gas and Mining (UDOGM) (oilgas.ogm.utah.gov). The estimated distances from proposed bore locations to the nearest existing bore locations are based on UDOGM data.

Proposed Well	Nearest Well Bore	Footage
MU 921-20J	CIGE 183	93ft
NBU 921-20K4BS	NBU 921-20N	712ft
NBU 921-20K1CS	CIGE 183	913ft
NBU 921-20K1BS	NBU 921-20F	629ft
NBU 921-20G4CS	NBU 921-20J4BS BH	1,015ft
NBU 921-20J1BS	NBU 921-20J4BS BH	666ft
NBU 921-20J1CS	NBU 921-20J4BS BH	336ft

**Legend**

- Well - Proposed
- Well Path
- ☀ Producing
- ⊕ Deferred
- ☀ Active Injector
- ⊕ Plugged & Abandoned
- Bottom Hole - Proposed
- Well Pad
- ☺ Spudded
- ⊗ Cancelled
- ☀ Location Abandoned
- ⊕ Shut-In
- Bottom Hole - Existing
- ◻ Well - 1 Mile Radius
- APD Approved
- ⊖ Temporarily Abandoned
- ⊖ Preliminary Location

**WELL PAD - NBU 921-20J**

TOPO C  
 MU 921-20J,  
 NBU 921-20K4BS, NBU 921-20K1CS,  
 NBU 921-20K1BS, NBU 921-20G4CS,  
 NBU 921-20J1BS & NBU 921-20J1CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M., Uintah County, Utah

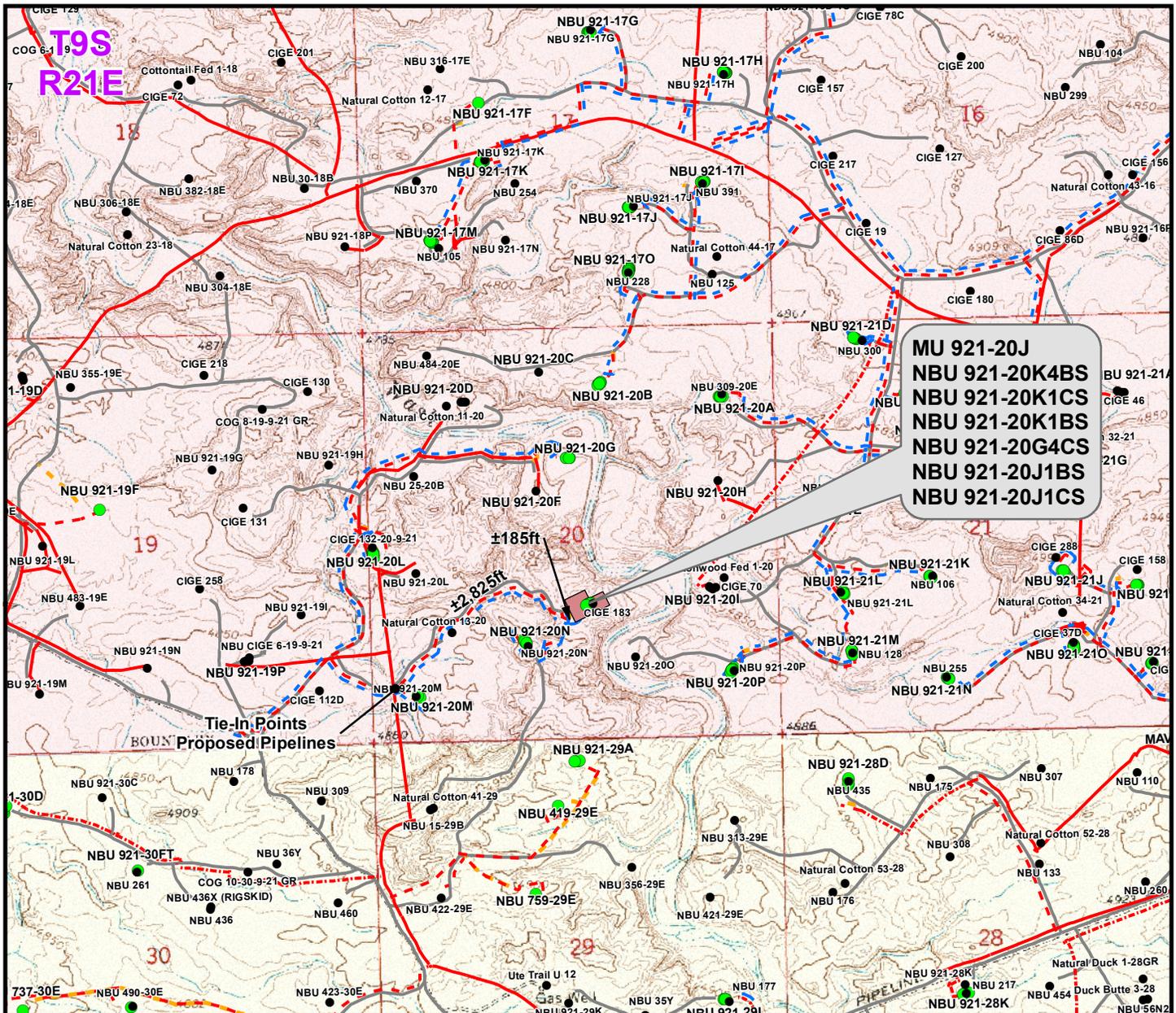
**Kerr-McGee Oil & Gas Onshore L.P.**

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 Denver, Colorado 80202



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 2155 North Main Street  
 Sheridan, Wyoming 82801  
 Phone 307-674-0609  
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SCALE: 1" = 2,000ft	NAD83 USP Central	15
DRAWN: TL	DATE: 17 Apr 2012	
REVISED: TL	DATE: 17 May 2012	



**MU 921-20J**  
**NBU 921-20K4BS**  
**NBU 921-20K1CS**  
**NBU 921-20K1BS**  
**NBU 921-20G4CS**  
**NBU 921-20J1BS**  
**NBU 921-20J1CS**

Proposed Liquid Pipeline		Length	Proposed Gas Pipeline		Length
Buried 6" (Max.) (Meter House to Edge of Pad)		±510ft	Buried 8" (Meter House to Edge of Pad)		±510ft
Buried 6" (Max.) (Edge of Pad to 20N Intersection)		±185ft	Buried 8" (Edge of Pad to 20N Intersection)		±185ft
Buried 6" (Max.) (20N Intersection to 20M Intersection)		±2,825ft	Buried 10" (20N Intersection to 20M Intersection)		±2,825ft
<b>TOTAL PROPOSED BURIED LIQUID PIPELINE =</b>		<b>±3,520ft</b>	<b>TOTAL PROPOSED BURIED GAS PIPELINE =</b>		<b>±3,520ft</b>

**Legend**

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

**WELL PAD - NBU 921-20J**

TOPO D  
 MU 921-20J,  
 NBU 921-20K4BS, NBU 921-20K1CS,  
 NBU 921-20K1BS, NBU 921-20G4CS,  
 NBU 921-20J1BS & NBU 921-20J1CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M., Uintah County, Utah

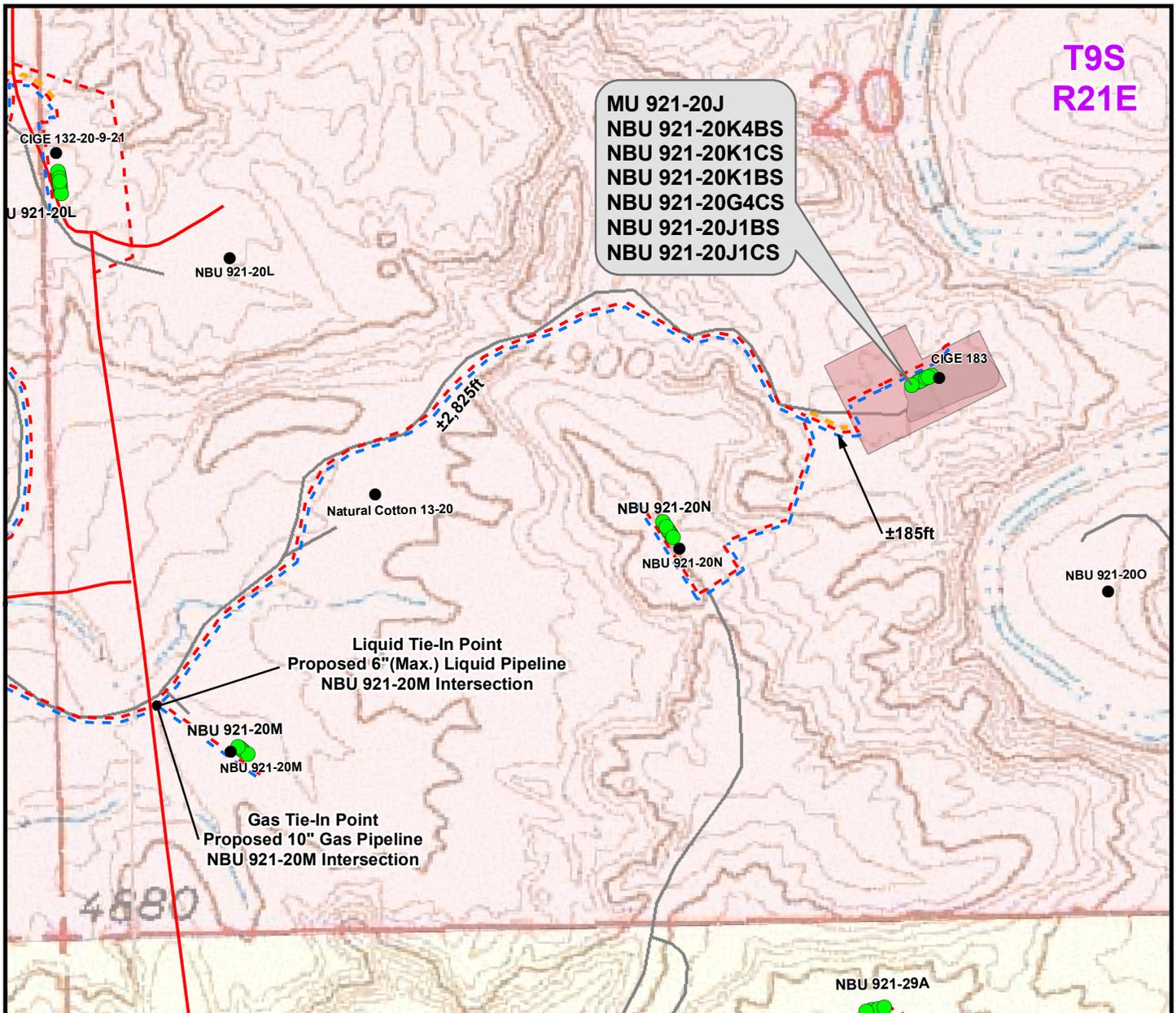
**Kerr-McGee Oil & Gas Onshore L.P.**

1099 18th Street  
 Denver, Colorado 80202



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

SCALE: 1" = 2,000ft	NAD83 USP Central	<b>16</b> 16 OF 19
DRAWN: TL	DATE: 17 Apr 2012	
REVISED: TL	DATE: 17 May 2012	



Proposed Liquid Pipeline		Length	Proposed Gas Pipeline		Length
Buried 6" (Max.) (Meter House to Edge of Pad)		±510ft	Buried 8" (Meter House to Edge of Pad)		±510ft
Buried 6" (Max.) (Edge of Pad to 20N Intersection)		±185ft	Buried 8" (Edge of Pad to 20N Intersection)		±185ft
Buried 6" (Max.) (20N Intersection to 20M Intersection)		±2,825ft	Buried 10" (20N Intersection to 20M Intersection)		±2,825ft
<b>TOTAL PROPOSED BURIED LIQUID PIPELINE =</b>		<b>±3,520ft</b>	<b>TOTAL PROPOSED BURIED GAS PIPELINE =</b>		<b>±3,520ft</b>

**Legend**

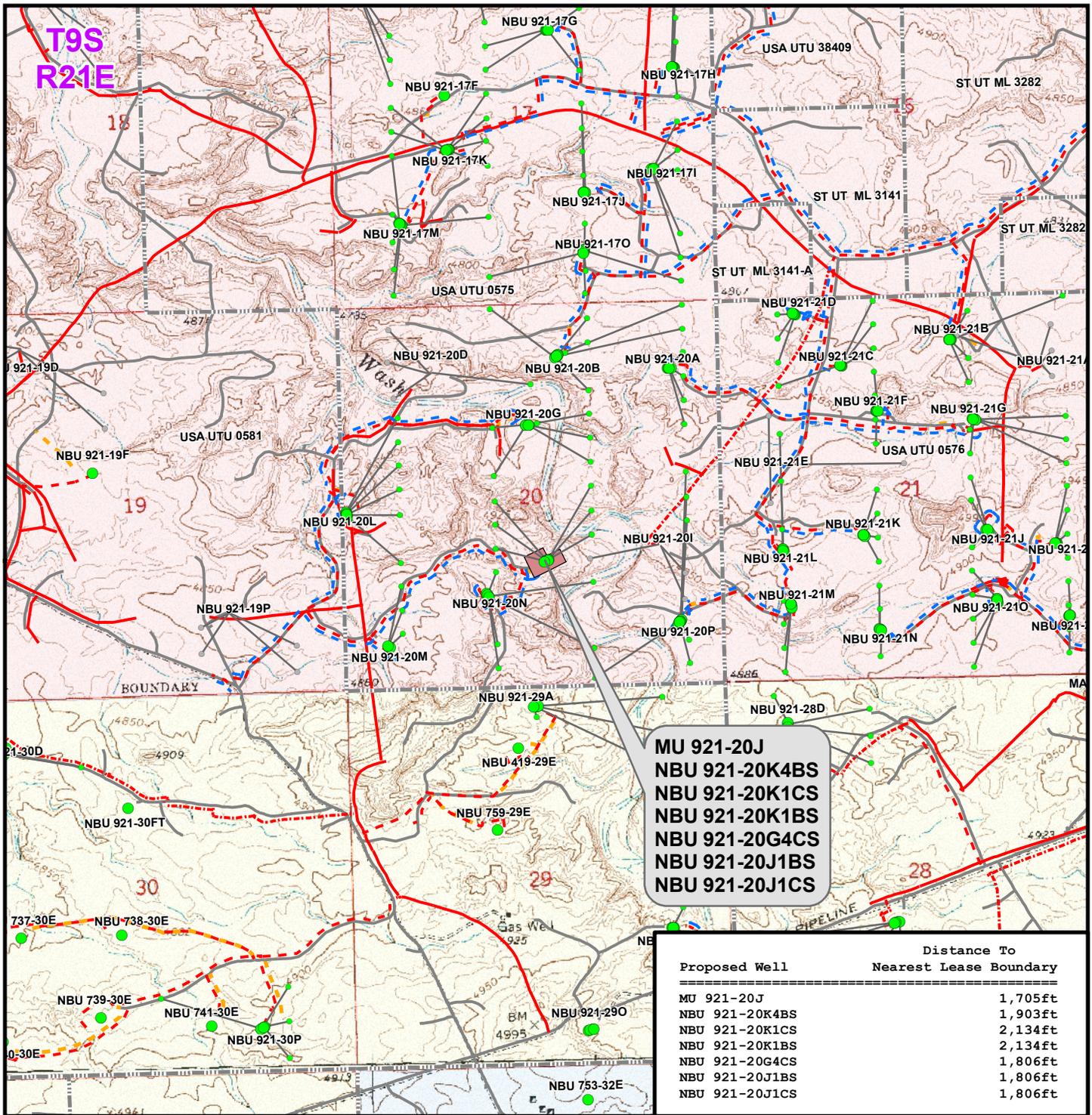
<span style="color: green;">●</span> Well - Proposed	<span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Well Pad - Proposed	<span style="color: red; font-weight: bold;">---</span> Gas Pipeline - Proposed	<span style="color: blue; font-weight: bold;">---</span> Liquid Pipeline - Proposed	<span style="color: orange; font-weight: bold;">---</span> Road - Proposed	<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Bureau of Land Management
<span style="color: black;">●</span> Well - Existing	<span style="border: 1px solid gray; display: inline-block; width: 15px; height: 10px;"></span> Well Pad - Existing	<span style="color: red; font-weight: bold;">---</span> Gas Pipeline - To Be Upgraded	<span style="color: blue; font-weight: bold;">---</span> Liquid Pipeline - Existing	<span style="color: gray; font-weight: bold;">---</span> Road - Existing	<span style="background-color: pink; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Indian Reservation
		<span style="color: red; font-weight: bold;">---</span> Gas Pipeline - Existing			<span style="border: 1px solid blue; display: inline-block; width: 15px; height: 10px;"></span> State
					<span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Private

**WELL PAD - NBU 921-20J**  
 TOPO D2 (PAD & PIPELINE DETAIL)  
 MU 921-20J,  
 NBU 921-20K4BS, NBU 921-20K1CS,  
 NBU 921-20K1BS, NBU 921-20G4CS,  
 NBU 921-20J1BS & NBU 921-20J1CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

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

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

SCALE: 1" = 500ft	NAD83 USP Central	<b>17</b> 17 OF 19
DRAWN: TL	DATE: 17 Apr 2012	
REVISED: TL	DATE: 17 May 2012	



**Legend**

- Well - Proposed (Green dot)
- Bottom Hole - Proposed (Green circle with dot)
- Well Pad (Red shaded area)
- Lease Boundary (Dashed line)
- Gas Pipeline - Proposed (Red dashed line)
- Gas Pipeline - To Be Upgraded (Red dotted line)
- Gas Pipeline - Existing (Red solid line)
- Liquid Pipeline - Proposed (Blue dashed line)
- Liquid Pipeline - Existing (Blue solid line)
- Road - Proposed (Yellow dashed line)
- Road - Existing (Grey solid line)
- Bureau of Land Management (Yellow shaded area)
- Indian Reservation (Red shaded area)
- State (Blue shaded area)
- Private (White shaded area)
- Well Path (Thin grey line)

**WELL PAD - NBU 921-20J**

TOPO E  
 MU 921-20J,  
 NBU 921-20K4BS, NBU 921-20K1CS,  
 NBU 921-20K1BS, NBU 921-20G4CS,  
 NBU 921-20J1BS & NBU 921-20J1CS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M., Uintah County, Utah

**Kerr-McGee Oil & Gas Onshore L.P.**

1099 18th Street  
 Denver, Colorado 80202

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

SCALE: 1" = 2,000ft  
 DRAWN: TL  
 REVISED: TL

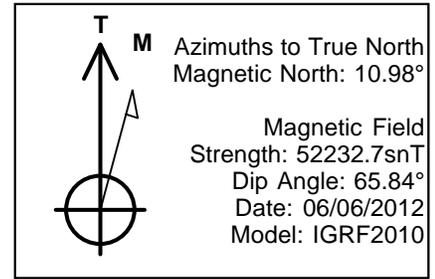
NAD83 USP Central  
 DATE: 17 Apr 2012  
 DATE: 17 May 2012

SHEET NO:  
**18**  
 18 OF 19

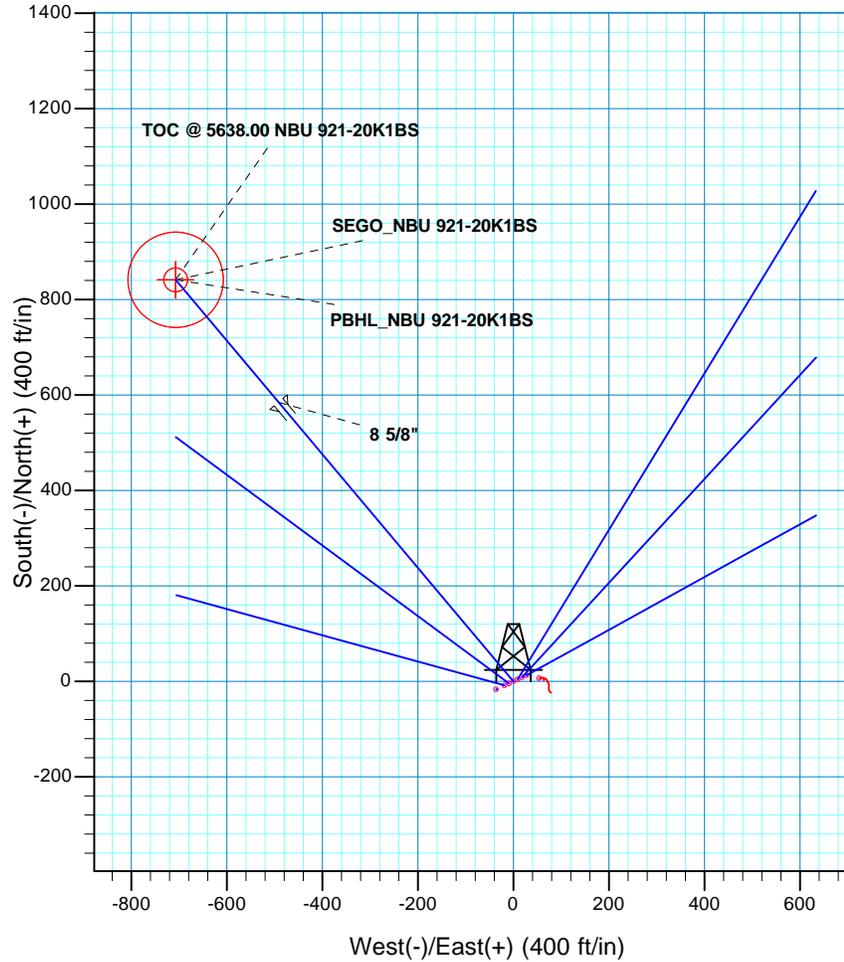
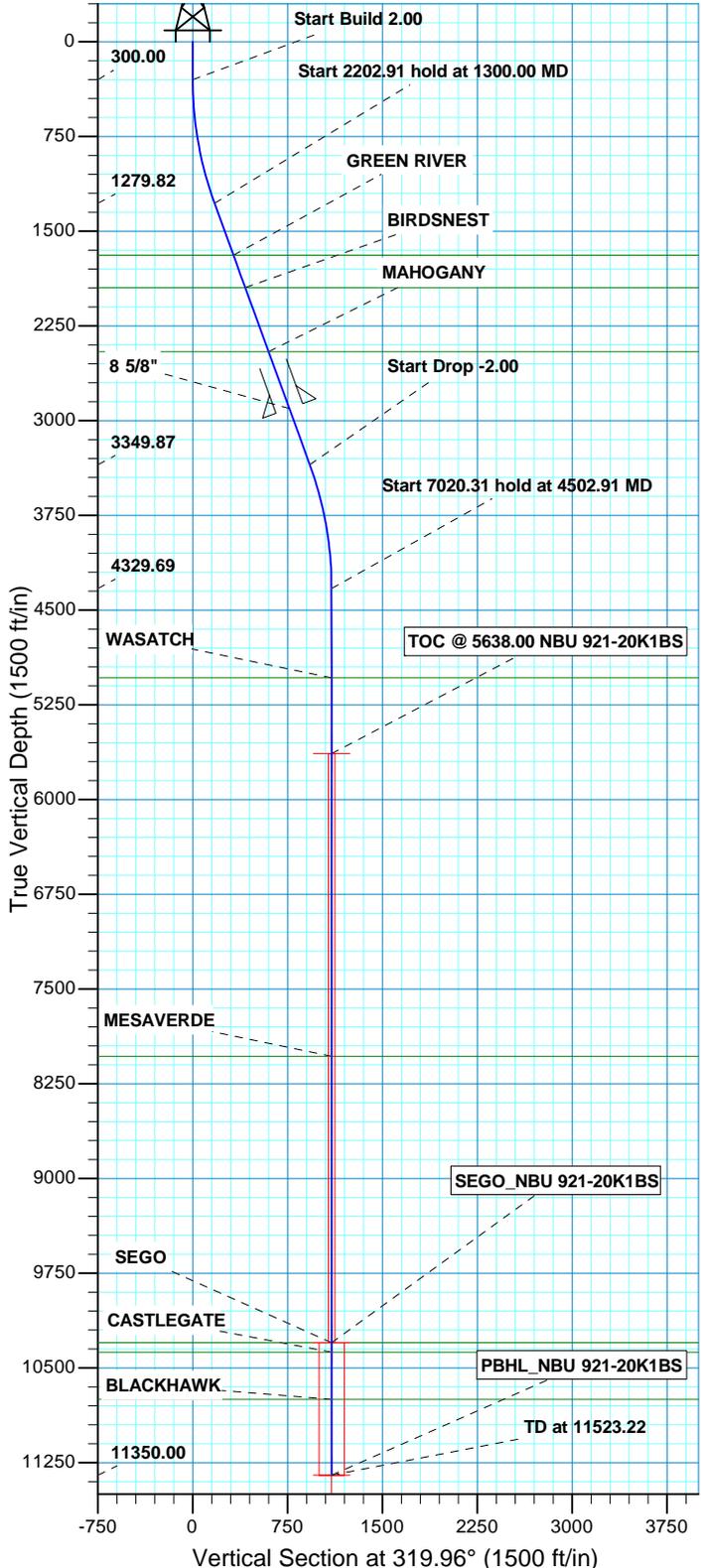
**Kerr-McGee Oil & Gas Onshore, LP  
WELL PAD - NBU 921-20J  
WELLS - MU 921-20J,  
NBU 921-20K4BS, NBU 921-20K1CS,  
NBU 921-20K1BS, NBU 921-20G4CS,  
NBU 921-20J1BS & NBU 921-20J1CS  
Section 20, T9S, R21E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.7 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly direction along the Class D County Road approximately 3.9 miles to a second Class D County Road to the northwest. Exit right and proceed in a northwesterly direction along the second Class D County Road approximately 1.2 miles to a Tribal Road to the northeast. Exit right and proceed in a northeasterly direction along the Tribal Road approximately 0.3 miles to a service road to the southeast. Exit right and proceed in a southeasterly, then northeasterly, then southeasterly direction along the service road approximately 0.7 miles to the proposed access road to the southeast. Follow road flags in a southeasterly direction approximately 155 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 47.3 miles in a southerly direction.



WELL DETAILS: NBU 921-20K1BS								
GL 4886 & KB 4 @ 4890.00ft (ASSUMED)								
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
	0.00	0.00	14536162.52	2039626.13	40.019014	-109.574179		
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TOC	5638.00	841.32	-707.06	14536992.41	2038905.70	40.021324	-109.576704	Point
- plan hits target center								
SEGO	10301.00	841.32	-707.06	14536992.41	2038905.70	40.021324	-109.576704	Circle (Radius: 25.00)
- plan hits target center								
PBHL	11350.00	841.32	-707.06	14536992.41	2038905.70	40.021324	-109.576704	Circle (Radius: 100.00)
- plan hits target center								



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1300.00	20.00	319.96	1279.82	132.26	-111.16	2.00	319.96	172.77	
3502.91	20.00	319.96	3349.87	709.06	-595.90	0.00	0.00	926.21	
4502.91	0.00	0.00	4329.69	841.32	-707.06	2.00	180.00	1098.97	
11523.22	0.00	0.00	11350.00	841.32	-707.06	0.00	0.00	1098.97	PBHL_NBU 921-20K1BS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N			FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)	TVDPath	MDPath	Formation		
Datum: NAD 1927 (NADCON CONUS)	1691.00	1737.57	GREEN RIVER		
Ellipsoid: Clarke 1866	1948.00	2011.07	BIRDSNEST		
Zone: Zone 12N (114 W to 108 W)	2454.00	2549.54	MAHOGANY		
Location: SECTION20 T10S R21E	5038.00	5211.22	WASATCH		
System Datum: Mean Sea Level	8033.00	8206.22	MESAVERDE		
	10301.00	10474.22	SEGO		
	10376.00	10549.22	CASTLEGATE		
	10750.00	10923.22	BLACKHAWK		

CASING DETAILS			
TVD	MD	Name	Size
2904.00	3028.42	8 5/8"	8.625

RECEIVED :



# Scientific Drilling

## **US ROCKIES REGION PLANNING**

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

NBU 921-20J PAD

NBU 921-20K1BS

OH

Plan: PLAN #1 PERMIT

## **Standard Planning Report**

06 June, 2012





<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20K1BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4886 & KB 4 @ 4890.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4886 & KB 4 @ 4890.00ft (ASSUMED)
<b>Site:</b>	NBU 921-20J PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-20K1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PERMIT		

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 921-20J PAD, SECTION 20 T10S R21E				
<b>Site Position:</b>	<b>Northing:</b>	14,536,153.86 usft	<b>Latitude:</b>	40.018991	
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,039,608.06 usft	<b>Longitude:</b>	-109.574244
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.92 °

<b>Well</b>	NBU 921-20K1BS, 1722 FSL 2440 FEL					
<b>Well Position</b>	<b>+N/-S</b>	8.38 ft	<b>Northing:</b>	14,536,162.52 usft	<b>Latitude:</b>	40.019014
	<b>+E/-W</b>	18.20 ft	<b>Easting:</b>	2,039,626.12 usft	<b>Longitude:</b>	-109.574179
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,886.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	06/06/12	10.98	65.84	52,233

<b>Design</b>	PLAN #1 PERMIT			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	319.96

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	319.96	1,279.82	132.26	-111.16	2.00	2.00	0.00	319.96	
3,502.91	20.00	319.96	3,349.87	709.06	-595.90	0.00	0.00	0.00	0.00	
4,502.91	0.00	0.00	4,329.69	841.32	-707.06	2.00	-2.00	0.00	180.00	
11,523.22	0.00	0.00	11,350.00	841.32	-707.06	0.00	0.00	0.00	0.00	PBHL_NBU 921-20K'



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20K1BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4886 & KB 4 @ 4890.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4886 & KB 4 @ 4890.00ft (ASSUMED)
<b>Site:</b>	NBU 921-20J PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-20K1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PERMIT		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>										
400.00	2.00	319.96	399.98	1.34	-1.12	1.75	2.00	2.00	2.00	0.00
500.00	4.00	319.96	499.84	5.34	-4.49	6.98	2.00	2.00	2.00	0.00
600.00	6.00	319.96	599.45	12.01	-10.10	15.69	2.00	2.00	2.00	0.00
700.00	8.00	319.96	698.70	21.34	-17.94	27.88	2.00	2.00	2.00	0.00
800.00	10.00	319.96	797.47	33.32	-28.00	43.52	2.00	2.00	2.00	0.00
900.00	12.00	319.96	895.62	47.93	-40.28	62.60	2.00	2.00	2.00	0.00
1,000.00	14.00	319.96	993.06	65.15	-54.75	85.10	2.00	2.00	2.00	0.00
1,100.00	16.00	319.96	1,089.64	84.96	-71.40	110.98	2.00	2.00	2.00	0.00
1,200.00	18.00	319.96	1,185.27	107.34	-90.21	140.21	2.00	2.00	2.00	0.00
1,300.00	20.00	319.96	1,279.82	132.26	-111.16	172.77	2.00	2.00	2.00	0.00
<b>Start 2202.91 hold at 1300.00 MD</b>										
1,400.00	20.00	319.96	1,373.78	158.45	-133.16	206.97	0.00	0.00	0.00	0.00
1,500.00	20.00	319.96	1,467.75	184.63	-155.16	241.17	0.00	0.00	0.00	0.00
1,600.00	20.00	319.96	1,561.72	210.81	-177.17	275.37	0.00	0.00	0.00	0.00
1,700.00	20.00	319.96	1,655.69	237.00	-199.17	309.58	0.00	0.00	0.00	0.00
1,737.57	20.00	319.96	1,691.00	246.83	-207.44	322.43	0.00	0.00	0.00	0.00
<b>GREEN RIVER</b>										
1,800.00	20.00	319.96	1,749.66	263.18	-221.18	343.78	0.00	0.00	0.00	0.00
1,900.00	20.00	319.96	1,843.63	289.36	-243.18	377.98	0.00	0.00	0.00	0.00
2,000.00	20.00	319.96	1,937.60	315.55	-265.19	412.18	0.00	0.00	0.00	0.00
2,011.07	20.00	319.96	1,948.00	318.44	-267.62	415.97	0.00	0.00	0.00	0.00
<b>BIRDSNEST</b>										
2,100.00	20.00	319.96	2,031.57	341.73	-287.19	446.38	0.00	0.00	0.00	0.00
2,200.00	20.00	319.96	2,125.54	367.91	-309.20	480.59	0.00	0.00	0.00	0.00
2,300.00	20.00	319.96	2,219.51	394.09	-331.20	514.79	0.00	0.00	0.00	0.00
2,400.00	20.00	319.96	2,313.48	420.28	-353.21	548.99	0.00	0.00	0.00	0.00
2,500.00	20.00	319.96	2,407.45	446.46	-375.21	583.19	0.00	0.00	0.00	0.00
2,549.54	20.00	319.96	2,454.00	459.43	-386.11	600.14	0.00	0.00	0.00	0.00
<b>MAHOGANY</b>										
2,600.00	20.00	319.96	2,501.42	472.64	-397.22	617.39	0.00	0.00	0.00	0.00
2,700.00	20.00	319.96	2,595.39	498.83	-419.22	651.60	0.00	0.00	0.00	0.00
2,800.00	20.00	319.96	2,689.35	525.01	-441.23	685.80	0.00	0.00	0.00	0.00
2,900.00	20.00	319.96	2,783.32	551.19	-463.23	720.00	0.00	0.00	0.00	0.00
3,000.00	20.00	319.96	2,877.29	577.38	-485.24	754.20	0.00	0.00	0.00	0.00
3,028.42	20.00	319.96	2,904.00	584.82	-491.49	763.92	0.00	0.00	0.00	0.00
<b>8 5/8"</b>										
3,100.00	20.00	319.96	2,971.26	603.56	-507.24	788.40	0.00	0.00	0.00	0.00
3,200.00	20.00	319.96	3,065.23	629.74	-529.25	822.61	0.00	0.00	0.00	0.00
3,300.00	20.00	319.96	3,159.20	655.93	-551.25	856.81	0.00	0.00	0.00	0.00
3,400.00	20.00	319.96	3,253.17	682.11	-573.26	891.01	0.00	0.00	0.00	0.00
3,500.00	20.00	319.96	3,347.14	708.29	-595.26	925.21	0.00	0.00	0.00	0.00
3,502.91	20.00	319.96	3,349.87	709.06	-595.90	926.21	0.00	0.00	0.00	0.00
<b>Start Drop -2.00</b>										
3,600.00	18.06	319.96	3,441.65	733.29	-616.27	957.86	2.00	-2.00	0.00	0.00
3,700.00	16.06	319.96	3,537.25	755.74	-635.14	987.19	2.00	-2.00	0.00	0.00
3,800.00	14.06	319.96	3,633.81	775.63	-651.85	1,013.17	2.00	-2.00	0.00	0.00
3,900.00	12.06	319.96	3,731.22	792.93	-666.39	1,035.77	2.00	-2.00	0.00	0.00
4,000.00	10.06	319.96	3,829.36	807.61	-678.73	1,054.95	2.00	-2.00	0.00	0.00



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20K1BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4886 & KB 4 @ 4890.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4886 & KB 4 @ 4890.00ft (ASSUMED)
<b>Site:</b>	NBU 921-20J PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-20K1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PERMIT		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,100.00	8.06	319.96	3,928.11	819.66	-688.86	1,070.69	2.00	-2.00	0.00
4,200.00	6.06	319.96	4,027.34	829.07	-696.76	1,082.98	2.00	-2.00	0.00
4,300.00	4.06	319.96	4,126.95	835.82	-702.44	1,091.79	2.00	-2.00	0.00
4,400.00	2.06	319.96	4,226.80	839.90	-705.87	1,097.13	2.00	-2.00	0.00
4,500.00	0.06	319.96	4,326.78	841.32	-707.06	1,098.97	2.00	-2.00	0.00
4,502.91	0.00	0.00	4,329.69	841.32	-707.06	1,098.97	2.00	-2.00	0.00
<b>Start 7020.31 hold at 4502.91 MD</b>									
4,600.00	0.00	0.00	4,426.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
4,700.00	0.00	0.00	4,526.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
4,800.00	0.00	0.00	4,626.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
4,900.00	0.00	0.00	4,726.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
5,000.00	0.00	0.00	4,826.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
5,100.00	0.00	0.00	4,926.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
5,200.00	0.00	0.00	5,026.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
5,211.22	0.00	0.00	5,038.00	841.32	-707.06	1,098.97	0.00	0.00	0.00
<b>WASATCH</b>									
5,300.00	0.00	0.00	5,126.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
5,400.00	0.00	0.00	5,226.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
5,500.00	0.00	0.00	5,326.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
5,600.00	0.00	0.00	5,426.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
5,700.00	0.00	0.00	5,526.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
5,800.00	0.00	0.00	5,626.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
5,811.22	0.00	0.00	5,638.00	841.32	-707.06	1,098.97	0.00	0.00	0.00
<b>TOC @ 5638.00 NBU 921-20K1BS</b>									
5,900.00	0.00	0.00	5,726.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
6,000.00	0.00	0.00	5,826.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
6,100.00	0.00	0.00	5,926.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
6,200.00	0.00	0.00	6,026.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
6,300.00	0.00	0.00	6,126.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
6,400.00	0.00	0.00	6,226.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
6,500.00	0.00	0.00	6,326.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
6,600.00	0.00	0.00	6,426.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
6,700.00	0.00	0.00	6,526.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
6,800.00	0.00	0.00	6,626.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
6,900.00	0.00	0.00	6,726.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
7,000.00	0.00	0.00	6,826.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
7,100.00	0.00	0.00	6,926.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
7,200.00	0.00	0.00	7,026.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
7,300.00	0.00	0.00	7,126.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
7,400.00	0.00	0.00	7,226.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
7,500.00	0.00	0.00	7,326.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
7,600.00	0.00	0.00	7,426.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
7,700.00	0.00	0.00	7,526.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
7,800.00	0.00	0.00	7,626.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
7,900.00	0.00	0.00	7,726.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
8,000.00	0.00	0.00	7,826.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
8,100.00	0.00	0.00	7,926.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
8,200.00	0.00	0.00	8,026.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
8,206.22	0.00	0.00	8,033.00	841.32	-707.06	1,098.97	0.00	0.00	0.00
<b>MESAVERDE</b>									
8,300.00	0.00	0.00	8,126.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
8,400.00	0.00	0.00	8,226.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
8,500.00	0.00	0.00	8,326.78	841.32	-707.06	1,098.97	0.00	0.00	0.00



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20K1BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4886 & KB 4 @ 4890.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4886 & KB 4 @ 4890.00ft (ASSUMED)
<b>Site:</b>	NBU 921-20J PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-20K1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PERMIT		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,600.00	0.00	0.00	8,426.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
8,700.00	0.00	0.00	8,526.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
8,800.00	0.00	0.00	8,626.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
8,900.00	0.00	0.00	8,726.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
9,000.00	0.00	0.00	8,826.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
9,100.00	0.00	0.00	8,926.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
9,200.00	0.00	0.00	9,026.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
9,300.00	0.00	0.00	9,126.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
9,400.00	0.00	0.00	9,226.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
9,500.00	0.00	0.00	9,326.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
9,600.00	0.00	0.00	9,426.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
9,700.00	0.00	0.00	9,526.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
9,800.00	0.00	0.00	9,626.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
9,900.00	0.00	0.00	9,726.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,000.00	0.00	0.00	9,826.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,100.00	0.00	0.00	9,926.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,200.00	0.00	0.00	10,026.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,300.00	0.00	0.00	10,126.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,400.00	0.00	0.00	10,226.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,474.22	0.00	0.00	10,301.00	841.32	-707.06	1,098.97	0.00	0.00	0.00
<b>SEGO - SEGO_NBU 921-20K1BS</b>									
10,500.00	0.00	0.00	10,326.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,549.22	0.00	0.00	10,376.00	841.32	-707.06	1,098.97	0.00	0.00	0.00
<b>CASTLEGATE</b>									
10,600.00	0.00	0.00	10,426.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,700.00	0.00	0.00	10,526.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,800.00	0.00	0.00	10,626.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,900.00	0.00	0.00	10,726.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
10,923.22	0.00	0.00	10,750.00	841.32	-707.06	1,098.97	0.00	0.00	0.00
<b>BLACKHAWK</b>									
11,000.00	0.00	0.00	10,826.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
11,100.00	0.00	0.00	10,926.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
11,200.00	0.00	0.00	11,026.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
11,300.00	0.00	0.00	11,126.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
11,400.00	0.00	0.00	11,226.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
11,500.00	0.00	0.00	11,326.78	841.32	-707.06	1,098.97	0.00	0.00	0.00
11,523.22	0.00	0.00	11,350.00	841.32	-707.06	1,098.97	0.00	0.00	0.00
<b>TD at 11523.22 - PBHL_NBU 921-20K1BS</b>									



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20K1BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4886 & KB 4 @ 4890.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4886 & KB 4 @ 4890.00ft (ASSUMED)
<b>Site:</b>	NBU 921-20J PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-20K1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PERMIT		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
TOC @ 5638.00 NBU 9; - hit/miss target - Shape	0.00	0.00	5,638.00	841.32	-707.06	14,536,992.42	2,038,905.69	40.021324	-109.576704
SEGO_NBU 921-20K1B - plan hits target center - Circle (radius 25.00)	0.00	0.00	10,301.00	841.32	-707.06	14,536,992.42	2,038,905.69	40.021324	-109.576704
PBHL_NBU 921-20K1B; - plan hits target center - Circle (radius 100.00)	0.00	0.00	11,350.00	841.32	-707.06	14,536,992.42	2,038,905.69	40.021324	-109.576704

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
3,028.42	2,904.00	8 5/8"	8.625	11.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,737.57	1,691.00	GREEN RIVER			
2,011.07	1,948.00	BIRDSNEST			
2,549.54	2,454.00	MAHOGANY			
5,211.22	5,038.00	WASATCH			
8,206.22	8,033.00	MESAVERDE			
10,474.22	10,301.00	SEGO			
10,549.22	10,376.00	CASTLEGATE			
10,923.22	10,750.00	BLACKHAWK			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
1,300.00	1,279.82	132.26	-111.16	Start 2202.91 hold at 1300.00 MD	
3,502.91	3,349.87	709.06	-595.90	Start Drop -2.00	
4,502.91	4,329.69	841.32	-707.06	Start 7020.31 hold at 4502.91 MD	
11,523.22	11,350.00	841.32	-707.06	TD at 11523.22	

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

<b><u>API #</u></b>	<b><u>MU 921-20J</u></b>		
	Surface: 1705 FSL / 2477 FEL	NWSE	Lot
	BHL: 1705 FSL / 2477 FEL	NWSE	Lot
<b><u>API #</u></b>	<b><u>NBU 921-20G4CS</u></b>		
	Surface: 1726 FSL / 2431 FEL	NWSE	Lot
	BHL: 2563 FNL / 1806 FEL	SWNE	Lot
<b><u>API #</u></b>	<b><u>NBU 921-20J1BS</u></b>		
	Surface: 1730 FSL / 2422 FEL	NWSE	Lot
	BHL: 2399 FSL / 1806 FEL	NWSE	Lot
<b><u>API #</u></b>	<b><u>NBU 921-20J1CS</u></b>		
	Surface: 1734 FSL / 2413 FEL	NWSE	Lot
	BHL: 2068 FSL / 1806 FEL	NWSE	Lot
<b><u>API #</u></b>	<b><u>NBU 921-20K1BS</u></b>		
	Surface: 1722 FSL / 2440 FEL	NWSE	Lot
	BHL: 2564 FSL / 2134 FWL	NESW	Lot
<b><u>API #</u></b>	<b><u>NBU 921-20K1CS</u></b>		
	Surface: 1717 FSL / 2449 FEL	NWSE	Lot
	BHL: 2234 FSL / 2134 FWL	NESW	Lot
<b><u>API #</u></b>	<b><u>NBU 921-20K4BS</u></b>		
	Surface: 1713 FSL / 2458 FEL	NWSE	Lot
	BHL: 1903 FSL / 2134 FWL	NESW	Lot

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on May 8, 2012. Present were:

- David Gordon, Melissa Wardle, Tyler Cox - BLM;
- Bucky Secakuku - BIA;
- Brad Pinecoose - Ute Indian Tribe;
- Amy Ackman - Montgomery Archeological Consultants Inc.;
- Scott Carson - Smiling Lake Consulting;
- John Slaugh, Mitch Batty - Timberline Engineering & Land Surveying, Inc.;
- Danielle Piernot, Raleen White, Doyle Holmes, Rod Anderson, Charles Chase - Kerr-McGee
- Tim Horgan-Kobelski - Grasslands Consulting, Inc.
- Justin Strauss - SWCA Environmental Consultants

**A. Existing Roads:**

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

**B. New or Reconstructed Access Roads:**

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BIA.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

**The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.**

±155' (0.03 miles) – Section 20 (S/2) T9S R21E – On lease UTU0575 Ute Indian Tribe surface,  
 road re-route from the edge of the pad to the existing road to the west. Please refer to Topo B.

**C. Location of Existing Wells:**

A) Refer to Topo Map C.

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

This pad will expand the existing pad for the CIGE 183, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on June 28, 2012. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accommodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

**GAS GATHERING**

*Please refer to Topo D2- Pad and Pipeline Detail.*

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is ±3,520' and the individual segments are broken up as follows:

**The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.**

±3,520' (0.7 miles) – Section 20 T9S R21E– On-lease UTU0575 Ute Indian Tribe Surface,  
 New 8" and 10" buried gas gathering pipeline from the meter to the NBU 921-20M Pad  
 intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

**LIQUID GATHERING**

*Please refer to Topo D2- Pad and Pipeline Detail.*

The total liquid gathering pipeline distance from the separator to the tie in point is ±3,520' and the individual segments are broken up as follows:

**The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.**

±3,520' (0.7 miles) – Section 20 T9S R21E– On-lease UTU0575 Ute Indian Tribe Surface,  
 New 6" buried liquid gathering pipeline from the separator to the NBU 921-20M Pad  
 intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

### **Pipeline Gathering Construction**

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s), gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' disturbance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent disturbance width is for maintenance and repairs. Cross country permanent disturbance width also are required to be 30ft.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, Kerr-McGee or its successor will consult with the Vernal BIA Office before terminating the use of the pipeline(s).

**The Anadarko Completions Transportation System (ACTS) information:**

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is discussed in more detail below. Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit .

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors.

Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The temporary ACTS lines will be permitted under a separate cover to the Ute Indian Tribe.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BIA considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BIA.

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

Water for drilling and completion operations will be obtained from the following sources:

Permit # 49-2307	JD Field Services	Green River- Section 15, T2N, R22E
Permit # 49-2321	R.N. Industries	White River- Section 2, T10S, R24E
Permit # 49-2319	R.N. Industries	White River- Various Sources
Permit # 49-2320	R.N. Industries	Green River- Section 33, T8S, R23E

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

**F. Construction Materials:**

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from Tribal lands without prior approval from the BIA. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BIA.

**G. Methods for Handling Waste:**

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BIA, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BIA, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc.). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BIA. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BIA.

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

**Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or 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

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E  
CIGE 112D SWD in Sec. 19 T9S R21E  
CIGE 114 SWD in Sec. 34 T9S R21E  
NBU 921-34K SWD in Sec. 34 T9S R21E  
NBU 921-33F SWD in Sec. 34 T9S R21E

**H. Ancillary Facilities:**

No additional ancillary facilities are planned for this location.

**I. Well Site Layout:**

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of disturbance will not exceed the maximum disturbance outlined in the attached exhibits.

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BIA.

**J. Plans for Surface Reclamation:**

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

**Interim Reclamation**

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BIA for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

### **Final Reclamation**

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BIA will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

Reclamation of roads will be performed at the discretion of the BIA/Tribe. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications as proposed below in "Measures Common to Interim and Final Reclamation".

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BIA/Tribe.

### **Measures Common to Interim and Final Reclamation**

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for

re-vegetation. The seed mixes will be selected from a list provided by or approved by the BIA/Tribe or a specific seed mix will be proposed by Kerr-McGee to the BIA/Tribe and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Indian Ricegrass (Nezpar)	3
Sandberg Bluegrass	0.75
Bottlebrush Squirreltail	1
Great Basin Wildrye	0.5
Crested Wheatgrass	1.5
Winterfat	0.25
Shadscale	1.5
Four-wing Saltbrush	0.75
Forage Kochia	0.25
<b>Total</b>	<b>9.5</b>

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

#### **Weed Control**

Noxious weeds will be controlled in all orihect areas un accordance with all applicable rules and regulations.

#### **K. Surface/Mineral Ownership:**

Ute Indian Tribe	United States of America
P.O. Box 70	Bureau of Land Management
988 South 7500 East Annex Building	170 South 500 East
Fort Duschesne, UT 84026	Vernal, UT 84078
(435) 722-4307	(435)781-4400

#### **L. Other Information:**

##### **Onsite Specifics:**

- No changes

#### **Cultural and Paleontological Resources**

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BIA.

### Resource Reports:

A Class I literature survey report was completed on May 21, 2012 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 12-152.

A paleontological reconnaissance survey was completed on April 10-16, 2012 by SWCA Environmental Consultants. For additional details please refer to report UT12-14314-100 and UT12-14314-122.

Biological field survey was completed on April 10-13, 2012 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-772 and GCI-776.

### Proposed Action Annual Emissions Tables:

Pollutant	Development	Production	Total
NO <sub>x</sub>	3.8	0.12	3.92
CO	2.2	0.11	2.31
VOC	0.1	4.9	5
SO <sub>2</sub>	0.005	0.0043	0.0093
PM <sub>10</sub>	1.7	0.11	1.81
PM <sub>2.5</sub>	0.4	0.025	0.425
Benzene	2.2E-03	0.044	0.046
Toluene	1.6E-03	0.103	0.105
Ethylbenzene	3.4E-04	0.005	0.005
Xylene	1.1E-03	0.076	0.077
n-Hexane	1.7E-04	0.145	0.145
Formaldehyde	1.3E-02	8.64E-05	1.31E-02

<sup>1</sup> Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory <sup>a</sup> (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NO <sub>x</sub>	27.44	16,547	0.17%
VOC	35	127,495	0.03%

<sup>a</sup> [http://www.wrapair.org/forums/ogwg/PhaseIII\\_Inventory.html](http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html)

Uintah Basin Data

MU 921-20J/ NBU 921-20G4CS/ 921-20J1BS/ 921-20J1CS  
NBU 921-20K1BS/ 921-20K1CS/ 921-20K4BS  
Kerr-McGee Oil Gas Onshore, L.P.

Surface Use Plan of Operations  
13 of 13

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

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

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

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

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

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

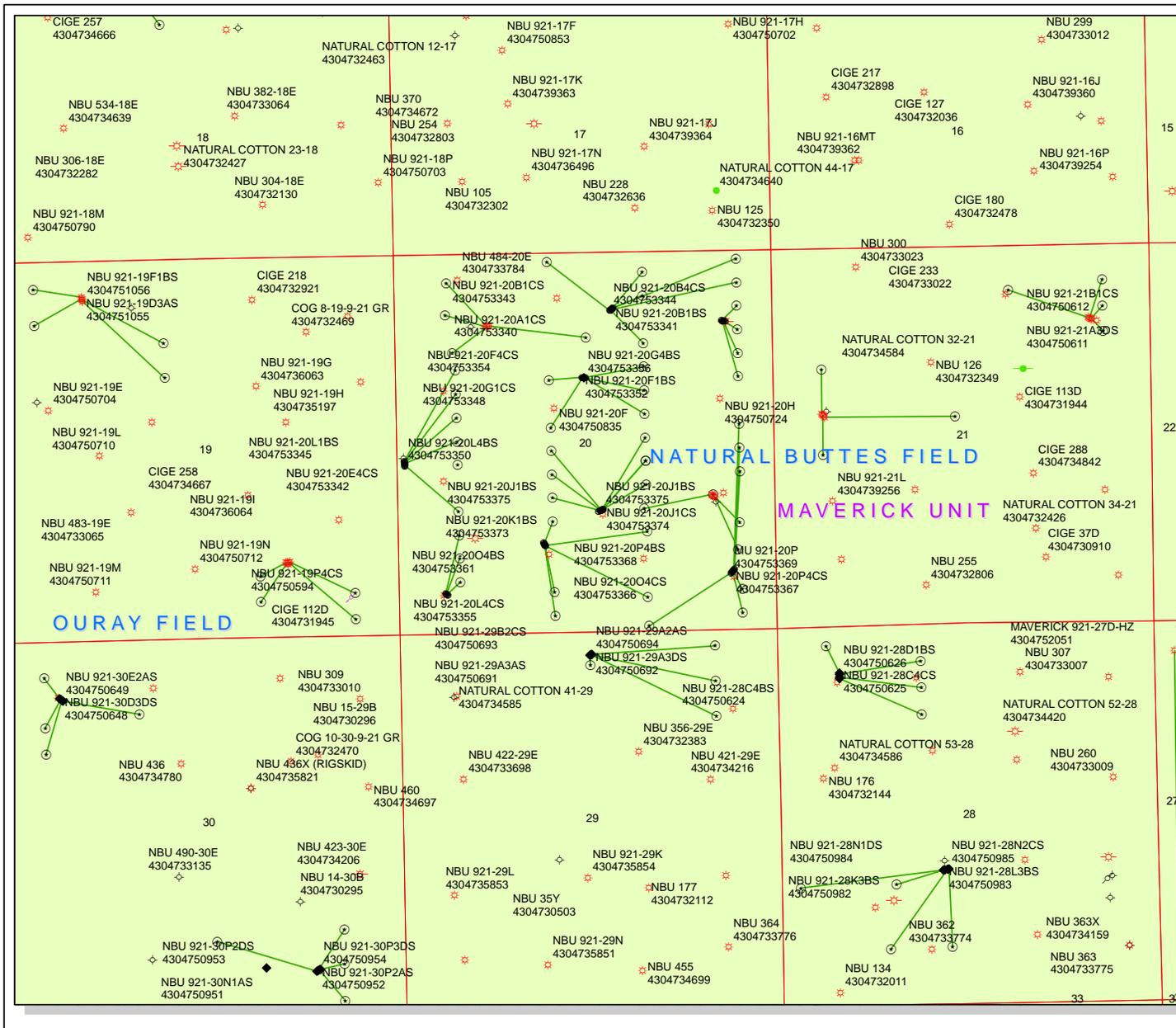
Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

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

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

June 22, 2012

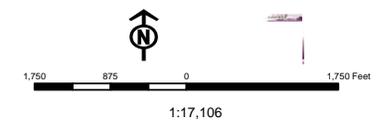
\_\_\_\_\_  
Date



**API Number: 4304753373**  
**Well Name: NBU 921-20K1BS**  
**Township T09.0S Range R21.0E Section 20**  
**Meridian: SLBM**  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason

<b>Units Status</b>	<b>Wells Query Status</b>
ACTIVE	APD - Approved Permit
EXPLORATORY	DRL - Spudded (Drilling Commenced)
GAS STORAGE	GIW - Gas Injection
NF PP OIL	GS - Gas Storage
NF SECONDARY	LOC - New Location
PI OIL	OPS - Operation Suspended
PP GAS	PA - Plugged Abandoned
PP GEOTHERM	PGW - Producing Gas Well
PP OIL	POW - Producing Oil Well
SECONDARY	SGW - Shut-in Gas Well
TERMINATED	SOW - Shut-in Oil Well
<b>Fields Status</b>	TA - Temp. Abandoned
Unknown	TW - Test Well
ABANDONED	WDW - Water Disposal
ACTIVE	WW - Water Injection Well
COMBINED	WSW - Water Supply Well
INACTIVE	Bottom Hole Location - Oil&Gas
STORAGE	
TERMINATED	



# 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)

December 10, 2012

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2012 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 2012 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
<b>NBU 921-20J PAD</b>		
43-047-53371	NBU 921-20K4BS	Sec 20 T09S R21E 1713 FSL 2458 FEL
	BHL	Sec 20 T09S R21E 1903 FSL 2134 FWL
43-047-53372	NBU 921-20K1CS	Sec 20 T09S R21E 1717 FSL 2449 FEL
	BHL	Sec 20 T09S R21E 2234 FSL 2134 FWL
43-047-53373	NBU 921-20K1BS	Sec 20 T09S R21E 1722 FSL 2440 FEL
	BHL	Sec 20 T09S R21E 2564 FSL 2134 FWL
43-047-53374	NBU 921-20J1CS	Sec 20 T09S R21E 1734 FSL 2413 FEL
	BHL	Sec 20 T09S R21E 2068 FSL 1806 FEL
43-047-53375	NBU 921-20J1BS	Sec 20 T09S R21E 1730 FSL 2422 FEL
	BHL	Sec 20 T09S R21E 2399 FSL 1806 FEL
<b>NBU 921-20N PAD</b>		
43-047-53377	NBU 920-22K4CS	Sec 22 T09S R20E 1225 FSL 2418 FWL
	BHL	Sec 22 T09S R20E 1491 FSL 2192 FWL
43-047-53378	NBU 920-22N1BS	Sec 22 T09S R20E 1209 FSL 2406 FWL
	BHL	Sec 22 T09S R20E 1151 FSL 2119 FWL
43-047-53379	NBU 920-22N4BS	Sec 22 T09S R20E 1200 FSL 2401 FWL
	BHL	Sec 22 T09S R20E 0551 FSL 2078 FWL


**Michael L. Coulthard**

Digitally signed by Michael L. Coulthard  
 DN: cn=Michael L. Coulthard, o=Bureau of Land Management,  
 ou=Branch of Minerals, email=Michael\_Coulthard@blm.gov, c=US  
 Date: 2012.12.10 10:29:51 -0700'

**RECEIVED:** December 11, 2012

API Well Number: 43047533730000

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

MCoulthard:mc:12-10-12

RECEIVED: December 11, 2012

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 11/29/2012

API NO. ASSIGNED: 43047533730000

WELL NAME: NBU 921-20K1BS

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

PHONE NUMBER: 720 929-6156

CONTACT: Danielle Piernot

PROPOSED LOCATION: NWSE 20 090S 210E

Permit Tech Review: 

SURFACE: 1722 FSL 2440 FEL

Engineering Review: 

BOTTOM: 2564 FSL 2134 FWL

Geology Review: 

COUNTY: UINTAH

LATITUDE: 40.01893

LONGITUDE: -109.57485

UTM SURF EASTINGS: 621619.00

NORTHINGS: 4430831.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU0575

PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 2 - Indian

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

- PLAT
- Bond: FEDERAL - WYB000291
- Potash
- Oil Shale 190-5
- Oil Shale 190-3
- Oil Shale 190-13
- Water Permit: 43-8496
- RDCC Review:
- Fee Surface Agreement
- Intent to Commingle

Commingling Approved

## LOCATION AND SITING:

- R649-2-3.
- Unit: NATURAL BUTTES
- R649-3-2. General
- R649-3-3. Exception
- Drilling Unit
- Board Cause No: Cause 173-14
- Effective Date: 12/2/1999
- Siting: Suspends General Siting
- R649-3-11. Directional Drill

Comments: Presite Completed

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



GARY R. HERBERT  
Governor

GREGORY S. BELL  
Lieutenant Governor

# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

## Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-20K1BS  
**API Well Number:** 43047533730000  
**Lease Number:** UTU0575  
**Surface Owner:** INDIAN  
**Approval Date:** 12/11/2012

### Issued to:

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

### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

### Commingle:

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

### General:

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

### Conditions of Approval:

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

In accordance with 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:**



For John Rogers  
Associate Director, Oil & Gas

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

AUG 23 2012

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0575
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERR MCGEE OIL&GAS ONSHORE, LP Contact: DANIELLE PIERNOT Danielle.Piernot@anadarko.com		7. If Unit or CA Agreement, Name and No. UTU63047A
3a. Address PO BOX 173779 DENVER, CO 80202-3779	3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156	8. Lease Name and Well No. NBU 921-20K1BS
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWSE 1722FSL 2440FEL 40.018978 N Lat, 109.574869 W Lon At proposed prod. zone NESW 2564FSL 2134FWL 40.021289 N Lat, 109.577394 W Lon		9. API Well No. U3-047-53373
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 47 MILES SOUTH OF VERNAL, UT		10. Field and Pool, or Exploratory NATURAL BUTTES
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 2134'	16. No. of Acres in Lease 1600.00	11. Sec., T., R., M., or Blk. and Survey or Area Sec 20 T9S R21E Mer SLB
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 629'	19. Proposed Depth 11523 MD 11350 TVD	12. County or Parish UINTAH COUNTY
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4886 GL	22. Approximate date work will start 02/01/2013	13. State UT
24. Attachments		17. Spacing Unit dedicated to this well
25. Signature (Electronic Submission)		20. BLM/BIA Bond No. on file WYB000291
Name (Printed/Typed) DANIELLE PIERNOT Ph: 720-929-6156		23. Estimated duration 60-90 DAYS
Title REGULATORY ANALYST II		
Approved by (Signature)		
Name (Printed/Typed) Jerry Kenczka		
Title Assistant Field Manager Lands & Mineral Resources		
Office VERNAL FIELD OFFICE		
Date 07/13/2012		

RECEIVED  
JUN 12 2013

DIV. OF OIL, GAS & MINING

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE PIERNOT Ph: 720-929-6156	Date 07/13/2012
Title REGULATORY ANALYST II		
Approved by (Signature)	Name (Printed/Typed) Jerry Kenczka	Date JUN 10 2013
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

CONDITIONS OF APPROVAL ATTACHED

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

Additional Operator Remarks (see next page)

Electronic Submission #142877 verified by the BLM Well Information System  
For KERR MCGEE OIL&GAS ONSHORE, LP, sent to the Vernal

NOTICE OF APPROVAL

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

12PPH2707A2 NOS-4/25/12



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  
Well No: NBU 921-20K1BS  
API No: 43-047-53373

Location: NWSE, Sec. 20, T9S, R21E  
Lease No: UTU-0575  
Agreement: Natural Butte

**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**

Location Construction (Notify Environmental Scientist)	-	Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	-	Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:blm_ut_vn_opreport@blm.gov">blm_ut_vn_opreport@blm.gov</a>
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

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

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.
- Paint facilities "Shadow Gray."
- Conduct a raptor survey prior to construction operations if such activities would take place during raptor nesting season (January 1 through September 30). If active raptor nests are identified during the survey, operations should be conducted according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines.
- If construction operations are not initiated prior to April 19, 2013, an additional biological survey for Uinta Basin hookless cactus should be conducted prior to construction according to current USFWS protocol. Utilize cactus protection measures contained in the GNB BO for cacti within 300 feet of disturbance.
- Monitor construction with a permitted archaeologist.
- Re-route existing pipeline around pad.
- Construct diversion ditch on west side of pad.

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

**SITE SPECIFIC DOWNHOLE COAs:**

- Surface casing cement shall be brought to surface.
- Production casing cement shall be brought 200' up and into the surface casing.

**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 CD (compact disc) format to the Vernal BLM Field Office. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

**OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location ( $\frac{1}{4}$  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> UTU0575	
<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 921-20K1BS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	
<b>9. API NUMBER:</b> 43047533730000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 <span style="float: right;"><b>PHONE NUMBER:</b> 720 929-6511</span>	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1722 FSL 2440 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSE 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 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 checked="" type="checkbox"/> SPUD REPORT Date of Spud: <b>7/17/2013</b>	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input 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.

Spud well 07/17/2013 @ 10:00. MIRU Triple A Bucket Rig, drill 20" conductor hole to 40', run 14", 36.7# schedule 10 conductor pipe, cement with 28 sacks ready mix. Anticipated surface spud date and surface casing cement 08/12/2013.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 July 22, 2013

<b>NAME (PLEASE PRINT)</b> Doreen Green	<b>PHONE NUMBER</b> 435 781-9758	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/22/2013	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>1. TYPE OF WELL</b> Gas Well	<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU0575
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1722 FSL 2440 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSE Section: 20 Township: 09.0S Range: 21.0E Meridian: S	<b>8. WELL NAME and NUMBER:</b> NBU 921-20K1BS
<b>PHONE NUMBER:</b> 720 929-6511	<b>9. API NUMBER:</b> 43047533730000
<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: 9/5/2013	<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.  
 Drilled to 3,068 ft. in August 2013.

**Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
 FOR RECORD ONLY  
 September 06, 2013**

<b>NAME (PLEASE PRINT)</b> Teena Paulo	<b>PHONE NUMBER</b> 720 929-6236	<b>TITLE</b> Staff Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/5/2013	

<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> UTU0575
<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 921-20K1BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047533730000
<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> 1722 FSL 2440 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSE 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 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: 10/4/2013	<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.

No new activity since last report. Well TD at 3,088 ft.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 October 07, 2013

<b>NAME (PLEASE PRINT)</b> Teena Paulo	<b>PHONE NUMBER</b> 720 929-6236	<b>TITLE</b> Staff Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 10/4/2013	

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# HP 318 Submitted  
By HARMON COCKRELL Phone Number 435-828-0988/1544  
Well Name/Number NBU 921-20K1BS  
Qtr/Qtr NW/SE Section 20 Township 9S Range 21E  
Lease Serial Number UTU-0575  
API Number 4304753373

Casing – Time casing run starts, not cementing times.

- Production Casing
- Other

Date/Time 10/27/2013 05:00 AM  PM

BOPE

- Initial BOPE test at surface casing point
- Other

Date/Time \_ \_ AM  PM

**RECEIVED**

**OCT 27 2013**

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

Rig Move

Location To: \_\_\_\_\_

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

Remarks TIME IS ESTIMATED

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STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU0575
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well		<b>8. WELL NAME and NUMBER:</b> NBU 921-20K1BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047533730000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6514	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1722 FSL 2440 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSE 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: 1/2/2014	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION  <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	
	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
Started completing the well. Well TD at 10,483 ft.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 03, 2014</b>		
<b>NAME (PLEASE PRINT)</b> Kay E. Kelly	<b>PHONE NUMBER</b> 720 929 6582	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 1/2/2014

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU0575
		<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 921-20K1BS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047533730000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1722 FSL 2440 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWSE 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 checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 1/14/2014	<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 type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
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	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
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	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

The NBU 921-20K1BS was placed on production 01/14/2014.

**Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY  
January 17, 2014**

<b>NAME (PLEASE PRINT)</b> Doreen Green	<b>PHONE NUMBER</b> 435 781-9758	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 1/17/2014	

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No.  
UTU0575

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

6. If Indian, Allottee or Tribe Name \_\_\_\_\_

7. Unit or CA Agreement Name and No.  
UTU63047A

2. Name of Operator  
KERR-MCGEE OIL AND GAS ONSHORE  
Contact: KAY KELLY  
Email: kay.kelly@anadarko.com

8. Lease Name and Well No.  
NBU 921-20K1BS

3. Address P.O. BOX 173779  
DENVER, CO 82017  
3a. Phone No. (include area code)  
Ph: 720-929-6000

9. API Well No.  
43-047-53373

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*  
 At surface NWSE 1722FSL 2440FEL 40.018978 N Lat, 109.574869 W Lon  
 At top prod interval reported below NESW 2565FSL 2122FWL  
 At total depth NESW 2568FSL 2121FWL

10. Field and Pool, or Exploratory  
NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey  
or Area Sec 20 T9S R21E Mer SLB

12. County or Parish  
UINTAH

13. State  
UT

14. Date Spudded  
07/07/2013

15. Date T.D. Reached  
10/26/2013

16. Date Completed  
 D & A  Ready to Prod.  
01/14/2014

17. Elevations (DF, KB, RT, GL)\*  
4910 KB

18. Total Depth: MD 10483  
TVD 10317

19. Plug Back T.D.: MD 10415  
TVD 10249

20. Depth Bridge Plug Set: MD  
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)  
RADIAL CBL/GR/CCL/TEMP

22. Was well cored?  No  Yes (Submit analysis)  
 Was DST run?  No  Yes (Submit analysis)  
 Directional Survey?  No  Yes (Submit analysis)

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

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 J-55	28.0	24	3058		600		0	
7.875	4.500 I-80	11.6	24	10463		2055		320	

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	9965							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WASATCH	5516	7987	5516 TO 7987	0.410	156	OPEN
B) MESAVERDE	8090	10373	8090 TO 10373	0.410	201	OPEN
C)						
D)						

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

Depth Interval	Amount and Type of Material
5516 TO 10373	PUMP 21,775 BBLs SLICKWATER AND 534,750 LBS 30/50 MESH SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
01/14/2014	01/22/2014	24	→	0.0	2646.0	0.0			FLOWS FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
20/64	SI	2503.0	→	0	2646	0		PGW	

28a. Production - Interval B

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

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

ELECTRONIC SUBMISSION #234561 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

28b. Production - Interval C

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

28c. Production - Interval D

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

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

30. Summary of Porous Zones (Include Aquifers):

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

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1760 2072 2543 5231 8082

32. Additional remarks (include plugging procedure):

The first 210 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. A DV tool was placed in the well from 5422 feet ? 5426 feet. DQX csg was run from surface to 5022 ft.; LTC csg was run from 5022 ft. to 10,463 ft. Attached is the chronological well history, perforation report & final survey.

33. Circle enclosed attachments:

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

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

**Electronic Submission #234561 Verified by the BLM Well Information System.  
For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal**

Name (please print) KAY KELLY Title SR STAFF REGULATORY SPECIALIST

Signature \_\_\_\_\_ (Electronic Submission) Date 02/05/2014

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 \*\***

RECEIVED: Feb. 05, 2014

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

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING		Start Date: 8/15/2013	End Date: 10/27/2013
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/29/2013	0:00 - 2:30	2.50	MIRU	01	A	P	64	RIG DOWN CEMENTERS FROM NBU 92120K4BS SKID RIG 20' TO NBU 921 20K1BS, RIG UP SET MATTING BOARD, SET RIG IN PLACE, CATWALK, PIPE RACKS, PLACE BOTTOM HOLE ASSEMBLY
	2:30 - 3:00	0.50	PRSPD	23		P	64	PRE SPUD JOB SAFETY MEETING REVIEW DIRECTIONAL PLANS AND PLATS AND VERIFY LAT/LONGS AND WELL ORDER VERIFY DIRECTIONAL DRILLERS PLAN IS THE MOST RECENT AND APPROVED VERSION REFERENCE WELLBORE DIAGRAMS FOR EXACT CASING DESIGN AND GENERAL OVERVIEW OF WELLBORE, PRIOR TO SPUD.
	3:00 - 3:30	0.50	PRSPD	06	A	P	64	PICK UP 12 1/4" DIRECTIONAL ASSEMBLY.
	3:30 - 5:00	1.50	DRLSUR	02	A	P	64	DRILL 12.25" SURFACE HOLE F/ 44'- T/ 210' BIT ROP= 166' @ 110.6 FPH WOB= 5-15K. RPM= TOP DRIVE~55 / MOTOR ~83 / TOTAL RPM~138 PUMPING 491 GPM @ 120 SPM STAND PIPE PRESSURE ON/OFF BOTTOM = 800/600 TORQUE ON/OFF BOTTOM = 1,200/700 UP/DN/ROT = 22/20/20 PEAK ON LINE MUD WT = 8.4
	5:00 - 7:00	2.00	DRLSUR	06	A	P	230	PRE JOB SAFETY MEETING, CIRC 15 MINUTES AND, TRIP OUT TO CHANGE ASSEMBLY. BREAK 12 1/4" BIT. MAKE UP NEW REED 11" BIT. PICK UP 8" DIRECTIONAL ASSEMBLY SCIBE MOTOR. INSTALL EM TOOL, TRIP IN HOLE.
	7:00 - 17:30	10.50	DRLSUR	02	C	P	230	DRILL 11". SURFACE HOLE FROM 210" TO 1,300' (1090', 104' PER HOUR). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1,060/850. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 69/49/59 K. DRAG 10 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 7.5' HIGH & 2.2' LEFT OF THE LINE WITH 105' OF SLIDE @ 17.6%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.8# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	17:30 - 18:00	0.50	DRLSUR	23		P	1320	RIG SERVICE. CONDUCT PJSM WITH RIG CREW.

## Operation Summary Report

Well: NBU 921-20K1BS YELLOW

Spud Date: 8/29/2013

Project: UTAH-UINTAH

Site: NBU 921-20J PAD

Rig Name No: PROPETRO 12/12, H&amp;P 318/318

Event: DRILLING

Start Date: 8/15/2013

End Date: 10/27/2013

Active Datum: RKB @4,910.00usft (above Mean Sea Level)

UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLSUR	02	B	P	1320	DRILL 11". SURFACE HOLE FROM 1,300' TO 1,780' (480', 80' PER HOUR). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1,175/950. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 75/55/65 K. DRAG 10 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 5.5' HIGH & 1.3' LEFT OF THE LINE WITH 40' OF SLIDE @ 9.13%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.7# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
8/30/2013	0:00 - 6:00	6.00	DRLSUR	02	B	P	1800	DRILL 11". SURFACE HOLE FROM 1,780' TO 2,110' (330', 55' PER HOUR). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1227/993. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 80/55/65 K. DRAG 10 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 12.7' HIGH & 3.3' LEFT OF THE LINE WITH 58' OF SLIDE @ 17.58%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.8# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	6:00 - 17:30	11.50	DRLSUR	02	B	P	2130	DRILL 11". SURFACE HOLE FROM 2,110' to 2,800' (690'@ 60' PER HOUR). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1370/1200. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 90/64/76 K. DRAG 12 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 7.1' HIGH & .52' LEFT OF THE LINE WITH 37' OF SLIDE @ 9.49%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	17:30 - 18:00	0.50	DRLSUR	23		P	2820	RIG SERVICE. CONDUCT PJSM WITH RIG CREW.

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING		Start Date: 8/15/2013	End Date: 10/27/2013
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLSUR	02	B	P	2820	DRILL 11". SURFACE HOLE FROM 2,800' to 2,068' (268' @ 60' PER HOUR). TD WELL AT 3068'. WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1480/1280. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 92/68/79 K. DRAG 11 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 2.6' HIGH & 1.5' RIGHT OF THE LINE WITH 70' OF SLIDE @ 33.82%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
8/31/2013	0:00 - 0:30	0.50	DRLSUR	05	C	P	3088	CIRCULATE AND CONDITION HOLE, VOLUME IS CLEAN COMING OVER SHAKERS. (2 HOURS TOTAL)
	0:30 - 4:30	4.00	DRLSUR	06	A	P	3088	TRIP OUT OF HOLE, LAY DOWN DRILL STRING, BOTTOM HOLE ASSEMBLY, LAY DOWN DIRECTIONAL TOOLS, MOTOR AND, BIT. CLEAR TOOL AREA.
	4:30 - 5:30	1.00	DRLSUR	01	B	P	3088	RIG UP TO RUN CASING. CONDUCT PJSM ON RUNNING CASING WITH RIG CREW.
	5:30 - 8:00	2.50	CSGSUR	06	D	P	3088	RUN 69 JOINTS OF 8-5/8". 28# J-55 LTC CASING. RAN 1 CENTRALIZER ON FIRST THREE JOINTS, AND EVERY OTHER JOINT FOR 2 JOINTS FOR A TOTAL OF 5 CENTRALIZERS. RUN A TOTAL OF 69 JOINTS. RUN CASING TO BOTTOM WITH NO PROBLEMS. SET FLOAT SHOE @ 3,038' KB. SET TOP OF BAFFLE PLATE @ 2,992'.

## Operation Summary Report

Well: NBU 921-20K1BS YELLOW

Spud Date: 8/29/2013

Project: UTAH-UINTAH

Site: NBU 921-20J PAD

Rig Name No: PROPETRO 12/12, H&amp;P 318/318

Event: DRILLING

Start Date: 8/15/2013

End Date: 10/27/2013

Active Datum: RKB @4,910.00usft (above Mean Sea Level)

UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 12:00	4.00	CSGSUR	12	E	P	3088	PRE JOB SAFETY MEETING WITH PRO PETRO CEMENTERS. RIG UP CEMENTERS. RAN 200' OF 1". PIPE DOWN BACK-SIDE OF CASING. PRESSURE TEST LINES TO 1,500 PSI. PUMP 175 BBLS OF WATER AHEAD CLEARING SHOE. MIX AND PUMP 20 BBLS OF GEL WATER FLUSH AHEAD OF CEMENT. MIX AND PUMP 300 SX OF PREMIUM LEAD CEMENT WITH 16% GEL, 10 LB/SX GILSONITE, 2 LB/SX GR-3, 3% SALT, & 0.25 LB/SX FLOCELE. 152.6 BBLS OF SLURRY MIXED @ 12.0 PPG WITH YIELD OF 2.86 CF/SX. MIX & PUMP 175 SX OF PREMIUM TAIL CEMENT WITH 2% CACL2 & 0.25 LB/SX FLOCELE. 35.8 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. DROP PLUG ON FLY. DISPLACE WITH 186.7 BBLS OF FRESH WATER. FULL RETURNS THROUGH OUT JOB. FINAL LIFT OF 800 PSI AT 2.5 BBL/MINUTE. BUMPED PLUG @ 1100 PSI. HELD @ 1150 PSI FOR 5 MINUTES WITHOUT BLEED OFF. TESTED FLOAT AND FLOAT HELD. SHUT DOWN AND WASH UP  TOP JOB # 1: PUMP CEMENT DOWN ONE INCH PIPE WITH 125 SX (27.6 BBLS) PREMIUM CEMENT WITH 4% CACL2 & .25 LB/SX FLOCELE. 27.6BLS OF SLURRY MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. CEMENT TO SURFACE. SHUT DOWN AND WASH UP.  RELEASE RIG @ 8/31/2013 12:00
10/21/2013	3:00 - 4:00	1.00	MIRU	01	E	P	3088	RIG DOWN TO SKID RIG
	4:00 - 5:00	1.00	MIRU	01	C	P	3088	SKID RIG TOOL PUSHER VERIFIED CENTER OF WELL
	5:00 - 9:00	4.00	MIRU	14	A	P	3088	NIPPLE UP BOPS
	9:00 - 10:30	1.50	MIRU	15	A	P	3088	TEST 8 5/8 CASING TO 1500 PSI FOR 30 MINS
	10:30 - 14:00	3.50	MIRU	15	A	P	3088	TEST PIPE RAMS, BLINDS, HCR, IBOP, FLOOR VALVES, WING VALVE CHOKE MANIFOLD LOW 250 PSI HIGH 5,000 PSI HY-DRILL LOW 250 PSI for 5 MINS HIGH 2500 PSI for 10 MINS
	14:00 - 14:30	0.50	MIRU	15	A	P	3088	3 RD PARTY SWACO CHOKE & LINE TO 1,000 PSI FOR 10 MINS
	14:30 - 15:00	0.50	MIRU	15	A	P	3088	RIG DOWN TEST EQUIPMENT
	15:00 - 16:00	1.00	MIRU	14	A	P	3088	INSTALL WEAR BUSHING
	16:00 - 17:00	1.00	MIRU	09	A	P	3088	SLIP & CUT DRILLING LINE
	17:00 - 18:00	1.00	MIRU	06	A	P	3088	PICK UP MWD TOOLS SCRIBE IN HOLE
	18:00 - 20:30	2.50	MIRU	06	A	P	3088	TRIP IN HOLE TAGED TOP CMT @ 2930 ( INSTALL ROTATING HEAD RUBBER )
	20:30 - 21:00	0.50	DRLPRC	02	F	P	3088	DRILL SHOE TRACK F/ 2930 TO 3088

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING		Start Date: 8/15/2013	End Date: 10/27/2013
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	21:00 - 0:00	3.00	DRLPRC	02	D	P	3088	DRILL ( ROTATE/SLIDE) F/ 3088'-T/ 3436 RATE OF PENATRATION= 348' @ 116' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 62 ~ TOTAL= 185 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~ON/OFF = 1850 / 1350 TORQUE~ ON/OFF = 9000 / 4000 PICKUP/SLACK OFF/ROTATE= 118K / 86K / 100K MUD WEIGHT= 9.1 / VISCOSITY= 31 NOV DEWATERING. AS NEED SWACO OFF LINE SLIDE= 80' / 1 HOUR 58MINUTES LAST HOURS BIT POSITION= 11' LEFT & .X' 10 LOW OF TARGET LINE LAST SURVEY @3425'= 16.44 DEG., 304.18 AZM, 33296.34' TVD 0 MUD LOST TO SEEPAGE
10/22/2013	0:00 - 6:00	6.00	DRLPRC	02	D	P	3436	DRILL ( ROTATE/SLIDE) F/ 3436'-T/ 3861 RATE OF PENATRATION= 425' @ 70.83' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 62 ~ TOTAL= 185 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~ON/OFF = 1850 / 1350 TORQUE~ ON/OFF = 9000 / 4000 PICKUP/SLACK OFF/ROTATE= 118K / 86K / 100K MUD WEIGHT= 9.1 / VISCOSITY= 31 NOV DEWATERING. AS NEED SWACO OFF LINE SLIDE= 181' / 3 HOUR 30 MINUTES LAST HOURS BIT POSITION= 28' LEFT & .X' 20' LOW OF TARGET LINE LAST SURVEY @3614'= 18.73 DEG., 309.78 AZ, 3476.27' TVD 0 MUD LOST TO SEEPAGE

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING		Start Date: 8/15/2013	End Date: 10/27/2013
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 7:00	1.00	DRLPRC	02	D	P	3861	DRILL ( ROTATE/SLIDE) F/ 3861'-T/ 3956 RATE OF PENATRATION= 95' @ 95' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 62 ~ TOTAL= 185 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI-ON/OFF = 1850 / 1350 TORQUE~ ON/OFF = 9000 / 4000 PICKUP/SLACK OFF/ROTATE= 118K / 86K / 100K MUD WEIGHT= 9.1 / VISCOSITY= 31 NOV DEWATERING. AS NEED SWACO OFF LINE SLIDE= 33' / 1 HOUR 10 MINUTES LAST HOURS BIT POSITION= 35' LEFT & .38' LOW OF TARGET LINE LAST SURVEY @ 3614'= 18.73 DEG., 309.78 AZ, 3476.27' TVD 0 MUD LOST TO SEEPAGE ( HAD BOP DRILL ALL TO STATION IN 3 MINS )
	7:00 - 8:00	1.00	DRLPRC	22	D	Z	3956	*** REAM OUT DOG LEG @ 3956
	8:00 - 12:00	4.00	DRLPRC	02	D	P	3956	DRILL ( ROTATE/SLIDE) F/ 3956'-T/ 4271 RATE OF PENATRATION= 315' @ 78.75' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 62 ~ TOTAL= 185 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI-ON/OFF = 1850 / 1350 TORQUE~ ON/OFF = 9000 / 4000 PICKUP/SLACK OFF/ROTATE= 118K / 86K / 100K MUD WEIGHT= 9.1 / VISCOSITY= 31 NOV DEWATERING. AS NEED SWACO OFF LINE SLIDE= 72' / 2 HOUR 50 MINUTES LAST HOURS BIT POSITION= 31.97' LEFT & .50.21' LOW OF TARGET LINE LAST SURVEY @ 4180'= 1017 DEG .315.52 AZ, 4022.46' TVD

## Operation Summary Report

Well: NBU 921-20K1BS YELLOW

Spud Date: 8/29/2013

Project: UTAH-UINTAH

Site: NBU 921-20J PAD

Rig Name No: PROPETRO 12/12, H&amp;P 318/318

Event: DRILLING

Start Date: 8/15/2013

End Date: 10/27/2013

Active Datum: RKB @4,910.00usft (above Mean Sea Level)

UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:00 - 14:30	2.50	DRLPRC	02	D	P	4271	DRILL ( ROTATE/SLIDE) F/ 4271'-T/ 4426 RATE OF PENETRATION= 155' @62' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 62 ~ TOTAL= 185 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI-ON/OFF = 2100 / 1550 TORQUE~ ON/OFF = 9000 / 4000 PICKUP/SLACK OFF/ROTATE= 135K / 92K / 115K MUD WEIGHT= 9.1 / VISCOSITY= 31 NOV DE WATERING. AS NEED SWACO OFF LINE SLIDE= 49' / 1 HOUR 35 MINUTES LAST HOURS BIT POSITION= 37.13' LEFT & 40.62' LOW OF TARGET LINE LAST SURVEY @ 4654'= 6.5DEG . 330AZ, 4394.38 TVD ( TALKED TO BRIAN COCCHIERE ABOUT WELL TURN HARD LEFT & GOING OUT TARGET )
	14:30 - 15:00	0.50	DRLPRC	07	A	P	4426	RIG SER
	15:00 - 18:00	3.00	DRLPRC	02	D	P	4426	DRILL ( ROTATE/SLIDE) F/ 4426'-T/ 4553 RATE OF PENETRATION= 127' @ 42.3' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 62 ~ TOTAL= 185 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI-ON/OFF = 2100 / 1550 TORQUE~ ON/OFF = 10000 / 5000 PICKUP/SLACK OFF/ROTATE= 135K / 92K / 115K MUD WEIGHT= 9.1 / VISCOSITY= 31 NOV DE WATERING. AS NEED SWACO OFF LINE SLIDE= 53' / 2 HOUR 10 MINUTES LAST HOURS BIT POSITION= 8.51' EAST & 41' SOUTH OF TARGET LINE LAST SURVEY @ X4463'= 9.69 DEG .318.67AZ, 4300.52' TVD
	18:00 - 0:00	6.00	DRLPRC	02	D	P		DRILL ( ROTATE/SLIDE) F/ 4553'-T/ 4748 RATE OF PENETRATION= 195' @ 32.5' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 62 ~ TOTAL= 185 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI-ON/OFF = 1950 / 1480 TORQUE~ ON/OFF = 10000 / 6000 PICKUP/SLACK OFF/ROTATE= 155K / 98K / 120K MUD WEIGHT= 9.1 / VISCOSITY= 31 NOV DE WATERING. AS NEED SWACO OFF LINE SLIDE= 86' / 5 HOUR 45 MINUTES LAST HOURS BIT POSITION= 2.38' NORTH & 19.18' WEST OF TARGET LINE LAST SURVEY @ 4726'= 6.15 DEG .5.33 AZ, 4580.76' TVD

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING		Start Date: 8/15/2013	End Date: 10/27/2013
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/23/2013	0:00 - 6:00	6.00	DRLPRC	02	D	P	4748	DRILL ( ROTATE/SLIDE) F/ 4748'-T/ 5026' RATE OF PENETRATION= 278' @ 46.33' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 62 ~ TOTAL= 185 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~ON/OFF = 1950 / 1480 TORQUE~ ON/OFF = 10000 / 6000 PICKUP/SLACK OFF/ROTATE= 155K / 98K / 120K MUD WEIGHT= 9.1 / VISCOSITY= 31 NOV DE WATERING. AS NEED SWACO OFF LINE SLIDE= 50' / 2 HOUR 50 MINUTES LAST 6 HOURS BIT POSITION= 7.43' NORTH & 16.28' WEST OF TARGET LINE LAST SURVEY @4935 '= 2.92 DEG .54.59 AZ, 4769.18' TVD
	6:00 - 7:00	1.00	DRLPRC	02	D	P	5026	DRILL ( ROTATE/SLIDE) F/ 5026- T/ 5089' RATE OF PENETRATION= 673' @ 63' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 62 ~ TOTAL= 185 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~ON/OFF = 1950 / 1480 TORQUE~ ON/OFF = 10000 / 6000 PICKUP/SLACK OFF/ROTATE= 155K / 98K / 120K MUD WEIGHT= 9.1 / VISCOSITY= 31 NOV DE WATERING. AS NEED SWACO OFF LINE
	7:00 - 7:30	0.50	DRLPRV	03	B	X	5089	***REAM OUT DOGLEG
	7:30 - 11:00	3.50	DRLPRV	02	B	P	5089	DRILL ( ROTATE/SLIDE) F/ 5089'- T/ 5239' RATE OF PENETRATION= 150' @ 42.8' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 62 ~ TOTAL= 185 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~ON/OFF = 1950 / 1480 TORQUE~ ON/OFF = 10000 / 6000 PICKUP/SLACK OFF/ROTATE= 155K / 98K / 120K MUD WEIGHT= 9.1 / VISCOSITY= 31 NOV DE WATERING. AS NEED SWACO OFF LINE  BIT SLOWED DOWN TO 20' / HOUR - TRIP OUT OF HOLE TO CHECK BIT & MOTOR
	11:00 - 15:00	4.00	DRLPRV	06	A	Z	5239	*** TRIP OUT OF HOLE / CHECK FOR FLOW // SPOT 80 BBL'S OF 10.5 # MUD @ SHOE
	15:00 - 17:00	2.00	DRLPRV	06	A	Z	5239	***LAY DOWN BIT, HANG OFF SUB, & MUD MOTOR. FOUND SET SCREW WASHED OUT ON HANG OFF SUB./// TALKED WITH BRIAN COCHIER & LOVEL YOUNG & DECISION WAS MADE TO CHANGE OUT BIT & MOTOR ALSO

## Operation Summary Report

Well: NBU 921-20K1BS YELLOW

Spud Date: 8/29/2013

Project: UTAH-UINTAH

Site: NBU 921-20J PAD

Rig Name No: PROPETRO 12/12, H&amp;P 318/318

Event: DRILLING

Start Date: 8/15/2013

End Date: 10/27/2013

Active Datum: RKB @4,910.00usft (above Mean Sea Level)

UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:00 - 20:00	3.00	DRLPRV	06	A	Z	5239	*** TRIP IN HOLE WITH BIT #2, MUD MOTOR, AND NEW HANG OFF SUB /// WASH LAST 90' TO BOTTOM PRECATIONARY
	20:00 - 0:00	4.00	DRLPRV	02	B	P	5239	DRILL ( ROTATE/SLIDE) F/ 5239'-T/ 5861' RATE OF PENETRATION= 622' @ 155.5' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI-ON/OFF = 2440 / 1990 TORQUE~ ON/OFF = 12000 / 8000 PICKUP/SLACK OFF/ROTATE= 185K / 103K / 134K MUD WEIGHT= 9.1 / VISCOSITY= 32 NOV DE WATERING. AS NEED SWACO OFF LINE SLIDE= 35' / 1 HOUR LAST 6 HOURS BIT POSITION= 4.38' NORTH & 7.2' WEST OF TARGET LINE LAST SURVEY @ 5784'= .37 DEG., 60.03 AZ, 5617' TVD NO LOSSES NO FLARE
10/24/2013	0:00 - 6:00	6.00	DRLPRV	02	B	P	5861	DRILL ( ROTATE/SLIDE) F/ 5861' T/ 6784' RATE OF PENETRATION= 923' @ 153.8' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI-ON/OFF = 2440 / 1990 TORQUE~ ON/OFF = 12000 / 8000 PICKUP/SLACK OFF/ROTATE= 195K / 108K / 139K MUD WEIGHT= 9.1 / VISCOSITY= 32 NOV DE WATERING. AS NEED SWACO OFF LINE SLIDE= 30' / 1 HOUR LAST 6 HOURS BIT POSITION= 4.19' NORTH & 11.08' WEST OF TARGET LINE LAST SURVEY @ 6538'= 1.03 DEG., 345.14 AZ, 6371' TVD NO LOSSES NO FLARE

## Operation Summary Report

Well: NBU 921-20K1BS YELLOW

Spud Date: 8/29/2013

Project: UTAH-UINTAH

Site: NBU 921-20J PAD

Rig Name No: PROPETRO 12/12, H&amp;P 318/318

Event: DRILLING

Start Date: 8/15/2013

End Date: 10/27/2013

Active Datum: RKB @4,910.00usft (above Mean Sea Level)

UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 12:00	6.00	DRLPRV	02	B	P	6784	DRILL ( ROTATE/SLIDE) F/ 6784'- T/ 7539' RATE OF PENETRATION= 755' @ 125.8' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI-ON/OFF = 2600 / 2200 TORQUE~ ON/OFF = 14000 / 13000 PICKUP/SLACK OFF/ROTATE= 230K / 120K / 164K MUD WEIGHT= 9.1 / VISCOSITY= 32 RUN LCM SWEEPS TO CONTROL LOSSES NOV DE WATERING. AS NEED SWACO OFF LINE SLIDE= 12' / 30 MINUTES LAST 6 HOURS BIT POSITION= 4.22' NORTH & 10.20' WEST OF TARGET LINE LAST SURVEY @ 7670'= .35 DEG., 182.63 AZ, 7503' TVD 40 BBL'S LOST TO SEEPAGE NO FLARE
	12:00 - 17:30	5.50	DRLPRV	02	B	P	7539	DRILL ( ROTATE/SLIDE) F/ 7539'- T/ 8200' RATE OF PENETRATION= 661' @ 120.2' /HR WEIGHT ON BIT = 21 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI-ON/OFF = 2600 / 2200 TORQUE~ ON/OFF = 14000 / 13000 PICKUP/SLACK OFF/ROTATE= 237K / 125K / 170K MUD WEIGHT= 9.1 / VISCOSITY= 32 RUN LCM SWEEPS TO CONTROL LOSSES NOV DE WATERING. AS NEED SWACO OFF LINE SLIDE= 12' / 30 MINUTES LAST 6 HOURS BIT POSITION= 1.85' NORTH & 11.21' WEST OF TARGET LINE LAST SURVEY @ 8048'= .79 DEG., 177 AZ, 7882' TVD 40 BBL'S LOST TO SEEPAGE NO FLARE
	17:30 - 18:00	0.50	DRLPRV	07	A	P	8200	SERVICE RIG & EQUIPMENT

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING		Start Date: 8/15/2013	End Date: 10/27/2013
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 21:30	3.50	DRLPRV	02	B	P	8200	DRILL ( ROTATE/SLIDE) F/ 8200' - T/ 8444' RATE OF PENETRATION= 244' @ 69.7' /HR WEIGHT ON BIT = 23 / 27 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI-ON/OFF = 2600 / 2200 TORQUE~ ON/OFF = 14000 / 13000 PICKUP/SLACK OFF/ROTATE= 250K / 125K / 179K MUD WEIGHT= 9.1 / VISCOSITY= 32 RUN LCM SWEEPS TO CONTROL LOSSES NOV DE WATERING. AS NEED SWACO OFF LINE 20 BBL'S LOST TO SEEPAGE  TOOK 30 BBL GAIN, 10' FLARE @ 8444' // PUT SWACO ON LINE
	21:30 - 0:00	2.50	DRLPRV	02	B	P	8444	DRILL ( ROTATE/SLIDE) F/ 8444' - T/ 8672' RATE OF PENETRATION= 228' @ 91.2' /HR WEIGHT ON BIT = 24 / 27 K RPM ~ MUD MOTOR = 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI-ON/OFF = 2520 / 2290 TORQUE~ ON/OFF = 17000 / 18000 PICKUP/SLACK OFF/ROTATE= 270K / 125K / 179K MUD WEIGHT= 9.1 / VISCOSITY= 32 RUN LCM SWEEPS TO CONTROL LOSSES NOV DE WATERING. AS NEED SWACO ON LINE SLIDE= 15' / 40 MINUTES LAST 6 HOURS BIT POSITION= .25' SOUTH & 10.35' WEST OF TARGET LINE LAST SURVEY @ 8615'= .41 DEG., 84.38 AZ, 8448' TVD 10 BBL'S LOST TO SEEPAGE 5' DRILLING FLARE / 10-12' CONNECTION FLARE

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING		Start Date: 8/15/2013	End Date: 10/27/2013
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/25/2013	0:00 - 6:00	6.00	DRLPRV	02	B	P	8672	DRILL ( ROTATE/SLIDE) F/ 8672'- T/ 9049' RATE OF PENETRATION= 377' @ 62.8' /HR WEIGHT ON BIT = 24 / 27 K RPM ~ MUD MOTOR = 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI-ON/OFF = 2520 / 2290 TORQUE~ ON/OFF = 17000 / 18000 PICKUP/SLACK OFF/ROTATE= 270K / 125K / 179K MUD WEIGHT= 9.1 / VISCOSITY= 32 RUN LCM SWEEPS TO CONTROL LOSSES NOV DE WATERING. AS NEED SWACO ON LINE / SIMULATE 9.8# MUD SLIDE= 15' / 40 MINUTES LAST 6 HOURS BIT POSITION= 1.22' NORTH & 10.68' WEST OF TARGET LINE LAST SURVEY @ 8897'= .07 DEG., 152.93 AZ, 8731' TVD 10 BBL'S LOST TO SEEPAGE 5' DRILLING FLARE / 10-12' CONNECTION FLARE
	6:00 - 12:00	6.00	DRLPRV	02	B	P	9049	DRILL ( ROTATE/SLIDE) F/ 9049' -T/ 9400' RATE OF PENETRATION= 351' @ 58.5' /HR WEIGHT ON BIT = 24 / 27 K RPM ~ MUD MOTOR = 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI-ON/OFF = 2700 / 2500 TORQUE~ ON/OFF = 19000 / 18000 PICKUP/SLACK OFF/ROTATE= 298K / 133K / 189K MUD WEIGHT= 9.1 / VISCOSITY= 32 RUN LCM SWEEPS TO CONTROL LOSSES NOV DE WATERING. AS NEED SWACO ON LINE / SIMULATE 9.8# MUD SLIDE= 9' / 55 MINUTES LAST 6 HOURS BIT POSITION= 3.26' NORTH & 12.06' WEST OF TARGET LINE LAST SURVEY @ 9275'= .93 DEG., 358.24 AZ, 9108' TVD 40 BBL'S LOST TO SEEPAGE 5' DRILLING FLARE / 10-12' CONNECTION FLARE  START BACK REAMING ON CONNECTIONS @ 9142' TO HELP WITH HIGH TORQUE & DRAG ISSUES

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING		Start Date: 8/15/2013	End Date: 10/27/2013
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:00 - 16:00	4.00	DRLPRV	02	B	P	9400	DRILL ( ROTATE/SLIDE) F/ 9400'- T/ 9710' RATE OF PENETRATION= 310' @ 77.5' /HR WEIGHT ON BIT = 24 / 27 K RPM ~ MUD MOTOR = 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI-ON/OFF = 2700 / 2500 TORQUE~ ON/OFF = 19000 / 18000 PICKUP/SLACK OFF/ROTATE= 305K / 140K / 194K MUD WEIGHT= 9.1 / VISCOSITY= 32 RUN LCM SWEEPS TO CONTROL LOSSES NOV DE WATERING. AS NEED SWACO ON LINE / SIMULATE 9.8# MUD SLIDE= 9' / 55 MINUTES LAST 6 HOURS BIT POSITION= 9.5' NORTH & 10.28' WEST OF TARGET LINE LAST SURVEY @ 9747'= .23 DEG., 40.34 AZ, 9581' TVD 15 BBL'S LOST TO SEEPAGE 5' DRILLING FLARE / 10-12' CONNECTION FLARE SERVICE RIG & EQUIPMENT
	16:00 - 16:30	0.50	DRLPRV	07	A	P	9710	
	16:30 - 18:00	1.50	DRLPRV	02	B	P	9710	DRILL ( ROTATE/SLIDE) F/ 9710'- T/ 9804' RATE OF PENETRATION= 94' @ 62.6' /HR WEIGHT ON BIT = 24 / 27 K RPM ~ MUD MOTOR = 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI-ON/OFF = 2700 / 2500 TORQUE~ ON/OFF = 19000 / 18000 PICKUP/SLACK OFF/ROTATE= 305K / 140K / 194K MUD WEIGHT= 9.1 / VISCOSITY= 32 RUN LCM SWEEPS TO CONTROL LOSSES NOV DE WATERING. AS NEED SWACO ON LINE / SIMULATE 9.8# MUD 10 BBL'S LOST TO SEEPAGE 5' DRILLING FLARE / 10-12' CONNECTION FLARE

## Operation Summary Report

Well: NBU 921-20K1BS YELLOW

Spud Date: 8/29/2013

Project: UTAH-UINTAH

Site: NBU 921-20J PAD

Rig Name No: PROPETRO 12/12, H&amp;P 318/318

Event: DRILLING

Start Date: 8/15/2013

End Date: 10/27/2013

Active Datum: RKB @4,910.00usft (above Mean Sea Level)

UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLPRV	02	B	P	9804	DRILL ( ROTATE/SLIDE) F/ 9804'- T/ 10,182' RATE OF PENETRATION= 378' @ 63' /HR WEIGHT ON BIT = 24 / 27 K RPM ~ MUD MOTOR = 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI-ON/OFF = 2740 / 2370 TORQUE~ ON/OFF = 19000 / 21000 PICKUP/SLACK OFF/ROTATE= 320K / 138K / 200K MUD WEIGHT= 9.1 / VISCOSITY= 32 RUN LCM SWEEPS TO CONTROL LOSSES NOV DE WATERING. AS NEED SWACO ON LINE / SIMULATE 9.8# MUD SLIDE= 0 LAST 6 HOURS BIT POSITION= 8.59' NORTH & 10.64' WEST OF TARGET LINE LAST SURVEY @ 10,125'= .51 DEG., 203.62 AZ, 9959' TVD 15 BBL'S LOST TO SEEPAGE 5' DRILLING FLARE / 10-12' CONNECTION FLARE
10/26/2013	0:00 - 5:30	5.50	DRLPRV	02	B	P	10,182	DRILL ( ROTATE/SLIDE) F/ 10,182' -T/ 10483 RATE OF PENETRATION= 301' @ 54.7' /HR WEIGHT ON BIT = 24 / 27 K RPM ~ MUD MOTOR = 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI-ON/OFF = 2740 / 2370 TORQUE~ ON/OFF = 19000 / 21000 PICKUP/SLACK OFF/ROTATE= 320K / 138K / 205K MUD WEIGHT= 12.2 / VISCOSITY= 38 NOV OFF LINE SWACO OFF LINE SLIDE= 0 LAST 6 HOURS BIT POSITION= 6.94' NORTH & 11.04' WEST OF TARGET LINE LAST SURVEY @ 10,425'= 1.07 DEG., 128.08 AZ, 10,259' TVD
	5:30 - 7:00	1.50	DRLPRV	05	A	P	10,483	CIRCULATE & CONDITION MUD FOR WIPER TRIP
	7:00 - 11:00	4.00	DRLPRV	06	E	P	10,483	WIPER TRIP TO TOP OF WASATCH // FIRST TEN STANDS TIGHT
	11:00 - 14:00	3.00	DRLPRV	06	E	P	10,483	WIPER TRIP / TRIP IN HOLE / WASH THROUGH BRIDGE @ 9570'-9628'
	14:00 - 15:30	1.50	DRLPRV	05	A	P	10,483	CIRCULATE & CONDITION HOLE FOR 4.5" CASING
	15:30 - 22:30	7.00	DRLPRV	06	A	P	10,483	TRIP OUT TO RUN 4.5" CASING // LAY DOWN DIRECTIONAL TOOLS
	22:30 - 23:00	0.50	DRLPRV	14	B	P	10,483	PULL WEAR BUSHING
	23:00 - 0:00	1.00	CSGPRO	12	A	P	10,483	PRE JOB SAFETY MEETING WITH KIMZEY CASING CREW & RIG UP CASING TOOLS
10/27/2013	0:00 - 0:30	0.50	CSGPRO	12	A	P	10,483	PRE JOB SAFETY MEETING WITH KIMZEY CASING CREW & RIG UP CASING TOOLS

## Operation Summary Report

Well: NBU 921-20K1BS YELLOW

Spud Date: 8/29/2013

Project: UTAH-UINTAH

Site: NBU 921-20J PAD

Rig Name No: PROPETRO 12/12, H&amp;P 318/318

Event: DRILLING

Start Date: 8/15/2013

End Date: 10/27/2013

Active Datum: RKB @4,910.00usft (above Mean Sea Level)

UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	0:30 - 8:30	8.00	CSGPRO	12	C	P	10,483	RUN 122 JT'S, 4.5", 11.6#, P110, LT&C CSG & 113 JT'S, 4.5", 11.6#, I-80, DQX CSG /// SHOE SET @ 10,463' /// TOP OF FLOAT COLLAR @ 10416' /// TOP OFF MARKER JT @ 8174' /// TOP OF DV TOOL @ 5421' /// TOP LTC x DQX CROSSOVER @ 5001'
	8:30 - 10:00	1.50	CSGPRO	05	A	P	10,483	CIRCULATE CASING @ 10,463' W/ 80 SPM, 360 gpm, 1000 PSI // 5' FLARE ON BOTTOMS UP /// PRE JOB SAFETY MEETING WITH BJ CEMENT CREW
	10:00 - 10:30	0.50	CSGPRO	12	B	P	10,483	RIG UP CEMENT EQUIPMENT
	10:30 - 13:00	2.50	CSGPRO	12	E	P	10,483	TEST LINES TO 4500 PSI /// PUMP FIRST STAGE - PUMPED 25 BBL FRESH WATER AHEAD // 1st TAIL CMT WITH 1190 sx (286 bbls) 50:50 POZ CEMENT @ 14.3 # WT. & 1.35 cf/sk YIELD +.05% BWOC OF STATIC FREE + 10% BWOW SODIUM CHLORIDE +.55% BWOC R-3 +.5% BWOC EC -1 +.25% LBS/SX CELLO FLAKE +.002GPS FP-6L + .7% BWOC METASILICATE +2% BWOC BENTONITE II + 5LBS/SX KOL-SEAL, 50 LB BAG + 55.9% FRESH WATER // DISPLACE WITH 90 BBLs WATER FOLLOWED BY 90 BBLs BBL'S OF 12.2 #, 40 VISC. MUD /// BUMPED PLUG @ 12:40 10/27/2013 WITH 2612PSI /// FINAL LIFT= 1890 PSI /// CHECK FLOATS- HELD WITH 1.5 bbls BACK /// FULL RETURNS THRU OUT JOB /// PUMPED 40% EXCESS ON CEMENT /// JOB COMPLETED WIYH NO ISSUES
	13:00 - 16:30	3.50	CSGPRO	05	A	P	10,483	DROP BOMB & OPEN DV TOOL WITH 500 PSI /// CIRCULATE BETWEEN CEMENT STAGES W/ 50 SPM, 225 GPM, 300 PSI /// 25 BBL'S CEMENT TO SURFACE // LOST 40 BBL'S MUD WHILE CIRCULATING
	16:30 - 19:00	2.50	CSGPRO	12	E	P	10,483	PUMP SECOND STAGE CMT. /// SPACER 25 BBLs H2O /// 2nd LEAD CMT = 805sx(268 bbls) PREMIUM LITE II CMT @ 13 # WT. & 1.78cf/sx YIELD +.05% BWOC STATIC FREE + 2% BWOC CALCIUM CHLORIDE + .25 lbs/sx CELLO FLAKE + 5 lbs/sx KOL-SEAL, 50LB BAG + .4% BWOCFL-52 + .4% BWOC SODIUM METASSILICATE + 6% BWOC BENTONITE II + 101.2% FRESH WATER /// TAIL CMT = 60sx (12.4 bbls) CLASS G CMT @15.8# WT & 1.16 cf/sx YIELD + 1%BWOC CALCIUM CHLORIDE + .4% BWOC SODIUM METASILICATE + 44.4% FRESH WATER /// DROP PLUG & DISPLACE W/ 84 BBLs WATER /// BUMP PLUG @ 19:00 10/27/2013 WITH 3120 PSI /// FINAL LIFT = 1620 PSI /// CHECK FLOATS- HELD WITH 1 BBL BACK TO TRUCK /// 10 BBL'S OF SPACER TO SURFACE & NO CEMENT TO SURFACE /// ESTIMATED TOP OF TAIL @ 4826' // ESTIMATED TOP OF LEAD @ 351' /// FULL RETURNS THROUGH OUT JOB // 30% EXCESS
	19:00 - 20:30	1.50	CSGPRO	12	B	P	10,438	BACK FLUSH BOPS. FLOW LINE, SWACO LINES & RIG DOWN CEMENT EQUIPMENT
	20:30 - 21:30	1.00	CSGPRO	14	B	P	10,438	SET PAC OFF & LAY DOWN LANDING JOINT
	21:30 - 23:00	1.50	CSGPRO	14	A	P	10,438	NIPPLE DOWN BOPE // CLEAN PITS
								RELEASE RIG @ 23:00 10/27/2013 TO THE NBU 921-20G44CS

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 921-20K1BS YELLOW	Wellbore No.	OH
Well Name	NBU 921-20K1BS	Wellbore Name	NBU 921-20K1BS
Report No.	1	Report Date	12/30/2013
Project	UTAH-UINTAH	Site	NBU 921-20J PAD
Rig Name/No.		Event	COMPLETION
Start Date	12/21/2013	End Date	1/14/2014
Spud Date	8/29/2013	Active Datum	RKB @4,910.00usft (above Mean Sea Level)
UWI	NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0		

1.3 General

Contractor		Job Method		Supervisor	
Perforated Assembly		Conveyed Method			

1.4 Initial Conditions

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

1.5 Summary

Gross Interval	5,516.0 (usft)-10,373.0 (usft)	Start Date/Time	12/30/2013 12:00AM
No. of Intervals	97	End Date/Time	12/30/2013 12:00AM
Total Shots	357	Net Perforation Interval	115.00 (usft)
Avg Shot Density	3.10 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/30/2013 12:00AM	WASATCH/			5,516.0	5,518.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	

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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	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/30/2013 12:00AM	WASATCH/			5,525.0	5,527.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			5,612.0	5,616.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			6,416.0	6,418.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			6,510.0	6,512.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			6,554.0	6,556.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			6,571.0	6,573.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			6,672.0	6,674.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			6,689.0	6,692.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			6,866.0	6,869.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,116.0	7,118.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,244.0	7,246.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,254.0	7,256.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,268.0	7,270.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,419.0	7,420.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	

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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	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/30/2013 12:00AM	WASATCH/			7,450.0	7,451.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,504.0	7,505.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,522.0	7,523.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,536.0	7,537.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,587.0	7,588.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,659.0	7,660.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,777.0	7,778.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,793.0	7,794.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,813.0	7,814.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,837.0	7,838.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,884.0	7,885.0	4.00		0.410	EXP/	3.125	90.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,913.0	7,914.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,925.0	7,926.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	WASATCH/			7,975.0	7,976.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	

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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	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/30/2013 12:00AM	WASATCH/			7,986.0	7,987.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,090.0	8,091.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,147.0	8,148.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,161.0	8,162.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,190.0	8,191.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,405.0	8,406.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,484.0	8,485.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,498.0	8,499.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,514.0	8,515.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,548.0	8,549.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,580.0	8,581.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,621.0	8,622.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,663.0	8,664.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,714.0	8,715.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	

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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	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/30/2013 12:00AM	MESAVERDE/			8,774.0	8,775.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,815.0	8,816.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,833.0	8,834.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,954.0	8,955.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			8,989.0	8,990.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,002.0	9,003.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,028.0	9,029.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,117.0	9,118.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,130.0	9,131.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,148.0	9,149.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,166.0	9,167.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,201.0	9,202.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,221.0	9,222.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,258.0	9,259.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	

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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	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/30/2013 12:00AM	MESAVERDE/			9,264.0	9,265.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,314.0	9,315.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,334.0	9,335.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,350.0	9,351.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,384.0	9,385.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,396.0	9,397.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,436.0	9,437.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,461.0	9,462.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,492.0	9,493.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,541.0	9,542.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,557.0	9,558.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,569.0	9,570.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,585.0	9,586.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,610.0	9,611.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	

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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	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/30/2013 12:00AM	MESAVERDE/			9,684.0	9,685.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,698.0	9,699.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,711.0	9,712.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,756.0	9,757.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,798.0	9,799.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,823.0	9,824.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,845.0	9,846.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,876.0	9,877.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,906.0	9,907.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,942.0	9,943.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			9,960.0	9,961.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,004.0	10,005.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,026.0	10,027.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,046.0	10,047.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	

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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	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/30/2013 12:00AM	MESAVERDE/			10,059.0	10,060.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,090.0	10,091.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,099.0	10,100.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,115.0	10,116.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,153.0	10,154.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,168.0	10,169.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,177.0	10,178.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,238.0	10,239.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,273.0	10,274.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,321.0	10,322.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,346.0	10,347.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	
12/30/2013 12:00AM	MESAVERDE/			10,372.0	10,373.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTIO N	

3 Plots

RECEIVED: Feb. 05, 2014

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-20K1BS YELLOW Spud Date: 8/29/2013

Project: UTAH-UINTAH Site: NBU 921-20J PAD Rig Name No:

Event: COMPLETION Start Date: 12/21/2013 End Date: 1/14/2014

Active Datum: RKB @4,910.00usft (above Mean Sea Level) UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/10/2013	14:00 - 14:30	0.50	DRLOUT	32	1	P		MIRU CUDD COIL TBG
	14:30 - 15:00	0.50	DRLOUT	32	F	P		P/U 3 7/8" MILL AND MOTOR, RIH W/ 2" COIL, TAG CEMENT @ 5335',
	15:00 - 15:40	0.67	DRLOUT	32	F	P		MILL OUT CEMENT FROM 5335' TO 5417', COIL MD,
	15:40 - 17:00	1.33	DRLOUT	32	F	P		MILL ON DV TOOL FROM 5417' TO 5419'. COULD NOT MILL THRU DV TOOL TIGHT SPOT 5419',
	17:00 - 18:00	1.00	DRLOUT	32	F	P		TOOH W/ COIL LAY DN MILL, SHOWED GROVE ON OUT SIDE OF MILL @ 3 6/8", CUT 110' COIL OFF,
	18:00 - 20:30	2.50	DRLOUT	32	F	P		P/U NEW MILL, RIH W/ MOTOR AND 2" COIL, TAG UP @ 5419' MILL ON TIGHT SPOT IN DV TOOL FOR 1 3/4 HOUR, COULD NOT MAKE HOLE,
	20:30 - 21:00	0.50	DRLOUT	32	F	P		TOOH W/ COIL TBG LAY DN MILL SHOWED WEAR ON OUT SIDE OF MILL, @ 3 3/4" AROUND,
	21:00 - 0:00	3.00	DRLOUT	32	F	P		P/U 3 3/4" MILL RIH W/ MOTOR AND 2" COIL, DID NOT SET DN GOING THRU DV TOOL, RIH TO PBTD 10422' COIL MD, TOOH W/ COIL, LAY DN 3 3/4" MILL, MOVE OVER TO 20J1CS,  ( NOTE 3 7/8" MILL WILL NOT GO THRU TIGHT SPOT IN DV TOOL @ 5419', 3 3/4" MILL WILL, )
12/15/2013	-							
12/21/2013	9:00 - 10:00	1.00	SUBSPR	52	B			FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST -174 PSI. 2ND PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST -97 PSI NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.  PRESSURE TEST 8 5/8 X 4 1/2 TO 640 PSI HELD FOR 5 MIN LOST -72 PSI, BLED PSI OFF, REINSTALLED POP OFF SWIFN NO PRESSURE ON SURFACE CASING FILLED SURFACE WITH 5 BBLS H2O
12/27/2013	7:15 - 7:30	0.25	FRAC	48		P		HSM,JSA
	7:45 - 12:00	4.25	FRAC	37	C	P		MIRU CASED HOLE SOLUTION PERF STG 1 AS PER DESIGN SWIFW W/O FRAC
12/30/2013	6:15 - 6:30	0.25	FRAC	48		P		HSM-JSA
	6:30 - 9:00	2.50	FRAC	46	E	Z		REPAIR FLOWLINE LEAKS & PRESS TEST

## Operation Summary Report

Well: NBU 921-20K1BS YELLOW

Spud Date: 8/29/2013

Project: UTAH-UINTAH

Site: NBU 921-20J PAD

Rig Name No:

Event: COMPLETION

Start Date: 12/21/2013

End Date: 1/14/2014

Active Datum: RKB @4,910.00usft (above Mean Sea Level)

UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	9:00 - 18:30	9.50	FRAC	36	H	P		FRAC STG #1) WHP 1865 PSI, BRK 4363 PSI @ 6.6 BPM. ISIP 2851 PSI, FG. 0.72 ISIP 3056 PSI, FG. 0.74, NPI 205 PSI, X/O TO WL.  SET CBP & PERF STG #2 AS DESIGNED, X/O TO FRAC.  FRAC STG #2) WHP 2680 PSI, BRK 4702 PSI @ 5.8 BPM. ISIP 3061 PSI, FG. 0.74 ISIP 3297 PSI, FG. 0.77, NPI 236 PSI, SWI, SDFN.
12/31/2013	6:45 - 7:00	0.25	FRAC	48		P		HSM-JSA
	7:00 - 17:00	10.00	FRAC	37		P		RIH & STICK CBP @ 8050', POOH, SWI.
1/6/2014	7:00 - 7:15	0.25	FRAC	48		P		HSM, SLIPS, TRIPS & FALLS, RIG MOVE, BUSY LOCATIONS WATCH OUT FOR EVERY THING BEING MOVED AROUND
	7:15 - 17:00	9.75	FRAC	31	I	P		ROAD RIG, REMOVE WH PLATFORMS & FRAC VALVES, INSTAL WH'S, (ACTIVE LOCATION), MIRU, ND F/V, NU BOP, RU FLOOR & TBG EQUIP, PU 3 3/4" BIT, PUMP OPEN SUB, 1.875" XN S/N, TALLY & PU TBG TO 7,750', L/D 2 JTS, SWI, SPOT HEATER, TARP & WINTERIZE EQUIP, SDFN.
1/7/2014	7:00 - 7:15	0.25	FRAC	48		P		HSM, SLIPS, TRIPS & FALLS, D/O CBP, TRIPPING TBG
	7:15 - 15:00	7.75	FRAC	44	C	P		LAY HARD LINE, RU P/S, INSTAL W/R, FILL TBG & BREAK CIRC, P/T BOP TO 3,000 PSI, D/O CBP @ 8,080' (WELL FLOWING), TALLY & PU TBG TO 10,085', L/D 41 JTS TBG WHILE WAITING FOR BRINE TO CONTROL WELL, STD 60 STDS BACK TO 5,000' PUMP 40 BBLS 10# BRINE TO CONTROL WELL, POOH 78 STDS, L/D BIT & PUMP OPEN SUB.
	15:00 - 18:00	3.00	FRAC	34	I	P		MIRU CASED HOLE, PU HAL 10K CBP RIH & SET @ 9,991', POOH, RD, SWI, WINTERIZE, SDFN
1/8/2014	7:00 - 7:15	0.25	FRAC	48		P		HSM, SLIPS, TRIPS & FALLS, PERF & FRAC
	7:15 - 9:00	1.75	FRAC	52	A	P		ND BOP, NU F/V, INSTAL HAGER PLUG IN TBG HEAD, MIRU CAMERON & PT F/V TO 7,000 PSI FOR 15 MIN, RD MO CAMERON START 8:19 AM 7,135 PSI, STOP 8:34 AM 7,307 PSI, DIFF +172 PSI
	9:00 - 11:00	2.00	FRAC	34	H	P		RU CASED HOLE, PERF STG #3 AS DESIGNED, X/O TO FRAC.
	11:00 - 13:00	2.00	FRAC	46	E	P		REPAIR LEAKS IN LINE & PRESS TEST TO 8,500 PSI FOR 15 MIN, LOST 985 PSI
	13:00 - 17:00	4.00	FRAC	36	E	P		FRAC STG #3) WHP 21 PSI, BRK 3913 PSI @ 4 BPM. ISIP 3445 PSI, FG. 0.79 ISIP 3280 PSI, FG. 0.77, NPI -165 PSI, X/O TO WIRELINE.  PERF STG #4 AS DESIGNED, X/O TO FRAC, BLENDER BROKE DOWN, SDFN.
1/9/2014	7:00 - 7:15	0.25	FRAC	48		P		HSM, SLIPS, TRIPS & FALLS, FRAC & PERF, RED ZONE STAY OUT WHILE PUMPING

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No:
Event: COMPLETION		Start Date: 12/21/2013	End Date: 1/14/2014
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 20:00	12.75	FRAC	36	E	P		<p>FRAC STG #4) WHP 2080 PSI, BRK 3657 PSI @ 5.6 BPM. ISIP 2613 PSI, FG. 0.71 ISIP 2777 PSI, FG. 0.73, NPI 164 PSI, X/O TO PERF.</p> <p>PERF STG #5) AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #5) WHP 1440 PSI, BRK 3304 PSI @ 4 BPM. ISIP 2633 PSI, FG. 0.72 ISIP 2899 PSI, FG. 0.75, NPI 266 PSI, X/O TO PERF.</p> <p>PERF STG #6) AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #6) WHP 1662 PSI, BRK 4457 PSI @ 4.2 BPM. ISIP 2945 PSI, FG. 0.76 ISIP 3141 PSI, FG. 0.78, NPI 196 PSI, X/O TO PERF.</p> <p>PERF STG #7) AS DESIGNED, ((MISS RUN)), POOH C/O GUN RIH &amp; FINISH PERFS AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #7) WHP 1106 PSI, BRK 3922 PSI @ 4 BPM. ISIP 2448 PSI, FG. 0.71 ISIP 2858 PSI, FG. 0.76, NPI 410 PSI, X/O TO PERF.</p> <p>PERF STG #8) AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #8) WHP 801 PSI, BRK 3397 PSI @ 4 BPM. ISIP 2056 PSI, FG. 0.68 ISIP 2830 PSI, FG. 0.77, NPI 774 PSI, X/O TO PERF.</p> <p>PERF STG #9) AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #9) WHP 256 PSI, BRK 6657 PSI @ 4 BPM. ISIP 3280 PSI, FG. 0.85 ISIP 2836 PSI, FG. 0.79, NPI -444 PSI, X/O TO PERF.</p> <p>PERF STG #10) AS DESIGNED, X/O TO FRAC IN AM, SDFN.</p>
1/10/2014	7:00 - 7:15	0.25	FRAC	48		P		HSM, SLIPS, TRIPS & FALLS, FRAC & PERF
	7:15 - 8:45	1.50	FRAC	46	E	Z		VALVES FROZE ON BLENDER & FR WOULD'N'T PRIME UP

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No:
Event: COMPLETION		Start Date: 12/21/2013	End Date: 1/14/2014
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:45 - 18:00	9.25	FRAC	36	E	P		<p>FRAC STG #10) WHP 1533 PSI, BRK 2961 PSI @ 4 BPM. ISIP 2379 PSI, FG. 0.74, ISIP 2541 PSI, FG. 0.77, NPI 162 PSI, X/O TO PERF.</p> <p>PERF STG #11) AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #11) WHP 837 PSI, BRK 4655 PSI @ 4.8 BPM. ISIP 2446 PSI, FG. 0.76, ISIP 2329 PSI, FG. 0.75, NPI -117 PSI, X/O TO PERF.</p> <p>PERF STG #12) AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #12) WHP 633 PSI, BRK 2538 PSI @ 4 BPM. ISIP 2043 PSI, FG. 0.72, ISIP 2191 PSI, FG. 0.74, NPI 148 PSI, X/O TO PERF.</p> <p>PERF STG #13) AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #13) WHP 292 PSI, BRK 1786 PSI @ 4 BPM. ISIP 1383 PSI, FG. 0.64, ISIP 1757 PSI, FG. 0.70, NPI 374 PSI, X/O TO PERF.</p> <p>PERF STG #14) AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #14) WHP 1350 PSI, BRK 1614 PSI @ 2.4 BPM. ISIP 1420 PSI, FG. 0.66, ISIP 1688 PSI, FG. 0.70, NPI 268 PSI, X/O TO PERF.</p> <p>PERF STG #15) AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #15) WHP 196 PSI, BRK 3820 PSI @ 4.8 BPM. ISIP 1660 PSI, FG. 0.74, ISIP 1983 PSI, FG. 0.79, NPI 323 PSI, X/O TO W/L.</p> <p>SET KILL PLUG, RDMO WL &amp; FRAC EQUIP</p> <p>TOTAL CLEAN FLUID- 21,775 BBLS TOTAL SAND- 534,750 LBS</p>
1/13/2014	7:00 - 7:15	0.25	DRLOUT	48		P		<p>ND FV, NU BOP, SWI, WINTERIZE, SDFN HSM, SLIPS, TRIPS &amp; FALLS, TRIPPING TBG, D/O CBP'S</p>

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No:
Event: COMPLETION		Start Date: 12/21/2013	End Date: 1/14/2014
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

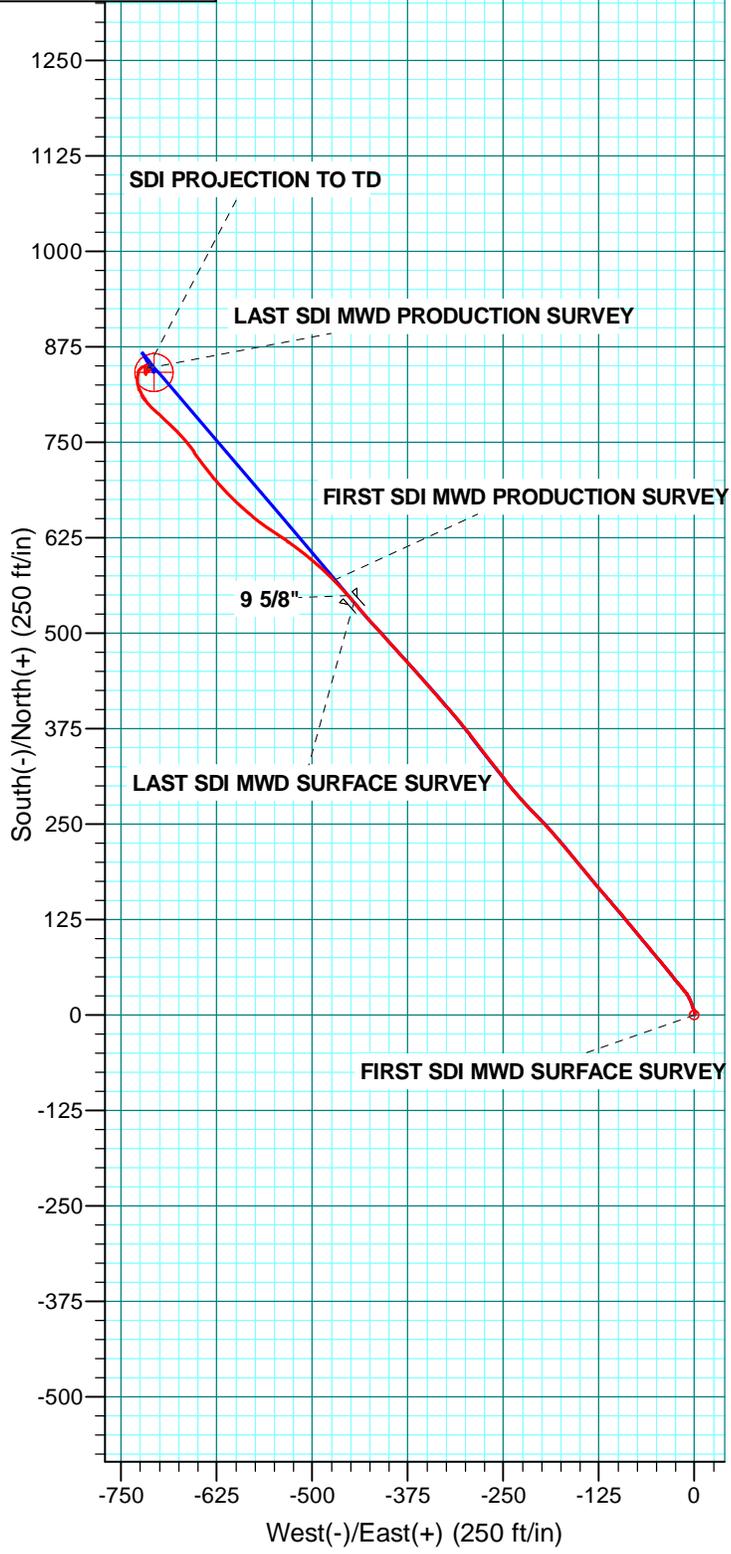
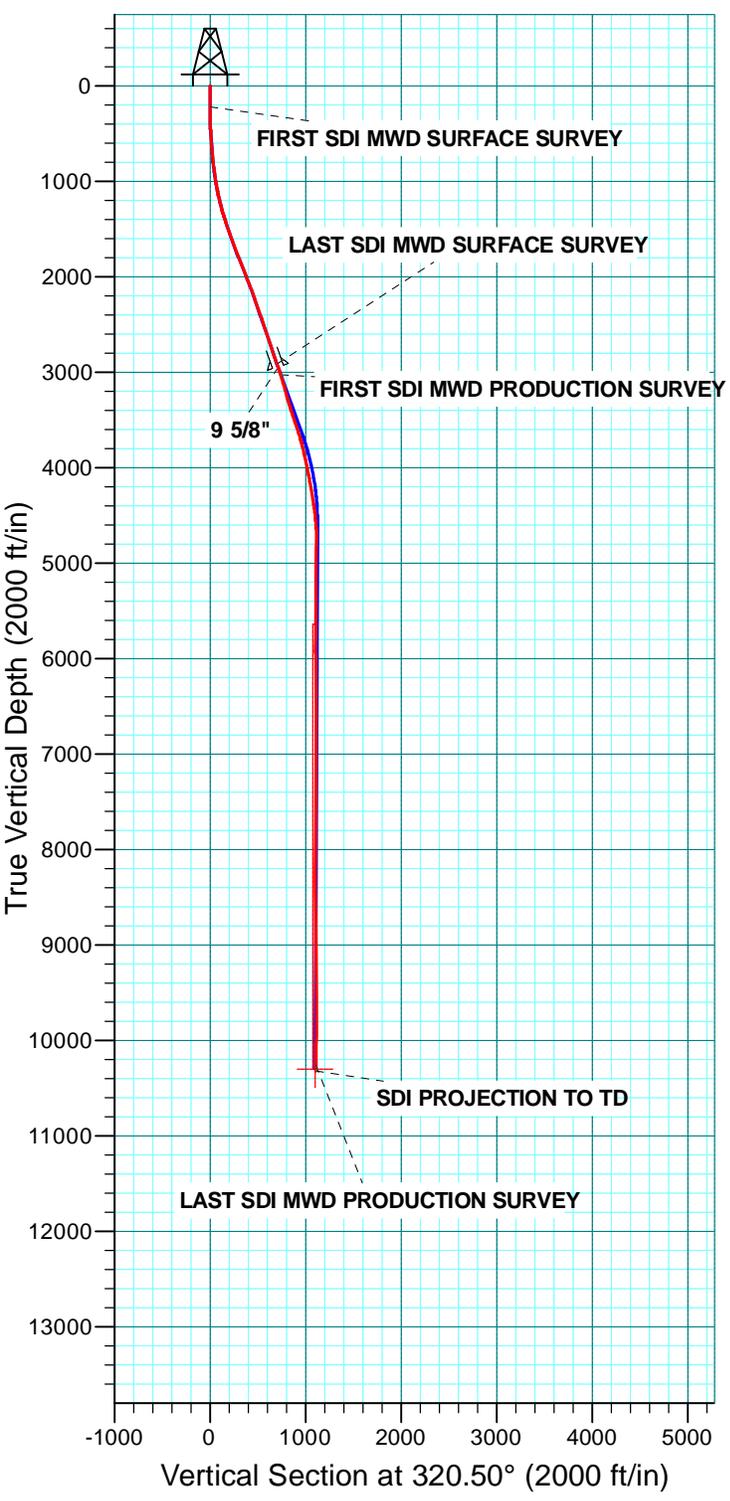
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 17:30	10.25	DRLOUT	31	I	P		1 OF 6, RU FLOOR & TBG EQUIP, PU 3 3/4" BIT, PUMP OPEN SUB, 1.875" XN S/N, RIH & L/D 80 JTS, RIH TO KILL PLUG, RU P/S, FILL TBG & BREAK CIRC, P/T BOP TO 3,000 PSI, SURFACE CSG VALVE OPEN & LOCKED, D/O 10 CBP'S THRU BJD & HAL 9000  C/O 20' SAND, TAG 1ST PLUG @ 5,466', KICK 600 PSI, WELL FLOWING, RIH  C/O 30' SAND, TAG 2ND PLUG @ 5,646', KICK 300 PSI, CSG PRESS 50 PSI, RIH  C/O 30' SAND, TAG 3RD PLUG @ 6,603', KICK 200 PSI, CSG PRESS 100 PSI, RIH  C/O 30' SAND, TAG 4TH PLUG @ 6,899', KICK 400 PSI, CSG PRESS 150 PSI, TRIED TO SELL GAS TOO MUCH WATER, RIH  C/O 30' SAND, TAG 5TH PLUG @ 7,300', KICK 500 PSI, CSG PRESS 100 PSI, RIH  C/O 30' SAND, TAG 6TH PLUG @ 7,618', KICK 400 PSI, CSG PRESS 50 PSI, RIH  C/O 10' SAND, TAG 7TH PLUG @ 7,903', KICK 300 PSI, CSG PRESS 50 PSI, RIH  C/O 30' SAND, TAG 8TH PLUG @ 8,221', KICK 800 PSI, CSG PRESS 100 PSI, RIH  C/O 70' SAND, TAG 9TH PLUG @ 8,694', KICK 600 PSI, CSG PRESS 100 PSI, RIH  C/O 30' SAND, TAG 10TH PLUG @ 9,059', KICK 500 PSI, CSG PRESS 200 PSI,  LET WELL CLEAN UP, SWI, TARP & WINTERIZE EQUIP, SDFN.
1/14/2014	7:00 - 7:15	0.25	DRLOUT	48				HSM, SLIPS, TRIPS & FALLS, BLEEDING OFF WELL, LANDING TBG

Operation Summary Report

Well: NBU 921-20K1BS YELLOW		Spud Date: 8/29/2013	
Project: UTAH-UINTAH		Site: NBU 921-20J PAD	Rig Name No:
Event: COMPLETION		Start Date: 12/21/2013	End Date: 1/14/2014
Active Datum: RKB @4,910.00usft (above Mean Sea Level)		UWI: NW/SE/0/9/S/21/E/20/0/0/26/PM/S/1722/E/0/2440/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 14:00	6.75	DRLOUT	44	C	P		<p>1 OF 6, SICP 2100 PSI, OPEN WELL &amp; BLEED OFF THRU BJD &amp; HAL 9000, D/O 5 CBP'S</p> <p>C/O 30' SAND, TAG 11TH PLUG @ 9,295', KICK 700 PSI, CSG PRESS 200 PSI, RIH</p> <p>C/O 30' SAND, TAG 12TH PLUG @ 9,523', KICK 300 PSI, CSG PRESS 200 PSI, RIH</p> <p>C/O 30' SAND, TAG 13TH PLUG @ 9,742', KICK 400 PSI, CSG PRESS 150 PSI, RIH</p> <p>C/O 30' SAND, TAG 14TH PLUG @ 9,991', KICK 300 PSI, CSG PRESS 150 PSI, RIH</p> <p>C/O 30' SAND, TAG 15TH PLUG @ 10,143', KICK 400 PSI, CSG PRESS 300 PSI,</p> <p>PBTD @ 10,415', BTM PERF @ 10,373', RIH TAGGED @ 10325', C/O TO 10,415' PBTD, 42' PAST BTM PERF W/ 329 JTS 2 3/8" L-80 TBG, LD 15 JTS ((WET)), PU &amp; STRIP IN TBG HANGER &amp; LAND TBG W/ 314 JTS 2 3/8" L-80 TBG, EOT 9,964.71'.</p> <p>NOTE: D/O THRU BJD &amp; (2) HAL 9000, SOLD THRU 2 SEPERATORS                      NBU 921-20K1BS SOLD 189 MCF                      CIGE 183 SOLD 178 MCF, TOTAL GAS SOLD 368 MCF.</p> <p>RD P/S, FLOOR &amp; TBG EQUIP, ND BOPS, NU WH, DROP BALL &amp; PUMP OPEN SUB, P/T LINE FROM WH TO HAL 9000 TO 3,000 PSI, NO VISIBLE LEAKS.</p> <p>TURN OVER TO FLOW BACK CREW &amp; SALES, RD &amp; MOVE TO NEXT WELL ON PAD.</p> <p>KB= 24'                      4 1/16" CAMERON HANGER= .83' TBG                      DELIVERED 335 JTS L-80                      314 JTS 2 3/8" L-80= 9,935.80' TBG                      USED 314 JTS                      PUMP OPEN &amp; XN S/N= 4.08' TBG                      RETURNED 21 JTS L-80                      EOT @ 9,964.71' 1 JT                      BAD</p> <p>TWTR= 21,775 BBLS                      TWR= 4,500 BBLS                      TWLTR= 17,275 BBLS</p>

WELL DETAILS: NBU 921-20K1BS					
GL 4886 & KB 24 @ 4910.00ft (HP 318)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14536162.52	2039626.13	40.0190140	-109.5741790





## **US ROCKIES REGION PLANNING**

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

**NBU 921-20J PAD**

**NBU 921-20K1BS**

**OH**

**Design: OH**

## **Standard Survey Report**

**28 October, 2013**





<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20K1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4886 & KB 24 @ 4910.00ft (HP 318)
<b>Site:</b>	NBU 921-20J PAD	<b>MD Reference:</b>	GL 4886 & KB 24 @ 4910.00ft (HP 318)
<b>Well:</b>	NBU 921-20K1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales Office

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 921-20J PAD, SECTION 20 T9S R21E				
<b>Site Position:</b>	<b>Northing:</b>	14,536,153.86 usft	<b>Latitude:</b>	40.0189910	
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,039,608.06 usft	<b>Longitude:</b>	-109.5742440
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.92 °

<b>Well</b>	NBU 921-20K1BS, 1722 FSL 2440 FEL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,536,162.52 usft	<b>Latitude:</b>	40.0190140
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,039,626.12 usft	<b>Longitude:</b>	-109.5741790
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,886.00 ft	

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2013	6/6/2012	11.04	65.84	52,183

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	320.50	

<b>Survey Program</b>	<b>Date</b>	10/28/2013			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
20.00	3,023.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
3,142.00	10,483.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220.00	0.44	53.72	220.00	0.45	0.62	-0.04	0.22	0.22	0.00	
<b>FIRST SDI MWD SURFACE SURVEY</b>										
303.00	1.32	10.04	302.99	1.58	1.04	0.56	1.26	1.06	-52.63	
386.00	2.11	341.12	385.95	3.97	0.71	2.61	1.38	0.95	-34.84	
476.00	3.87	336.02	475.83	8.31	-1.06	7.09	1.98	1.96	-5.67	
566.00	4.22	340.07	565.60	14.20	-3.42	13.13	0.50	0.39	4.50	
656.00	4.40	338.31	655.35	20.52	-5.82	19.54	0.25	0.20	-1.96	
746.00	5.10	324.42	745.04	26.99	-9.43	26.82	1.49	0.78	-15.43	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20K1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4886 & KB 24 @ 4910.00ft (HP 318)
<b>Site:</b>	NBU 921-20J PAD	<b>MD Reference:</b>	GL 4886 & KB 24 @ 4910.00ft (HP 318)
<b>Well:</b>	NBU 921-20K1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales Office

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)	
836.00	6.86	319.94	834.55	34.35	-15.21	36.19	2.02	1.96	-4.98	
926.00	8.18	321.17	923.77	43.46	-22.69	47.96	1.48	1.47	1.37	
1,016.00	9.85	320.99	1,012.66	54.43	-31.55	62.06	1.86	1.86	-0.20	
1,106.00	11.70	319.85	1,101.07	67.38	-42.28	78.89	2.07	2.06	-1.27	
1,196.00	13.20	320.37	1,188.95	82.27	-54.72	98.29	1.67	1.67	0.58	
1,286.00	15.12	321.17	1,276.21	99.33	-68.63	120.31	2.14	2.13	0.89	
1,376.00	16.80	320.38	1,362.74	118.50	-84.29	145.05	1.88	1.87	-0.88	
1,466.00	18.55	319.41	1,448.49	139.39	-101.90	172.37	1.97	1.94	-1.08	
1,556.00	19.47	319.63	1,533.58	161.69	-120.93	201.68	1.03	1.02	0.24	
1,646.00	19.96	320.03	1,618.30	184.89	-140.51	232.04	0.56	0.54	0.44	
1,736.00	20.49	320.82	1,702.75	208.87	-160.33	263.16	0.66	0.59	0.88	
1,826.00	21.25	319.42	1,786.85	233.47	-180.89	295.21	1.01	0.84	-1.56	
1,916.00	22.16	315.72	1,870.47	258.01	-203.36	328.44	1.83	1.01	-4.11	
2,006.00	21.90	318.01	1,953.90	282.64	-226.44	362.12	1.00	-0.29	2.54	
2,096.00	21.54	321.43	2,037.51	308.03	-247.97	395.41	1.46	-0.40	3.80	
2,186.00	20.84	322.31	2,121.43	333.62	-268.05	427.93	0.85	-0.78	0.98	
2,276.00	20.15	322.63	2,205.73	358.61	-287.25	459.43	0.78	-0.77	0.36	
2,366.00	18.47	320.99	2,290.66	382.01	-305.64	489.17	1.96	-1.87	-1.82	
2,456.00	18.29	318.88	2,376.07	403.72	-323.90	517.55	0.77	-0.20	-2.34	
2,546.00	19.08	319.06	2,461.33	425.47	-342.82	546.37	0.88	0.88	0.20	
2,636.00	18.91	318.27	2,546.43	447.47	-362.17	575.65	0.34	-0.19	-0.88	
2,726.00	19.17	317.57	2,631.50	469.26	-381.85	604.98	0.38	0.29	-0.78	
2,816.00	18.25	318.07	2,716.75	490.65	-401.23	633.82	1.04	-1.02	0.56	
2,906.00	18.55	317.13	2,802.15	511.63	-420.39	662.19	0.47	0.33	-1.04	
2,996.00	19.43	320.03	2,887.25	533.59	-439.75	691.45	1.43	0.98	3.22	
3,023.00	19.87	320.20	2,912.68	540.56	-445.57	700.53	1.64	1.63	0.63	
<b>LAST SDI MWD SURFACE SURVEY</b>										
3,058.00	19.35	318.90	2,945.65	549.50	-453.19	712.27	1.94	-1.49	-3.70	
<b>9 5/8"</b>										
3,142.00	18.14	315.51	3,025.19	569.32	-471.50	739.21	1.94	-1.44	-4.04	
<b>FIRST SDI MWD PRODUCTION SURVEY</b>										
3,236.00	16.68	311.32	3,114.89	588.66	-491.89	767.11	2.05	-1.55	-4.46	
3,331.00	15.39	308.14	3,206.19	605.45	-512.04	792.88	1.64	-1.36	-3.35	
3,425.00	16.44	304.18	3,296.59	620.63	-532.86	817.83	1.61	1.12	-4.21	
3,520.00	18.55	304.36	3,387.19	636.71	-556.46	845.25	2.22	2.22	0.19	
3,614.00	18.73	309.89	3,476.27	654.83	-580.38	874.45	1.89	0.19	5.88	
3,708.00	18.03	314.38	3,565.48	674.69	-602.36	903.75	1.68	-0.74	4.78	
3,802.00	17.41	317.89	3,655.02	695.29	-622.19	932.26	1.31	-0.66	3.73	
3,897.00	15.30	322.81	3,746.17	715.83	-639.30	958.99	2.66	-2.22	5.18	
3,991.00	13.12	325.54	3,837.29	734.50	-652.83	982.01	2.43	-2.32	2.90	
4,085.00	11.68	321.23	3,929.10	750.72	-664.83	1,002.16	1.82	-1.53	-4.59	
4,180.00	10.73	315.52	4,022.29	764.53	-677.05	1,020.58	1.54	-1.00	-6.01	
4,274.00	11.03	312.96	4,114.60	776.90	-689.76	1,038.21	0.60	0.32	-2.72	
4,368.00	10.36	311.08	4,206.97	788.58	-702.71	1,055.47	0.80	-0.71	-2.00	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20K1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4886 & KB 24 @ 4910.00ft (HP 318)
<b>Site:</b>	NBU 921-20J PAD	<b>MD Reference:</b>	GL 4886 & KB 24 @ 4910.00ft (HP 318)
<b>Well:</b>	NBU 921-20K1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales Office

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)
4,463.00	9.69	318.67	4,300.52	800.20	-714.43	1,071.89	1.56	-0.71	7.99
4,557.00	8.48	331.24	4,393.35	812.22	-722.99	1,086.60	2.47	-1.29	13.37
4,651.00	7.61	346.26	4,486.43	824.34	-727.80	1,099.02	2.41	-0.93	15.98
4,746.00	6.15	5.33	4,580.76	835.52	-728.83	1,108.30	2.83	-1.54	20.07
4,841.00	4.36	28.47	4,675.37	843.76	-726.63	1,113.26	2.88	-1.88	24.36
4,935.00	2.92	54.59	4,769.18	848.29	-722.98	1,114.43	2.30	-1.53	27.79
5,030.00	1.84	115.00	4,864.11	849.05	-719.62	1,112.88	2.71	-1.14	63.59
5,124.00	2.06	131.19	4,958.06	847.30	-716.98	1,109.85	0.63	0.23	17.22
5,218.00	1.95	126.57	5,052.00	845.23	-714.43	1,106.63	0.21	-0.12	-4.91
5,312.00	0.74	207.21	5,145.98	843.74	-713.42	1,104.84	2.10	-1.29	85.79
5,407.00	0.76	221.91	5,240.97	842.73	-714.12	1,104.50	0.20	0.02	15.47
5,501.00	0.81	356.69	5,334.96	842.93	-714.57	1,104.95	1.54	0.05	143.38
5,596.00	0.89	5.53	5,429.95	844.33	-714.54	1,106.01	0.16	0.08	9.31
5,690.00	0.33	31.44	5,523.95	845.29	-714.33	1,106.62	0.65	-0.60	27.56
5,784.00	0.37	60.03	5,617.95	845.67	-713.93	1,106.65	0.19	0.04	30.41
5,878.00	0.55	110.86	5,711.94	845.66	-713.24	1,106.21	0.45	0.19	54.07
5,972.00	0.54	125.75	5,805.94	845.24	-712.46	1,105.39	0.15	-0.01	15.84
6,066.00	0.75	285.55	5,899.94	845.15	-712.69	1,105.47	1.35	0.22	170.00
6,160.00	0.99	294.01	5,993.93	845.64	-714.03	1,106.70	0.29	0.26	9.00
6,255.00	0.67	264.48	6,088.92	845.92	-715.33	1,107.74	0.55	-0.34	-31.08
6,349.00	0.62	251.50	6,182.91	845.71	-716.36	1,108.23	0.16	-0.05	-13.81
6,443.00	0.70	223.67	6,276.91	845.13	-717.24	1,108.35	0.35	0.09	-29.61
6,538.00	1.03	345.14	6,371.90	845.54	-717.86	1,109.05	1.60	0.35	127.86
6,632.00	1.11	348.28	6,465.88	847.25	-718.26	1,110.63	0.11	0.09	3.34
6,726.00	0.54	2.65	6,559.87	848.58	-718.43	1,111.76	0.64	-0.61	15.29
6,821.00	0.45	2.94	6,654.87	849.40	-718.39	1,112.37	0.09	-0.09	0.31
6,915.00	0.18	90.26	6,748.87	849.77	-718.22	1,112.55	0.51	-0.29	92.89
7,010.00	0.45	114.84	6,843.87	849.61	-717.73	1,112.11	0.31	0.28	25.87
7,104.00	0.67	154.12	6,937.86	848.96	-717.16	1,111.25	0.46	0.23	41.79
7,198.00	0.84	138.15	7,031.85	847.95	-716.46	1,110.02	0.29	0.18	-16.99
7,293.00	0.88	166.02	7,126.84	846.73	-715.82	1,108.67	0.44	0.04	29.34
7,387.00	0.35	282.56	7,220.84	846.09	-715.92	1,108.25	1.15	-0.56	123.98
7,481.00	0.32	238.84	7,314.84	846.02	-716.43	1,108.51	0.27	-0.03	-46.51
7,576.00	0.17	244.90	7,409.84	845.82	-716.78	1,108.58	0.16	-0.16	6.38
7,670.00	0.35	182.63	7,503.84	845.47	-716.92	1,108.41	0.33	0.19	-66.24
7,765.00	0.48	208.88	7,598.84	844.83	-717.13	1,108.04	0.24	0.14	27.63
7,859.00	0.35	224.55	7,692.83	844.29	-717.52	1,107.87	0.18	-0.14	16.67
7,954.00	0.70	193.88	7,787.83	843.52	-717.86	1,107.49	0.46	0.37	-32.28
8,048.00	0.79	177.00	7,881.82	842.31	-717.96	1,106.63	0.25	0.10	-17.96
8,237.00	0.99	181.77	8,070.80	839.38	-717.95	1,104.35	0.11	0.11	2.52
8,331.00	0.61	346.60	8,164.79	839.05	-718.09	1,104.19	1.69	-0.40	175.35
8,426.00	0.38	20.53	8,259.79	839.84	-718.09	1,104.80	0.38	-0.24	35.72
8,520.00	0.44	47.72	8,353.79	840.37	-717.72	1,104.98	0.21	0.06	28.93



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20K1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4886 & KB 24 @ 4910.00ft (HP 318)
<b>Site:</b>	NBU 921-20J PAD	<b>MD Reference:</b>	GL 4886 & KB 24 @ 4910.00ft (HP 318)
<b>Well:</b>	NBU 921-20K1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales Office

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)	
8,615.00	0.41	84.38	8,448.79	840.65	-717.11	1,104.81	0.28	-0.03	38.59	
8,709.00	0.71	336.10	8,542.78	841.22	-717.01	1,105.18	0.98	0.32	-115.19	
8,803.00	0.49	343.39	8,636.78	842.14	-717.36	1,106.11	0.25	-0.23	7.76	
8,897.00	0.07	152.93	8,730.78	842.47	-717.45	1,106.42	0.59	-0.45	180.36	
8,992.00	0.44	192.34	8,825.78	842.06	-717.50	1,106.14	0.41	0.39	41.48	
9,086.00	0.49	295.27	8,919.77	841.88	-717.94	1,106.28	0.77	0.05	109.50	
9,181.00	1.11	345.12	9,014.77	842.94	-718.55	1,107.49	0.92	0.65	52.47	
9,275.00	0.93	358.24	9,108.75	844.59	-718.80	1,108.92	0.31	-0.19	13.96	
9,369.00	0.84	5.47	9,202.74	846.03	-718.76	1,110.01	0.15	-0.10	7.69	
9,464.00	0.86	25.30	9,297.73	847.37	-718.39	1,110.81	0.31	0.02	20.87	
9,558.00	0.92	31.27	9,391.72	848.66	-717.70	1,111.35	0.12	0.06	6.35	
9,653.00	0.61	19.14	9,486.71	849.78	-717.14	1,111.87	0.37	-0.33	-12.77	
9,747.00	0.23	40.34	9,580.71	850.40	-716.85	1,112.16	0.43	-0.40	22.55	
9,841.00	0.03	291.00	9,674.71	850.55	-716.75	1,112.22	0.26	-0.21	-116.32	
9,936.00	0.18	255.75	9,769.71	850.53	-716.92	1,112.30	0.16	0.16	-37.11	
10,030.00	0.24	213.39	9,863.71	850.33	-717.17	1,112.31	0.17	0.06	-45.06	
10,125.00	0.51	203.62	9,958.70	849.77	-717.45	1,112.06	0.29	0.28	-10.28	
10,219.00	0.60	195.34	10,052.70	848.91	-717.75	1,111.59	0.13	0.10	-8.81	
10,313.00	0.59	172.55	10,146.69	847.96	-717.81	1,110.89	0.25	-0.01	-24.24	
10,408.00	0.86	137.33	10,241.69	846.95	-717.27	1,109.77	0.54	0.28	-37.07	
10,425.00	1.07	128.08	10,258.68	846.76	-717.06	1,109.48	1.53	1.24	-54.41	
<b>LAST SDI MWD PRODUCTION SURVEY</b>										
10,483.00	1.07	128.08	10,316.67	846.09	-716.20	1,108.43	0.00	0.00	0.00	
<b>SDI PROJECTION TO TD</b>										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PBHL_NBU 921-20K1B:	0.00	0.00	10,301.0	841.32	-707.06	14,536,992.42	2,038,905.69	40.0213240	-109.5767040	
- actual wellpath misses target center by 10.60ft at 10467.52ft MD (10301.19 TVD, 846.27 N, -716.43 E)										
- Circle (radius 25.00)										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
3,058.00	2,945.65	9 5/8"	9.625	12.250	



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20K1BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4886 & KB 24 @ 4910.00ft (HP 318)
<b>Site:</b>	NBU 921-20J PAD	<b>MD Reference:</b>	GL 4886 & KB 24 @ 4910.00ft (HP 318)
<b>Well:</b>	NBU 921-20K1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales Office

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
220.00	220.00	0.45	0.62	FIRST SDI MWD SURFACE SURVEY
3,023.00	2,912.68	540.56	-445.57	LAST SDI MWD SURFACE SURVEY
3,142.00	3,025.19	569.32	-471.50	FIRST SDI MWD PRODUCTION SURVEY
10,425.00	10,258.68	846.76	-717.06	LAST SDI MWD PRODUCTION SURVEY
10,483.00	10,316.67	846.09	-716.20	SDI PROJECTION TO TD

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