

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 921-23B4BS							
<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> UTU 0149075			<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 Indian 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		1124 FNL 2098 FEL		NWNE		23		9.0 S		21.0 E		S	
Top of Uppermost Producing Zone		907 FNL 1816 FEL		NWNE		23		9.0 S		21.0 E		S	
At Total Depth		907 FNL 1816 FEL		NWNE		23		9.0 S		21.0 E		S	
<b>21. COUNTY</b> UINTAH				<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 907				<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 640					
				<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 1116				<b>26. PROPOSED DEPTH</b> MD: 11028 TVD: 11007					
<b>27. ELEVATION - GROUND LEVEL</b> 4846				<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 - 2850	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 - 11028	11.6	HCP-110 LT&C	13.0	Premium Lite High Strength		350	3.38	12.0		
							50/50 Poz		1560	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> 05/23/2012				<b>EMAIL</b> danielle.piernot@anadarko.com					
<b>API NUMBER ASSIGNED</b> 43047527060000				<b>APPROVAL</b>  Permit Manager									

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

**NBU 921-23B4BS**

Surface: 1124 FNL / 2098 FEL      NWNE  
BHL: 907 FNL / 1816 FEL      NWNE

Section 23 T9S R21E

Unitah County, Utah  
Mineral Lease: UTU 0149075

**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	1,584'	
Birds Nest	1,935'	Water
Mahogany	2,400'	Water
Wasatch	4,919'	Gas
Mesaverde	7,722'	Gas
Sego	9,954'	Gas
Castlegate	10,002'	Gas
MN5	10,407'	Gas
TVD =	11,007'	
TD =	11,028'	

- 2.c** Kerr McGee Oil & Gas Onshore LP (Kerr McGee) will either drill to the the Blackhawk formation, which is part of the Mesaverde formation, or the Wasatch/Mesaverde formation. If Kerr McGee drills to the Blackhawk formation (part of the Mesaverde formation), please refer to MN5 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 the Wasatch/Mesaverde formation please refer to Sego as the bottom formation. The attached Wasatch/Mesaverde Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the depths the Wasatch/Mesaverde formations are found.

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 Formation) Target Formation**

Maximum anticipated bottom hole pressure calculated at 11007' TVD, approximately equals  
7,265 psi (0.66 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,893 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/Mesaverde Target Formation**

Maximum anticipated bottom hole pressure calculated at 9954' TVD, approximately equals  
6,371 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 4,167 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. **Variiances:**

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.

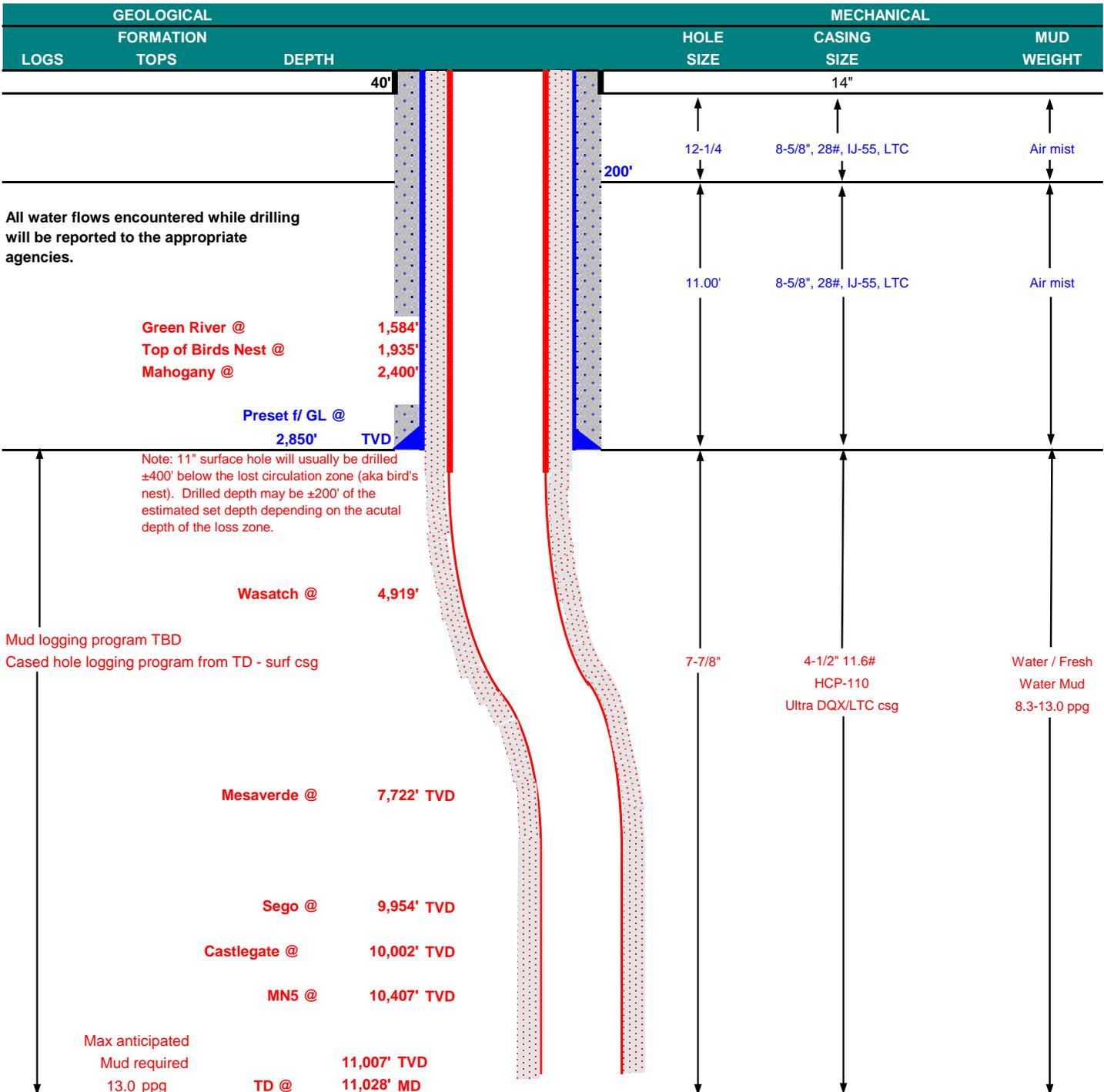
#### **10. Other Information:**

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



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	December 29, 2011	
WELL NAME	<b>NBU 921-23B4BS</b>		TD	11,007' TVD	11,028' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
				FINISHED ELEVATION	4,846'
SURFACE LOCATION	NWNE	1124 FNL	2098 FEL	Sec 23 T 9S R 21E	
	Latitude:	40.025722	Longitude:	-109.517038	NAD 83
BTM HOLE LOCATION	NWNE	907 FNL	1816 FEL	Sec 23 T 9S R 21E	
	Latitude:	40.026312	Longitude:	-109.516032	NAD 83
OBJECTIVE ZONE(S)	BLACKHAWK				
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Indian Tribe (Surface), UDOGM Tri-County Health Dept.				





**KERR-McGEE OIL & GAS ONSHORE LP**  
**BLACKHAWK 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 2,850	28.00	IJ-55	LTC	1.89	1.41	4.98	N/A
PRODUCTION	4-1/2"	0	to 5,000	11.60	HCP-110	DQX	1.19	1.16	279,000	367,174
	4-1/2"	5,000	to 11,028'	11.60	HCP-110	LTC	1.19	1.16	4.98	

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe  
 Fracture at surface shoe with 0.1 psi/ft gas gradient above  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE	LEAD	2,350'	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	4,418'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	350	35%	12.00	3.38
	TAIL	6,610'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,560	35%	14.30	1.31

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

**FLOAT EQUIPMENT & CENTRALIZERS**

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

**ADDITIONAL INFORMATION**

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

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

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

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

DRILLING ENGINEER:

Nick Spence / Danny Showers / Chad Loesel

DATE:

DRILLING SUPERINTENDENT:

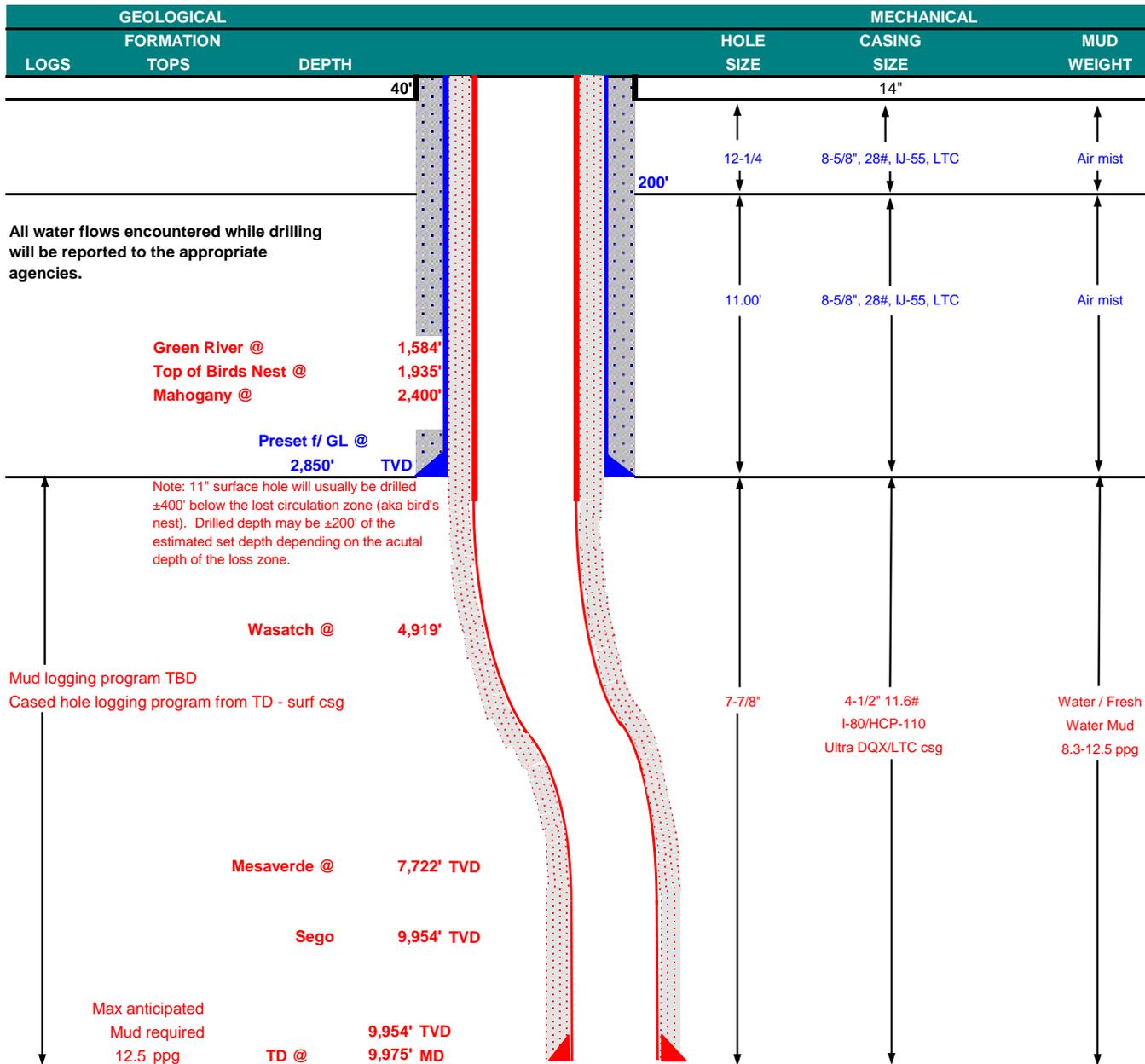
Kenny Gathings / Lovel Young

DATE:



## KERR-McGEE OIL & GAS ONSHORE LP WASATCH/MESAVERDE DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	December 29, 2011			
WELL NAME	<b>NBU 921-23B4BS</b>		TD	9,954'	TVD	9,975' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	4,846'
SURFACE LOCATION	NWNE	1124 FNL	2098 FEL	Sec 23	T 9S	R 21E	
	Latitude:	40.025722	Longitude:	-109.517038		NAD 83	
BTM HOLE LOCATION	NWNE	907 FNL	1816 FEL	Sec 23	T 9S	R 21E	
	Latitude:	40.026312	Longitude:	-109.516032		NAD 83	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde						
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Indian Tribe (Surface), UDOGM Tri- County Health Dept.						





**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 2,850	28.00	IJ-55	LTC	1.89	1.41	4.98	N/A
							7,780	6,350		267,035
PRODUCTION	4-1/2"	0	to 5,000	11.60	I-80	DQX	1.11	0.98		2.85
							10,690	8,650	223,000	
	4-1/2"	5,000	to 9,975'	11.60	HCP-110	LTC	1.53	1.34	4.78	

**Surface casing:**

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

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

**Production casing:**

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

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

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	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	2,350'	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	4,415'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	350	35%	12.00	3.38
	TAIL	5,560'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,310	35%	14.30	1.31

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

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

**ADDITIONAL INFORMATION**

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

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

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

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

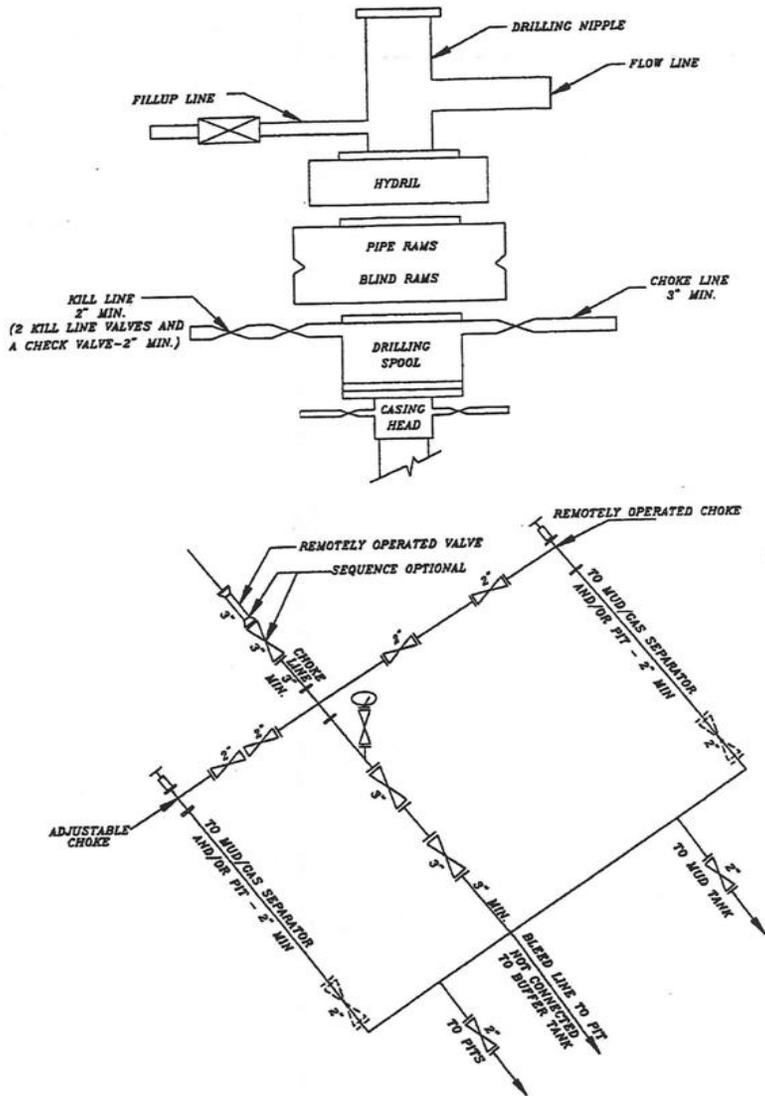
DRILLING ENGINEER: \_\_\_\_\_  
Nick Spence / Danny Showers / Chad Loesel

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

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

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

**EXHIBIT A**  
**NBU 921-23B4BS**



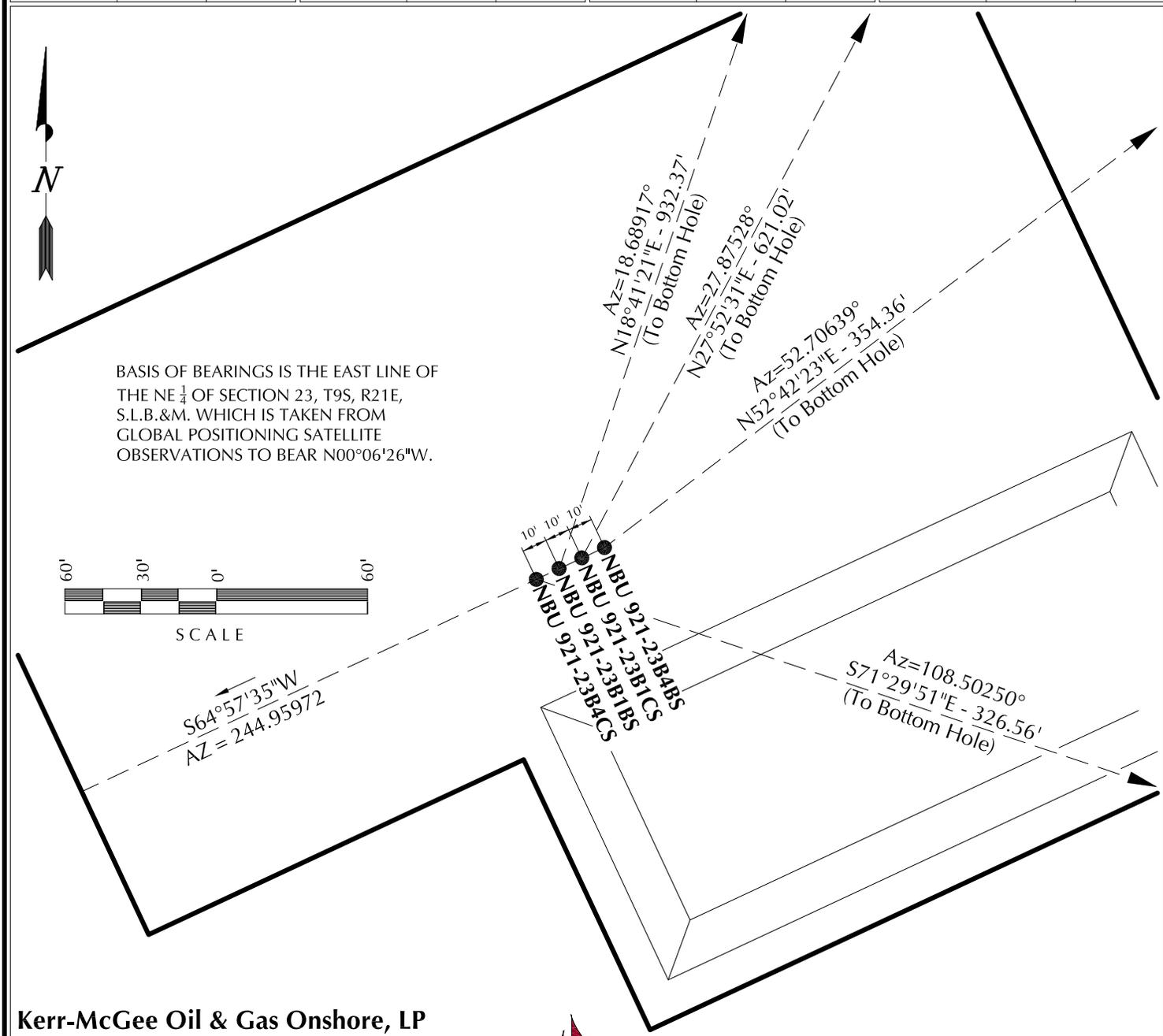
**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**



WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 921-23B4BS	40°01'32.600"	109°31'01.337"	40°01'32.727"	109°30'58.862"	1124' FNL	40°01'34.723"	109°30'57.715"	40°01'34.850"	109°30'55.241"	907' FNL
NBU 921-23B1CS	40.025722°	109.517038°	40.025757°	109.516351°	2098' FEL	40.026312°	109.516032°	40.026347°	109.515345°	1816' FEL
NBU 921-23B1CS	40.025711°	109.517070°	40.025746°	109.516383°	2107' FEL	40.01'37.983"	109°30'57.726"	40°01'38.110"	109°30'55.251"	577' FNL
NBU 921-23B1BS	40.025711°	109.517070°	40.025746°	109.516383°	2107' FEL	40.027218°	109.516035°	40.027253°	109.515347°	1816' FEL
NBU 921-23B1BS	40°01'32.516"	109°31'01.569"	40°01'32.643"	109°30'59.094"	1133' FNL	40°01'41.244"	109°30'57.736"	40°01'41.371"	109°30'55.261"	247' FNL
NBU 921-23B1BS	40.025699°	109.517103°	40.025734°	109.516415°	2116' FEL	40.028123°	109.516038°	40.028159°	109.515350°	1816' FEL
NBU 921-23B4CS	40°01'32.474"	109°31'01.686"	40°01'32.601"	109°30'59.211"	1137' FNL	40°01'31.452"	109°30'57.705"	40°01'31.579"	109°30'55.230"	1238' FNL
NBU 921-23B4CS	40.025687°	109.517135°	40.025723°	109.516447°	2125' FEL	40.025403°	109.516029°	40.025439°	109.515342°	1816' 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 921-23B4BS	214.7'	281.9'	NBU 921-23B1CS	549.0'	290.4'	NBU 921-23B1BS	883.2'	298.8'	NBU 921-23B4CS	-103.6'	309.7'



**Kerr-McGee Oil & Gas Onshore, LP**  
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**WELL PAD - NBU 921-23B**

**WELL PAD INTERFERENCE PLAT**  
WELLS - NBU 921-23B4BS, NBU 921-23B1CS,  
NBU 921-23B1BS & NBU 921-23B4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH.



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

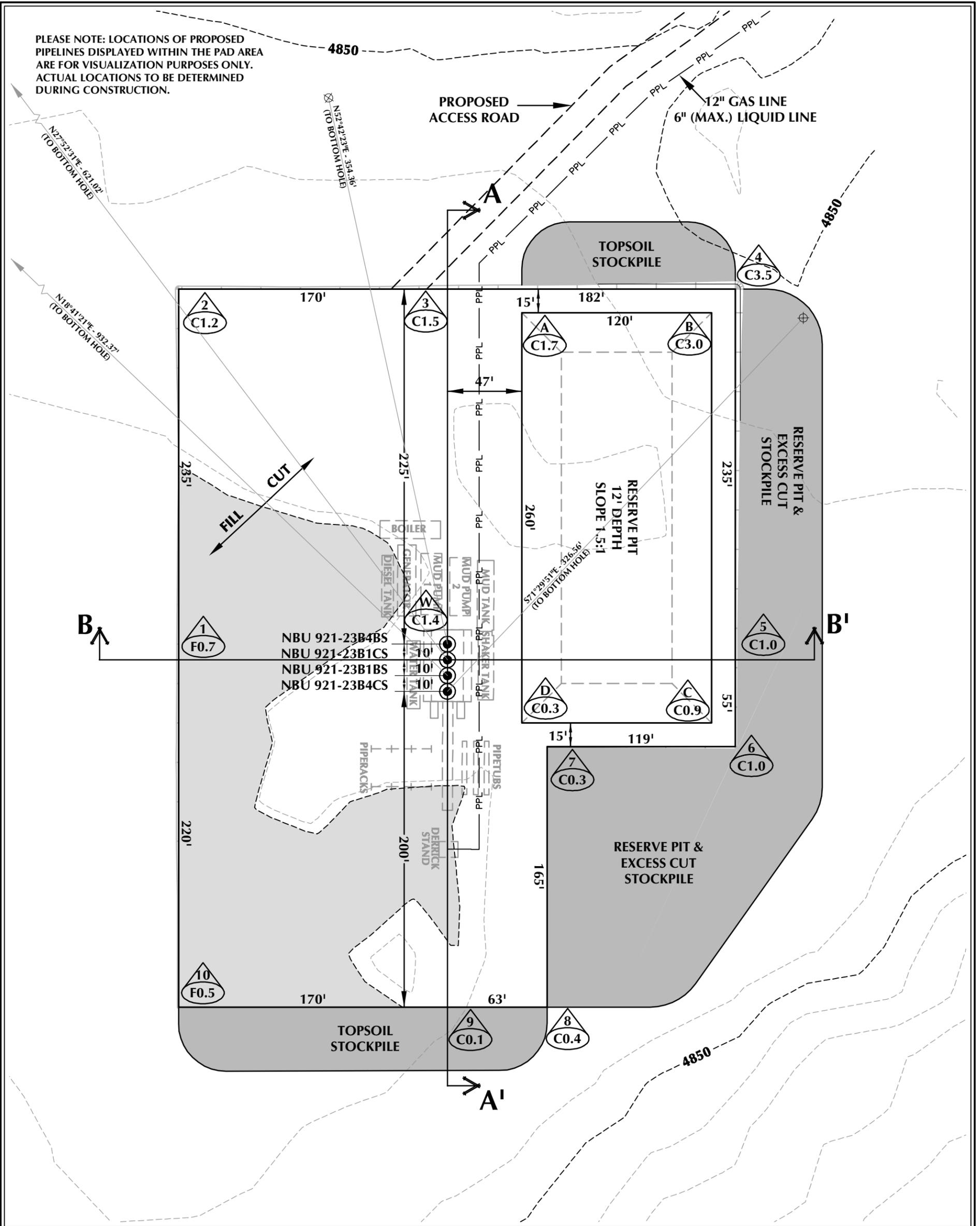
**TIMBERLINE**

(435) 789-1365

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

DATE SURVEYED: 7-19-11	SURVEYED BY: M.S.B.	SHEET NO: <b>5</b>
DATE DRAWN: 8-17-11	DRAWN BY: T.J.R.	
SCALE: 1" = 60'	Date Last Revised:	5 OF 16

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 921-23B DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 4847.3'  
 FINISHED GRADE ELEVATION = 4845.9'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.28 ACRES  
 TOTAL DISTURBANCE AREA = 4.46 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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**WELL PAD - NBU 921-23B**

WELL PAD - LOCATION LAYOUT  
 NBU 921-23B4BS, NBU 921-23B1CS,  
 NBU 921-23B1BS & NBU 921-23B4CS  
 LOCATED IN SECTION 23, T9S, R21E,  
 S.L.B.&M., UTAH COUNTY, UTAH



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 Phone 307-674-0609  
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**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 2,126 C.Y.  
 TOTAL FILL FOR WELL PAD = 1,235 C.Y.  
 TOPSOIL @ 6" DEPTH = 2,646 C.Y.  
 EXCESS MATERIAL = 891 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: 9/9/11 SHEET NO:

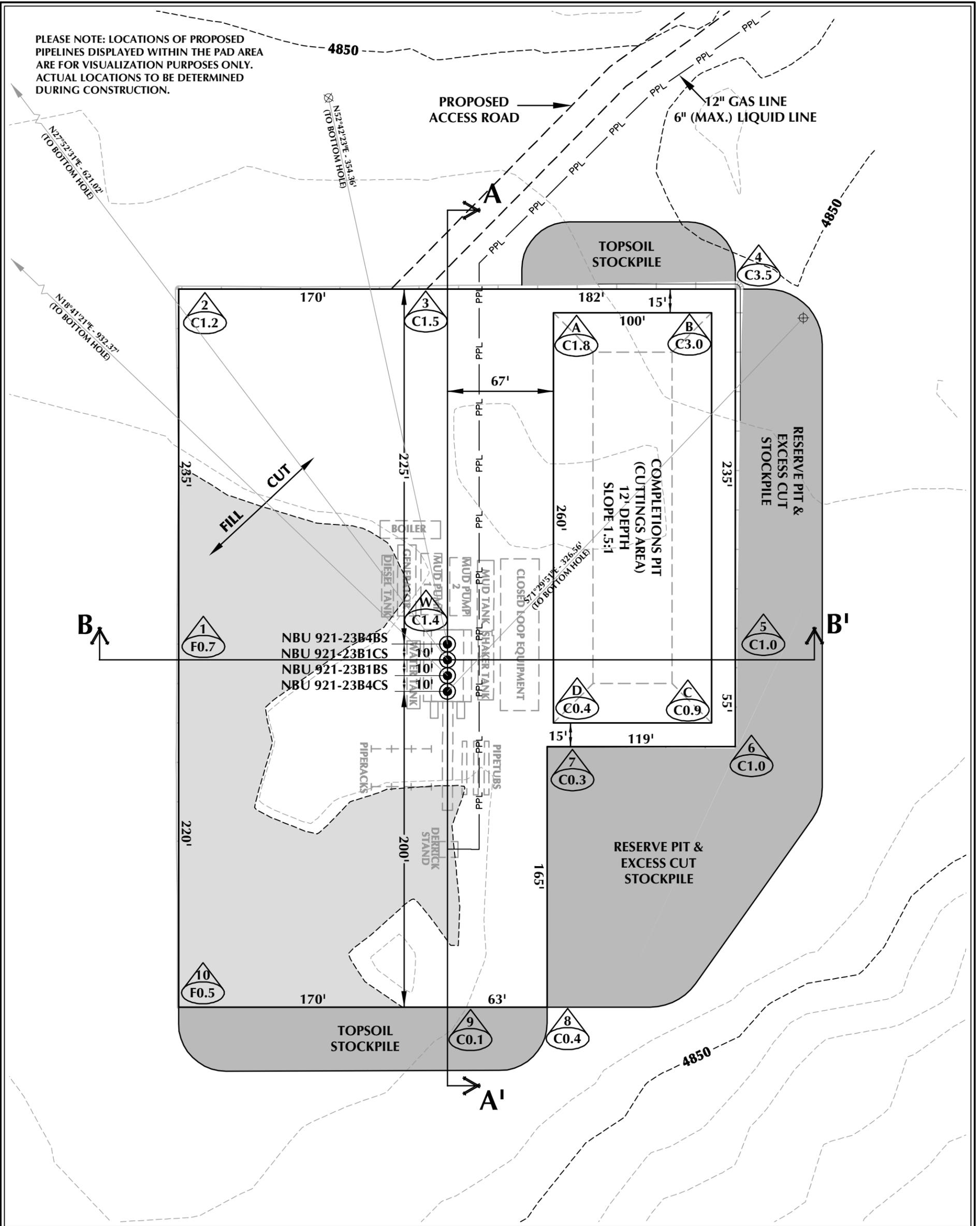
REVISED:

**6**

6 OF 16

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 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 921-23B (CLOSED LOOP) DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 4847.3'  
 FINISHED GRADE ELEVATION = 4845.9'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.28 ACRES  
 TOTAL DISTURBANCE AREA = 4.46 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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WELL PAD - NBU 921-23B

WELL PAD - LOCATION LAYOUT  
 NBU 921-23B4BS, NBU 921-23B1CS,  
 NBU 921-23B1BS & NBU 921-23B4CS  
 LOCATED IN SECTION 23, T9S, R21E,  
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 Fax 307-674-0182

**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 2,126 C.Y.  
 TOTAL FILL FOR WELL PAD = 1,235 C.Y.  
 TOPSOIL @ 6" DEPTH = 2,646 C.Y.  
 EXCESS MATERIAL = 891 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**

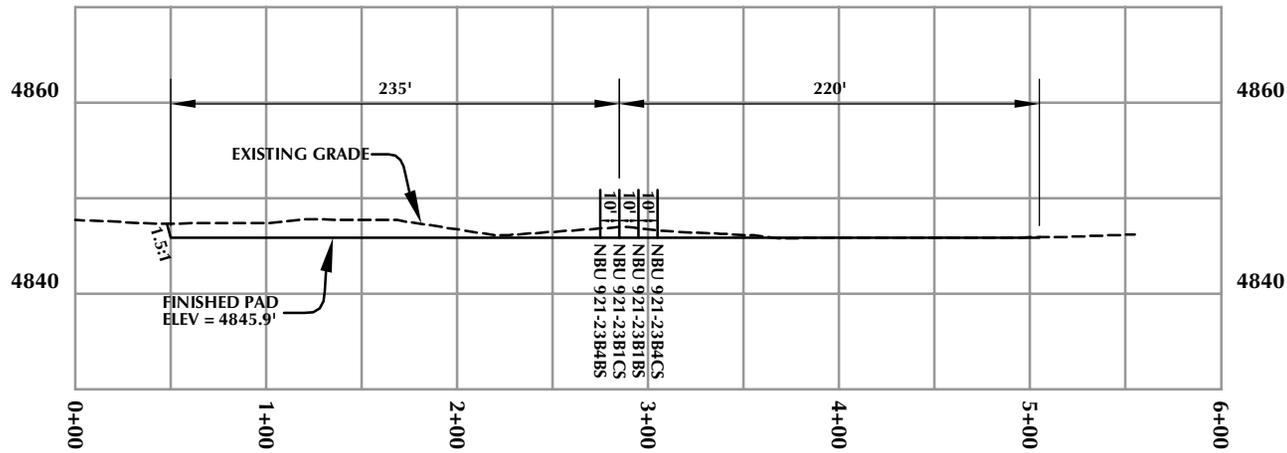
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PROPOSED PIPELINE
- EXISTING PIPELINE



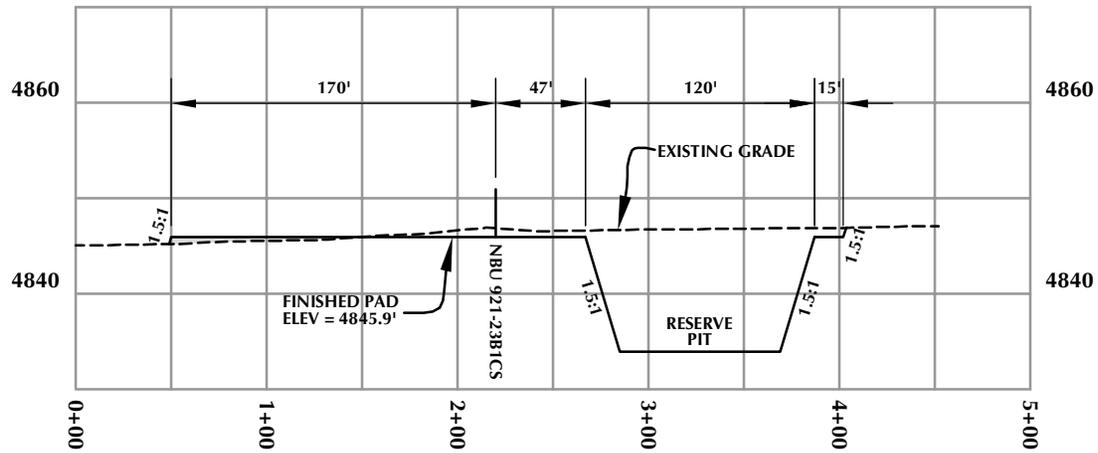
HORIZONTAL 0 30' 60' 1" = 60'  
 2' CONTOURS

SCALE: 1"=60' DATE: 11/23/11 SHEET NO:  
 REVISED: **6B** 6B OF 16

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**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

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**WELL PAD - NBU 921-23B**

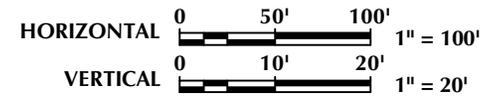
**WELL PAD - CROSS SECTIONS**  
NBU 921-23B4BS, NBU 921-23B1CS,  
NBU 921-23B1BS & NBU 921-23B4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH



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Scale: 1"=100'

Date: 9/9/11

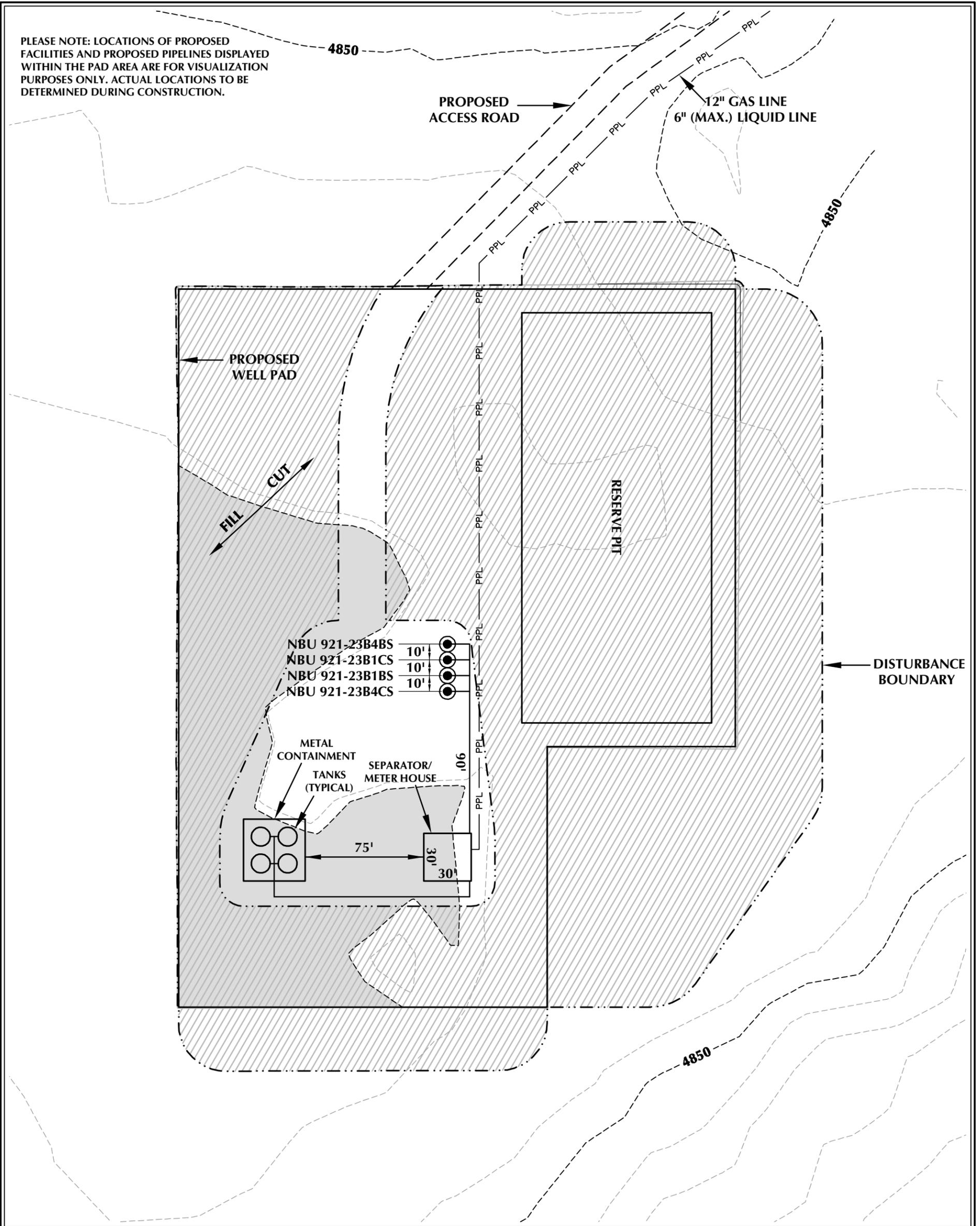
SHEET NO:

REVISED:

**7**

7 OF 16

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



**WELL PAD - NBU 921-23B DESIGN SUMMARY**

TOTAL DISTURBANCE AREA = 4.46 ACRES  
 RECLAMATION AREA = 3.70 ACRES  
 TOTAL WELL PAD AREA AFTER RECLAMATION = 0.76 ACRES

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WELL PAD - NBU 921-23B

WELL PAD - RECLAMATION LAYOUT  
 NBU 921-23B4BS, NBU 921-23B1CS,  
 NBU 921-23B1BS & NBU 921-23B4CS  
 LOCATED IN SECTION 23, T9S, R21E,  
 S.L.B.&M., UTAH COUNTY, UTAH

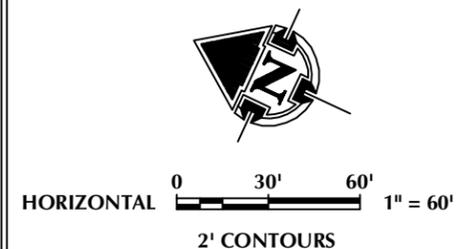


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WELL PAD LEGEND	
	EXISTING WELL LOCATION
	PROPOSED WELL LOCATION
	PROPOSED BOTTOM HOLE LOCATION
	EXISTING CONTOURS (2' INTERVAL)
	PROPOSED CONTOURS (2' INTERVAL)
	PPL PROPOSED PIPELINE
	EPL EXISTING PIPELINE
	RECLAMATION AREA



SCALE: 1"=60'	DATE: 11/29/11	SHEET NO:
REVISED:		<b>8</b> 8 OF 16

K:\ANDRKO\2011\2011\_42\_NBU\_FOCL\S\_921-23\NBU 921-23B.dwg, 11/29/2011 10:27:24 AM, grry

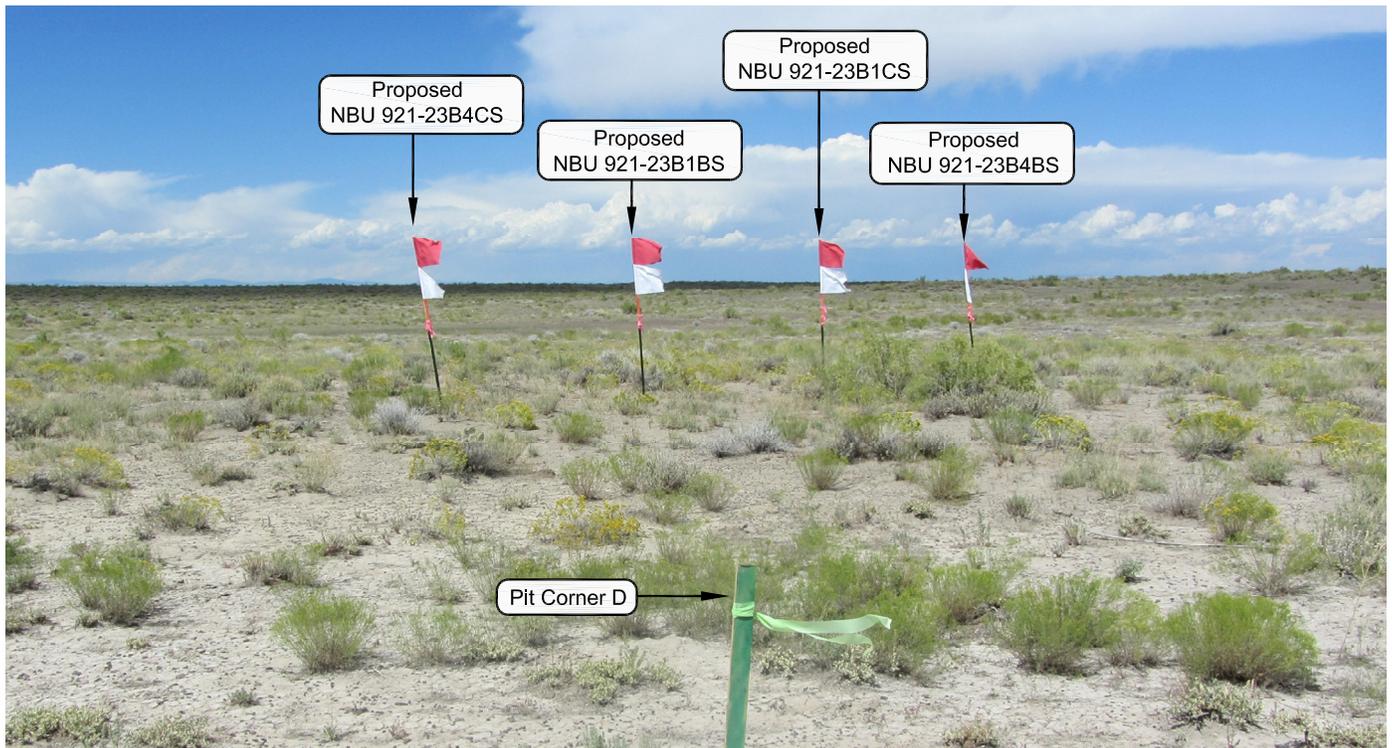


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY

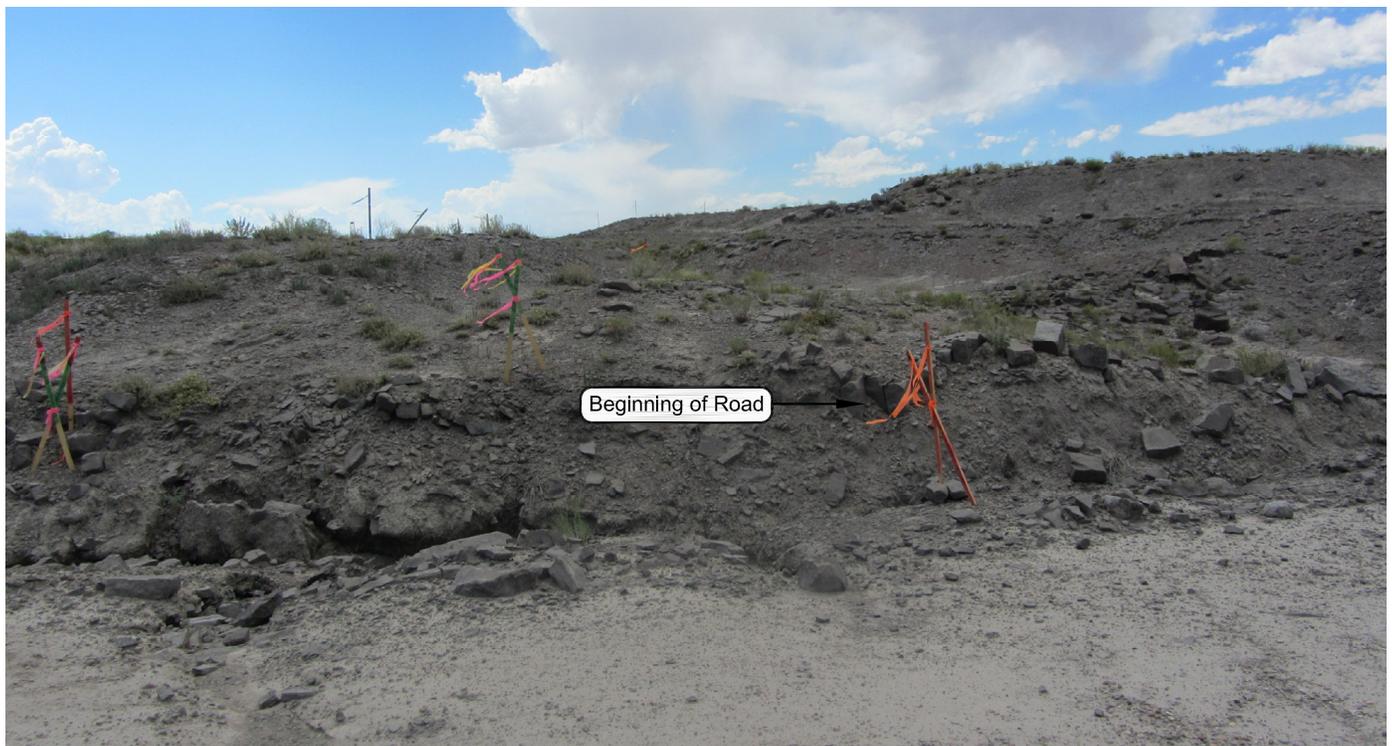


PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: NORTHERLY

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**WELL PAD - NBU 921-23B**

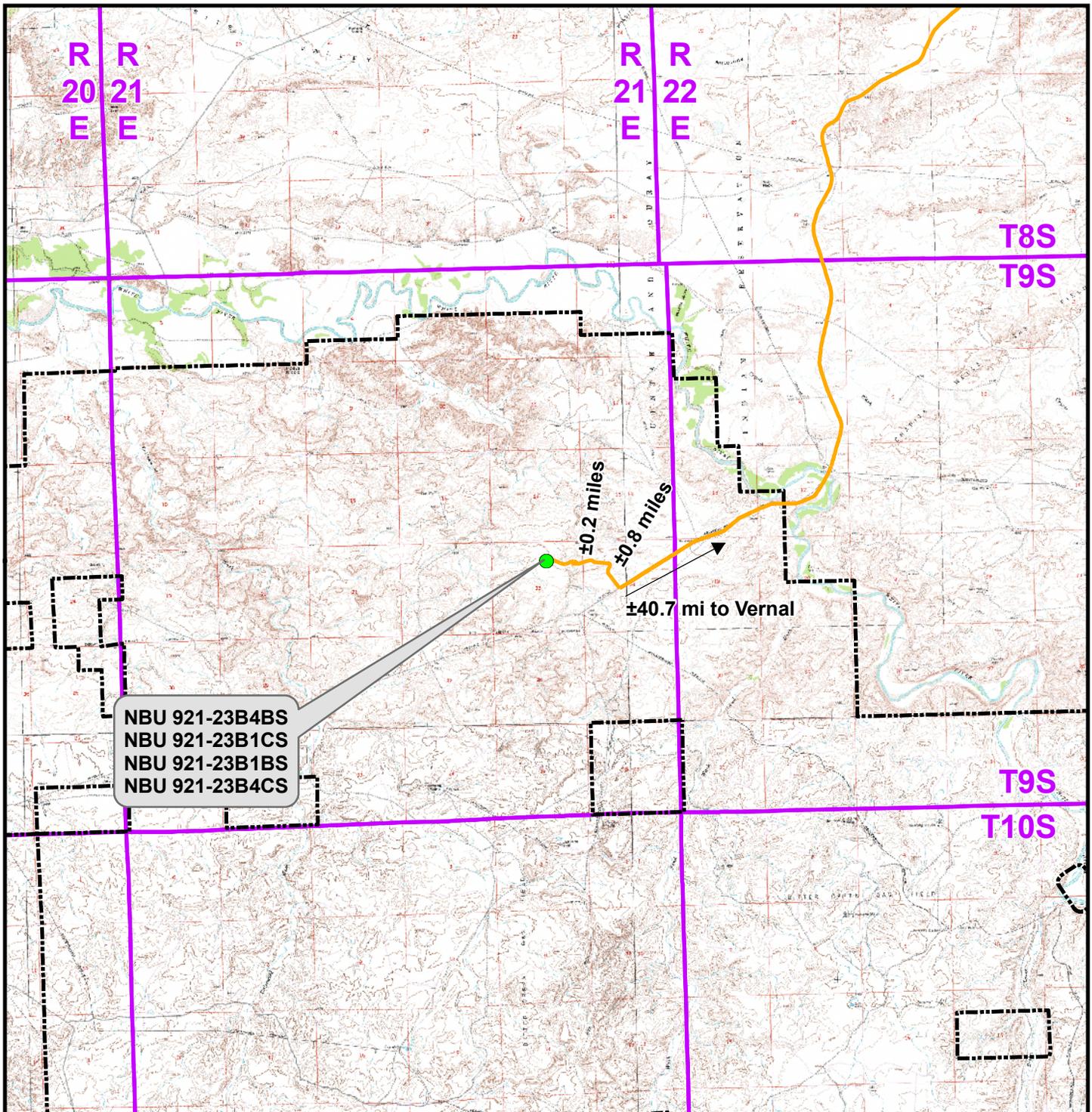
**LOCATION PHOTOS**  
 NBU 921-23B4BS, NBU 921-23B1CS,  
 NBU 921-23B1BS & NBU 921-23B4CS  
 LOCATED IN SECTION 23, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH.



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 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 7-19-11	PHOTOS TAKEN BY: PARTY	SHEET NO: <b>9</b> 9 OF 16
DATE DRAWN: 8-17-11	DRAWN BY: T.J.R.	
Date Last Revised:		



**Legend**

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

Distance From Well Pad - NBU 921-23B To Unit Boundary: ±9,690ft

**WELL PAD - NBU 921-23B**

**TOPO A**  
 NBU 921-23B4BS, NBU 921-23B1CS,  
 NBU 921-23B1BS & NBU 921-23B4CS  
 LOCATED IN SECTION 23, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

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

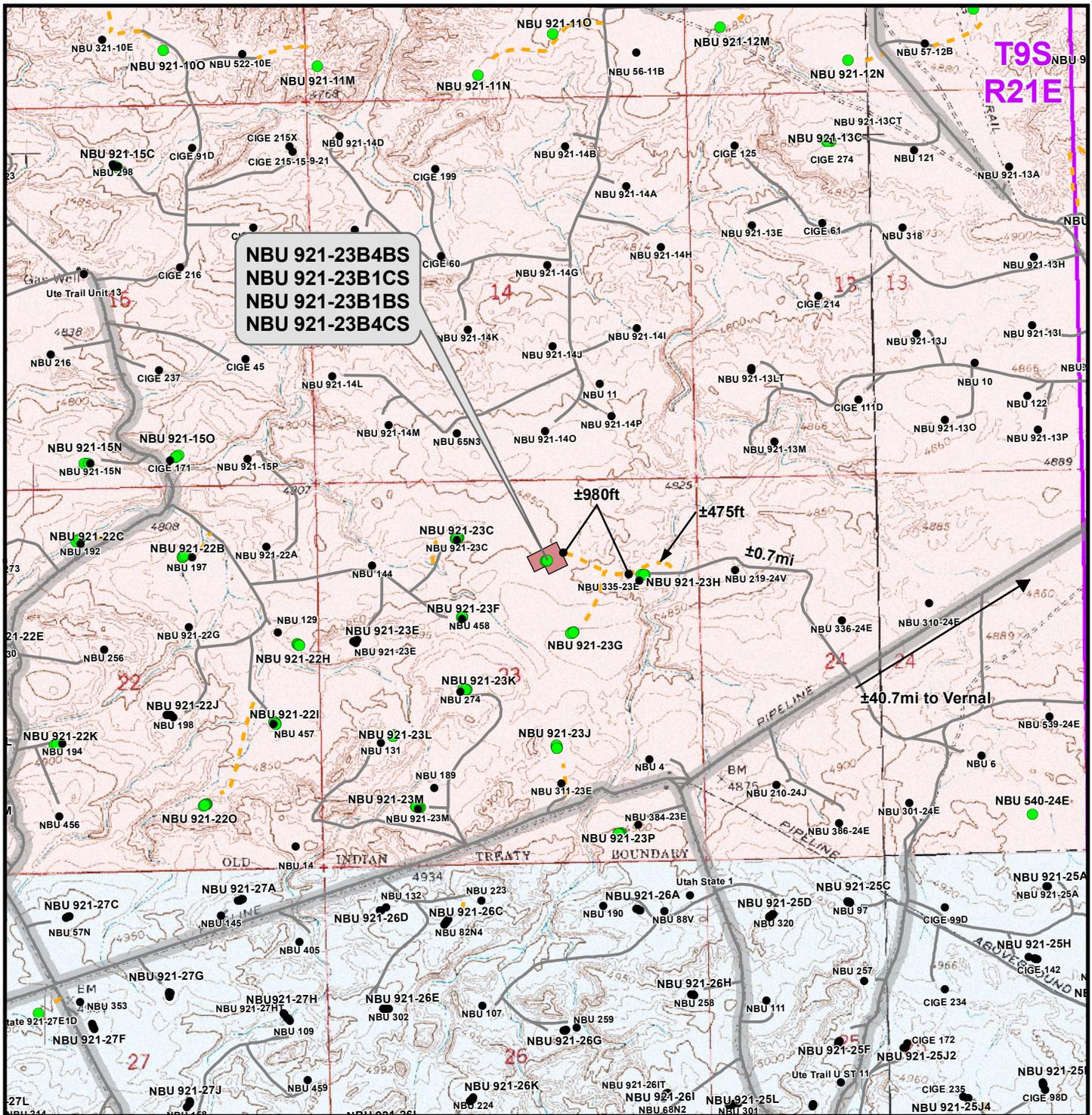
1099 18th Street  
 Denver, Colorado 80202



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 Phone 307-674-0609  
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SCALE: 1:100,000	NAD83 USP Central	SHEET NO:
DRAWN: TL	DATE: 9 Sept 2011	<b>10</b>
REVISED:	DATE:	



**NBU 921-23B4BS  
NBU 921-23B1CS  
NBU 921-23B1BS  
NBU 921-23B4CS**

**T9S  
R21E**

**±980ft**  
**±475ft**  
**±0.7mi**  
**±40.7mi to Vernal**

**Legend**

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

Total Proposed Road Length: ±980ft

**WELL PAD - NBU 921-23B**

**TOPO B**  
NBU 921-23B4BS, NBU 921-23B1CS,  
NBU 921-23B1BS & NBU 921-23B4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH

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

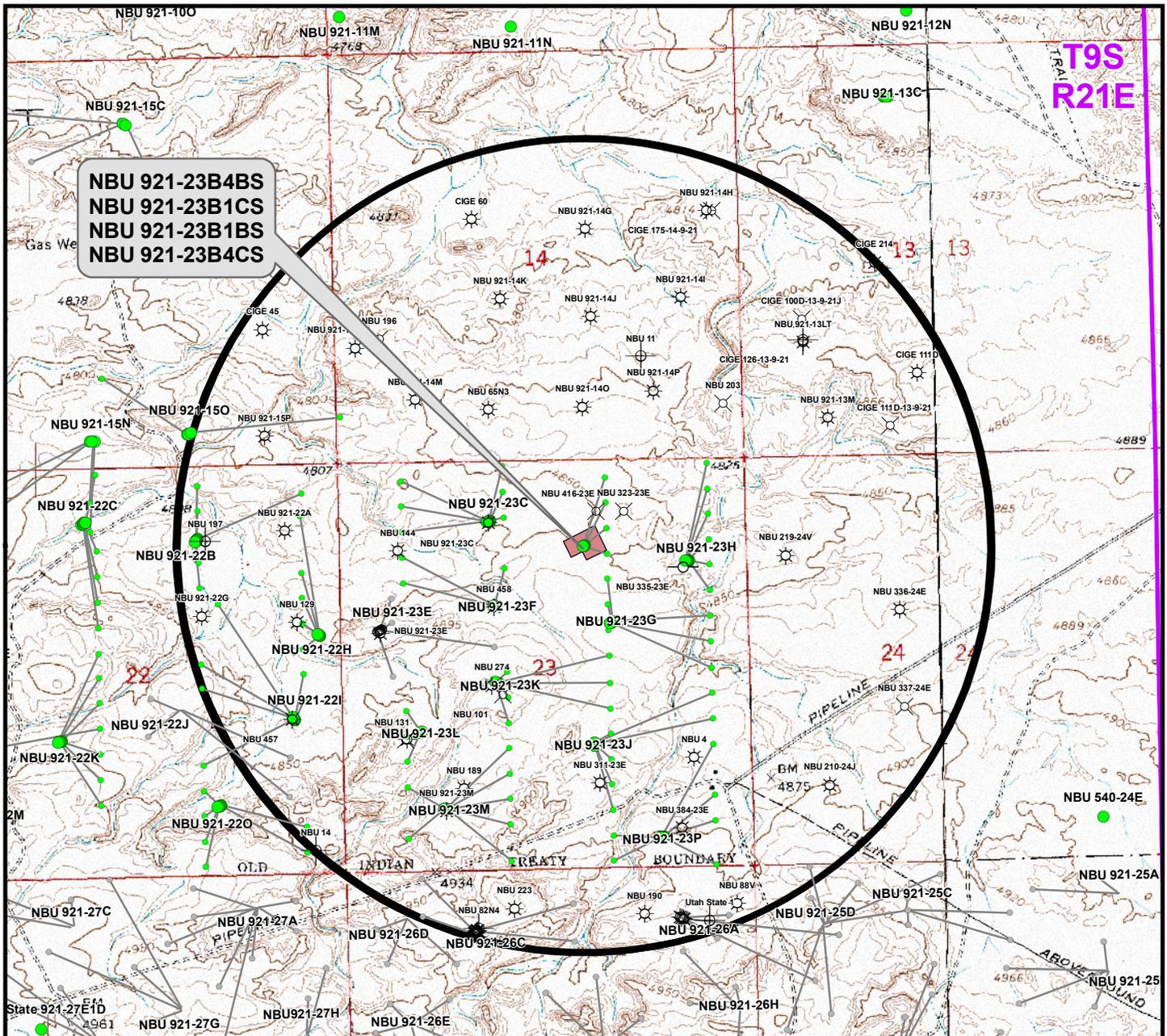
1099 18th Street  
Denver, Colorado 80202



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2155 North Main Street  
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Phone 307-674-0609  
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SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO:
DRAWN: TL	DATE: 9 Sept 2011	<b>11</b>
REVISED:	DATE:	



**NBU 921-23B4BS  
NBU 921-23B1CS  
NBU 921-23B1BS  
NBU 921-23B4CS**

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
NBU 921-23B4BS	NBU 335-23E	1,116ft
NBU 921-23B1CS	NBU 921-140	1,281ft
NBU 921-23B1BS	NBU 921-140	961ft
NBU 921-23B4CS	NBU 335-23E	1,005ft

**Legend**

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

**WELL PAD - NBU 921-23B**

**TOPO C**  
NBU 921-23B4BS, NBU 921-23B1CS,  
NBU 921-23B1BS & NBU 921-23B4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH

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

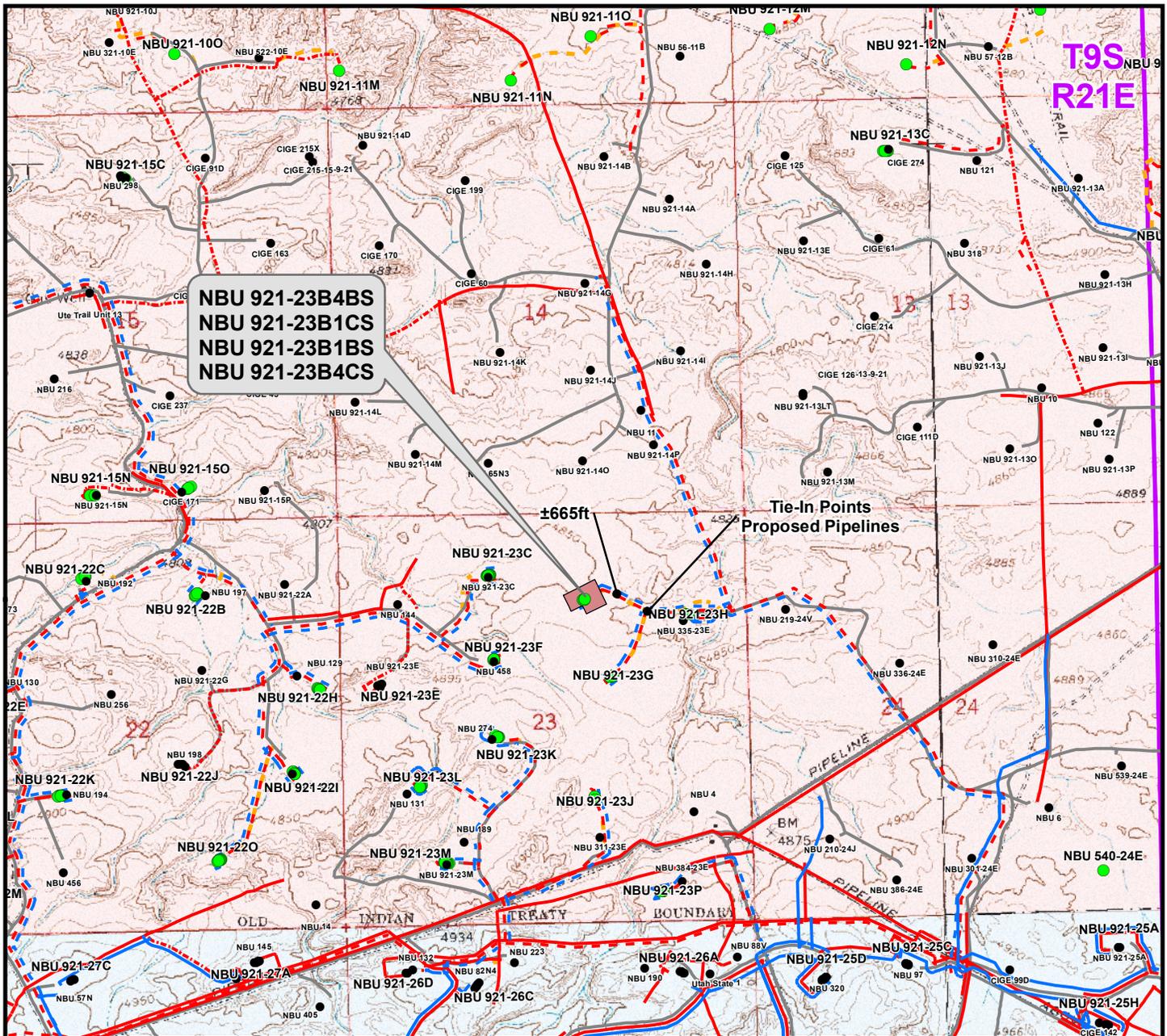
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Denver, Colorado 80202**



**CONSULTING, LLC**

2155 North Main Street  
Sheridan, Wyoming 82801  
Phone 307-674-0609  
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SCALE: 1" = 2,000ft	NAD83 USP Central	<b>12</b> 12 OF 16
DRAWN: TL	DATE: 9 Sept 2011	
REVISED:	DATE:	



Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
Buried 6" (Max.) (Meter House to Edge of Pad)	±360ft	Buried 12" (Meter House to Edge of Pad)	±360ft
Buried 6" (Max.) (Edge of Pad to 23G Intersection)	±665ft	Buried 12" (Edge of Pad to 23G Intersection)	±665ft
<b>TOTAL PROPOSED BURIED LIQUID PIPELINE =</b>	<b>±1,025ft</b>	<b>TOTAL PROPOSED BURIED GAS PIPELINE =</b>	<b>±1,025ft</b>

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

**WELL PAD - NBU 921-23B**

**TOPO D**  
 NBU 921-23B4BS, NBU 921-23B1CS,  
 NBU 921-23B1BS & NBU 921-23B4CS  
 LOCATED IN SECTION 23, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

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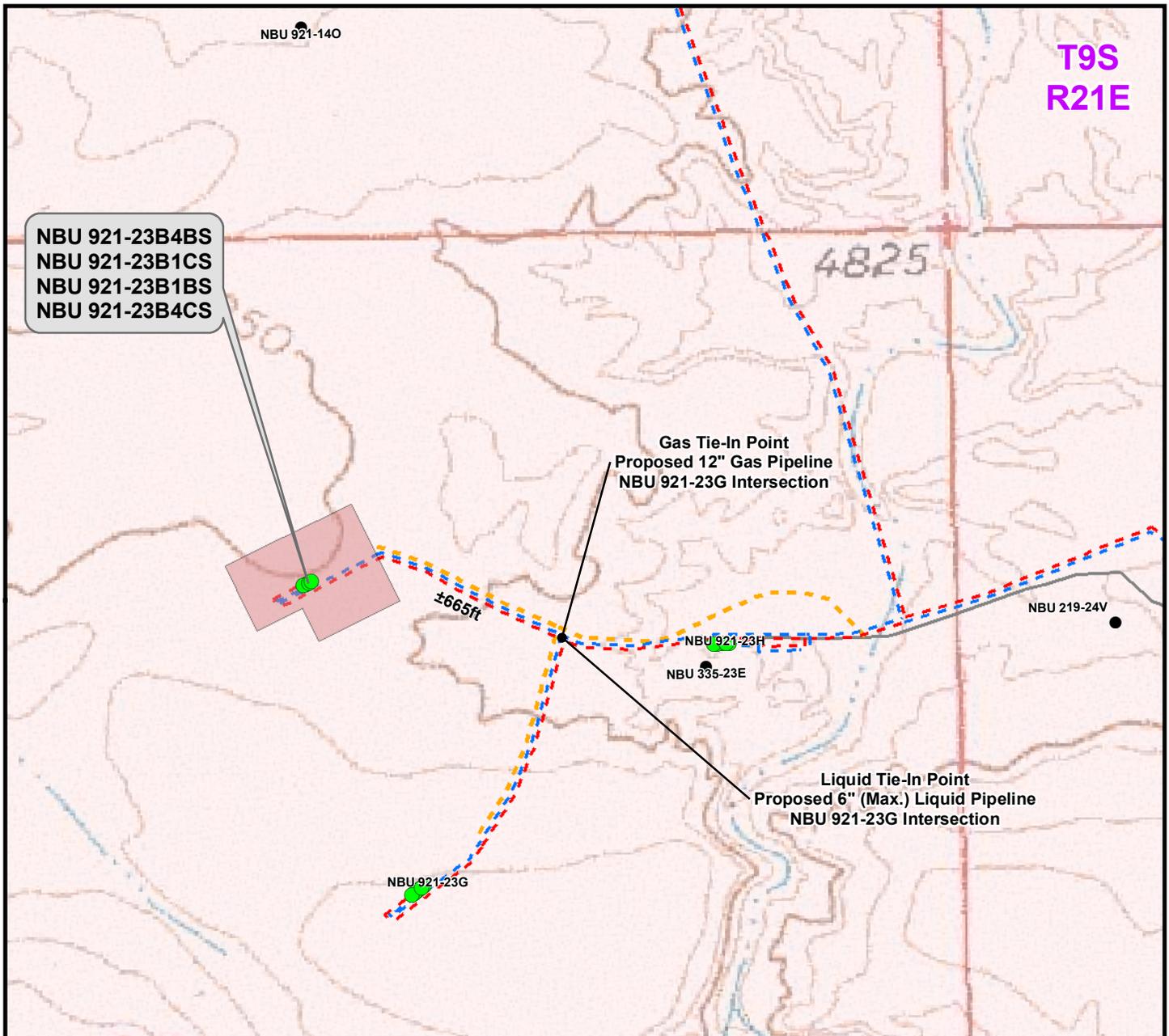
**609 CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan, Wyoming 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

N



SCALE: 1" = 2,000ft	NAD83 USP Central	<b>13</b>
DRAWN: TL	DATE: 9 Sept 2011	
REVISED:	DATE:	

SHEET NO:  
13 OF 16



Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
Buried 6" (Max.) (Meter House to Edge of Pad)	±360ft	Buried 12" (Meter House to Edge of Pad)	±360ft
Buried 6" (Max.) (Edge of Pad to 23G Intersection)	±665ft	Buried 12" (Edge of Pad to 23G Intersection)	±665ft
<b>TOTAL PROPOSED BURIED LIQUID PIPELINE =</b>	<b>±1,025ft</b>	<b>TOTAL PROPOSED BURIED GAS PIPELINE =</b>	<b>±1,025ft</b>

**Legend**

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

**WELL PAD - NBU 921-23B**

TOPO D2 (PAD & PIPELINE DETAIL)  
 NBU 921-23B4BS, NBU 921-23B1CS,  
 NBU 921-23B1BS & NBU 921-23B4CS  
 LOCATED IN SECTION 23, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

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

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 Denver, Colorado 80202

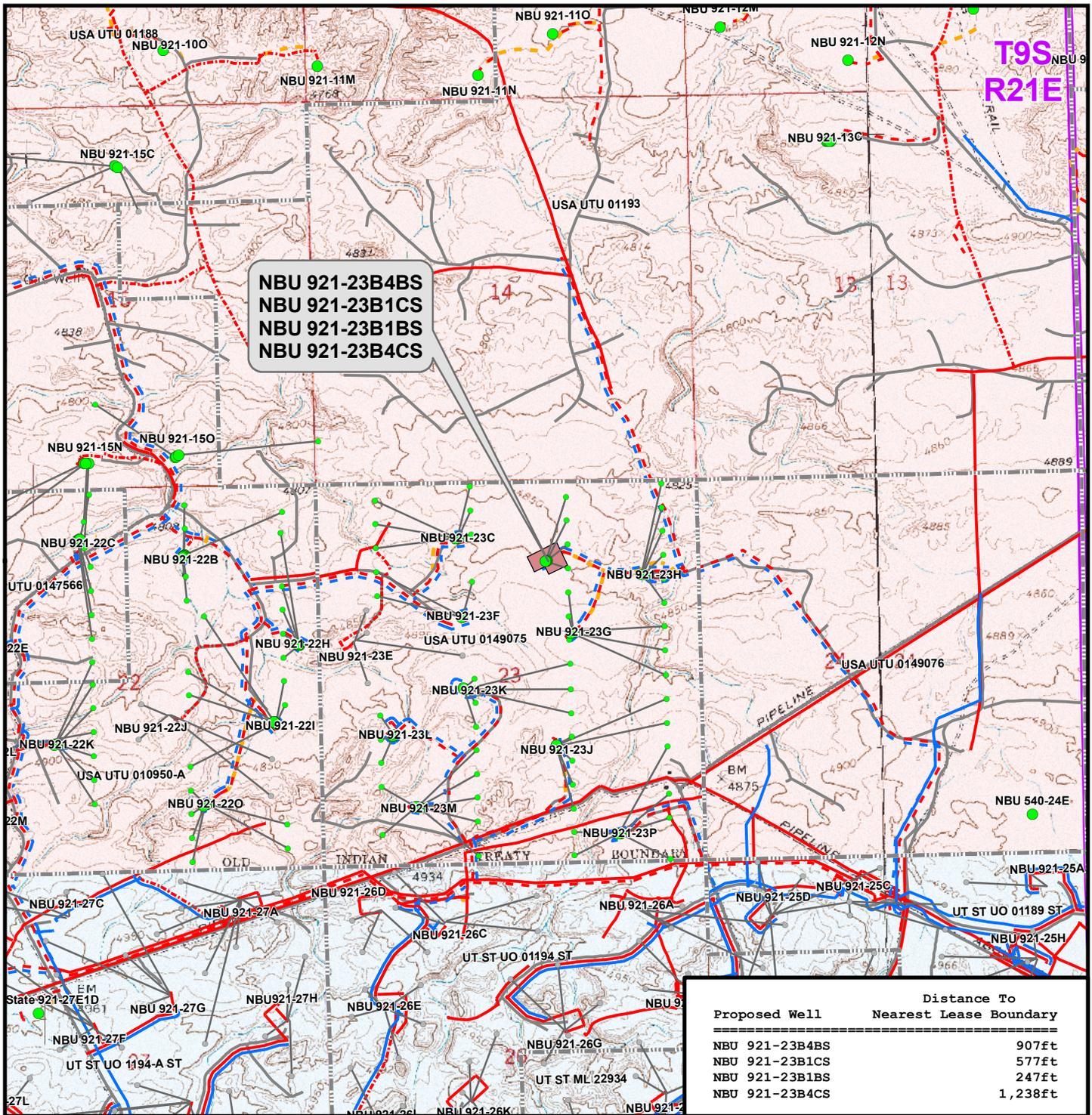


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 Sheridan, Wyoming 82801  
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 Fax 307-674-0182



SCALE: 1" = 500ft	NAD83 USP Central	<b>14</b>
DRAWN: TL	DATE: 9 Sept 2011	
REVISED:	DATE:	

SHEET NO:  
14 OF 16



**NBU 921-23B4BS  
NBU 921-23B1CS  
NBU 921-23B1BS  
NBU 921-23B4CS**

Proposed Well	Distance To Nearest Lease Boundary
NBU 921-23B4BS	907ft
NBU 921-23B1CS	577ft
NBU 921-23B1BS	247ft
NBU 921-23B4CS	1,238ft

**Legend**

- Well - Proposed
- Well Pad
- - - Gas Pipeline - Proposed
- - - Liquid Pipeline - Proposed
- - - Road - Proposed
- Bureau of Land Management
- Bottom Hole - Proposed
- ▭ Lease Boundary
- - - Gas Pipeline - To Be Upgraded
- - - Liquid Pipeline - Existing
- - - Road - Existing
- Indian Reservation
- Bottom Hole - Existing
- - - Gas Pipeline - Existing
- State
- Private
- Well Path

**WELL PAD - NBU 921-23B**

**TOPO E**  
**NBU 921-23B4BS, NBU 921-23B1CS,  
 NBU 921-23B1BS & NBU 921-23B4CS**  
 LOCATED IN SECTION 23, 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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SCALE: 1" = 2,000ft	NAD83 USP Central	<b>15</b>
DRAWN: TL	DATE: 9 Sept 2011	
REVISED:	DATE:	

SHEET NO:  
15 OF 16

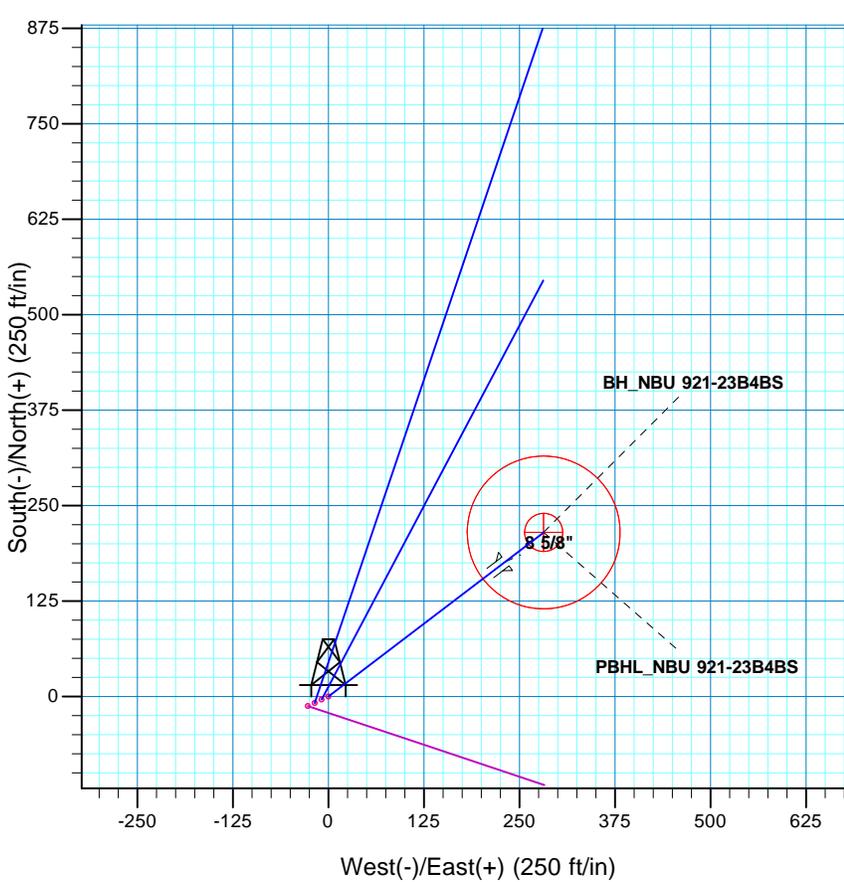
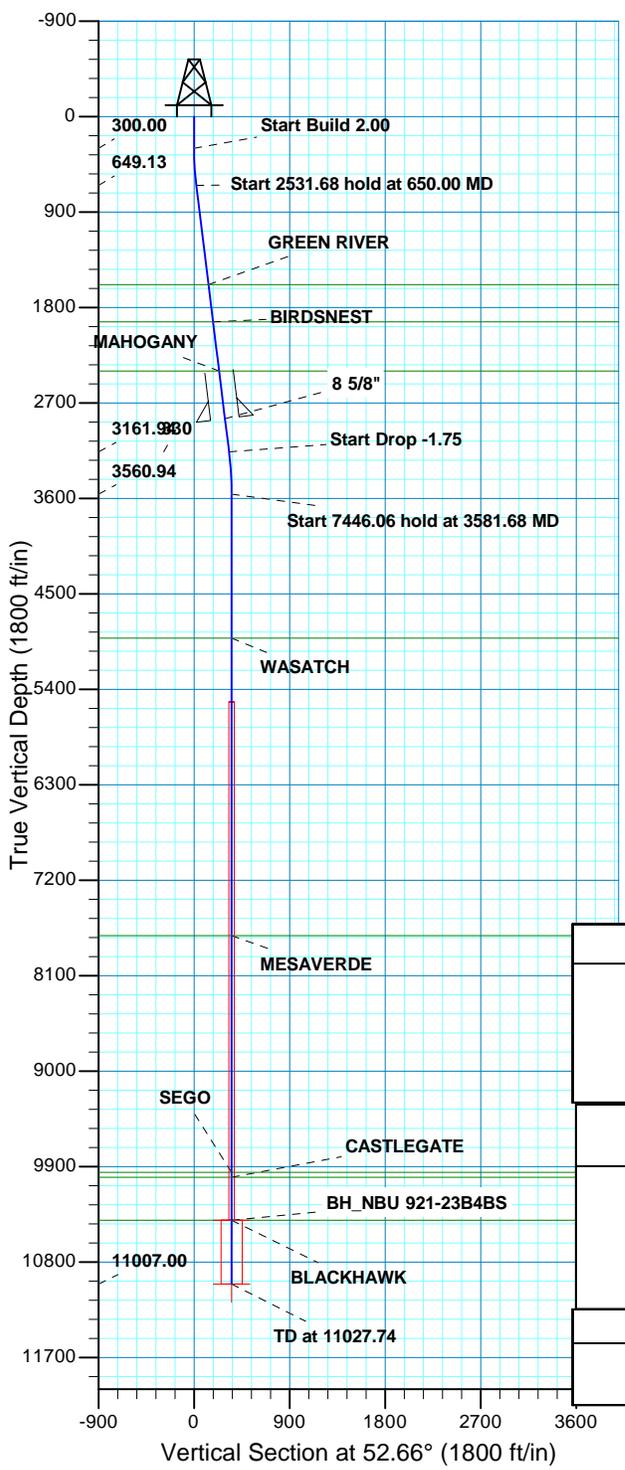
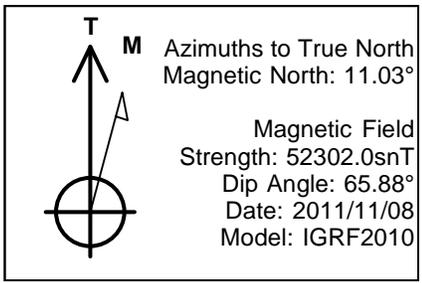
**Kerr-McGee Oil & Gas Onshore, LP  
WELL PAD - NBU 921-23B  
WELLS - NBU 921-23B4BS, NBU 921-23B1CS,  
NBU 921-23B1BS, & NBU 921-23B4CS  
Section 23, T9S, R21E, S.L.B.&M.**

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 17.2 miles to a service road to the northwest. Exit right and proceed in a northwesterly, then southwesterly direction along the service road approximately 0.7 miles to the proposed NBU 921-23H well pad. Continue in a westerly direction through the proposed well pad approximately 475 feet to the proposed access road. Follow road flags in a northwesterly direction approximately 980 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 41.7 miles in a southerly direction.



WELL DETAILS: NBU 921-23B4BS						
GL 4846 & KB 4 @ 4850.00ft (ASSUMED)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	14538882.44	2055776.86	40° 1' 32.725 N	109° 30' 58.864 W	
DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude Longitude Shape
BH	10407.00	214.88	281.69	14539101.99	2056054.93	40° 1' 34.849 N 109° 30' 55.242 W Circle (Radius: 25.00)
- plan hits target center						
PBHL	11007.00	214.88	281.69	14539101.99	2056054.93	40° 1' 34.849 N 109° 30' 55.242 W 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	
650.00	7.00	52.66	649.13	12.95	16.98	2.00	52.66	21.35	
3181.68	7.00	52.66	3161.94	200.08	262.28	0.00	0.00	329.89	
3581.68	0.00	0.00	3560.94	214.88	281.69	1.75	180.00	354.29	
11027.74	0.00	0.00	11007.00	214.88	281.69	0.00	0.00	354.29	PBHL_NBU 921-23B4BS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N		
Geodetic System: Universal Transverse Mercator (US Survey Feet)		
Datum: NAD 1927 (NADCON CONUS)		
Ellipsoid: Clarke 1866		
Zone: Zone 12N (114 W to 108 W)		
Location: SECTION 23 T9S R21E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1584.00	1591.89	GREEN RIVER
1935.00	1945.53	BIRDSNEST
2400.00	2414.02	MAHOGANY
4919.00	4939.74	WASATCH
7722.00	7742.74	MESAVERDE
9954.00	9974.74	SEGO
10002.00	10022.74	CASTLEGATE
10407.00	10427.74	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2850.00	2867.40	8 5/8"	8.625

Vertical Section at 52.66° (1800 ft/in)

RECEIVED



# **US ROCKIES REGION PLANNING**

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

**NBU 921-23B PAD**

**NBU 921-23B4BS**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**29 December, 2011**





**SDI**  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4846 & KB 4 @ 4850.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4846 & KB 4 @ 4850.00ft (ASSUMED)
<b>Site:</b>	NBU 921-23B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-23B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

<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 921-23B PAD, SECTION 23 T9S R21E				
<b>Site Position:</b>	<b>Northing:</b>	14,538,869.62 usft	<b>Latitude:</b>	40° 1' 32.603 N	
<b>From:</b> Lat/Long	<b>Easting:</b>	2,055,750.19 usft	<b>Longitude:</b>	109° 30' 59.209 W	
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.95 °

<b>Well</b>	NBU 921-23B4BS, 1124 FNL 2098 FEL					
<b>Well Position</b>	<b>+N/-S</b>	12.38 ft	<b>Northing:</b>	14,538,882.45 usft	<b>Latitude:</b>	40° 1' 32.725 N
	<b>+E/-W</b>	26.88 ft	<b>Easting:</b>	2,055,776.86 usft	<b>Longitude:</b>	109° 30' 58.864 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,846.00 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	2011/11/08	11.03	65.88	52,302

<b>Design</b>	PLAN #1 PRELIMINARY			
<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	52.66

<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	
650.00	7.00	52.66	649.13	12.95	16.98	2.00	2.00	0.00	52.66	
3,181.68	7.00	52.66	3,161.94	200.08	262.28	0.00	0.00	0.00	0.00	
3,581.68	0.00	0.00	3,560.94	214.88	281.69	1.75	-1.75	0.00	180.00	
11,027.74	0.00	0.00	11,007.00	214.88	281.69	0.00	0.00	0.00	0.00	PBHL_NBU 921-23B4



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4846 & KB 4 @ 4850.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4846 & KB 4 @ 4850.00ft (ASSUMED)
<b>Site:</b>	NBU 921-23B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-23B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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	
100.00	0.00	0.00	100.00	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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Start Build 2.00</b>										
400.00	2.00	52.66	399.98	1.06	1.39	1.75	2.00	2.00	0.00	
500.00	4.00	52.66	499.84	4.23	5.55	6.98	2.00	2.00	0.00	
600.00	6.00	52.66	599.45	9.52	12.48	15.69	2.00	2.00	0.00	
650.00	7.00	52.66	649.13	12.95	16.98	21.35	2.00	2.00	0.00	
<b>Start 2531.68 hold at 650.00 MD</b>										
700.00	7.00	52.66	698.76	16.65	21.82	27.45	0.00	0.00	0.00	
800.00	7.00	52.66	798.01	24.04	31.51	39.63	0.00	0.00	0.00	
900.00	7.00	52.66	897.27	31.43	41.20	51.82	0.00	0.00	0.00	
1,000.00	7.00	52.66	996.52	38.82	50.89	64.01	0.00	0.00	0.00	
1,100.00	7.00	52.66	1,095.78	46.21	60.58	76.19	0.00	0.00	0.00	
1,200.00	7.00	52.66	1,195.03	53.61	70.27	88.38	0.00	0.00	0.00	
1,300.00	7.00	52.66	1,294.28	61.00	79.96	100.57	0.00	0.00	0.00	
1,400.00	7.00	52.66	1,393.54	68.39	89.65	112.76	0.00	0.00	0.00	
1,500.00	7.00	52.66	1,492.79	75.78	99.34	124.94	0.00	0.00	0.00	
1,591.89	7.00	52.66	1,584.00	82.57	108.24	136.14	0.00	0.00	0.00	
<b>GREEN RIVER</b>										
1,600.00	7.00	52.66	1,592.05	83.17	109.03	137.13	0.00	0.00	0.00	
1,700.00	7.00	52.66	1,691.30	90.56	118.72	149.32	0.00	0.00	0.00	
1,800.00	7.00	52.66	1,790.56	97.95	128.41	161.50	0.00	0.00	0.00	
1,900.00	7.00	52.66	1,889.81	105.35	138.10	173.69	0.00	0.00	0.00	
1,945.53	7.00	52.66	1,935.00	108.71	142.51	179.24	0.00	0.00	0.00	
<b>BIRDSNEST</b>										
2,000.00	7.00	52.66	1,989.07	112.74	147.79	185.88	0.00	0.00	0.00	
2,100.00	7.00	52.66	2,088.32	120.13	157.47	198.06	0.00	0.00	0.00	
2,200.00	7.00	52.66	2,187.58	127.52	167.16	210.25	0.00	0.00	0.00	
2,300.00	7.00	52.66	2,286.83	134.91	176.85	222.44	0.00	0.00	0.00	
2,400.00	7.00	52.66	2,386.09	142.30	186.54	234.63	0.00	0.00	0.00	
2,414.02	7.00	52.66	2,400.00	143.34	187.90	236.33	0.00	0.00	0.00	
<b>MAHOGANY</b>										
2,500.00	7.00	52.66	2,485.34	149.70	196.23	246.81	0.00	0.00	0.00	
2,600.00	7.00	52.66	2,584.60	157.09	205.92	259.00	0.00	0.00	0.00	
2,700.00	7.00	52.66	2,683.85	164.48	215.61	271.19	0.00	0.00	0.00	
2,800.00	7.00	52.66	2,783.10	171.87	225.30	283.37	0.00	0.00	0.00	
2,867.40	7.00	52.66	2,850.00	176.85	231.83	291.59	0.00	0.00	0.00	
<b>8 5/8"</b>										
2,900.00	7.00	52.66	2,882.36	179.26	234.99	295.56	0.00	0.00	0.00	
3,000.00	7.00	52.66	2,981.61	186.65	244.68	307.75	0.00	0.00	0.00	
3,100.00	7.00	52.66	3,080.87	194.05	254.37	319.93	0.00	0.00	0.00	
3,181.68	7.00	52.66	3,161.94	200.08	262.28	329.89	0.00	0.00	0.00	
<b>Start Drop -1.75</b>										
3,200.00	6.68	52.66	3,180.13	201.41	264.02	332.07	1.75	-1.75	0.00	
3,300.00	4.93	52.66	3,279.61	207.54	272.06	342.18	1.75	-1.75	0.00	
3,400.00	3.18	52.66	3,379.36	211.83	277.68	349.25	1.75	-1.75	0.00	
3,500.00	1.43	52.66	3,479.27	214.27	280.88	353.27	1.75	-1.75	0.00	
3,581.68	0.00	0.00	3,560.94	214.88	281.69	354.29	1.75	-1.75	0.00	
<b>Start 7446.06 hold at 3581.68 MD</b>										
3,600.00	0.00	0.00	3,579.26	214.88	281.69	354.29	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,679.26	214.88	281.69	354.29	0.00	0.00	0.00	



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4846 & KB 4 @ 4850.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4846 & KB 4 @ 4850.00ft (ASSUMED)
<b>Site:</b>	NBU 921-23B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-23B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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)
3,800.00	0.00	0.00	3,779.26	214.88	281.69	354.29	0.00	0.00	0.00
3,900.00	0.00	0.00	3,879.26	214.88	281.69	354.29	0.00	0.00	0.00
4,000.00	0.00	0.00	3,979.26	214.88	281.69	354.29	0.00	0.00	0.00
4,100.00	0.00	0.00	4,079.26	214.88	281.69	354.29	0.00	0.00	0.00
4,200.00	0.00	0.00	4,179.26	214.88	281.69	354.29	0.00	0.00	0.00
4,300.00	0.00	0.00	4,279.26	214.88	281.69	354.29	0.00	0.00	0.00
4,400.00	0.00	0.00	4,379.26	214.88	281.69	354.29	0.00	0.00	0.00
4,500.00	0.00	0.00	4,479.26	214.88	281.69	354.29	0.00	0.00	0.00
4,600.00	0.00	0.00	4,579.26	214.88	281.69	354.29	0.00	0.00	0.00
4,700.00	0.00	0.00	4,679.26	214.88	281.69	354.29	0.00	0.00	0.00
4,800.00	0.00	0.00	4,779.26	214.88	281.69	354.29	0.00	0.00	0.00
4,900.00	0.00	0.00	4,879.26	214.88	281.69	354.29	0.00	0.00	0.00
4,939.74	0.00	0.00	4,919.00	214.88	281.69	354.29	0.00	0.00	0.00
<b>WASATCH</b>									
5,000.00	0.00	0.00	4,979.26	214.88	281.69	354.29	0.00	0.00	0.00
5,100.00	0.00	0.00	5,079.26	214.88	281.69	354.29	0.00	0.00	0.00
5,200.00	0.00	0.00	5,179.26	214.88	281.69	354.29	0.00	0.00	0.00
5,300.00	0.00	0.00	5,279.26	214.88	281.69	354.29	0.00	0.00	0.00
5,400.00	0.00	0.00	5,379.26	214.88	281.69	354.29	0.00	0.00	0.00
5,500.00	0.00	0.00	5,479.26	214.88	281.69	354.29	0.00	0.00	0.00
5,600.00	0.00	0.00	5,579.26	214.88	281.69	354.29	0.00	0.00	0.00
5,700.00	0.00	0.00	5,679.27	214.88	281.69	354.29	0.00	0.00	0.00
5,800.00	0.00	0.00	5,779.27	214.88	281.69	354.29	0.00	0.00	0.00
5,900.00	0.00	0.00	5,879.27	214.88	281.69	354.29	0.00	0.00	0.00
6,000.00	0.00	0.00	5,979.27	214.88	281.69	354.29	0.00	0.00	0.00
6,100.00	0.00	0.00	6,079.27	214.88	281.69	354.29	0.00	0.00	0.00
6,200.00	0.00	0.00	6,179.27	214.88	281.69	354.29	0.00	0.00	0.00
6,300.00	0.00	0.00	6,279.27	214.88	281.69	354.29	0.00	0.00	0.00
6,400.00	0.00	0.00	6,379.27	214.88	281.69	354.29	0.00	0.00	0.00
6,500.00	0.00	0.00	6,479.27	214.88	281.69	354.29	0.00	0.00	0.00
6,600.00	0.00	0.00	6,579.27	214.88	281.69	354.29	0.00	0.00	0.00
6,700.00	0.00	0.00	6,679.27	214.88	281.69	354.29	0.00	0.00	0.00
6,800.00	0.00	0.00	6,779.27	214.88	281.69	354.29	0.00	0.00	0.00
6,900.00	0.00	0.00	6,879.27	214.88	281.69	354.29	0.00	0.00	0.00
7,000.00	0.00	0.00	6,979.27	214.88	281.69	354.29	0.00	0.00	0.00
7,100.00	0.00	0.00	7,079.27	214.88	281.69	354.29	0.00	0.00	0.00
7,200.00	0.00	0.00	7,179.27	214.88	281.69	354.29	0.00	0.00	0.00
7,300.00	0.00	0.00	7,279.27	214.88	281.69	354.29	0.00	0.00	0.00
7,400.00	0.00	0.00	7,379.27	214.88	281.69	354.29	0.00	0.00	0.00
7,500.00	0.00	0.00	7,479.27	214.88	281.69	354.29	0.00	0.00	0.00
7,600.00	0.00	0.00	7,579.27	214.88	281.69	354.29	0.00	0.00	0.00
7,700.00	0.00	0.00	7,679.27	214.88	281.69	354.29	0.00	0.00	0.00
7,742.74	0.00	0.00	7,722.00	214.88	281.69	354.29	0.00	0.00	0.00
<b>MESAVERDE</b>									
7,800.00	0.00	0.00	7,779.27	214.88	281.69	354.29	0.00	0.00	0.00
7,900.00	0.00	0.00	7,879.27	214.88	281.69	354.29	0.00	0.00	0.00
8,000.00	0.00	0.00	7,979.27	214.88	281.69	354.29	0.00	0.00	0.00
8,100.00	0.00	0.00	8,079.27	214.88	281.69	354.29	0.00	0.00	0.00
8,200.00	0.00	0.00	8,179.27	214.88	281.69	354.29	0.00	0.00	0.00
8,300.00	0.00	0.00	8,279.27	214.88	281.69	354.29	0.00	0.00	0.00
8,400.00	0.00	0.00	8,379.27	214.88	281.69	354.29	0.00	0.00	0.00
8,500.00	0.00	0.00	8,479.27	214.88	281.69	354.29	0.00	0.00	0.00
8,600.00	0.00	0.00	8,579.27	214.88	281.69	354.29	0.00	0.00	0.00
8,700.00	0.00	0.00	8,679.27	214.88	281.69	354.29	0.00	0.00	0.00



**SDI**  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4846 & KB 4 @ 4850.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4846 & KB 4 @ 4850.00ft (ASSUMED)
<b>Site:</b>	NBU 921-23B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-23B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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)
8,800.00	0.00	0.00	8,779.27	214.88	281.69	354.29	0.00	0.00	0.00
8,900.00	0.00	0.00	8,879.27	214.88	281.69	354.29	0.00	0.00	0.00
9,000.00	0.00	0.00	8,979.27	214.88	281.69	354.29	0.00	0.00	0.00
9,100.00	0.00	0.00	9,079.27	214.88	281.69	354.29	0.00	0.00	0.00
9,200.00	0.00	0.00	9,179.27	214.88	281.69	354.29	0.00	0.00	0.00
9,300.00	0.00	0.00	9,279.27	214.88	281.69	354.29	0.00	0.00	0.00
9,400.00	0.00	0.00	9,379.27	214.88	281.69	354.29	0.00	0.00	0.00
9,500.00	0.00	0.00	9,479.27	214.88	281.69	354.29	0.00	0.00	0.00
9,600.00	0.00	0.00	9,579.27	214.88	281.69	354.29	0.00	0.00	0.00
9,700.00	0.00	0.00	9,679.27	214.88	281.69	354.29	0.00	0.00	0.00
9,800.00	0.00	0.00	9,779.27	214.88	281.69	354.29	0.00	0.00	0.00
9,900.00	0.00	0.00	9,879.27	214.88	281.69	354.29	0.00	0.00	0.00
9,974.74	0.00	0.00	9,954.00	214.88	281.69	354.29	0.00	0.00	0.00
<b>SEGO</b>									
10,000.00	0.00	0.00	9,979.27	214.88	281.69	354.29	0.00	0.00	0.00
10,022.74	0.00	0.00	10,002.00	214.88	281.69	354.29	0.00	0.00	0.00
<b>CASTLEGATE</b>									
10,100.00	0.00	0.00	10,079.27	214.88	281.69	354.29	0.00	0.00	0.00
10,200.00	0.00	0.00	10,179.27	214.88	281.69	354.29	0.00	0.00	0.00
10,300.00	0.00	0.00	10,279.27	214.88	281.69	354.29	0.00	0.00	0.00
10,400.00	0.00	0.00	10,379.27	214.88	281.69	354.29	0.00	0.00	0.00
10,427.74	0.00	0.00	10,407.00	214.88	281.69	354.29	0.00	0.00	0.00
<b>BLACKHAWK - BH_NBU 921-23B4BS</b>									
10,500.00	0.00	0.00	10,479.27	214.88	281.69	354.29	0.00	0.00	0.00
10,600.00	0.00	0.00	10,579.27	214.88	281.69	354.29	0.00	0.00	0.00
10,700.00	0.00	0.00	10,679.27	214.88	281.69	354.29	0.00	0.00	0.00
10,800.00	0.00	0.00	10,779.27	214.88	281.69	354.29	0.00	0.00	0.00
10,900.00	0.00	0.00	10,879.27	214.88	281.69	354.29	0.00	0.00	0.00
11,000.00	0.00	0.00	10,979.27	214.88	281.69	354.29	0.00	0.00	0.00
11,027.74	0.00	0.00	11,007.00	214.88	281.69	354.29	0.00	0.00	0.00
<b>TD at 11027.74 - PBHL_NBU 921-23B4BS</b>									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BH_NBU 921-23B4BS - hit/miss target - Shape - plan hits target center - Circle (radius 25.00)	0.00	0.00	10,407.00	214.88	281.69	14,539,101.99	2,056,054.92	40° 1' 34.849 N	109° 30' 55.242 W
PBHL_NBU 921-23B4BS - plan hits target center - Circle (radius 100.00)	0.00	0.00	11,007.00	214.88	281.69	14,539,101.99	2,056,054.92	40° 1' 34.849 N	109° 30' 55.242 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,867.40	2,850.00	8 5/8"	8.625	11.000	



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<b>Well:</b>	NBU 921-23B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,591.89	1,584.00	GREEN RIVER				
1,945.53	1,935.00	BIRDSNEST				
2,414.02	2,400.00	MAHOGANY				
4,939.74	4,919.00	WASATCH				
7,742.74	7,722.00	MESAVERDE				
9,974.74	9,954.00	SEGO				
10,022.74	10,002.00	CASTLEGATE				
10,427.74	10,407.00	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	
650.00	649.13	12.95	16.98	Start 2531.68 hold at 650.00 MD	
3,181.68	3,161.94	200.08	262.28	Start Drop -1.75	
3,581.68	3,560.94	214.88	281.69	Start 7446.06 hold at 3581.68 MD	
11,027.74	11,007.00	214.88	281.69	TD at 11027.74	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-23B Pad**

<b><u>API #</u></b>	<b><u>NBU 921-23B1BS</u></b>			
	Surface:	1133 FNL / 2116 FEL	NWNE	Lot
	BHL:	247 FNL / 1816 FEL	NWNE	Lot
<b><u>API #</u></b>	<b><u>NBU 921-23B1CS</u></b>			
	Surface:	1128 FNL / 2107 FEL	NWNE	Lot
	BHL:	577 FNL / 1816 FEL	NWNE	Lot
<b><u>API #</u></b>	<b><u>NBU 921-23B4BS</u></b>			
	Surface:	1124 FNL / 2098 FEL	NWNE	Lot
	BHL:	907 FNL / 1816 FEL	NWNE	Lot
<b><u>API #</u></b>	<b><u>NBU 921-23B4CS</u></b>			
	Surface:	1137 FNL / 2125 FEL	NWNE	Lot
	BHL:	1238 FNL / 1816 FEL	NWNE	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 October 3-4, 2011. Present were:

- Dave Gordon, Melissa Wardle - BLM;
- Bucky Secakuku (10/4/2011 only) - BIA;
- LeAllen Blackhair, Rainey Longhair - Ute Indian Tribe;
- Kelly Jo Jackson - Montgomery Archeological Consultants Inc.;
- Scott Carson - Smiling Lake Consulting;
- John Slaugh, Mitch Batty - Timberline Engineering & Land Surveying, Inc.;
- Laura Abrams, Charles Chase, Raleen White, Doyle Holmes, Lovel Young, Sheila Wopsock - Kerr-McGee

**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 BLM. BMPs. Described in the BLM's Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition (Gold Book) (USDI and USDA, 2007) and/or BLM Manual Section 9113 (1985) will be considered in consultation with the BLM in the design, construction, improvement and maintenance of all new or reconstructed roads. If a new road would cross a water of the United States, Kerr-McGee will adhere to the requirements of applicable Nationwide Permits of the Department of Army Corps of Engineers.

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.**

±980' (0.18 miles) – Section 23 T9S R21E (NE/4) – On-lease UTU0149075, Ute Indian Tribe Surface, from the edge of the pad to the NBU 921-24H Pad intersection. 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 is a new pad; therefore does not have any existing facilities. 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 in coordination with the BLM (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 ±1,025' 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.**

±1,025' (0.19 miles) – Section 23 T9S R21E (NE/4) – On-lease UTU0149075, Ute Indian Tribe surface, New 12" buried gas gathering pipeline from the meter to the NBU 921-23G 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 ±1,025' 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.**

±1,025' (0.19 miles) – Section 23 T9S R21E (NE/4) – On-lease UTU0149075, Ute Indian Tribe surface, New 6" buried liquid gathering pipeline from the meter to the NBU 921-23G 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 BLM, Vernal Field 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, BLM considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BLM.

#### **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 federal lands without prior approval from the BLM. 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 BLM.

#### **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 BLM, 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 BLM, 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 BLM. 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 BLM.

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 BLM.

**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 BLM 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 BLM 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 BLM. 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 of the BLM.

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

**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 BLM, or a specific seed mix will be proposed by Kerr-McGee to the BLM 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):

<b>Bonanza Area Mix</b>	<b>Pure Live Seed lbs/acre</b>
Crested Wheat (Hycrest)	2
Bottlebrush Squirreltail	1
Western Wheatgrass	1
Indian Ricegrass	1
Fourwing Saltbush	2
Shadscale	2
Forage Kochia	0.25
Rocky Mountain Bee	0.5
<b>Total</b>	<b>9.75</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. Soil amendments such as "Sustain" (an organic fertilizer that will be applied at the rate 1,800 – 2,100 lbs/acre with seed) may also be dry broadcast or applied with hydro-seeding equipment.

### **Weed Control**

All weed management will be done in accordance with the Vernal BLM Surface Disturbance Weed Policy. Noxious weeds will be controlled, as applicable, on project areas. Monitoring and management of noxious and/or invasive weeds of concern will be completed annually until the project is deemed successfully reclaimed by the surface management agency and/or owner according to the Anadarko Integrated Weed Management Plan. Noxious weed infestations will be mapped using a GPS unit and submitted to the BLM with information required in the Vernal BLM Surface Disturbance Weed Policy. If herbicide is to be applied it will be done according to an approved Pesticide Use Permit (PUP), inclusive of applicable locations. All pesticide applications will be recorded using a Pesticide Application Record (PAR) and will be submitted along with a Pesticide Use Report (PUR) annually prior to Dec. 31.

### **Monitoring**

Monitoring of reclaimed project areas will be completed annually during the growing season and actions to ensure reclamation success will be taken as needed. During the first two growing seasons an ocular methodology will be used to determine the success of the reclamation activities. During the 3rd growing season a 200 point line intercept (quantitative) methodology will be used to obtain basal cover. The goal is to have the reclaimed area reach 30% basal cover when

compared to the reference site. If after three growing seasons the area has not reached 30% basal cover, additional reclamation activities may be necessary. Monitoring will continue until the reclaimed area reaches 75% basal cover of desirable vegetation when compared to the reference site. (Green River District Reclamation Guidelines)

All monitoring reports will be submitted electronically to the Vernal BLM in the form of a geo-database no later than March 1st of the calendar year following the data collection.

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

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

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

#### **Onsite Specifics:**

- Arch monitor during construction
- Paleo monitor during construction

### **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 BLM.

**Resource Reports:**

A Class I literature survey was completed on September 16, 2011 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-261.

A paleontological reconnaissance survey was completed on September 12, 2011 by SWCA Environmental Consultants. For additional details please refer to report UT11-14314-125.

Biological field survey was completed on August 24, 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-275.

**Proposed Action Annual Emissions Tables:**

<b>Table 1: Proposed Action Annual Emissions (tons/year)<sup>1</sup></b>			
<b>Pollutant</b>	<b>Development</b>	<b>Production</b>	<b>Total</b>
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

<b>Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison</b>			
<b>Species</b>	<b>Proposed Action Production Emissions (ton/yr)</b>	<b>2012 Uintah Basin Emission Inventory<sup>a</sup> (ton/yr)</b>	<b>Percentage of Proposed Action to WRAP Phase III</b>
NO <sub>x</sub>	15.68	16,547	0.09%
VOC	20	127,495	0.02%

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

Uintah Basin Data

NBU 921-23B1BS/ 921-23B1CS/ 921-23B4BS/ 921-23B4CS  
Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23B Pad  
Surface Use Plan of Operations  
13 of 13

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

Laura Abrams  
Regulatory Analyst II  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6356

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.

  
\_\_\_\_\_  
Laura Abrams

December 28, 2011  
\_\_\_\_\_  
Date



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

October 10, 2011

Ms. Diana Mason  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11  
NBU 921-23B4BS  
T9S-R21E  
Section 23 NWNE (Surface and Bottom Hole)  
Surface: 1124' FNL, 2098' FEL  
Bottom Hole: 907' FNL, 1816' FEL  
Uintah County, Utah

Dear Ms. Mason:

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

- Kerr-McGee's NBU 921-23B4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

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

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink that reads 'Joe Matney'.

Joe Matney  
Sr. Staff Landman



# 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)

May 30, 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>WELL PAD - NBU 922-32D1</b>		
43-047-52691	NBU 922-30P1BS	Sec 32 T09S R22E 0243 FNL 0813 FWL
	BHL	Sec 30 T09S R22E 1246 FSL 0525 FEL
43-047-52693	NBU 922-30P4BS	Sec 32 T09S R22E 0255 FNL 0797 FWL
	BHL	Sec 30 T09S R22E 0576 FSL 0601 FEL
43-047-52694	NBU 922-30P1CS	Sec 32 T09S R22E 0249 FNL 0805 FWL
	BHL	Sec 30 T09S R22E 0908 FSL 0574 FEL
43-047-52695	NBU 922-30P3DS	Sec 32 T09S R22E 0261 FNL 0789 FWL
	BHL	Sec 30 T09S R22E 0229 FSL 0778 FEL
<b>WELL PAD - NBU 921-23B</b>		
43-047-52696	NBU 921-23B1BS	Sec 23 T09S R21E 1133 FNL 2116 FEL
	BHL	Sec 23 T09S R21E 0247 FNL 1816 FEL
43-047-52706	NBU 921-23B4BS	Sec 23 T09S R21E 1124 FNL 2098 FEL
	BHL	Sec 23 T09S R21E 0907 FNL 1816 FEL
43-047-52716	NBU 921-23B1CS	Sec 23 T09S R21E 1128 FNL 2107 FEL
	BHL	Sec 23 T09S R21E 0577 FNL 1816 FEL
43-047-52723	NBU 921-23B4CS	Sec 23 T09S R21E 1137 FNL 2125 FEL
	BHL	Sec 23 T09S R21E 1238 FNL 1816 FEL
<b>WELL PAD - NBU 921-23G</b>		
43-047-52700	NBU 921-23G1CS	Sec 23 T09S R21E 2126 FNL 1774 FEL
	BHL	Sec 23 T09S R21E 1898 FNL 1817 FEL
43-047-52701	NBU 921-23G4BS	Sec 23 T09S R21E 2144 FNL 1799 FEL
	BHL	Sec 23 T09S R21E 2228 FNL 1817 FEL

RECEIVED: May 30, 2012

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-52702	NBU 921-23H4BS	Sec 23 T09S R21E 2115 FNL 1758 FEL
	BHL	Sec 23 T09S R21E 2061 FNL 0493 FEL
43-047-52703	NBU 921-23H4CS	Sec 23 T09S R21E 2132 FNL 1782 FEL
	BHL	Sec 23 T09S R21E 2391 FNL 0493 FEL
43-047-52732	NBU 921-23I1BS	Sec 23 T09S R21E 2138 FNL 1790 FEL
	BHL	Sec 23 T09S R21E 2556 FSL 0494 FEL
43-047-52739	NBU 921-23G1BS	Sec 23 T09S R21E 2120 FNL 1766 FEL
	BHL	Sec 23 T09S R21E 1568 FNL 1816 FEL
<b>WELL PAD - NBU 921-23H</b>		
43-047-52704	NBU 921-23H1CS	Sec 23 T09S R21E 1343 FNL 0762 FEL
	BHL	Sec 23 T09S R21E 1731 FNL 0493 FEL
43-047-52705	NBU 921-23A1BS	Sec 23 T09S R21E 1344 FNL 0802 FEL
	BHL	Sec 23 T09S R21E 0082 FNL 0493 FEL
43-047-52711	NBU 921-23H1BS	Sec 23 T09S R21E 1343 FNL 0752 FEL
	BHL	Sec 23 T09S R21E 1401 FNL 0493 FEL
43-047-52714	NBU 921-23A4CS	Sec 23 T09S R21E 1343 FNL 0772 FEL
	BHL	Sec 23 T09S R21E 1071 FNL 0493 FEL
43-047-52722	NBU 921-23A1CS	Sec 23 T09S R21E 1343 FNL 0792 FEL
	BHL	Sec 23 T09S R21E 0412 FNL 0493 FEL
43-047-52724	NBU 921-23A4BS	Sec 23 T09S R21E 1343 FNL 0782 FEL
	BHL	Sec 23 T09S R21E 0741 FNL 0493 FEL
<b>WELL PAD - NBU 921-23J</b>		
43-047-52707	NBU 921-23J4BS	Sec 23 T09S R21E 1628 FSL 2036 FEL
	BHL	Sec 23 T09S R21E 1734 FSL 1817 FEL
43-047-52713	NBU 921-23I1CS	Sec 23 T09S R21E 1618 FSL 2034 FEL
	BHL	Sec 23 T09S R21E 2227 FSL 0494 FEL
43-047-52717	NBU 921-23O1BS	Sec 23 T09S R21E 1589 FSL 2029 FEL
	BHL	Sec 23 T09S R21E 1074 FSL 1818 FEL
43-047-52719	NBU 921-23J4CS	Sec 23 T09S R21E 1599 FSL 2031 FEL
	BHL	Sec 23 T09S R21E 1404 FSL 1818 FEL
43-047-52720	NBU 921-23O1CS	Sec 23 T09S R21E 1579 FSL 2028 FEL
	BHL	Sec 23 T09S R21E 0743 FSL 1818 FEL
43-047-52731	NBU 921-23I4BS	Sec 23 T09S R21E 1608 FSL 2032 FEL
	BHL	Sec 23 T09S R21E 1897 FSL 0494 FEL
<b>WELL PAD - NBU 921-23K</b>		
43-047-52708	NBU 921-23K1BS	Sec 23 T09S R21E 2431 FSL 1995 FWL
	BHL	Sec 23 T09S R21E 2563 FSL 2147 FWL
43-047-52709	NBU 921-23J1BS	Sec 23 T09S R21E 2419 FSL 2022 FWL
	BHL	Sec 23 T09S R21E 2395 FSL 1817 FEL

API #	WELL NAME			LOCATION						
(Proposed PZ WASATCH-MESA VERDE)										
43-047-52710	NBU 921-23J1CS	Sec	23	T09S	R21E	2415	FSL	2032	FWL	
		BHL	Sec	23	T09S	R21E	2064	FSL	1817	FEL
43-047-52712	NBU 921-23G4CS	Sec	23	T09S	R21E	2423	FSL	2013	FWL	
		BHL	Sec	23	T09S	R21E	2559	FNL	1817	FEL
43-047-52726	NBU 921-23K4BS	Sec	23	T09S	R21E	2435	FSL	1986	FWL	
		BHL	Sec	23	T09S	R21E	1901	FSL	2148	FWL
43-047-52740	NBU 921-23K1CS	Sec	23	T09S	R21E	2427	FSL	2004	FWL	
		BHL	Sec	23	T09S	R21E	2232	FSL	2147	FWL
<b>WELL PAD - NBU 921-23C</b>										
43-047-52715	NBU 921-23C1CS	Sec	23	T09S	R21E	0790	FNL	1963	FWL	
		BHL	Sec	23	T09S	R21E	0413	FNL	2145	FWL
43-047-52725	NBU 921-23C4BS	Sec	23	T09S	R21E	0789	FNL	1973	FWL	
		BHL	Sec	23	T09S	R21E	0743	FNL	2145	FWL
43-047-52727	NBU 921-23D4BS	Sec	23	T09S	R21E	0794	FNL	1924	FWL	
		BHL	Sec	23	T09S	R21E	0910	FNL	0823	FWL
43-047-52730	NBU 921-23D1BS	Sec	23	T09S	R21E	0792	FNL	1944	FWL	
		BHL	Sec	23	T09S	R21E	0249	FNL	0823	FWL
43-047-52741	NBU 921-23C1BS	Sec	23	T09S	R21E	0791	FNL	1954	FWL	
		BHL	Sec	23	T09S	R21E	0083	FNL	2145	FWL
43-047-52743	NBU 921-23D1CS	Sec	23	T09S	R21E	0793	FNL	1934	FWL	
		BHL	Sec	23	T09S	R21E	0579	FNL	0823	FWL
<b>WELL PAD - NBU 921-23F</b>										
43-047-52721	NBU 921-23E1BS	Sec	23	T09S	R21E	1888	FNL	1982	FWL	
		BHL	Sec	23	T09S	R21E	1572	FNL	0823	FWL
43-047-52728	NBU 921-23D4CS	Sec	23	T09S	R21E	1885	FNL	1992	FWL	
		BHL	Sec	23	T09S	R21E	1241	FNL	0823	FWL
43-047-52729	NBU 921-23F1BS	Sec	23	T09S	R21E	1882	FNL	2002	FWL	
		BHL	Sec	23	T09S	R21E	1405	FNL	2146	FWL
43-047-52742	NBU 921-23F1CS	Sec	23	T09S	R21E	1879	FNL	2011	FWL	
		BHL	Sec	23	T09S	R21E	1735	FNL	2146	FWL
<b>WELL PAD - NBU 921-23L</b>										
43-047-52738	NBU 921-23L4BS	Sec	23	T09S	R21E	1782	FSL	0991	FWL	
		BHL	Sec	23	T09S	R21E	1739	FSL	0824	FWL
43-047-52754	NBU 921-23L4CS	Sec	23	T09S	R21E	1788	FSL	0999	FWL	
		BHL	Sec	23	T09S	R21E	1408	FSL	0824	FWL
43-047-52758	NBU 921-23L1CS	Sec	23	T09S	R21E	1794	FSL	1007	FWL	
		BHL	Sec	23	T09S	R21E	2070	FSL	0824	FWL

API #	WELL NAME			LOCATION						
(Proposed PZ WASATCH-MESA VERDE)										
<b>WELL PAD - NBU 921-23P</b>										
43-047-52744	NBU 921-23P4BS	Sec	23	T09S	R21E	0383	FSL	1166	FEL	
		BHL	Sec	23	T09S	R21E	0578	FSL	0494	
43-047-52746	NBU 921-23O4BS	Sec	23	T09S	R21E	0375	FSL	1205	FEL	
		BHL	Sec	23	T09S	R21E	0414	FSL	1818	
43-047-52747	NBU 921-23I4CS	Sec	23	T09S	R21E	0377	FSL	1195	FEL	
		BHL	Sec	23	T09S	R21E	1567	FSL	0494	
43-047-52748	NBU 921-23O4CS	Sec	23	T09S	R21E	0373	FSL	1215	FEL	
		BHL	Sec	23	T09S	R21E	0084	FSL	1818	
43-047-52749	NBU 921-23P1CS	Sec	23	T09S	R21E	0381	FSL	1175	FEL	
		BHL	Sec	23	T09S	R21E	0907	FSL	0494	
43-047-52751	NBU 921-23P4CS	Sec	23	T09S	R21E	0379	FSL	1185	FEL	
		BHL	Sec	23	T09S	R21E	0005	FSL	0494	
<b>WELL PAD - NBU 921-23M</b>										
43-047-52745	NBU 921-23N4CS	Sec	23	T09S	R21E	0791	FSL	1329	FWL	
		BHL	Sec	23	T09S	R21E	0105	FSL	2149	
43-047-52750	NBU 921-23N1CS	Sec	23	T09S	R21E	0790	FSL	1339	FWL	
		BHL	Sec	23	T09S	R21E	0910	FSL	2148	
43-047-52752	NBU 921-23K4CS	Sec	23	T09S	R21E	0794	FSL	1310	FWL	
		BHL	Sec	23	T09S	R21E	1571	FSL	2148	
43-047-52753	NBU 921-23M4BS	Sec	23	T09S	R21E	0795	FSL	1300	FWL	
		BHL	Sec	23	T09S	R21E	0415	FSL	0824	
43-047-52755	NBU 921-23N1BS	Sec	23	T09S	R21E	0792	FSL	1319	FWL	
		BHL	Sec	23	T09S	R21E	1240	FSL	2148	
43-047-52756	NBU 921-23M1BS	Sec	23	T09S	R21E	0796	FSL	1290	FWL	
		BHL	Sec	23	T09S	R21E	1077	FSL	0824	
43-047-52759	NBU 921-23N4BS	Sec	23	T09S	R21E	0788	FSL	1349	FWL	
		BHL	Sec	23	T09S	R21E	0495	FSL	2158	

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

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: 2012.05.30 10:20:35 -0600

RECEIVED: May 30, 2012

API Well Number: 43047527060000

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

MCoulthard:mc:5-30-12

RECEIVED: May 30, 2012

API	Well Name	Surface Location
43-047-52691	NBU 922-30P1BS	Sec 32 T09S R22E 0243 FNL 0813 FWL
43-047-52693	NBU 922-30P4BS	Sec 32 T09S R22E 0255 FNL 0797 FWL
43-047-52694	NBU 922-30P1CS	Sec 32 T09S R22E 0249 FNL 0805 FWL
43-047-52695	NBU 922-30P3DS	Sec 32 T09S R22E 0261 FNL 0789 FWL
43-047-52696	NBU 921-23B1BS	Sec 23 T09S R21E 1133 FNL 2116 FEL
43-047-52700	NBU 921-23G1CS	Sec 23 T09S R21E 2126 FNL 1774 FEL
43-047-52701	NBU 921-23G4BS	Sec 23 T09S R21E 2144 FNL 1799 FEL
43-047-52702	NBU 921-23H4BS	Sec 23 T09S R21E 2115 FNL 1758 FEL
43-047-52703	NBU 921-23H4CS	Sec 23 T09S R21E 2132 FNL 1782 FEL
43-047-52704	NBU 921-23H1CS	Sec 23 T09S R21E 1343 FNL 0762 FEL
43-047-52705	NBU 921-23A1BS	Sec 23 T09S R21E 1344 FNL 0802 FEL
43-047-52706	NBU 921-23B4BS	Sec 23 T09S R21E 1124 FNL 2098 FEL
43-047-52707	NBU 921-23J4BS	Sec 23 T09S R21E 1628 FSL 2036 FEL
43-047-52708	NBU 921-23K1BS	Sec 23 T09S R21E 2431 FSL 1995 FWL
43-047-52709	NBU 921-23J1BS	Sec 23 T09S R21E 2419 FSL 2022 FWL
43-047-52710	NBU 921-23J1CS	Sec 23 T09S R21E 2415 FSL 2032 FWL
43-047-52711	NBU 921-23H1BS	Sec 23 T09S R21E 1343 FNL 0752 FEL
43-047-52712	NBU 921-23G4CS	Sec 23 T09S R21E 2423 FSL 2013 FWL
43-047-52713	NBU 921-23I1CS	Sec 23 T09S R21E 1618 FSL 2034 FEL
43-047-52714	NBU 921-23A4CS	Sec 23 T09S R21E 1343 FNL 0772 FEL
43-047-52715	NBU 921-23C1CS	Sec 23 T09S R21E 0790 FNL 1963 FWL
43-047-52716	NBU 921-23B1CS	Sec 23 T09S R21E 1128 FNL 2107 FEL
43-047-52717	NBU 921-23O1BS	Sec 23 T09S R21E 1589 FSL 2029 FEL
43-047-52719	NBU 921-23J4CS	Sec 23 T09S R21E 1599 FSL 2031 FEL
43-047-52720	NBU 921-23O1CS	Sec 23 T09S R21E 1579 FSL 2028 FEL
43-047-52721	NBU 921-23E1BS	Sec 23 T09S R21E 1888 FNL 1982 FWL
43-047-52722	NBU 921-23A1CS	Sec 23 T09S R21E 1343 FNL 0792 FEL
43-047-52723	NBU 921-23B4CS	Sec 23 T09S R21E 1137 FNL 2125 FEL
43-047-52724	NBU 921-23A4BS	Sec 23 T09S R21E 1343 FNL 0782 FEL
43-047-52725	NBU 921-23C4BS	Sec 23 T09S R21E 0789 FNL 1973 FWL
43-047-52726	NBU 921-23K4BS	Sec 23 T09S R21E 2435 FSL 1986 FWL
43-047-52727	NBU 921-23D4BS	Sec 23 T09S R21E 0794 FNL 1924 FWL
43-047-52728	NBU 921-23D4CS	Sec 23 T09S R21E 1885 FNL 1992 FWL
43-047-52729	NBU 921-23F1BS	Sec 23 T09S R21E 1882 FNL 2002 FWL
43-047-52730	NBU 921-23D1BS	Sec 23 T09S R21E 0792 FNL 1944 FWL
43-047-52731	NBU 921-23I4BS	Sec 23 T09S R21E 1608 FSL 2032 FEL
43-047-52732	NBU 921-23I1BS	Sec 23 T09S R21E 2138 FNL 1790 FEL
43-047-52738	NBU 921-23L4BS	Sec 23 T09S R21E 1782 FSL 0991 FWL
43-047-52739	NBU 921-23G1BS	Sec 23 T09S R21E 2120 FNL 1766 FEL
43-047-52740	NBU 921-23K1CS	Sec 23 T09S R21E 2427 FSL 2004 FWL
43-047-52741	NBU 921-23C1BS	Sec 23 T09S R21E 0791 FNL 1954 FWL
43-047-52742	NBU 921-23F1CS	Sec 23 T09S R21E 1879 FNL 2011 FWL
43-047-52743	NBU 921-23D1CS	Sec 23 T09S R21E 0793 FNL 1934 FWL
43-047-52744	NBU 921-23P4BS	Sec 23 T09S R21E 0383 FSL 1166 FEL
43-047-52745	NBU 921-23N4CS	Sec 23 T09S R21E 0791 FSL 1329 FWL
43-047-52746	NBU 921-23O4BS	Sec 23 T09S R21E 0375 FSL 1205 FEL

<b>API</b>	<b>Well Name</b>	<b>Surface Location</b>
43-047-52747	NBU 921-23I4CS	Sec 23 T09S R21E 0377 FSL 1195 FEL
43-047-52748	NBU 921-23O4CS	Sec 23 T09S R21E 0373 FSL 1215 FEL
43-047-52749	NBU 921-23P1CS	Sec 23 T09S R21E 0381 FSL 1175 FEL
43-047-52750	NBU 921-23N1CS	Sec 23 T09S R21E 0790 FSL 1339 FWL
43-047-52751	NBU 921-23P4CS	Sec 23 T09S R21E 0379 FSL 1185 FEL
43-047-52752	NBU 921-23K4CS	Sec 23 T09S R21E 0794 FSL 1310 FWL
43-047-52753	NBU 921-23M4BS	Sec 23 T09S R21E 0795 FSL 1300 FWL
43-047-52754	NBU 921-23L4CS	Sec 23 T09S R21E 1788 FSL 0999 FWL
43-047-52755	NBU 921-23N1BS	Sec 23 T09S R21E 0792 FSL 1319 FWL
43-047-52756	NBU 921-23M1BS	Sec 23 T09S R21E 0796 FSL 1290 FWL
43-047-52758	NBU 921-23L1CS	Sec 23 T09S R21E 1794 FSL 1007 FWL
43-047-52759	NBU 921-23N4BS	Sec 23 T09S R21E 0788 FSL 1349 FWL

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 5/23/2012

API NO. ASSIGNED: 43047527060000

WELL NAME: NBU 921-23B4BS

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

PHONE NUMBER: 720 929-6156

CONTACT: Danielle Piernot

PROPOSED LOCATION: NWNE 23 090S 210E

Permit Tech Review: 

SURFACE: 1124 FNL 2098 FEL

Engineering Review: 

BOTTOM: 0907 FNL 1816 FEL

Geology Review: 

COUNTY: UINTAH

LATITUDE: 40.02568

LONGITUDE: -109.51703

UTM SURF EASTINGS: 626541.00

NORTHINGS: 4431661.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU 0149075

PROPOSED PRODUCING FORMATION(S): BLACKHAWK

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

Commingle Approved

## LOCATION AND SITING:

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

Comments: Presite Completed

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

RECEIVED: August 27, 2012



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 921-23B4BS  
**API Well Number:** 43047527060000  
**Lease Number:** UTU 0149075  
**Surface Owner:** INDIAN  
**Approval Date:** 8/27/2012

### 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 BLACKHAWK 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

RECEIVED

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

JAN 10 2012

APPLICATION FOR PERMIT TO DRILL OR REENTER

BLM, Vernal Utah

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0149075
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: LAURA ABRAMS Email: Laura.Abrams@anadarko.com		7. If Unit or CA Agreement, Name and No. UTU63047A
3a. Address PO BOX 173779 DENVER, CO 80202-3779		8. Lease Name and Well No. NBU 921-23B4BS
3b. Phone No. (include area code) Ph: 720-929-6356 Fx: 720-929-7356		9. API Well No. 43-047-52706
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWNE 1124FNL 2098FEL 40.025722 N Lat, 109.517038 W Lon At proposed prod. zone NWNE 907FNL 1816FEL 40.026312 N Lat, 109.516032 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 41.7 MILES SOUTH OF VERNAL, UT		11. Sec., T., R., M., or Blk. and Survey or Area Sec 23 T9S R21E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 907'	16. No. of Acres in Lease 640.00	12. County or Parish UINTAH
17. Spacing Unit dedicated to this well	13. State UT	18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 1,116'
19. Proposed Depth 11028 MD 11007 TVD	20. BLM/BIA Bond No. on file WYB000291	21. Elevations (Show whether DF, KB, RT, GL, etc.) 4847 GL
22. Approximate date work will start 06/30/2012	23. Estimated duration 60-90 DAYS	

24. Attachments

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) LAURA ABRAMS Ph: 720-929-6356	Date 12/29/2011
Title REGULATORY ANALYST II		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date OCT 09 2012
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.

RECEIVED

OCT 19 2012

Additional Operator Remarks (see next page)

Electronic Submission #126991 verified by the BLM Well Information System (WIS) OF OIL, GAS & MINING  
For KERR MCGEE OIL&GAS ONSHORE, LP, sent to the Vernal

NOTICE OF APPROVAL

UDOGM

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

171 RD 1197AS

AND DATED 11/18/12 NO NOS



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

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company: Kerr McGee Oil & Gas Onshore, LP      Location:      NWNE, Sec. 23, T9S, R21E  
Well No: NBU 921-23B4BS      Lease No:      UTU-0149075  
API No: 43-047-52706      Agreement:      Natural Buttes

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

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

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

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

NOTIFICATION REQUIREMENTS

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 shall 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 constructed and/or drilling operations have not been initiated prior to August 24, 2012, conduct a biological survey to determine the presence of Uintah Basin hookless cactus in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures and the BLM RMP ROD. KMG will implement commitments contained in the GNB BO.
- Monitor construction operations with a permitted archeologist.
- Monitor construction operations with a permitted paleontologist.
- Rip and make impassible the section of access road to be abandoned.
- Round well pad corners #8 and #10.
- Construct diversion ditch on south side of pad from corners #4 to #10.

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

**SITE SPECIFIC DOWNHOLE COAs:**

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

Variances Granted:

Air Drilling

1. Properly lubricated and maintained rotating head. Variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
2. Blooie line discharge 100' from the well bore. Variance granted for blooie line discharge to be 45' from the well bore.
3. Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for truck/trailer mounted air compressors located 40' from the well bore.
4. In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for the kill medium and will utilize a skid pump near the reserve pit to supply the water to the well bore if necessary.
5. Automatic igniter. Variance granted for igniter due to there being no productive formations encountered while air drilling.
6. FIT Test. Variance granted due to well-known geology and the problems that can occur with the FIT test.

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

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

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

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

- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to BLM\_UT\_VN\_Welllogs@BLM.gov. 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> UTU 0149075	
<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 In	<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 921-23B4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047527060000
<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>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1124 FNL 2098 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 23 Township: 09.0S Range: 21.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
	<b>COUNTY:</b> UINTAH
	<b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/27/2013	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> <b>APD EXTENSION</b>
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

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

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

**Date:** August 12, 2013

**By:**

<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> 8/9/2013	



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

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047527060000**

API: 43047527060000

Well Name: NBU 921-23B4BS

Location: 1124 FNL 2098 FEL QTR NWNE SEC 23 TWNP 090S RNG 210E MER S

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

Date Original Permit Issued: 8/27/2012

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

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

Signature: Teena Paulo

Date: 8/9/2013

Title: Staff Regulatory Specialist Representing: KERR-MCGEE OIL & GAS ONSHORE, L.P.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075	
<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>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute In
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>8. WELL NAME and NUMBER:</b> NBU 921-23B4BS
<b>PHONE NUMBER:</b> 720 929-6511	<b>9. API NUMBER:</b> 43047527060000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1124 FNL 2098 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 23 Township: 09.0S Range: 21.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
	<b>COUNTY:</b> Uintah
	<b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 11/1/2013	<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
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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.

Spud well 11/01/2013 @ 07:30. Drill 24" conductor hole to 40', run 14" X .250 wall conductor pipe, cement with 81 sacks ready mix. Anticipated surface spud date and surface casing cement 01/20/2014.

**Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
 FOR RECORD ONLY  
 November 06, 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> 11/6/2013	

<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> UTU 0149075	
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<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 921-23B4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047527060000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6111
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1124 FNL 2098 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 23 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

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<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
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<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: 4/1/2014	<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
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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.

Drilled to 2,911 ft. in Quarter 1 of 2014.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 April 04, 2014

<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> 4/1/2014	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
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<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE	
<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	
<b>1. TYPE OF WELL</b> Gas Well	
<b>8. WELL NAME and NUMBER:</b> NBU 921-23B4BS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	
<b>9. API NUMBER:</b> 43047527060000	
<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> 720 929-6100</span>	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1124 FNL 2098 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 23 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: 6/24/2014	<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
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	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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No activity for Quarter 2 of 2014. Well Drilled to 2,911 ft.

**Accepted by the  
 Utah Division of  
 Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 June 25, 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> 6/24/2014	

<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> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-23B4BS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1124 FNL 2098 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527060000
<b>PHONE NUMBER:</b> 720 929-6111		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
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<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/11/2014	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CHANGE WELL NAME	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<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. No activity for Quarter 3 of 2014. Well TD at Drilled to 2,911 ft. Thank you.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          September 15, 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> 9/11/2014	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 921-23B4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047527060000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6111
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1124 FNL 2098 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 23 Township: 09.0S Range: 21.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
	<b>COUNTY:</b> Uintah
	<b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 12/16/2014	<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.

THE SURFACE TD IS AT 2,911'. WAITING ON PRODUCTION RIG. THANK YOU.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 December 16, 2014

<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> 12/16/2014	

<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> UTU 0149075
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well		<b>8. WELL NAME and NUMBER:</b> NBU 921-23B4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047527060000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1124 FNL 2098 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>PHONE NUMBER:</b> 720 929-6111
		<b>COUNTY:</b> UINTAH
		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/30/2015	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CHANGE WELL NAME	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. No activity for Quarter 1 of 2015. Well drilled to TD at 2,911 ft.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          March 30, 2015</b>		
<b>NAME (PLEASE PRINT)</b> Jennifer Thomas	<b>PHONE NUMBER</b> 720 929-6808	<b>TITLE</b> Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/30/2015	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075	

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	

<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 921-23B4BS
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<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047527060000
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<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6111	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
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<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1124 FNL 2098 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 23 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"/> 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"/>
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:			
<input type="checkbox"/> SPUD REPORT Date of Spud:			
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 6/29/2015			

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

No activity for Quarter 2 of 2015. Well drilled to 2,991 ft. Thank you.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 July 06, 2015

<b>NAME (PLEASE PRINT)</b> Kristina Geno	<b>PHONE NUMBER</b> 720 929-6824	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 6/29/2015	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-23B4BS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1124 FNL 2098 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527060000
<b>PHONE NUMBER:</b> 720 929-6111		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/29/2015	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. No activity for Quarter 3 of 2015. Well TD at 2,911 ft. Thank you.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          September 30, 2015</b>		
<b>NAME (PLEASE PRINT)</b> Jennifer Thomas	<b>PHONE NUMBER</b> 720 929-6808	<b>TITLE</b> Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/29/2015	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	5. LEASE DESIGNATION AND SERIAL NUMBER: UTU 0149075
1. TYPE OF WELL Gas Well	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	8. WELL NAME and NUMBER: NBU 921-23B4BS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1124 FNL 2098 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 23 Township: 09.0S Range: 21.0E Meridian: S	9. API NUMBER: 43047527060000
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA	COUNTY: Uintah
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA	STATE: UTAH

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 10/29/2015	<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.

10/28/2015, drilling operations have resumed on the NBU 921-23B PAD. The following wells on this pad will be drilled to TD: NBU 921-23B4BS NBU 921-23B1CS NBU 921-23B1BS NBU 921-23B4CS

**Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY  
October 29, 2015**

<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> 10/29/2015	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well		<b>8. WELL NAME and NUMBER:</b> NBU 921-23B4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047527060000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6507	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1124 FNL 2098 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 23 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 checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 1/10/2016  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER	
	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
<p>The NBU 921-23B4BS well was placed on production on 1/10/2016 after a new well completion. Producing from the Wasatch/Mesaverde.</p> <p style="text-align: center;">Thank you.</p> <div style="text-align: right;"> <p><b>Accepted by the Utah Division of Oil, Gas and Mining</b></p> <p><b>FOR RECORD ONLY</b></p> <p>January 12, 2016</p> </div>		
<b>NAME (PLEASE PRINT)</b> Jennifer Thomas	<b>PHONE NUMBER</b> 720 929-6808	<b>TITLE</b> Regulatory Specialist
<b>SIGNATURE</b> N/A		<b>DATE</b> 1/12/2016

Form 3160-4  
(August 2007)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No.  
UTU0149075

1a. Type of Well  Oil Well  Gas Well  Dry  Other

b. Type of Completion  New Well  Work Over  Deepen  Plug Back  Diff. Resvr.  
Other \_\_\_\_\_

2. Name of Operator: KERR-MCGEE OIL AND GAS ONSHORE  
Contact: JENNIFER THOMAS  
Email: Jennifer.Thomas@anadarko.com

3. Address: P.O. BOX 173779  
DENVER, CO 80217

3a. Phone No. (include area code)  
Ph: 720-929-6808

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*  
At surface NWNE 1124FNL 2098FEL 40.025722 N Lat, 109.517038 W Lon  
At top prod interval reported below NWNE 877FNL 1837FEL  
At total depth NWNE 905FNL 1815FEL 40.026312 N Lat, 109.516032 W Lon

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.  
UTU63047A

8. Lease Name and Well No.  
NBU 921-23B4BS

9. API Well No.  
43-047-52706

10. Field and Pool, or Exploratory  
NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey or Area  
Sec 23 T9S R21E Mer SLB

12. County or Parish  
UINTAH

13. State  
UT

14. Date Spudded  
11/01/2013

15. Date T.D. Reached  
11/02/2015

16. Date Completed  
 D & A  Ready to Prod.  
01/10/2016

17. Elevations (DF, KB, RT, GL)\*  
4859 KB

18. Total Depth: MD 9930  
TVD 9908

19. Plug Back T.D.: MD 9874  
TVD 9852

20. Depth Bridge Plug Set: MD  
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)  
RADIAL CEMENT BOND GAMMA RAY CCL

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
24.000	14.000 STL	36.7	0	40		81			
11.000	8.625 J-55	28.0	13	2889		500		0	
7.875	4.500 P110	11.6	13	9922		2065		1254	

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	9345							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WASATCH	4935	7848	7762 TO 7834	0.410	24	OPEN
B) MESAVERDE	7848	9930	7903 TO 9764	0.410	192	OPEN
C)						
D)						

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

Depth Interval	Amount and Type of Material
7762 TO 9764	PUMP 141702 BBLS SLICKWATER, 54 BBLS 15% HCL ACID, 294664 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
01/10/2016	01/23/2016	24	→	56.0	1515.0	1277.0			FLOWS FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
22/64	SI 2172	3720.0	→	56	1515	1277		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 #330875 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.)  
CAPTURED

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	1552
				BIRDS NEST	1872
				MAHOGANY MARKER	2411
				WASATCH	4935
				MESAVERDE	7848

32. Additional remarks (include plugging procedure):

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 #330875 Verified by the BLM Well Information System.  
For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal**

Name (please print) JENNIFER THOMAS Title REGULATORY SPECIALIST III

Signature (Electronic Submission) Date 02/04/2016

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

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

US ROCKIES REGION  
Operation Summary Report

US ROCKIES REGION									
Operation Summary Report									
Well: NBU 921-23B4BS RED					Spud date: 3/10/2014				
Project: UTAH-UINTAH			Site: NBU 921-23B PAD			Rig name no.: ENSIGN 145/145, CAPSTAR 310/310			
Event: DRILLING			Start date: 3/10/2014			End date: 11/3/2015			
Active datum: RKB @4,859.00usft (above Mean Sea Level)				UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation	
3/10/2014	1:30 - 6:00	4.50	MIRU	01	E	P	53	RIG DOWN, CUT OFF ROTATING HEAD AND PREPAIR FOR TRUCKS	
	6:00 - 7:30	1.50	MIRU	01	E	P	53	CONTINUE TO RIG DOWN PREPAIR FOR TRUCKS AND WAIT ON DAYLIGHT.	
	7:30 - 18:00	10.50	MIRU	01	A	P	53	CONDUCT JSA WITH TRUCKS TO MOVE RIG / MOVE RIG FROM NBU 922-34J4BS TO THE NBU 921-23B4BS, WELL 1 OF 4. HOWCROFT FIELD SERVICES HAD 9 TRUCKS 2 SWAMPER 1 PUSHER/SAFETY MAN 2 PILOT CARS 1 FORKLIFT ( MOVE 11 MILES)	
	18:00 - 19:00	1.00	MIRU	01	A	P	53	CONTINUE TO RIG TO MOVE RIG FROM NBU 922-34J4BS TO THE NBU 921-23B4BS	
	19:00 - 21:30	2.50	MIRU	01	B	P	53	RIG UP WELD ON ROTATING HEAD / RIG UP FLOW LINE	
	21:30 - 22:30	1.00	MIRU	09	A	P	53	CUT AND SLIP DRILLING LINE (30')	
	22:30 - 23:00	0.50	MIRU	23		P	53	PRESPUD SAFETY MEETING	
	23:00 - 0:00	1.00	DRLSUR	02	B	P	53	DRILL 12 1/4 SURFACE HOLE F/ 49' TO 200', 151' @ 151' FPH WOB = 8 TO 12K ROTARY RPM = 65 MUD MOTOR RPM = 111 TOTAL = 166 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 800/600 TORQUE ON/OFF = 2000/740 PU = 32 / SO = 28 / ROT = 30 PEAK ON LINE ARCHER OFF LINE	
3/11/2014	0:00 - 1:30	1.50	DRLSUR	06	A	P	204	TRIP OUT OF HOLE LAY DOWN 12 1/4" BIT PICK UP 11" BIT AND DIRECTIONAL TOOLS /SCRIB AND TRIP IN HOLE.	
	1:30 - 5:30	4.00	DRLSUR	08	B	Z	204	*** WORK ON MUD TANKS: MUD TANKS STARTED LEAKING DRAIN TANKS AND WELDED AND PATCH HOLES	
	5:30 - 6:00	0.50	DRLSUR	02	B	P	204	DRILL 11" SURFACE HOLE F/ 200' TO 265', 65' @ 130' FPH WOB = 15 TO 19K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 533 GPM @ 174 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,560/1450 PU = 52 / SO = 42 / ROT = 45 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 10' = 9.52% 1.8' ABOVE & .97' LEFT OF THE LINE NO HOLE ISSUES	

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	6:00 - 7:30	1.50	DRLSUR	02	B	P	269	DRILL 11" SURFACE HOLE F/ 265' TO 388', 123' @ 82' FPH WOB = 15 TO 19K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 533 GPM @ 174 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,560/1450 PU = 52 / SO = 42 / ROT = 45 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 10' = 9.52% 1.8' ABOVE & .97' LEFT OF THE LINE NO HOLE ISSUES
	7:30 - 8:00	0.50	DRLSUR	07	C	P	392	CHANGE ROTATING HEAD RUBBER
	8:00 - 12:00	4.00	DRLSUR	02	B	P	392	DRILL 11" SURFACE HOLE F/ 388' TO 985, 597' @ 149' FPH WOB = 15 TO 19K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 533 GPM @ 174 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,560/1450 PU = 52 / SO = 42 / ROT = 45 PEAK ON LINE ARCHER ON LINE @607' 200CFM MUD WT 8.4 SLID 227' = 28.95% 1.86' ABOVE & 9.31' RIGHT OF THE LINE NO HOLE ISSUES
	12:00 - 13:30	1.50	DRLSUR	02	B	P	989	DRILL 11" SURFACE HOLE F/ 985' TO 1264, 279' @ 186' FPH WOB = 15 TO 19K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 533 GPM @ 174 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,560/1450 PU = 52 / SO = 42 / ROT = 45 PEAK ON LINE ARCHER ON LINE @607' 200CFM MUD WT 8.4 SLID 227' = 28.95% 1.86' ABOVE & 9.31' RIGHT OF THE LINE NO HOLE ISSUES
	13:30 - 14:00	0.50	DRLSUR	07	A	P	1268	RIG SERVICE

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	14:00 - 18:00	4.00	DRLSUR	02	B	P	1268	DRILL 11" SURFACE HOLE F/ 1264' TO 1653', 389' @ 97' FPH WOB = 15 TO 19K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 533 GPM @ 174 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,560/1450 PU = 78 / SO = 60 / ROT = 69 PEAK ON LINE ARCHER ON LINE @607' 200CFM MUD WT 8.4 SLID 78' = 11.54% 2.27' ABOVE & 1.86' RIGHT OF THE LINE NO HOLE ISSUES
	18:00 - 0:00	6.00	DRLSUR	02	B	P	1657	DRILL 11" SURFACE HOLE F/ 1653' TO 2136', 483' @ 81' FPH WOB = 15 TO 19K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 533 GPM @ 174 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,560/1450 PU = 80 / SO = 64 / ROT = 73 PEAK ON LINE ARCHER ON LINE @ 450CFM MUD WT 8.4 SLID 65' = 13.66% 3.26' ABOVE & .99' RIGHT OF THE LINE NO HOLE ISSUES
3/12/2014	0:00 - 6:00	6.00	DRLSUR	02	B	P	2140	DRILL 11" SURFACE HOLE F/ 2,136' TO 2,639' 503' @ 84' FPH WOB = 15 TO 19K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 533 GPM @ 174 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,560/1450 PU = 92 / SO = 74 / ROT = 81 PEAK ON LINE ARCHER ON LINE @ 450CFM MUD WT 8.4 SLID 97' = 19.64% 2.34' ABOVE & 3.7' RIGHT OF THE LINE NO HOLE ISSUES

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	6:00 - 9:30	3.50	DRLSUR	02	B	P	2643	DRILL 11" SURFACE HOLE F/ 2,639' TO 2,860' 272' @ 77.7' FPH WOB = 15 TO 19K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 533 GPM @ 174 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,560/1450 PU = 96 / SO = 78 / ROT = 84 PEAK ON LINE ARCHER ON LINE @ 450CFM MUD WT 8.4 SLID 62' = 22.06% .36' ABOVE & 10.66' RIGHT OF THE LINE NO HOLE ISSUES
	9:30 - 10:00	0.50	DRLSUR	07	A	P	2864	RIG SERVICE
	10:00 - 11:00	1.00	DRLSUR	02	B	P	2864	DRILL 11" SURFACE HOLE F/ 2,860' TO 2,911' 272' @ 77.7' FPH WOB = 15 TO 19K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 533 GPM @ 174 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,560/1450 PU = 96 / SO = 78 / ROT = 84 PEAK ON LINE ARCHER ON LINE @ 450CFM MUD WT 8.4 SLID 62' = 22.06% .36' ABOVE & 10.66' RIGHT OF THE LINE NO HOLE ISSUES
	11:00 - 13:00	2.00	CSGSUR	05	A	P	2915	CIRCULATE AND CONDITION HOLE
	13:00 - 16:30	3.50	CSGSUR	06	D	P	2915	LAY DOWN DRILL PIPE / BHA / DIRECTIONAL TOOLS
	16:30 - 18:00	1.50	CSGSUR	12	A	P	2915	CHANGE OVER TO RUN CASING RIG DOWN CUSHION SUB / RIG UP CASING SPEAR
	18:00 - 20:00	2.00	CSGSUR	12	C	P	2915	PREJOB SAFETY WITH RIG CREW. RAN 65 JTS OF 8 5/8", 28#, J-55, LT&C CASING WITH CTE FLOAT GUIDE SHOE AND BAFFLE PLATE LOCATED 1 JOINT ABOVE THE SHOE. 5 CENTRALIZERS SPACED 10' ABOVE THE SHOE, 2ND & 3RD COLLARS, AND EVERY THIRD COLLAR TO 2,485'. LANDED CASING SHOE AT 2,885'. BAFFLE PLATE @ 2,839'
	20:00 - 20:30	0.50	CSGSUR	05	D	P	2915	FILL PIPE

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	20:30 - 22:30	2.00	CSGSUR	12	E	P	2915	<p>PREJOB SAFETY MEETING WITH PRO PETRO CEMENTERS &amp; RIG CREW.</p> <p>RAN 200' OF 1" PIPE DOWN BACKSIDE OF CASING TESTED LINES TO 1500 PSI</p> <p>PUMPED 80 BBL FRESH WATER CLEARING SHOE RETURNS TO SURFACE</p> <p>MIXED AND PUMPED 20 BBL GELLED WATER FLUSH AHEAD OF CEMENT</p> <p>MIXED AND PUMPED 300 SX OF PREMIUM CEMENT LEAD WITH 2% CACL2 &amp; 1/4 LB/SX FLOCELE. 61.4 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX.</p> <p>MIXED AND PUMPED 200 SX OF PREMIUM CEMENT TAIL WITH 2% CACL2 &amp; 1/4 LB/SX FLOCELE. 41 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX</p> <p>DROP PLUG ON FLY.</p> <p>DISPLACE CEMENT WITH 171.5 BBL FRESH WATER. FULL RETURNS THROUGH OUT DISPLACEMENT. FINAL LIFT OF 700 PSI @ 3 BBL/MINUTE.</p> <p>BUMP PLUG WITH 900 PSI. HELD 1200 PSI FOR 5 MINUTES.</p> <p>CHECK FLOAT. FLOAT HELD.</p> <p>. CEMENT TO SURFACE STOOD FULL</p> <p>RELEASE RIG @ 22:30 3/12/2014</p> <p>RELEASE CEMENTERS @ 22:30 3/12/2014</p>
10/25/2015	6:00 - 19:00	13.00	MIRU3	01	A	P	2915	<p>HELD A SAFETY MEETING WITH JD TRUCKING LOADED OUT AND MOVED ALL EQUIPMENT TO THE NEW LOCATION. SET IN THE BACK YARD.</p> <p>JD:</p> <p>8-HAUL TRUCKS</p> <p>2- GIN TRUCKS</p> <p>2- BED TRUCKS</p> <p>2- FORKLIFTS</p> <p>2-SUPERVISORS</p> <p>3-SWAMPERS</p> <p>1-SAFETY</p> <p>2 ROUSTABOUTS</p>
	19:00 - 0:00	5.00	MIRU3	01	A	P	2915	RIG UP BACK YARD ANDWAIT ON DAYLIGHT TO RESUME RIG MOVE.
10/26/2015	0:00 - 6:00	6.00	MIRU3	01	A	P	2915	<p>WAIT ON DAYLIGHT AND TRUCKS TO RESUME RIGGING UP</p> <p>REPLACED CHARGE PUMP #2 / FIXED GUN LINE IN TANK # 3 / WELDED THE GUNLINE TANK #6 / REPAIRED SLIDE HAMMER FOR THE PUMP / WELDED THE BRACKET ON THE HYDRAULIC SLIPS / MODIFIED THE SCREEN ON THE PUMP SUCTIONS / PULLED 1000' OF DRILLING LINE OFF THE OLD SPOOL TO PREP FOR THE NEW LINE / RIGGED UP THE MUD AND ELECTRIC LINES TO THE PITS AS MUCH AS POSSIBLE</p>

US ROCKIES REGION  
**Operation Summary Report**

Well: NBU 921-23B4BS RED

Spud date: 3/10/2014

Project: UTAH-UINTAH

Site: NBU 921-23B PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 3/10/2014

End date: 11/3/2015

Active datum: RKB @4,859.00usft (above Mean Sea Level)

UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	6:00 - 14:00	8.00	MIRU3	01	B	P	2915	SET THE SUB, SET IN THE REST OF THE BACK YARD,STRUNG ELECTRIC LINES, MUD LINES, PIN THE DERRICK DERRICK WAS IN THE AIR @ 13:30  JD: ARRIVED @ 06:00 / LAST TRUCK LEFT @ 14:00 8-HAUL TRUCKS 2- GIN TRUCKS 2- BED TRUCKS 2- FORKLIFTS 2-SUPERVISORS 3-SWAMPERS 1-SAFETY 2 ROUSTABOUTS
	14:00 - 14:30	0.50	PRPSPD	01	B	P	2915	SAFETY MEETING AND RAISED THE DERRICK
	14:30 - 0:00	9.50	PRPSPD	01	B	P	2915	HOOK UP THE HYDRAULIC LINES FOR THE DERRICK, RIG UP THE LOWER RACKING BOARD,RIG UP THE WENCHES, STRING UP THE BLOCKS, RIG UP THE STANDPIPE, SET THE WINDWALLS AND DOORS, SET THE CATWALK, HOOK UP THE PLC LINES, INSTALL FLOW LINES, RIG UP FLARE LINE AND IGNITER,
10/27/2015	0:00 - 3:00	3.00	PRPSPD	01	B	P	2915	RIGGING UP THE FLOOR, REPLACE DC POWER SUPPLY BUCKET IN THE AC HOUSE, UNLOAD ITEMS ON THE CATWALK, FINISH PANIC LINE
	3:00 - 6:00	3.00	PRPSPD	14	A	P	2915	NIPPLE UP THE BOP, CHOKE, KILL LINE, ROTATING HEAD, KOOMY LINES, INSTALL TURNBUCKLES
	6:00 - 8:00	2.00	PRPSPD	01	B	P	2915	SKID RIG OVER CENTER 6" BACK AND 4" TO PIT SIDE, RIG UP CATWALK.
	8:00 - 9:00	1.00	CSGSUR	15	A	P	2915	SAFETY MEETING WITH A-1 TESTERS RIG UP THE TESTER AND TEST THE SURFACE CASING TO 1500 PSI FOR 30 MINUTES
	9:00 - 12:30	3.50	CSGSUR	15	A	P	2915	TEST ANNULAR TO 250 PSI LOW/ 5 MIN 2500 PSI HIGH 10 MIN, PIPE & BLIND RAMS, FLOOR VALVES, IBOP, HCR VALVE, KILL LINE VALVES, TEST BOPS,STANPIPE, KELLY HOSE CHOKE MANIFOLD TO 250 PSI LOW / 5 MIN - 5000 PSI HIGH / 10 MIN, HOLD ACCUMULATOR FUNCTION TEST
	12:30 - 0:00	11.50	CSGSUR	06	A	P	2915	INSTALLED THE WEAR BUSHING AND WE PICKED UP 60 STANDS OF RANGE 2 DRILL PIPE PLUS 16 STANDS OF RANGE 3 DRILL PIPE AND STOOD THEM BACK IN THE DERRICK
10/28/2015	0:00 - 0:30	0.50	CSGSUR	07	C	P	2915	CHANGE OUT THE SAVER SUB AND GRABBER BOX DIES
	0:30 - 2:30	2.00	CSGSUR	06	A	P	2915	BUILD 20 STANDS AND STAND THEM IN THE DERRICK
	2:30 - 4:00	1.50	CSGSUR	06	A	P	2915	PICKED UP THE DIRECTIONAL ASSEMBLY AND SCRIBED THE SAME
	4:00 - 6:30	2.50	CSGSUR	06	A	P	2915	WE TRIPPED IN THE HOLE TO 2790'

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	6:30 - 7:30	1.00	CSGSUR	05	A	Z	2915	WE FILLED THE DRILL PIPE AND IT PRESSURED UP AFTER 32 BBL. WE ATTEMPTED TO WORK THE PLUG LOOSE WORKED THE PRESSURE UP TO 1800 PSI IN ATTEMPT TO BREAK IT FREE I CALLED MOE AND LOVELL TO LET THEM KNOW THE STRING WAS PLUGGED
	7:30 - 10:00	2.50	CSGSUR	06	A	Z	2915	WE TRIPPED OUT OF THE HOLE WET TO CHECK THE BHA OUT AND FIND THE ISSUE
	10:00 - 11:00	1.00	CSGSUR	06	A	Z	2915	WE DRAINED THE MWD ASSEMBLY AND STOOD IT BACK THE MUD MOTOR HAD LCM FROM THE INSIDE OF THE DRILL PIPE ON TOP OF IT AND THE MOTOR WAS PLUGGED ALSO
	11:00 - 11:30	0.50	CSGSUR	06	A	Z	2915	WE LAYED DOWN THE MUD MOTOR AND PICKED UP A NEW WENZEL MOTOR SCRIBED THE NEW ASSEMBLY
	11:30 - 13:00	1.50	CSGSUR	06	A	Z	2915	WE TRIPPED IN THE HOLE WE FILLED THE BHA AND TESTED IT BEFORE TRIPPING IN TO VERIFY IT WAS IN WORKING ORDER AND CLEAR
	13:00 - 13:30	0.50	CSGSUR	07	A	P	2915	RIG SERVICE
	13:30 - 15:00	1.50	DRLPRC	02	F	P	2915	DRILLED THE SHOE TRACK, FLOAT 2,356', SHOE 2,394' WOB- 5/8 SPM - 80 ROTARY - 20
	15:00 - 0:00	9.00	DRLPRC	02	D	P	2915	DIRECTIONAL DRILL F/ 2,915' - 3,966' ( 1,051' / 6.8 HRS @ 154'/FPH ) BIT HRS. 6.8 TOTAL BIT HRS 6.8 WEIGHT ON BIT = 19/22 K STROKES PER MINUTE - 155 GALLONS PER MINUTE = 595.2 MUD MOTOR RPM =89.28 TOP DRIVE RPM = 50 TOTAL RPM = 139 FT/LBS TORQUE = 8.5 - 10.1K STPP = 1990 OFF BOTTOM = 1677 STRING WEIGHT UP/DOWN/ROTATING = 130 / 100 / 116  BIT POSISTION: 7.2' North / 19.35' West Slide 115' @ 12.61% Depth/24.78% Time = 1.14 hrs. - Rot 797 ' @ 87.39% Depth/ 75.22% Time = 4.6 Hrs/ Bit Hrs =4.6/ D&C Hrs = 7.13  Slide 0' @ 0% Depth/0% Time = 0 Hrs. - Rot 378 ' @ 100% Depth/ 100% Time = 2.45Hrs. / Bit Hrs =7.92/ D&C Hrs = 11.7  MUD WEIGHT = 9 PPG VISCOSITY = 27 SECONDS HOLE IN GOOD CONDITION ZECO - DEWATERING CENTRIFUGE - RUNNING DE-SANDER - RUNNING DRILLING WITH GYPSUM SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
10/29/2015	0:00 - 12:30	12.50	DRLPRO	02	B	P	3966	VERICAL DRILL F/ 3,966' - 5380' ( 1414' / 10.8 HRS @ 130.9/FPH ) BIT HRS. 10.8 TOTAL BIT HRS 17.6 WEIGHT ON BIT = 19/24 K STROKES PER MINUTE - 158 GALLONS PER MINUTE = 596 MUD MOTOR RPM =89.28 TOP DRIVE RPM = 50 TOTAL RPM = 139 FT/LBS TORQUE = 10.1- 12.3K STPP = 2230 OFF BOTTOM = 1900 DIFF ROT- 330 PSI / DIFF SLIDE- 140 PSI STRING WEIGHT UP/DOWN/ROTATING = 135 / 108 / 117  BIT POSISTION: 8.68' North / 13.96' West Slide 9.' @ 6.57 % Depth/17.85% Time = 1.88 Hrs. – Rot 1322 ' @ 93.43% Depth/ 82.15% Time = 8.66Hrs. / Bit Hrs =17.6/ D&C Hrs = 22.4  MUD WEIGHT = 9 PPG VISCOSITY = 27 SECONDS HOLE IN GOOD CONDITION ZECO - CONVENTIONAL CENTRIFUGE - RUNNING DE-SANDER - RUNNING MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	12:30 - 13:00	0.50	DRLPRO	07	A	P	5380	RIG SERVICE
	13:00 - 0:00	11.00	DRLPRO	02	B	P	5380	VERTICAL DRILL F/ 5,380' - 6,302 ( 922' / 9.1 HRS @ 101/FPH ) BIT HRS. 9.1 TOTAL BIT HRS 26.7 WEIGHT ON BIT = 20/30 K STROKES PER MINUTE - 158 GALLONS PER MINUTE = 596 MUD MOTOR RPM =89.28 TOP DRIVE RPM = 50 TOTAL RPM = 139 FT/LBS TORQUE = 12- 14K STPP = 2230 OFF BOTTOM = 1900 DIFF ROT- 330 PSI / DIFF SLIDE- 140 PSI STRING WEIGHT UP/DOWN/ROTATING = 135 / 108 / 117  BIT POSISTION: 1.4' North / 4.86' West Slide 23' @ 4.73 % Depth/2.5% Time = .5 Hrs. – 898 ' @ 97.5% Depth/ 95.27% Time = 9.7Hrs. / Bit Hrs =27.7/ D&C Hrs = 33.8  MUD WEIGHT = 9.2 PPG VISCOSITY = 34 SECONDS HOLE IN GOOD CONDITION ZECO - CONVENTIONAL CENTRIFUGE - RUNNING DE-SANDER - RUNNING MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
10/30/2015	0:00 - 16:30	16.50	DRLPRO	02	B	P	6302	VERTICAL DRILL F/ 6,302' - 7,263 ( 961' / 14.8 HRS @ 65/FPH ) BIT HRS. 14.8 TOTAL BIT HRS 41.5 WEIGHT ON BIT = 20/30 K STROKES PER MINUTE - 158 GALLONS PER MINUTE = 596 MUD MOTOR RPM =89.28 TOP DRIVE RPM = 50 TOTAL RPM = 139 FT/LBS TORQUE = 12- 14K STPP = 2600 OFF BOTTOM = 2300 DIFF ROT- 330 PSI / DIFF SLIDE- 140 PSI STRING WEIGHT UP/DOWN/ROTATING = 168 / 124 / 142  BIT POSISTION: 6.3' North / 4.84' West Slide 62' @ 6.37 % Depth/12.35% Time = 1 .85 Hrs. - Rot 912 ' @ 93.63% Depth/ 87.65% Time = 13.13Hrs. / Bit Hrs =42.1/ D&C Hrs = 49.8  MUD WEIGHT = 9.0 PPG VISCOSITY = 31 SECONDS HOLE IN GOOD CONDITION ZECO - CONVENTIONAL CENTRIFUGE - RUNNING DE-SANDER - RUNNING MIXING HIGH VISCOSITY SWEEPS WITH CALCARB RIG SERVICE LUBRICATE RIG.
	16:30 - 17:00	0.50	DRLPRO	07	A	P	7263	
	17:00 - 0:00	7.00	DRLPRO	02	B	P	7263	VERTICAL DRILL F/ 7,263' - 7,650 ( 387' / 14.8 HRS @ 63/FPH ) BIT HRS. 6.1 TOTAL BIT HRS 47.6 WEIGHT ON BIT = 20/30 K STROKES PER MINUTE - 158 GALLONS PER MINUTE = 596 MUD MOTOR RPM =89.28 TOP DRIVE RPM = 50 TOTAL RPM = 139 FT/LBS TORQUE = 12- 14K STPP = 2600 OFF BOTTOM = 2300 DIFF ROT- 330 PSI / DIFF SLIDE- 140 PSI STRING WEIGHT UP/DOWN/ROTATING = 168 / 124 / 142  BIT POSISTION:15.92' North / 8.94' West Slide 0.0' @ 0.0 % Depth/0.0% Time = 0.0Hrs. - Rot 323 ' @ 100% Depth/ 100% Time = 6.1Hrs. / Bit Hrs =48.3/ D&C Hrs = 56.5  MUD WEIGHT = 9.0 PPG VISCOSITY = 31 SECONDS HOLE IN GOOD CONDITION ZECO - CONVENTIONAL CENTRIFUGE - RUNNING DE-SANDER - RUNNING MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
10/31/2015	0:00 - 14:30	14.50	DRLPRO	02	A	P	7650	VERTICAL DRILL F/ 7,650' - 8778' ( 1128' / 13.7 HRS @ 82.3/FPH ) BIT HRS. 13.7 TOTAL BIT HRS 61.3 WEIGHT ON BIT = 20/30 K STROKES PER MINUTE - 158 GALLONS PER MINUTE = 596 MUD MOTOR RPM =89.28 TOP DRIVE RPM = 50 TOTAL RPM = 139 FT/LBS TORQUE = 12- 14K STPP = 2885 OFF BOTTOM = 2490 DIFF ROT- 395 PSI / DIFF SLIDE- xx PSI STRING WEIGHT UP/DOWN/ROTATING = 173 / 126 / 152 4-10 BBL. GAINS ON CONNECTION GAS STARTING FROM 8100'  BIT POSISTION:8.94' North / 1.99' West Slide 0.0' @ 0.0 % Depth/0.0% Time = 0.0Hrs. - Rot 1124' @ 100% Depth/ 100% Time = 13.35Hrs. / Bit Hrs =61.3/ D&C Hrs = 70.3  MUD WEIGHT = 9.1 PPG VISCOSITY = 34 SECONDS HOLE IN GOOD CONDITION ZECO - CONVENTIONAL CENTRIFUGE - RUNNING DE-SANDER - RUNNING MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	14:30 - 15:00	0.50	DRLPRO	07	A	P	8778	PLANNED RIG SERVICE
	15:00 - 17:30	2.50	DRLPRO	02	B	P	8778	VERTICAL DRILL F/ 8778' - 8921'( 143' / 2.2 HRS @ 65/FPH ) BIT HRS. 2.2 TOTAL BIT HRS 63.5 WEIGHT ON BIT = 20/30 K STROKES PER MINUTE - 158 GALLONS PER MINUTE = 596 MUD MOTOR RPM =89.28 TOP DRIVE RPM = 50 TOTAL RPM = 139 FT/LBS TORQUE = 12- 14K STPP = 2900 OFF BOTTOM = 2500 DIFF ROT- 395 PSI / DIFF SLIDE- xx PSI STRING WEIGHT UP/DOWN/ROTATING = 186 / 126 / 150 8-10 BBL. GAINS ON CONNECTION GAS  BIT POSISTION: 8.94' North / 1.99' West Slide 0.0' @ 0.0 % Depth/0.0% Time = 0.0Hrs. - Rot 1124' @ 100% Depth/ 100% Time = 13.35Hrs. / Bit Hrs =61.3/ D&C Hrs = 70.3  MUD WEIGHT = 9.1 PPG VISCOSITY = 31 SECONDS HOLE IN GOOD CONDITION ZECO - CONVENTIONAL CENTRIFUGE - RUNNING DE-SANDER - RUNNING MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

US ROCKIES REGION  
**Operation Summary Report**

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	17:30 - 19:30	2.00	DRLPRO	05	B	P	8921	<p>AT 8921 WE TOOK A 17 BBL. GAIN WHILE DRILLING. WE STOPPED AND HAD A SMALL FLOW, THE MUD WAS VERY GAS CUT AND SHOWED SIGNS OF CO2 CONTAMINATION. SHUT THE WELL IN TO MONITOR THE PRESSURE. WE HAD ZERO PRESSURE ON THE CASING AND DRILL PIPE.</p> <p>WE CALLED MOE AND TALKED ABOUT OPENING THE WELL FIRST THROUGH THE CHOKE AND THEN THE FLOW LINE AND IF IT WAS STABLE TO DISPLACE WITH THE HEAVY MUD WHILE WE COULD DO IT AND STILL RECIPROCATATE AND CIRCULATE TO AVOID GETTING STUCK. WE MONITORED THE WELL AND DID NOT HAVE FLOW AND STARTED OUR MUD TRANSFER. TRANSFER AS PLANNED WITH A SMALL FLARE DURING TRANSFER.</p>
	19:30 - 0:00	4.50	DRLPRO	02	B	P	8921	<p>VERTICAL DRILL F/ 8921' - 9086'( 165' / 13.7 HRS @ 47/FPH )</p> <p>BIT HRS. 3.5 TOTAL BIT HRS 67.0            WEIGHT ON BIT = 20/30 K            STROKES PER MINUTE - 158            GALLONS PER MINUTE = 596            MUD MOTOR RPM =89.28            TOP DRIVE RPM = 50 TOTAL RPM = 139            FT/LBS TORQUE = 12- 14K            STPP = 3100 OFF BOTTOM = 2600            DIFF ROT- 395 PSI / DIFF SLIDE- xx PSI            STRING WEIGHT UP/DOWN/ROTATING = 208 / 131 / 150</p> <p>8-10 BBL. GAINS ON CONNECTION GAS</p> <p>BIT POSISTION: 2.61' North / 2.68' East            Slide 18' @ 5.86% Depth/84.18% Time = .93 Hrs. -            Rot 289 ' @ 94.14% Depth/ 84.18% Time = 4.96Hrs. /            Bit Hrs =67.5/ D&amp;C Hrs = 78.9</p> <p>MUD WEIGHT = 11.5 PPG VISCOSITY = 39 SECONDS            HOLE IN GOOD CONDITION ZECO -            CONVENTIONAL CENTRIFUGE - RUNNING            DE-SANDER - RUNNING            MIXING HIGH VISCOSITY SWEEPS WITH CALCARB</p>

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
11/1/2015	0:00 - 15:00	16.00	DRLPRO	02	B	P	9086	VERTICAL DRILL F/ 9086' - 9580'( 494' / 14.7 HRS @ 33.7/FPH ) BIT HRS. 14.7 TOTAL BIT HRS 82.2 WEIGHT ON BIT = 20/27 K STROKES PER MINUTE - 141 GALLONS PER MINUTE = 540 MUD MOTOR RPM =81 TOP DRIVE RPM = 40/50 TOTAL RPM = 131 FT/LBS TORQUE = 12- 14K STPP = 3490 OFF BOTTOM = 3110 DIFF ROT- 380 PSI / DIFF SLIDE- xx PSI STRING WEIGHT UP/DOWN/ROTATING = 208 / 131 / 149  BIT POSISTION: 1.95' South / 6.6' East Slide 0.0' @ 0.0% Depth/0.0% Time = 0.0 Hrs. - Rot 498 ' @ 100% Depth/ 100% Time = 14.1Hrs. / Bit Hrs =82.2/ D&C Hrs = 94.9  MUD WEIGHT = 11.7 PPG VISCOSITY = 39 SECONDS LCM= 8-10% HOLE IN GOOD CONDITION ZECO - CONVENTIONAL CENTRIFUGE - RUNNING DE-SANDER - RUNNING MIXING SWEEPS WITH NUTPLUG
	15:00 - 15:30	0.50	DRLPRO	07	A	P	9580	RIG SERVICE
	15:30 - 0:00	8.50	DRLPRO	02	B	P	9580	VERTICAL DRILL F/ 9580'- 9,778 ( 198' / 7.8 HRS @ 28.3/FPH ) BIT HRS. 7.8 TOTAL BIT HRS 90.0 WEIGHT ON BIT = 20/27 K STROKES PER MINUTE - 141 GALLONS PER MINUTE = 530 MUD MOTOR RPM =81 TOP DRIVE RPM = 40/50 TOTAL RPM = 131 FT/LBS TORQUE = 12- 14K STPP = 3490 OFF BOTTOM = 3110 DIFF ROT- 380 PSI / DIFF SLIDE- 150 PSI STRING WEIGHT UP/DOWN/ROTATING = 216 / 129 / 159  BIT POSISTION: 5.91' South / 10.28' East Slide 18' @ 5.86% Depth/84.18% Time = .93 Hrs. - Rot 289 ' @ 94.14% Depth/ 84.18% Time = 4.96Hrs. / Bit Hrs =67.5/ D&C Hrs = 78.9  MUD WEIGHT = 11.7 PPG VISCOSITY = 43 SECONDS LCM= 8-10% HOLE IN GOOD CONDITION ZECO - CONVENTIONAL CENTRIFUGE - RUNNING DE-SANDER - RUNNING MIXING SWEEPS WITH NUTPLUG

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
11/2/2015	0:00 - 6:30	6.50	DRLPRO	02	B	P	9778	VERTICAL DRILL F/ 9,778'-9930' ( 152' / 6.2 HRS @ 24.5/FPH ) BIT HRS. 6.2 TOTAL BIT HRS 96.2 WEIGHT ON BIT = 20/27 K STROKES PER MINUTE - 138 GALLONS PER MINUTE = 520 MUD MOTOR RPM =81 TOP DRIVE RPM = 40/50 TOTAL RPM = 131 FT/LBS TORQUE = 12- 17K STPP = 3300 OFF BOTTOM = 3130 DIFF ROT- 200/380 PSI / DIFF SLIDE- NA STRING WEIGHT UP/DOWN/ROTATING = 216 / 129 / 159  BIT POSISTION: 5.91' South / 10.28' East Slide 18' @ 5.86% Depth/84.18% Time = .93 Hrs. - Rot 289' @ 94.14% Depth/ 84.18% Time = 4.96Hrs. / Bit Hrs =67.5/ D&C Hrs = 78.9  MUD WEIGHT = 11.7 PPG VISCOSITY = 43 SECONDS LCM= 8-10% HOLE IN GOOD CONDITION ZECO - CONVENTIONAL CENTRIFUGE - RUNNING DE-SANDER - RUNNING MIXING SWEEPS WITH NUTPLUG
	6:30 - 7:30	1.00	CSGPRO	05	C	P	9930	CIRCULATE AND CONDITION THE HOLE FOR THE TRIP OUT
	7:30 - 8:00	0.50	CSGPRO	05	J	P	9930	SURVEY AND FLOW CHECK
	8:00 - 10:00	2.00	CSGPRO	05	B	P	9930	WE CIRCULATED BOTTOM UP AND HAD AN 11 BBL. GAIN WITH 3388 UNITS OF GAS. WE CONTINUED TO CIRCULATE AND RAISED THE MW FROM 11.8 TO 12.0
	10:00 - 17:00	7.00	CSGPRO	06	D	P	9930	TRIP OUT OF THE HOLE TO RUN CASING
	17:00 - 18:00	1.00	CSGPRO	06	D	P	9930	LAY DOWN DIRECTIONAL TOOLS MOTOR AND BIT (BIT GRADED AT A 3/3)
	18:00 - 18:30	0.50	CSGPRO	14	B	P	9930	PULL WEAR BUSHING
	18:30 - 19:30	1.00	CSGPRO	12	A	P	9930	SAFETY MEETING WITH FRANKS CASING AND CREW RIG UP CASING EQUIPMENT.
	19:30 - 0:00	4.50	CSGPRO	12	C	P	9930	SAFETY MEETING WITH FRANKS RUN 4.5 CASING RUN THE SHOE TRACK- TEST FLOAT ( PUMPED THROUGH TEST GOOD) CASING TALLY OF A TOTAL OF 110 JTS OF LTC 11.6 PPF P-110 CASING.AND 114 JNTS OF DQX 11.6 PPF P-110 CASING 1-MV / MARKER @7,813' FC @ 9,874 / SHOE @ 9,921'

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING		Start date: 3/10/2014	End date: 11/3/2015
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
11/3/2015	0:00 - 4:30	4.50	CSGPRO	12	C	P	9930	<p>FINISHED RUNNING AND LANDED THE CASING RAN A TOTAL OF 225 JTS. OF CASING = ( 110 JTS OF 4.5" / 11.6# / HCP110 / LTC + 1 MARKER JT) + ( 113 JTS OF 4.5" / 11.6# / HCP110 / LTC + 1 CROSS OVER).MV MARKER @ 7813.49', CROSS OVER @ 5001.69'.</p> <p>FROM GL: SHOE @ 9908.7 / FC @ 9862.7</p> <p>FROM KB: SHOE @ 9921.7 / FC @ 9875.7</p> <p>LEFT OUT: 5 LTC + 1-BAD JT 5 DQX 1 MJ 1 X/O</p>
	4:30 - 6:00	1.50	CSGPRO	05	D	P	9930	<p>CIRCULATED THE CASING ON BOTTOM SPM - 57 GPM-220 SPP - 351</p>
	6:00 - 9:30	3.50	CSGPRO	12	E	P	9930	<p>WE HELD A SAFETY MEETING WITH SCHLUMBERGER</p> <p>PRESSURE TEST TO 5000 PSI. PUMP 30 BBL. CHEMICAL WASH, . DROPPED THE BOTTOM PLUG AND PUMPED 216 BBLs (894 SX) OF CLASS G LEAD CEMENT, 12.8 PPG 1.36 YLD, 53.01 #/SK D035 + 0.10% BWOC D208 + 0.2% BWOC D065 +.20 % BWOC D046 + .25 #/SK D029 + 0.50% BWOC D079 + 0.54 % BWOC D800 , 6.296 GL./SK FRESH WATER . FOLLOWED BY 280 BBLs (1171 SX) OF 14.5#, 1.34 YLD. CLASS G POZ TAIL CEMENT + 35.01#/SK D035 + 20.10% BWOC D066 +0.05% BWOC D208 + 0.22 % BWOC D800 + 0.20 % BWOC D046 + 0.30 % BWOC B477 + 5.585 GL/SK FRESH WATER . SHUT DOWN AND DROP PLUG AND DISPLACE W/ 153.4 BBLs OF FRESH WATER. FULL RETURNS WITH 60 BBLs OF CEMENT RETURNED TO SURFACE. LIFT PSI OF 2295 / 2967 BUMP PLUG PSI. . PRESSURE HELD 4 MINS. FLOAT HELD. FLOW BACK 1.5 BBLs. EST. TOC FOR LEAD 1200', EST TOC OF TAIL CEMENT 4295'.</p> <p>WE HAD CEMENT TO SURFACE WITH 50 BBL. OF DISPLACEMENT PUMPED AND FULL RETURNS. AT 100 BBL. OF DISPLACEMENT WE STARTED LOOSING PARTIAL RETURNS @ 100 BBL. OF DIPLACEMENT AWAY AND BACK THE RATE DOWN FROM 6.5 BPM TO 5.2 BPM. THE CIRCULATION STABILIZED FOR A SHORT TIME THEN STARTED TO LOOSE FLOW AGAIN. AT 110 BBL. OF DISPLACEMENT WE BACKED DOWN TO 4.2 BPM PUMP RATE. AT PLUG DOWN WE WERE PUMPING 2.1 BPM WITH MARGINAL RETURNS. THE CEMENT TOPS ARE ESTIMATED AND WILL HAVE TO BE VERIFIED BY A CBL.</p>

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23B4BS RED				Spud date: 3/10/2014				
Project: UTAH-UINTAH			Site: NBU 921-23B PAD			Rig name no.: ENSIGN 145/145, CAPSTAR 310/310		
Event: DRILLING			Start date: 3/10/2014			End date: 11/3/2015		
Active datum: RKB @4,859.00usft (above Mean Sea Level)				UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0				
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	9:30 - 10:00	0.50	CSGPRO	12	B	P	9930	RIG DOWN SCHLUMBERGER
	10:00 - 10:30	0.50	RDMO	14	B	P	9930	INSTALL THE PACK OFF AND RELEASE THE RIG RIG RELEASE @ 10:30

# **ANADARKO PETROLEUM CORP**

**UINTAH COUNTY, UTAH (NAD 27)**

**SEC. 23 T9S R21E (NBU 921-23B PAD)**

**NBU 921-23B4BS**

**PRODUCTION - JOB #2015-134-145**

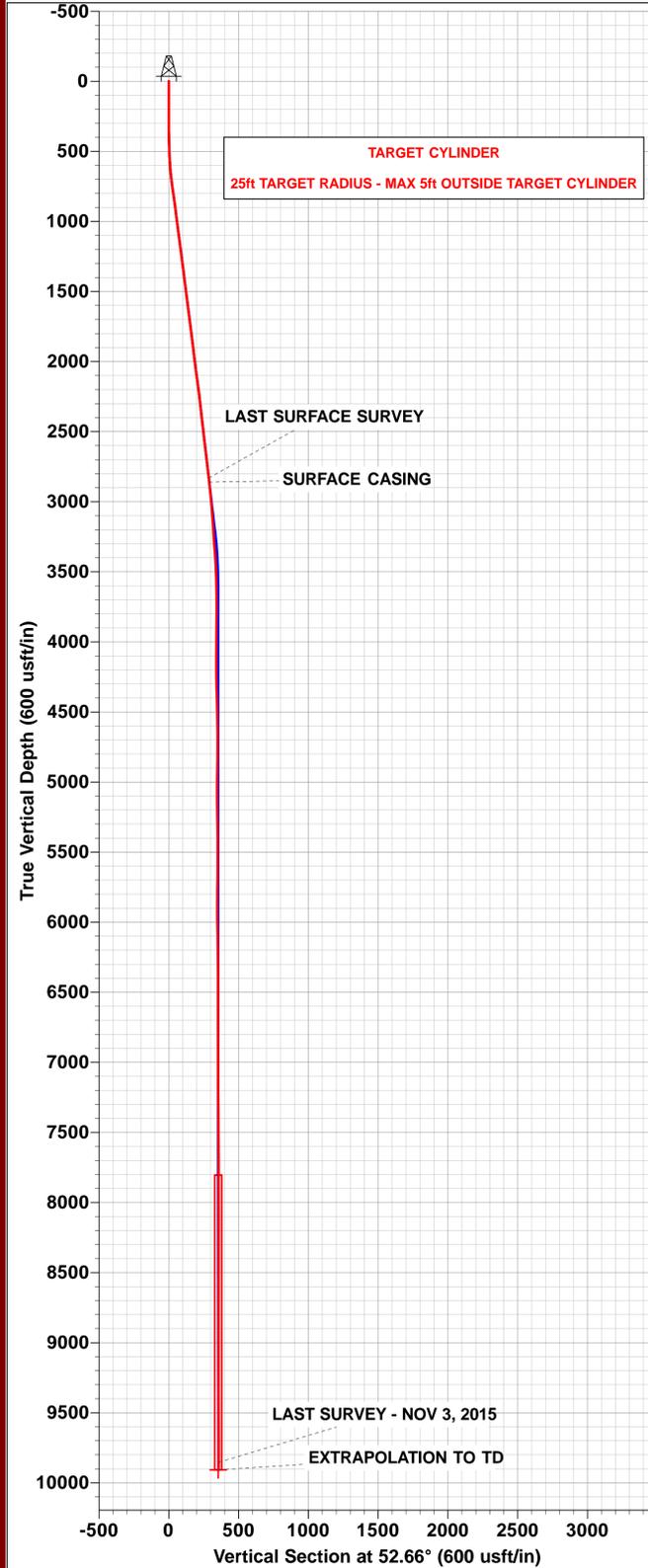
**03 November, 2015**

**Survey: FINAL SURVEYS - PRODUCTION**





Project: UINTAH COUNTY, UTAH (NAD 27)  
 Site: SEC. 23 T9S R21E (NBU 921-23B PAD)  
 Well: NBU 921-23B4BS  
 Wellbore: PRODUCTION - JOB #2015-134-145  
 Design: FINAL SURVEYS - PRODUCTION



PROJECT DETAILS: UINTAH COUNTY, UTAH (NAD 27)

Geodetic System: Universal Transverse Mercator (US Survey Feet)

Datum: NAD 1927 (NADCON CONUS)

Ellipsoid: Clarke 1866

Zone: Zone 12N (114 W to 108 W)

Padsite: SEC. 23 T9S R21E (NBU 921-23B PAD)

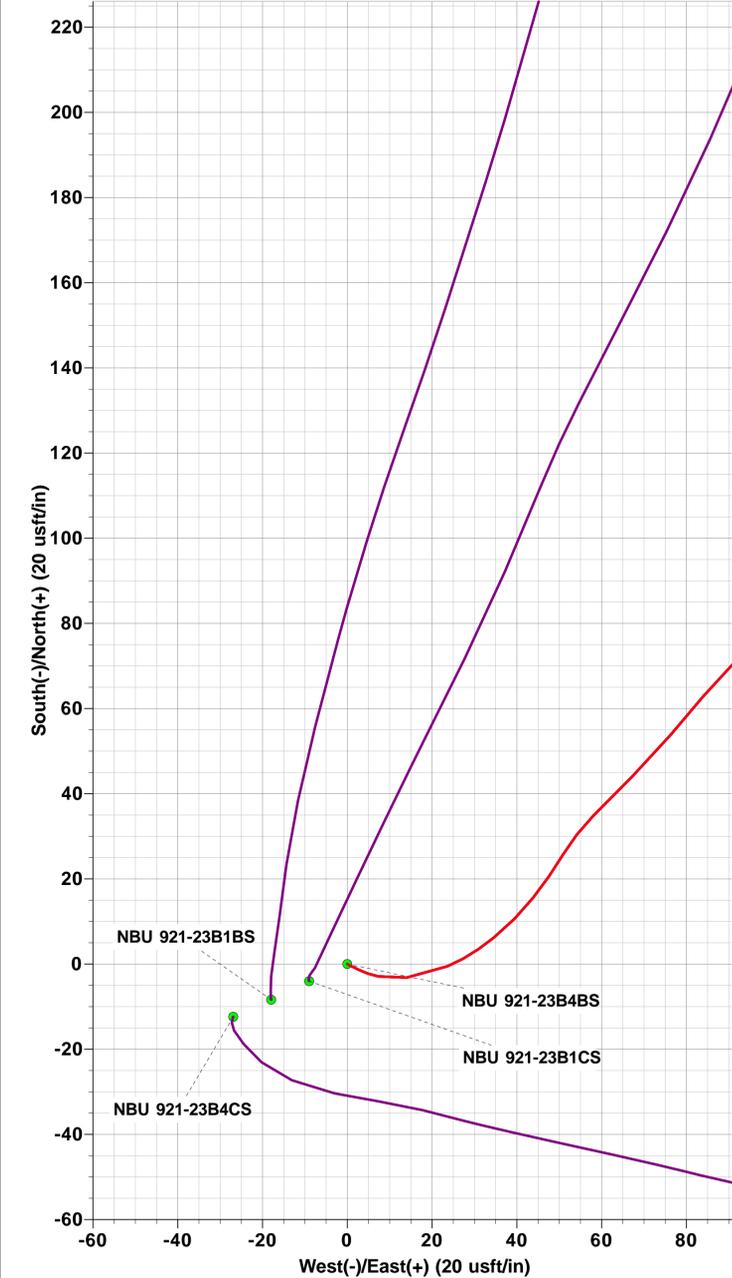
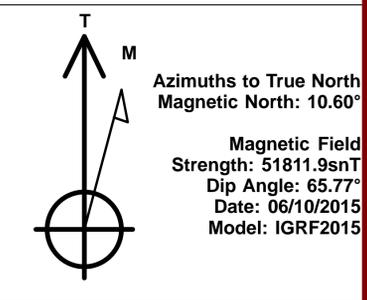
WELL DETAILS: NBU 921-23B4BS

Ground Level: 4845.9

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	14538882.44	2055776.86	40.025757	-109.516351

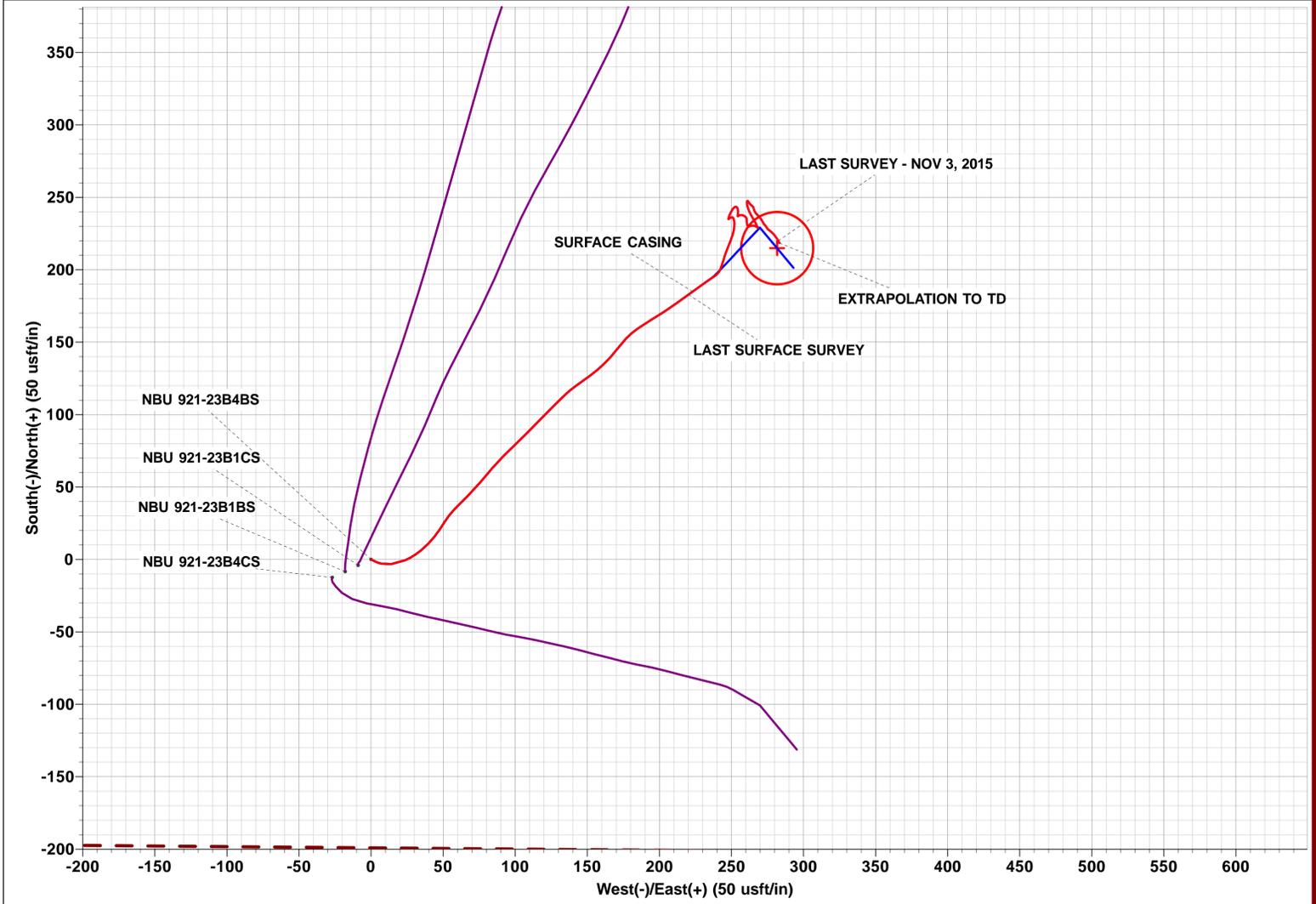
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - NBU 921-23B4BS	9908.0	214.9	281.7	14539101.99	2056054.93	40.026347	-109.515345



ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
2830.7	2848.9	6.80	54.79	182.9	220.2	286.0	296.0	LAST SURFACE SURVEY
2860.6	2879.0	6.54	54.61	184.9	223.1	289.5	299.3	SURFACE CASING
9853.1	9875.0	1.85	152.46	220.0	282.5	358.1	466.6	LAST SURVEY - NOV 3, 2015
9908.1	9930.0	1.85	152.46	218.5	283.4	357.8	468.4	EXTRAPOLATION TO TD





Survey Report



<b>Company:</b>	ANADARKO PETROLEUM CORP	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23B4BS
<b>Project:</b>	UINTAH COUNTY, UTAH (NAD 27)	<b>TVD Reference:</b>	KB @ 4858.9usft (ENS 145)
<b>Site:</b>	SEC. 23 T9S R21E (NBU 921-23B PAD)	<b>MD Reference:</b>	KB @ 4858.9usft (ENS 145)
<b>Well:</b>	NBU 921-23B4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	PRODUCTION - JOB #2015-134-145	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS - PRODUCTION	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	UINTAH COUNTY, UTAH (NAD 27)		
<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)	Using geodetic scale factor	

<b>Site</b>	SEC. 23 T9S R21E (NBU 921-23B PAD)				
<b>Site Position:</b>		<b>Northing:</b>	14,538,882.44 usft	<b>Latitude:</b>	40.025757
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,055,776.86 usft	<b>Longitude:</b>	-109.516351
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	1.10000ft	<b>Grid Convergence:</b>	0.95 °

<b>Well</b>	NBU 921-23B4BS					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,538,882.44 usft	<b>Latitude:</b>	40.025757
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	2,055,776.86 usft	<b>Longitude:</b>	-109.516351
<b>Position Uncertainty</b>	0.0 usft		<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	4,845.9 usft

<b>Wellbore</b>	PRODUCTION - JOB #2015-134-145				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	06/10/2015	10.60	65.77	51,812

<b>Design</b>	FINAL SURVEYS - PRODUCTION				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	52.66	

<b>Survey Program</b>	<b>Date</b>	03/11/2015			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
139.9	9,930.0	FINAL SURVEYS - PRODUCTION (PROD	MWD	MWD - Standard	

<b>Survey</b>											
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>Subsea Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.0	0.00	0.00	0.0	-4,858.9	0.0	0.0	0.0	0.00	0.00	0.00	0.00
139.9	0.09	94.23	139.9	-4,719.0	0.0	0.1	0.1	0.06	0.06	0.06	0.00
233.9	0.10	193.54	233.9	-4,625.0	-0.1	0.2	0.1	0.15	0.01	105.65	
326.9	0.62	109.52	326.9	-4,532.0	-0.3	0.6	0.3	0.66	0.56	-90.34	
419.9	2.37	117.26	419.9	-4,439.0	-1.4	2.8	1.4	1.89	1.88	8.32	
513.9	3.45	102.28	513.7	-4,345.2	-2.9	7.3	4.1	1.40	1.15	-15.94	
606.9	4.92	85.62	606.5	-4,252.4	-3.2	14.0	9.2	2.04	1.58	-17.91	
702.9	7.22	67.14	702.0	-4,156.9	-0.5	23.7	18.5	3.11	2.40	-19.25	
797.9	8.43	50.78	796.1	-4,062.8	6.2	34.6	31.3	2.66	1.27	-17.22	
890.9	7.92	38.22	888.1	-3,970.8	15.6	43.8	44.3	1.99	-0.55	-13.51	
985.9	7.03	31.21	982.3	-3,876.6	25.7	50.9	56.0	1.34	-0.94	-7.38	
1,077.9	7.56	44.49	1,073.6	-3,785.3	34.8	58.0	67.3	1.92	0.58	14.43	
1,171.9	8.35	45.19	1,166.7	-3,692.2	44.0	67.2	80.1	0.85	0.84	0.74	



## Survey Report



<b>Company:</b>	ANADARKO PETROLEUM CORP	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23B4BS
<b>Project:</b>	UINTAH COUNTY, UTAH (NAD 27)	<b>TD Reference:</b>	KB @ 4858.9usft (ENS 145)
<b>Site:</b>	SEC. 23 T9S R21E (NBU 921-23B PAD)	<b>MD Reference:</b>	KB @ 4858.9usft (ENS 145)
<b>Well:</b>	NBU 921-23B4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	PRODUCTION - JOB #2015-134-145	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS - PRODUCTION	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,265.9	7.91	40.18	1,259.8	-3,599.1	53.8	76.2	93.2	0.89	-0.47	-5.33
1,358.9	6.95	40.79	1,352.0	-3,506.9	62.9	84.0	105.0	1.04	-1.03	0.66
1,450.9	6.77	44.84	1,443.3	-3,415.6	71.0	91.5	115.8	0.56	-0.20	4.40
1,544.9	7.30	46.24	1,536.6	-3,322.3	79.0	99.7	127.2	0.59	0.56	1.49
1,638.9	7.39	45.01	1,629.8	-3,229.1	87.4	108.3	139.1	0.19	0.10	-1.31
1,734.9	7.83	44.66	1,725.0	-3,133.9	96.5	117.3	151.7	0.46	0.46	-0.36
1,826.9	7.65	45.01	1,816.1	-3,042.8	105.3	126.0	164.0	0.20	-0.20	0.38
1,920.9	6.33	45.98	1,909.4	-2,949.5	113.3	134.2	175.4	1.41	-1.40	1.03
2,011.9	6.95	55.12	1,999.8	-2,859.1	119.9	142.3	185.8	1.34	0.68	10.04
2,105.9	7.91	53.54	2,093.0	-2,765.9	127.0	152.1	198.0	1.04	1.02	-1.68
2,200.9	7.83	45.63	2,187.2	-2,671.7	135.4	162.0	211.0	1.14	-0.08	-8.33
2,295.9	6.68	37.28	2,281.4	-2,577.5	144.3	170.0	222.7	1.64	-1.21	-8.79
2,388.9	6.33	43.25	2,373.8	-2,485.1	152.4	176.8	233.0	0.82	-0.38	6.42
2,483.9	6.51	55.21	2,468.2	-2,390.7	159.3	184.8	243.5	1.42	0.19	12.59
2,576.9	7.21	58.55	2,560.5	-2,298.4	165.3	194.1	254.6	0.87	0.75	3.59
2,670.9	6.60	57.76	2,653.9	-2,205.0	171.3	203.7	265.8	0.66	-0.65	-0.84
2,765.9	6.33	53.36	2,748.3	-2,110.6	177.3	212.5	276.5	0.59	-0.28	-4.63
<b>LAST SURFACE SURVEY</b>										
<b>2,848.9</b>	<b>6.80</b>	<b>54.79</b>	<b>2,830.7</b>	<b>-2,028.2</b>	<b>182.9</b>	<b>220.2</b>	<b>286.0</b>	<b>0.60</b>	<b>0.57</b>	<b>1.72</b>
<b>SURFACE CASING</b>										
<b>2,879.0</b>	<b>6.54</b>	<b>54.61</b>	<b>2,860.6</b>	<b>-1,998.3</b>	<b>184.9</b>	<b>223.1</b>	<b>289.5</b>	<b>0.86</b>	<b>-0.85</b>	<b>-0.58</b>
2,966.0	5.80	54.02	2,947.1	-1,911.8	190.4	230.7	298.8	0.86	-0.85	-0.68
3,060.0	4.70	58.06	3,040.7	-1,818.2	195.2	237.8	307.4	1.23	-1.17	4.30
3,155.0	4.26	22.47	3,135.4	-1,723.5	200.5	242.4	314.4	2.91	-0.46	-37.46
3,249.0	4.61	14.91	3,229.1	-1,629.8	207.4	244.7	320.4	0.72	0.37	-8.04
3,344.0	5.45	22.64	3,323.8	-1,535.1	215.2	247.5	327.3	1.13	0.88	8.14
3,439.0	4.13	19.21	3,418.4	-1,440.5	222.6	250.3	334.0	1.42	-1.39	-3.61
3,533.0	2.72	9.02	3,512.3	-1,346.6	228.0	251.8	338.5	1.63	-1.50	-10.84
3,628.0	1.98	357.94	3,607.2	-1,251.7	231.9	252.1	341.1	0.91	-0.78	-11.66
3,722.0	1.05	342.91	3,701.2	-1,157.7	234.3	251.8	342.3	1.07	-0.99	-15.99
3,817.0	0.66	335.88	3,796.1	-1,062.8	235.7	251.3	342.7	0.42	-0.41	-7.40
3,911.0	0.75	280.60	3,890.1	-968.8	236.3	250.5	342.4	0.70	0.10	-58.81
4,006.0	0.92	234.19	3,985.1	-873.8	235.9	249.2	341.3	0.71	0.18	-48.85
4,100.0	0.97	225.76	4,079.1	-779.8	234.9	248.0	339.7	0.16	0.05	-8.97
4,195.0	0.88	28.35	4,174.1	-684.8	235.0	247.8	339.6	1.92	-0.09	171.15
4,290.0	1.10	7.96	4,269.1	-589.8	236.6	248.3	340.9	0.43	0.23	-21.46
4,384.0	2.50	28.09	4,363.1	-495.8	239.3	249.4	343.4	1.61	1.49	21.41
4,479.0	1.36	32.31	4,458.0	-400.9	242.1	251.0	346.3	1.21	-1.20	4.44
4,573.0	0.83	63.86	4,552.0	-306.9	243.3	252.2	348.1	0.83	-0.56	33.56
4,668.0	0.57	104.56	4,647.0	-211.9	243.5	253.2	349.0	0.57	-0.27	42.84
4,762.0	0.70	142.26	4,741.0	-117.9	242.9	254.0	349.3	0.46	0.14	40.11
4,857.0	1.14	177.94	4,836.0	-22.9	241.5	254.4	348.8	0.74	0.46	37.56
4,951.0	1.54	176.01	4,929.9	71.0	239.3	254.6	347.5	0.43	0.43	-2.05
5,046.0	1.10	203.96	5,024.9	166.0	237.2	254.3	346.0	0.81	-0.46	29.42
5,140.0	1.01	42.42	5,118.9	260.0	237.0	254.5	346.1	2.22	-0.10	-171.85
5,235.0	1.01	80.30	5,213.9	355.0	237.8	255.9	347.6	0.69	0.00	39.87
5,329.0	0.97	97.17	5,307.9	449.0	237.8	257.5	348.9	0.31	-0.04	17.95
5,424.0	0.88	128.72	5,402.9	544.0	237.2	258.8	349.7	0.54	-0.09	33.21
5,519.0	0.83	127.41	5,497.8	638.9	236.4	259.9	350.0	0.06	-0.05	-1.38
5,613.0	0.70	174.52	5,591.8	732.9	235.4	260.5	349.9	0.66	-0.14	50.12
5,708.0	0.87	178.12	5,686.8	827.9	234.1	260.6	349.2	0.19	0.18	3.79
5,802.0	0.83	176.19	5,780.8	921.9	232.7	260.7	348.4	0.05	-0.04	-2.05
5,897.0	1.54	166.08	5,875.8	1,016.9	230.8	261.0	347.5	0.78	0.75	-10.64



## Survey Report



<b>Company:</b>	ANADARKO PETROLEUM CORP	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23B4BS
<b>Project:</b>	UINTAH COUNTY, UTAH (NAD 27)	<b>TD Reference:</b>	KB @ 4858.9usft (ENS 145)
<b>Site:</b>	SEC. 23 T9S R21E (NBU 921-23B PAD)	<b>MD Reference:</b>	KB @ 4858.9usft (ENS 145)
<b>Well:</b>	NBU 921-23B4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	PRODUCTION - JOB #2015-134-145	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS - PRODUCTION	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,992.0	0.88	67.03	5,970.8	1,111.9	229.8	262.0	347.7	1.99	-0.69	-104.26
6,086.0	0.88	69.93	6,064.8	1,205.9	230.3	263.4	349.1	0.05	0.00	3.09
6,181.0	1.10	96.56	6,159.8	1,300.9	230.5	265.0	350.5	0.53	0.23	28.03
6,275.0	0.97	110.44	6,253.7	1,394.8	230.1	266.6	351.5	0.30	-0.14	14.77
6,370.0	0.66	132.94	6,348.7	1,489.8	229.4	267.8	352.0	0.46	-0.33	23.68
6,465.0	0.09	353.29	6,443.7	1,584.8	229.1	268.1	352.2	0.77	-0.60	-147.00
6,559.0	0.48	128.90	6,537.7	1,678.8	229.0	268.4	352.3	0.58	0.41	144.27
6,654.0	0.83	326.22	6,632.7	1,773.8	229.3	268.4	352.4	1.36	0.37	-171.24
6,748.0	0.53	314.26	6,726.7	1,867.8	230.2	267.7	352.4	0.35	-0.32	-12.72
6,843.0	0.35	339.66	6,821.7	1,962.8	230.7	267.3	352.4	0.28	-0.19	26.74
6,937.0	0.04	336.76	6,915.7	2,056.8	231.0	267.2	352.5	0.33	-0.33	-3.09
7,032.0	0.35	125.56	7,010.7	2,151.8	230.9	267.4	352.6	0.41	0.33	156.63
7,126.0	2.24	331.58	7,104.7	2,245.8	232.4	266.7	353.0	2.72	2.01	-163.81
7,221.0	1.98	327.89	7,199.6	2,340.7	235.4	265.0	353.4	0.31	-0.27	-3.88
7,316.0	2.02	333.16	7,294.6	2,435.7	238.3	263.3	353.9	0.20	0.04	5.55
7,410.0	1.36	336.06	7,388.5	2,529.6	240.8	262.1	354.5	0.71	-0.70	3.09
7,505.0	1.45	342.65	7,483.5	2,624.6	242.9	261.3	355.1	0.19	0.09	6.94
7,599.0	1.14	353.55	7,577.5	2,718.6	245.0	260.9	356.0	0.42	-0.33	11.60
7,693.0	0.66	354.25	7,671.5	2,812.6	246.5	260.7	356.8	0.51	-0.51	0.74
7,788.0	0.44	38.20	7,766.5	2,907.6	247.3	260.9	357.4	0.48	-0.23	46.26
7,883.0	0.35	100.60	7,861.5	3,002.6	247.5	261.4	358.0	0.44	-0.09	65.68
7,977.0	0.97	160.37	7,955.4	3,096.5	246.7	261.9	357.9	0.90	0.66	63.59
8,072.0	1.05	132.86	8,050.4	3,191.5	245.4	262.9	357.8	0.51	0.08	-28.96
8,166.0	1.14	125.91	8,144.4	3,285.5	244.2	264.2	358.2	0.17	0.10	-7.39
8,261.0	0.48	160.28	8,239.4	3,380.5	243.3	265.1	358.4	0.83	-0.69	36.18
8,356.0	0.88	167.31	8,334.4	3,475.5	242.2	265.4	358.0	0.43	0.42	7.40
8,450.0	0.88	155.18	8,428.4	3,569.5	240.9	265.9	357.5	0.20	0.00	-12.90
8,545.0	1.27	151.14	8,523.4	3,664.5	239.3	266.7	357.2	0.42	0.41	-4.25
8,634.0	0.97	122.48	8,612.4	3,753.5	238.0	267.8	357.3	0.70	-0.34	-32.20
8,723.0	1.45	139.45	8,701.3	3,842.4	236.8	269.2	357.6	0.67	0.54	19.07
8,813.0	1.19	146.39	8,791.3	3,932.4	235.1	270.4	357.6	0.34	-0.29	7.71
8,902.0	1.71	150.61	8,880.3	4,021.4	233.2	271.6	357.4	0.60	0.58	4.74
8,992.0	0.48	152.28	8,970.3	4,111.4	231.7	272.4	357.1	1.37	-1.37	1.86
9,081.0	0.57	129.16	9,059.3	4,200.4	231.1	273.0	357.2	0.26	0.10	-25.98
9,170.0	0.62	144.19	9,148.3	4,289.4	230.4	273.6	357.3	0.18	0.06	16.89
9,259.0	1.23	146.04	9,237.2	4,378.3	229.2	274.4	357.2	0.69	0.69	2.08
9,349.0	0.48	141.73	9,327.2	4,468.3	228.1	275.2	357.1	0.84	-0.83	-4.79
9,438.0	1.58	124.95	9,416.2	4,557.3	227.1	276.4	357.5	1.27	1.24	-18.85
9,528.0	0.70	139.45	9,506.2	4,647.3	226.0	277.8	357.9	1.02	-0.98	16.11
9,617.0	1.27	130.34	9,595.2	4,736.3	225.0	278.9	358.2	0.66	0.64	-10.24
9,706.0	1.10	150.08	9,684.2	4,825.3	223.6	280.1	358.3	0.49	-0.19	22.18
9,795.0	1.49	138.66	9,773.1	4,914.2	222.0	281.3	358.2	0.52	0.44	-12.83
<b>LAST SURVEY - NOV 3, 2015</b>										
<b>9,875.0</b>	<b>1.85</b>	<b>152.46</b>	<b>9,853.1</b>	<b>4,994.2</b>	<b>220.0</b>	<b>282.5</b>	<b>358.1</b>	<b>0.67</b>	<b>0.45</b>	<b>17.24</b>
<b>EXTRAPOLATION TO TD</b>										
<b>9,930.0</b>	<b>1.85</b>	<b>152.46</b>	<b>9,908.1</b>	<b>5,049.2</b>	<b>218.5</b>	<b>283.4</b>	<b>357.8</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>



## Survey Report



<b>Company:</b>	ANADARKO PETROLEUM CORP	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23B4BS
<b>Project:</b>	UINTAH COUNTY, UTAH (NAD 27)	<b>TVD Reference:</b>	KB @ 4858.9usft (ENS 145)
<b>Site:</b>	SEC. 23 T9S R21E (NBU 921-23B PAD)	<b>MD Reference:</b>	KB @ 4858.9usft (ENS 145)
<b>Well:</b>	NBU 921-23B4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	PRODUCTION - JOB #2015-134-145	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS - PRODUCTION	<b>Database:</b>	EDM 5000.1 Single User Db

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
BTV - NBU 921-23B4BS	0.00	0.00	7,712.5	229.1	269.8	14,539,115.96	2,056,042.75	40.026386	-109.515388
- survey misses target center by 20.0usft at 7733.9usft MD (7712.4 TVD, 246.9 N, 260.7 E)									
- Point									
BHL - NBU 921-23B4BS	0.00	0.00	9,908.0	214.9	281.7	14,539,101.99	2,056,054.93	40.026347	-109.515345
- survey misses target center by 3.9usft at 9930.0usft MD (9908.1 TVD, 218.5 N, 283.4 E)									
- Circle (radius 25.0)									

Survey Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
2,848.9	2,830.7	182.9	220.2	LAST SURFACE SURVEY	
2,879.0	2,860.6	184.9	223.1	SURFACE CASING	
9,875.0	9,853.1	220.0	282.5	LAST SURVEY - NOV 3, 2015	
9,930.0	9,908.1	218.5	283.4	EXTRAPOLATION TO TD	

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

US ROCKIES REGION  
**Operation Summary Report**

Well: NBU 921-23B4BS RED

Spud date: 3/10/2014

Project: UTAH-UINTAH

Site: NBU 921-23B PAD

Rig name no.: MILES 2/2

Event: COMPLETION

Start date: 12/11/2015

End date: 1/8/2016

Active datum: RKB @4,859.00usft (above Mean Sea Level)

UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
11/28/2015	-							
12/11/2015	6:30 - 7:30	1.00	FRAC	52	B	P		FILL SURFACE TEST CSG & FRAC VALVES 1ST PSI TEST TO 9000 PSI FOR 15 MIN LOST -34 PSI, NO MIGRATION OR COMMUNICATION WITH SURFACE CSG.
	7:30 - 8:30	1.00	FRAC	37	E	P		TEST 8 5/8 X 4 1/2 SURFACE CASING TO 500 PSI FOR 5 MIN LOST -45 PSI. SURFACE HAD 150 PSI , BLED DOWN IN 1 MIN FILLED WITH 1 BBL WATER RU WIRE LINE PERFERD 1ST STAGE AS DESIGNED POOH SWIFW
12/14/2015	-		FRAC					
	0:00 - 10:30	10.50	FRAC	36	H	P		FRAC STAGE # 1 RED) WHP 1773 PSI, BRK 3698 PSI @ 4 BPM. ISIP 2975 PSI, FG. 0.74 ISIP 3185 PSI, FG. 0.77, NPI 210 PSI.
	10:30 - 12:30	2.00	FRAC	36	H	Z		SET HAL 8K CBP & PERF STG#2 AS DESIGNED DOWN 1 HR CHANGING OUT PUMP WITH WASHED OUT FLUID END. GREASED GROUND VALVES.
	12:30 - 0:00	11.50	FRAC	36	E	P		FRAC STAGE # 2) WHP 2403 PSI, BRK 4204 PSI @ 3.7 BPM. ISIP 2985 PSI, FG. 0.75 ISIP 3350 PSI, FG. 0.79, NPI 365 PSI.
	12:30 - 12:30	0.00	FRAC	37	H	P		SET HAL 8K CBP & PERF STG# 3 AS DESIGNED
12/15/2015	0:00 - 0:00	24.00	FRAC	36	H	P		FRAC STAGE #3) WHP 2695 PSI, BRK 3552 PSI @ 4.9 BPM. ISIP 2885 PSI, FG. 0.75 ISIP 3100 PSI, FG. 0.77, NPI 215 PSI.
								RU EL RIH WITH CBP SET @ 9,137 COULDN'T GET OFF PLUG, PULLED OUT OF ROPE SOCKET, WILL FISH IN AM WITH BRAIDED WIRE LINE
12/16/2015	0:00 - 9:00	9.00	FRAC	36	H	Z		WAITED ON CUTTERS BRAIDED LINE TRUCK TO FISH GUNS.
	9:00 - 11:00	2.00	FRAC	34	1	P		RIGGED UP CUTTERS, RIHW 1-11/16 OVERSHOT, SPANGS, JARS. LATCHED ONTO ROPE SOCKET. SET OFF JARS 4 TIMES UNTIL FREE. PULLED OUT OF HOLE WITH PERFORATIING GUNS & SETTING TOOL.
	11:00 - 0:00	13.00	FRAC	36	H	P		SET HAL 8K CBP & PERF STG# 4) AS DESIGNED
								FRAC STAGE # 4) WHP 2503 PSI, BRK 3153 PSI @ 2.9 BPM. ISIP 2675 PSI, FG. 0.73 ISIP 2871 PSI, FG. 0.76, NPI 196 PSI.
12/17/2015	0:00 - 0:00	24.00	FRAC	36	H	P		SET HAL 8K CBP & PERF STG# 5) AS DESIGNED
								FRAC STG # 5) WHP 2721 PSI, BRK 3161 PSI @ 3.7 BPM. ISIP 2790 PSI, FG. 0.75 ISIP 2850 PSI, FG. 0.76, NPI 60 PSI.
								SET HAL 8K CBP & PERF STG# 6) AS DESIGNED

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

Well: NBU 921-23B4BS RED		Spud date: 3/10/2014	
Project: UTAH-UINTAH		Site: NBU 921-23B PAD	Rig name no.: MILES 2/2
Event: COMPLETION		Start date: 12/11/2015	End date: 1/8/2016
Active datum: RKB @4,859.00usft (above Mean Sea Level)		UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
12/18/2015	0:00 - 0:00	24.00	FRAC	36	H	P		FRAC STAGE #6) WHP 2780 PSI, BRK 3446 PSI @ 3.5 BPM. ISIP 2990 PSI, FG. 0.78 ISIP 2975 PSI, FG. 0.78, NPI -15 PSI.
12/19/2015	0:00 - 0:00	24.00	FRAC	36	H	P		SET HAL 8K CBP & PERF STG# 7) AS DESIGNED FRAC STAGE #7.) WHP 2780 PSI, BRK 2902 PSI @ 2.3 BPM. ISIP 2750 PSI, FG. 0.77 ISIP 3120 PSI, FG. 0.81, NPI 370 PSI.
12/20/2015	0:00 - 0:00	24.00	FRAC	36	H	P		SET HAL 8K CBP & PERF STG# 8) AS DESIGNED FRAC STAGE # 8) WHP 2480 PSI, BRK 3535 PSI @ 3.2 BPM. ISIP 2574 PSI, FG. 0.76 ISIP 2600 PSI, FG. 0.76, NPI 26 PSI.
12/21/2015	0:00 - 0:00	24.00	FRAC	36	H	P		SET HAL 8K CBP & PERF STG# 9) AS DESIGNED FRAC STAGE # 9) WHP 2019 PSI, BRK 2081 PSI @ 2.3 BPM. ISIP 2063 PSI, FG. 0.7 ISIP 2875 PSI, FG. 0.81, NPI 812 PSI.
								SET HAL 8K KILL PLUG AS DESIGN
								WATER: 141,756 BBLS SAND: 294,664#
1/7/2016	7:00 - 7:30	0.50	DRLOUT	48		P		HSM, LOADING TBG ON RACKS W/ FORK LIFT.
	7:30 - 15:00	7.50	DRLOUT	31	I	P		2 OF 4, TALLY & PU 37/8 BIT, POBS, 244 JTS 23/8 P-110, TAG UP @ 7702 ', RU DRLG EQUIP, PREP TO D/O IN AM SWI SDFN.
1/8/2016	7:00 - 7:30	0.50	DRLOUT	48		P		HSM, TESTING BOPS & FLOW LINE.

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23B4BS RED

Spud date: 3/10/2014

Project: UTAH-UINTAH

Site: NBU 921-23B PAD

Rig name no.: MILES 2/2

Event: COMPLETION

Start date: 12/11/2015

End date: 1/8/2016

Active datum: RKB @4,859.00usft (above Mean Sea Level)

UWI: NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	7:30 - 16:00	8.50	DRLOUT	44	D	P		<p>BROKE CIRC CONV, TEST BOPS TO 3,000 PSI, RIH.</p> <p>C/O 0' SAND TAG 1ST PLUG @ 7702' DRL PLG IN 5 MIN, 900 PSI INCREASE RIH.</p> <p>C/O 10' SAND TAG 2ND PLUG @ 7853' DRL PLG IN 5 MIN, 400 PSI INCREASE RIH.</p> <p>C/O 30' SAND TAG 3RD PLUG @ 8114' DRL PLG IN 5 MIN, 400 PSI INCREASE RIH.</p> <p>C/O 10' SAND TAG 4TH PLUG @ 8470' DRL PLG IN 5 MIN, 500 PSI INCREASE RIH.</p> <p>C/O 15' SAND TAG 5TH PLUG @ 8766' DRL PLG IN 5 MIN, 300 PSI INCREASE RIH.</p> <p>C/O 20' SAND TAG 6TH PLUG @ 8919' DRL PLG IN 5 MIN, 300 PSI INCREASE RIH.</p> <p>C/O 20' SAND TAG 7TH PLUG @ 9137' DRL PLG IN 5 MIN, 200 PSI INCREASE RIH.</p> <p>C/O 20' SAND TAG 8TH PLUG @ 9310' DRL PLG IN 5 MIN, 300 PSI INCREASE RIH.</p> <p>C/O 30' SAND TAG 9TH PLUG @ 9554' DRL PLG IN 5 MIN, 200 PSI INCREASE RIH.</p> <p>C/O TO FILL 9874', CIRC CLN, RD SWIVEL, L/D 17 JTS, LAND TBG, ND BOPS NU WH, TEST FL, PUMPED OFF BIT, TURN WELL TO FB CREW.</p> <p>KB = 13'  41/16 HANGER = .83'  295 JTS 23/8 P-110 = 9329.04'  POBS W/ 1.875 X/N = 2.20'  EOT @ 9345.07'</p> <p>TWTR 141,756 BBLS  TWR 3,000 BBLS  TWLTR 138,756 BBLS</p> <p>315 JT HAULED OUT, P-110.  295 LANDED  20 TO RETURN</p>

**1 General****1.1 Customer Information**

Company	US ROCKIES REGION
Representative	
Address	

**1.2 Well/Wellbore Information**

Well	NBU 921-23B4BS RED	Wellbore No.	00
Well Name	NBU 921-23B4BS	Wellbore Name	NBU 921-23B4BS
Report no.	1	Report date	12/14/2015
Project	UTAH-UINTAH	Site	NBU 921-23B PAD
Rig Name/No.	MILES 2/2	Event	COMPLETION
Start date	12/11/2015	End date	1/8/2016
Spud date	3/10/2014	Active datum	RKB @4,859.00usft (above Mean Sea Level)
UWI	NW/NE/0/9/S/21/E/23/0/0/26/PM/N/1124/E/0/2098/0/0		

**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	7,762.0 (usft)-9,764.0 (usft)	Start Date/Time	12/14/2015 12:00AM
No. of intervals	64	End Date/Time	12/14/2015 12:00AM
Total shots	216	Net perforation interval	72.00 (usft)
Avg. shot density	3.00 (shot/ft)	Final surface pressure	
		Final press. date	

**2 Intervals****2.1 Perforated Interval**

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (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	How Guns Conveyed
12/14/2015 12:00AM	WASATCH H/			7,762.0	7,764.0	3.00		0.410	EXP/9	3.125	120.00		19.00	PRODUCTION		

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (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	How Guns Conveyed
12/14/2015 12:00AM	WASATC H/			7,786.0	7,788.0	3.00		0.410	EXP/9	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	WASATC H/			7,812.0	7,814.0	3.00		0.410	EXP/9	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	WASATC H/			7,832.0	7,834.0	3.00		0.410	EXP/9	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			7,903.0	7,904.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			7,939.0	7,940.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			7,960.0	7,961.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			7,990.0	7,991.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			8,010.0	8,011.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			8,031.0	8,032.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			8,082.0	8,084.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			8,279.0	8,280.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			8,300.0	8,301.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			8,324.0	8,325.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	MESAVE RDE/			8,341.0	8,342.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (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	How Guns Conveyed
12/14/2015 12:00AM	M E S A V E R D E/			8,388.0	8,389.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,407.0	8,408.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,430.0	8,431.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,449.0	8,450.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,544.0	8,545.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,580.0	8,581.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,623.0	8,624.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,677.0	8,678.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,705.0	8,706.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,720.0	8,721.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,735.0	8,736.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,750.0	8,751.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,780.0	8,781.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,797.0	8,798.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,809.0	8,810.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (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	How Guns Conveyed
12/14/2015 12:00AM	M E S A V E R D E/			8,825.0	8,826.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,840.0	8,841.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,863.0	8,864.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,883.0	8,884.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,903.0	8,904.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,934.0	8,935.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,962.0	8,963.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			8,986.0	8,987.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,025.0	9,026.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,045.0	9,046.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,067.0	9,068.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,101.0	9,102.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,121.0	9,122.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,155.0	9,156.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (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	How Guns Conveyed
12/14/2015 12:00AM	M E S A V E R D E/			9,170.0	9,171.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,190.0	9,191.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,204.0	9,205.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,213.0	9,214.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,251.0	9,252.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,274.0	9,275.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,288.0	9,289.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,360.0	9,361.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,373.0	9,374.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,427.0	9,428.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,444.0	9,445.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,472.0	9,473.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,490.0	9,491.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,504.0	9,505.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,523.0	9,524.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		

**2.1 Perforated Interval (Continued)**

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (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	How Guns Conveyed
12/14/2015 12:00AM	M E S A V E R D E/			9,685.0	9,687.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,723.0	9,724.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,739.0	9,740.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,753.0	9,755.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		
12/14/2015 12:00AM	M E S A V E R D E/			9,762.0	9,764.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		

**3 Plots****3.1 Wellbore Schematic**