

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 921-22E4CS				
<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 <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>						<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 0147566			<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		2179 FNL 740 FWL		SWNW	22	9.0 S	21.0 E	S		
Top of Uppermost Producing Zone		2572 FNL 824 FWL		SWNW	22	9.0 S	21.0 E	S		
At Total Depth		2572 FNL 824 FWL		SWNW	22	9.0 S	21.0 E	S		
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 71			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 160				
			<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 413			<b>26. PROPOSED DEPTH</b> MD: 11185 TVD: 11160				
<b>27. ELEVATION - GROUND LEVEL</b> 4868			<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>										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2860	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 - 11185	11.6	HCP-110 LT&C	13.0	Premium Lite High Strength	350	3.38	12.0
							50/50 Poz	1590	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> Laura Abrams				<b>TITLE</b> Regulatory Analyst II				<b>PHONE</b> 720 929-6356		
<b>SIGNATURE</b>				<b>DATE</b> 04/27/2012				<b>EMAIL</b> Laura.Abrams@anadarko.com		
<b>API NUMBER ASSIGNED</b> 43047525740000				<b>APPROVAL</b>  Permit Manager						

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-22E4CS**

Surface: 2179 FNL / 740 FWL SWNW  
 BHL: 2572 FNL / 824 FWL SWNW

Section 22 T9S R21E

Unitah County, Utah  
 Mineral Lease: UTU 0147566

**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	1,551'	
Birds Nest	1,909'	Water
Mahogany	2,406'	Water
Wasatch	4,940'	Gas
Mesaverde	7,874'	Gas
Sego	10,097'	Gas
Castlegate	10,156'	Gas
MN5	10,560'	Gas
TVD =	11,160'	
TD =	11,185'	

- 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 11160' TVD, approximately equals  
7,366 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 4,961 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 10097' TVD, approximately equals  
6,462 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 4,227 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**

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	DQX
								TENSION	
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,860	28.00	IJ-55	LTC	1.88	1.40	4.96	N/A
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	1.19	1.15	279,000	367,174
	4-1/2"	5,000 to 11,185'	11.60	HCP-110	LTC	1.19	1.15	4.85	

**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 Option 1	LEAD 500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	TOP OUT CMT (6 jobs) 1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>						
SURFACE Option 2	LEAD 2,360'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	220	35%	11.00	3.82
	TAIL 500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD 4,435'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	350	35%	12.00	3.38
	TAIL 6,750'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,590	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:**

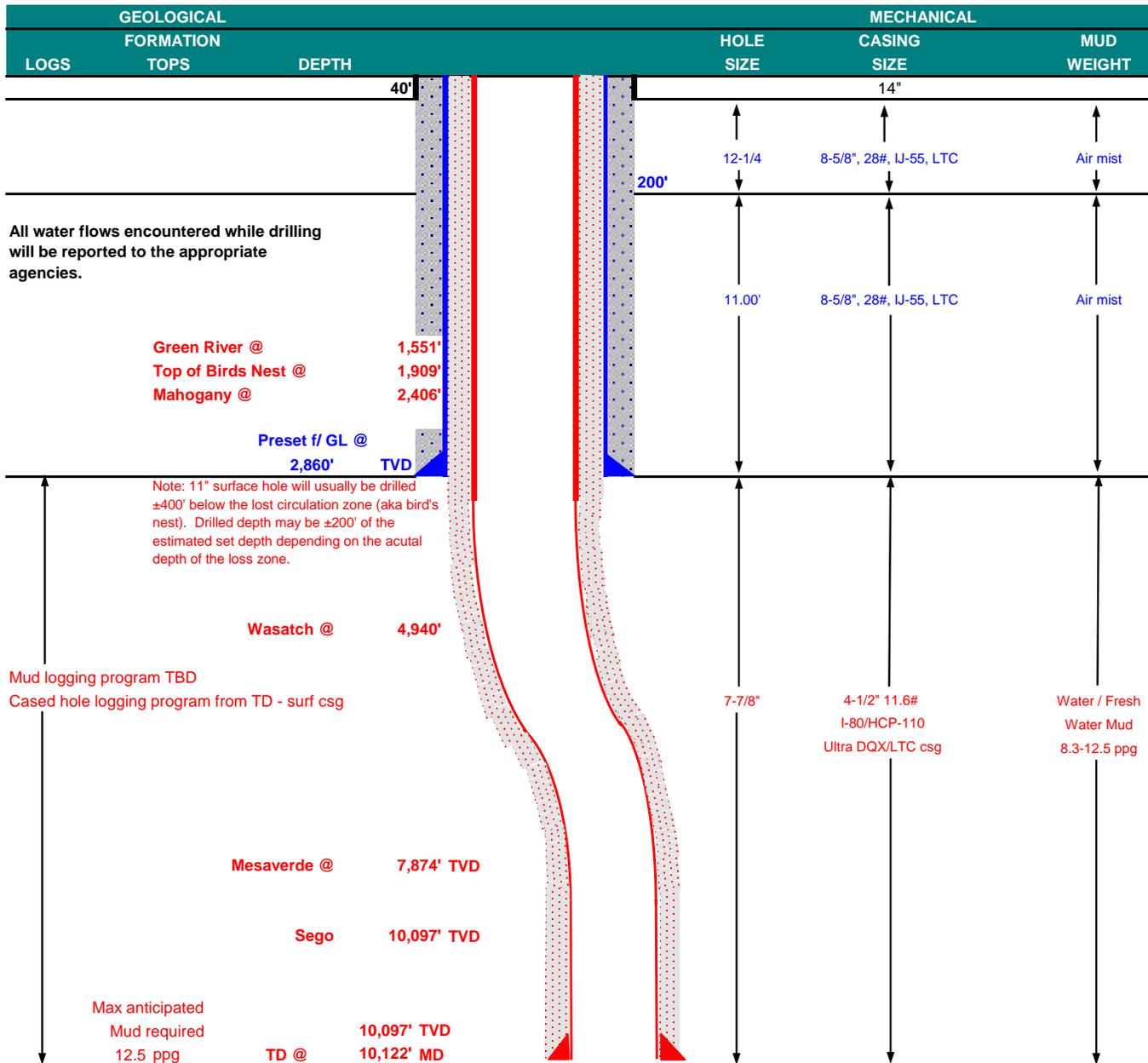
Kenny Gathings / Lovel Young

**DATE:**



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	December 19, 2011			
WELL NAME	<b>NBU 921-22E4CS</b>		TD	10,097'	TVD	10,122' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	4,868'
SURFACE LOCATION	SWNW	2179 FNL	740 FWL	Sec 22	T 9S	R 21E	
	Latitude:	40.022866	Longitude:	-109.544660		NAD 83	
BTM HOLE LOCATION	SWNW	2572 FNL	824 FWL	Sec 22	T 9S	R 21E	
	Latitude:	40.021786	Longitude:	-109.544362		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.	LTC		DQX
							BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to 2,860	28.00	IJ-55	LTC	1.88	1.40	4.96
							7,780	6,350	267,035
PRODUCTION	4-1/2"	0	to 5,000	11.60	I-80	DQX	1.11	0.97	2.81
							10,690	8,650	223,000
	4-1/2"	5,000	to 10,122'	11.60	HCP-110	LTC	1.53	1.32	4.64

**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	180	60%	15.80	1.15
			+ 0.25 pps flocele				
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE	LEAD	2,360'	65/35 Poz + 6% Gel + 10 pps gilsonite	220	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
Option 2	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,432'	Premium Lite II +0.25 pps	350	35%	12.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,690'	50/50 Poz/G + 10% salt + 2% gel	1,340	35%	14.30	1.31
			+ 0.1% R-3				

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

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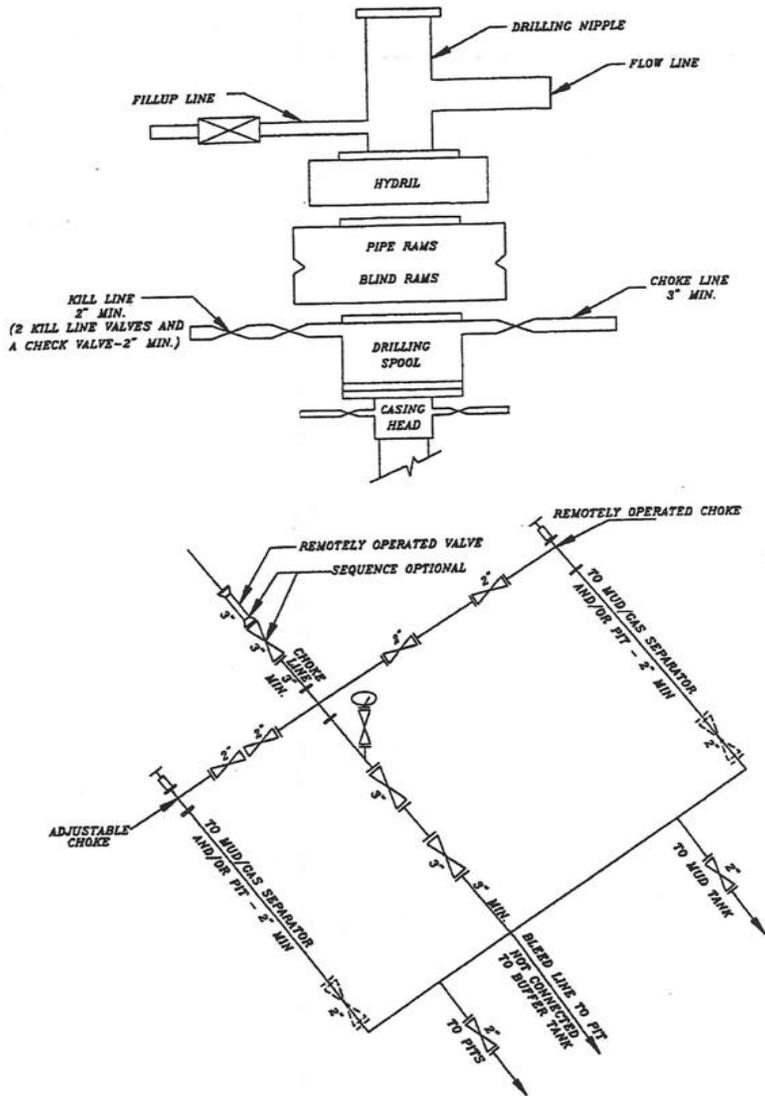
DRILLING ENGINEER: \_\_\_\_\_  
Nick Spence / Danny Showers / Chad Loesel

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

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

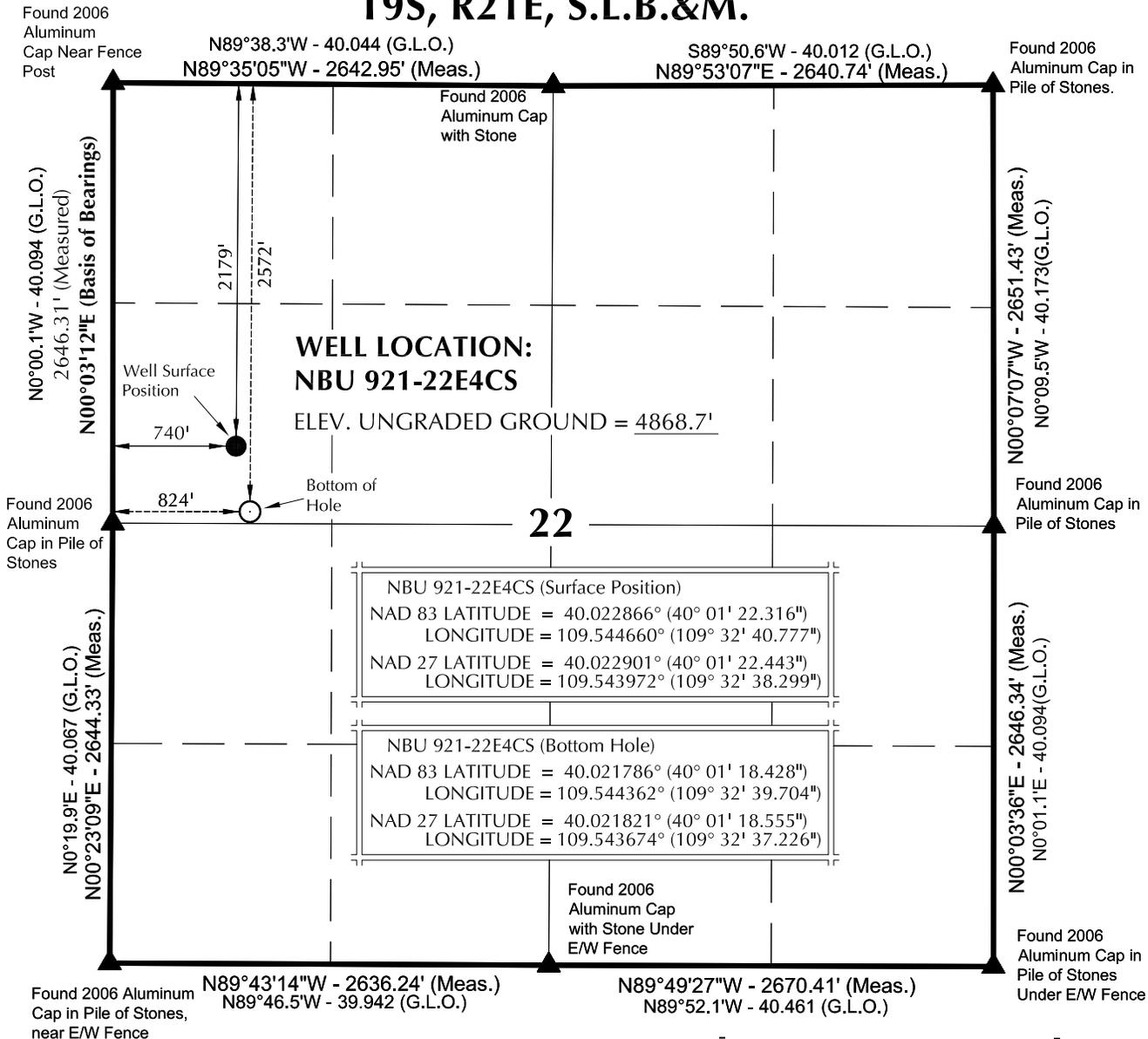
DATE: \_\_\_\_\_

**EXHIBIT A**  
**NBU 921-22E4CS**



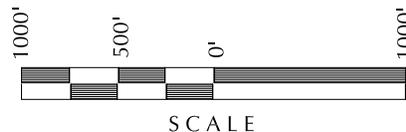
**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

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



**NOTES:**

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains.  
1 chain = 66 feet.
- 3. The Bottom of hole bears S11°56'21"E 402.29' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



**SURVEYOR'S CERTIFICATE**

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

No. 6028691 9-14-11  
 JOHN R SAUGH  
 PROFESSIONAL LAND SURVEYOR  
 REGISTRATION No. 6028691  
 STATE OF UTAH

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

**WELL PAD: NBU 921-22E**

**NBU 921-22E4CS**  
**WELL PLAT**  
**2572' FNL, 824' FWL (Bottom Hole)**  
**SW ¼ NW ¼ OF SECTION 22, T9S, R21E,**  
**S.L.B.&M., UTAH COUNTY, UTAH.**

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

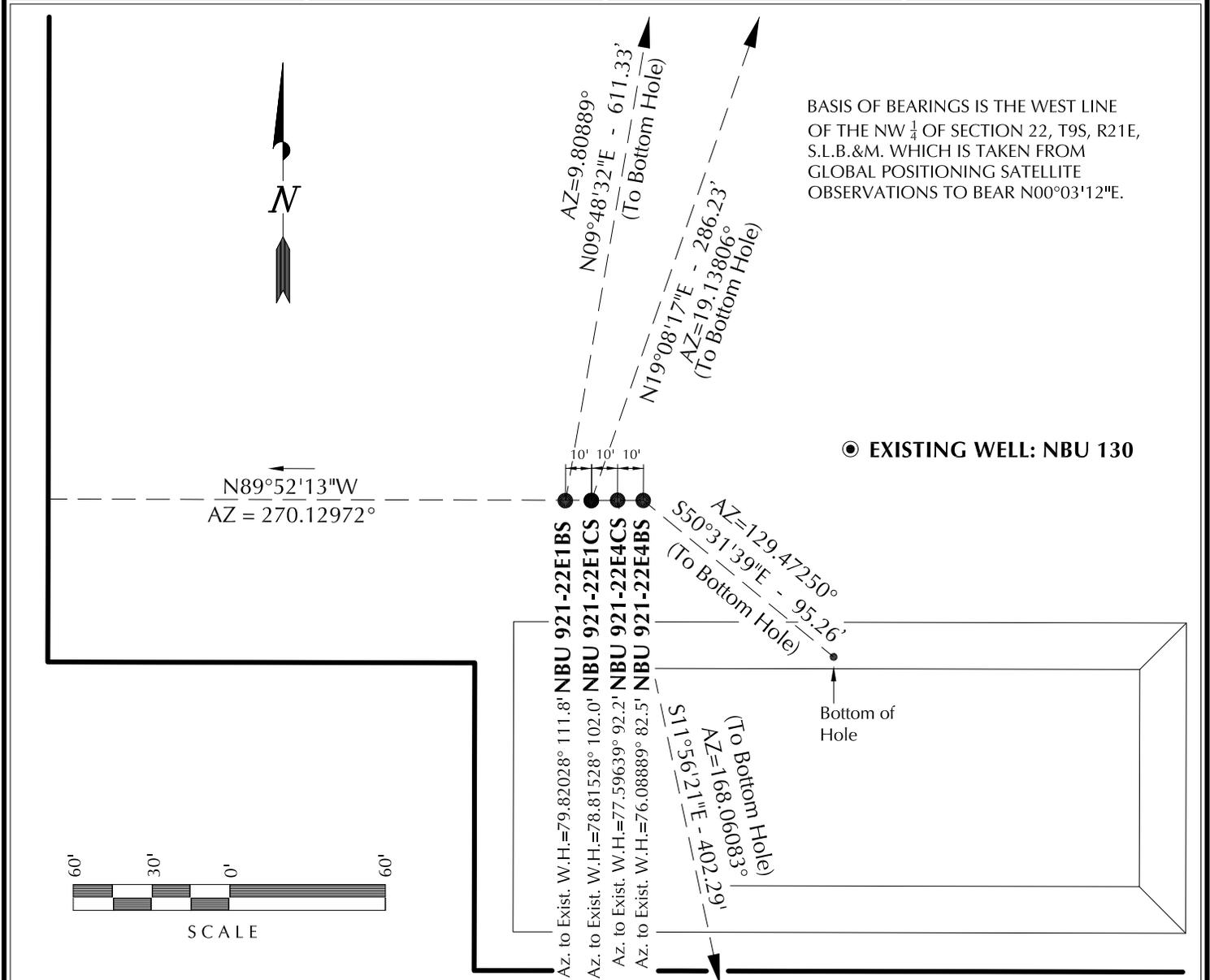
**TIMBERLINE** (435) 789-1365  
**ENGINEERING & LAND SURVEYING, INC.**  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 7-19-11	SURVEYED BY: D.J.S.	SHEET NO: <b>2</b>
DATE DRAWN: 8-22-11	DRAWN BY: C.T.C.	
SCALE: 1" = 1000'		2 OF 16

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 921-22E4BS	40°01'22.316" 40.022865°	109°32'40.650" 109.544625°	40°01'22.443" 40.022901°	109°32'38.172" 109.543937°	2179' FNL 750' FWL	40°01'21.718" 40.022700°	109°32'39.704" 109.544362°	40°01'21.845" 40.022735°	109°32'37.225" 109.543674°	2239' FNL 824' FWL
NBU 921-22E4CS	40°01'22.316" 40.022866°	109°32'40.777" 109.544660°	40°01'22.443" 40.022901°	109°32'38.299" 109.543972°	2179' FNL 740' FWL	40°01'18.428" 40.021786°	109°32'39.704" 109.544362°	40°01'18.555" 40.021821°	109°32'37.226" 109.543674°	2572' FNL 824' FWL
NBU 921-22E1CS	40°01'22.316" 40.022865°	109°32'40.906" 109.544696°	40°01'22.443" 40.022901°	109°32'38.428" 109.544008°	2179' FNL 730' FWL	40°01'24.989" 40.023608°	109°32'39.704" 109.544362°	40°01'25.116" 40.023643°	109°32'37.225" 109.543674°	1908' FNL 824' FWL
NBU 921-22E1BS	40°01'22.316" 40.022866°	109°32'41.035" 109.544732°	40°01'22.443" 40.022901°	109°32'38.557" 109.544044°	2179' FNL 720' FWL	40°01'28.269" 40.024519°	109°32'39.704" 109.544362°	40°01'28.396" 40.024554°	109°32'37.225" 109.543674°	1576' FNL 824' FWL
NBU 130	40°01'22.512" 40.022920°	109°32'39.621" 109.544339°	40°01'22.640" 40.022955°	109°32'37.143" 109.543651°	2159' FNL 830' FWL					

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 921-22E4BS	-60.6'	73.5'	NBU 921-22E4CS	-393.6'	83.2'	NBU 921-22E1CS	270.4'	93.8'	NBU 921-22E1BS	602.4'	104.1'



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**WELL PAD - NBU 921-22E**

**WELL PAD INTERFERENCE PLAT**  
WELLS - NBU 921-22E4BS, NBU 921-22E4CS,  
NBU 921-22E1CS & NBU 921-22E1BS  
LOCATED IN SECTION 22, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH.



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

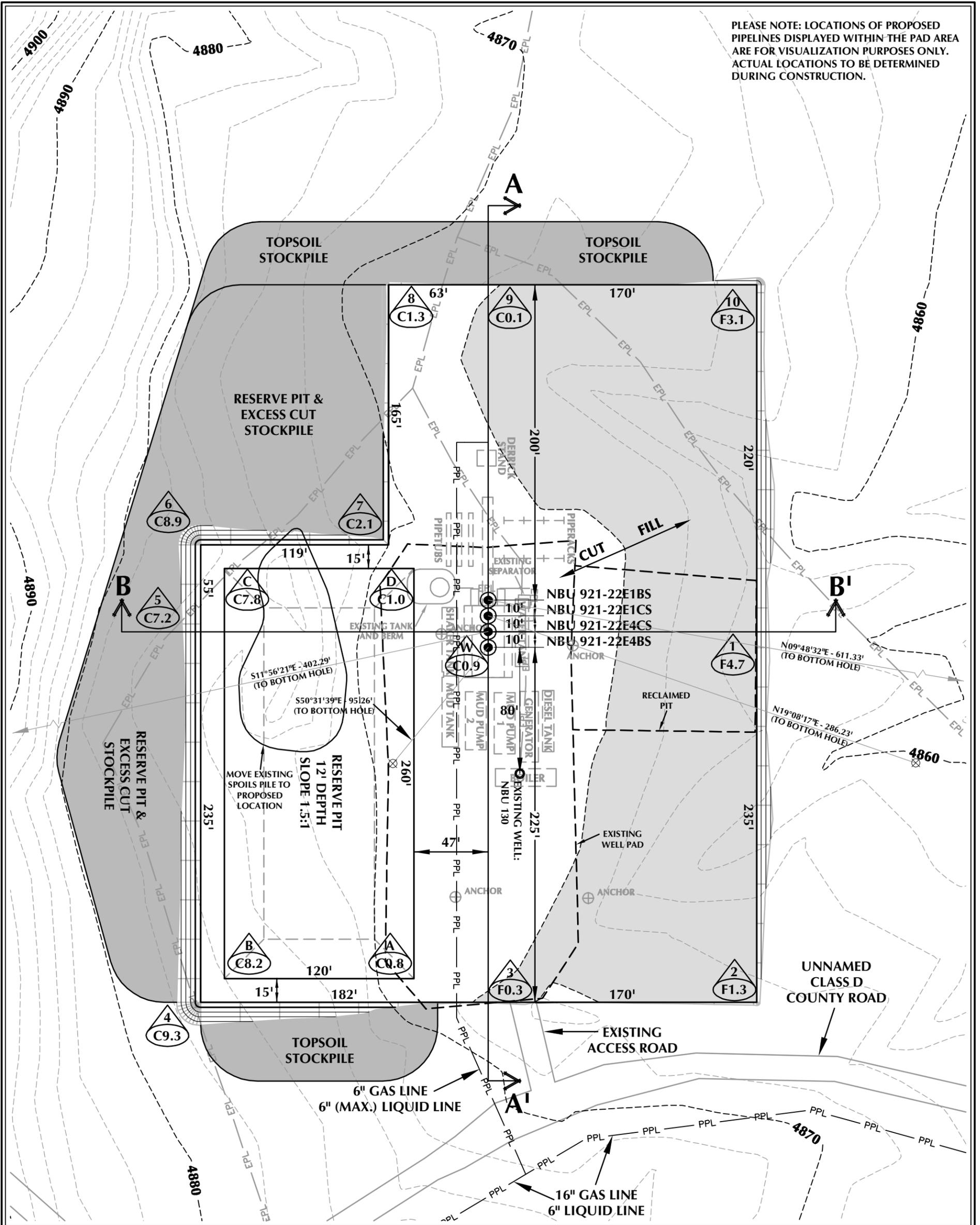
**TIMBERLINE**

(435) 789-1365

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

DATE SURVEYED: 7-19-11	SURVEYED BY: D.J.S.	SHEET NO: <b>5</b>
DATE DRAWN: 8-22-11	DRAWN BY: C.T.C.	
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 921-22E DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 4868.7'  
 FINISHED GRADE ELEVATION = 4867.8'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.46 ACRES  
 TOTAL DISTURBANCE AREA = 4.77 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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 1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-22E

WELL PAD - LOCATION LAYOUT  
 NBU 921-22E4BS, NBU 921-22E4CS,  
 NBU 921-22E1CS & NBU 921-22E1BS  
 LOCATED IN SECTION 22, T9S, R21E,  
 S.L.B.&M., UTAH COUNTY, UTAH



CONSULTING, LLC  
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 Sheridan, WY 82801  
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**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 8,051 C.Y.  
 TOTAL FILL FOR WELL PAD = 6,402 C.Y.  
 TOPSOIL @ 6" DEPTH = 2,166 C.Y.  
 EXCESS MATERIAL = 1,649 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)
- PROPOSED PIPELINE
- EXISTING PIPELINE

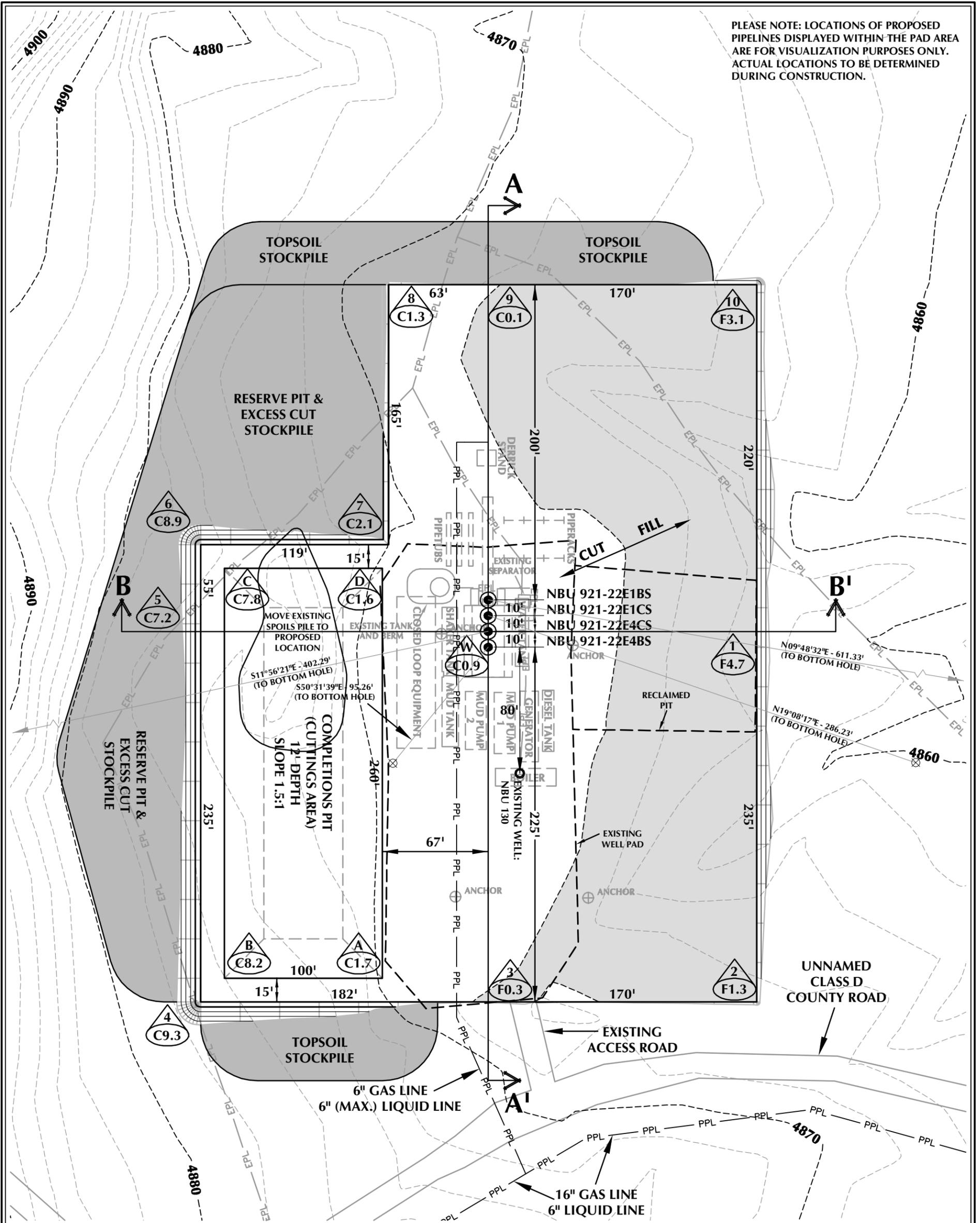


HORIZONTAL 0 30' 60' 1" = 60'  
 2' CONTOURS

SCALE: 1"=60' DATE: 9/14/11 SHEET NO:  
 REVISID: **6** 6 OF 16

**TIMBERLINE** (435) 789-1365  
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 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 921-22E (CLOSED LOOP) DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 4868.7'  
 FINISHED GRADE ELEVATION = 4867.8'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.46 ACRES  
 TOTAL DISTURBANCE AREA = 4.77 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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WELL PAD - NBU 921-22E

WELL PAD - LOCATION LAYOUT  
 NBU 921-22E4BS, NBU 921-22E4CS,  
 NBU 921-22E1CS & NBU 921-22E1BS  
 LOCATED IN SECTION 22, T9S, R21E,  
 S.L.B.&M., UTAH COUNTY, UTAH



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 Sheridan, WY 82801  
 Phone 307-674-0609  
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**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 8,051 C.Y.  
 TOTAL FILL FOR WELL PAD = 6,402 C.Y.  
 TOPSOIL @ 6" DEPTH = 2,166 C.Y.  
 EXCESS MATERIAL = 1,649 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**

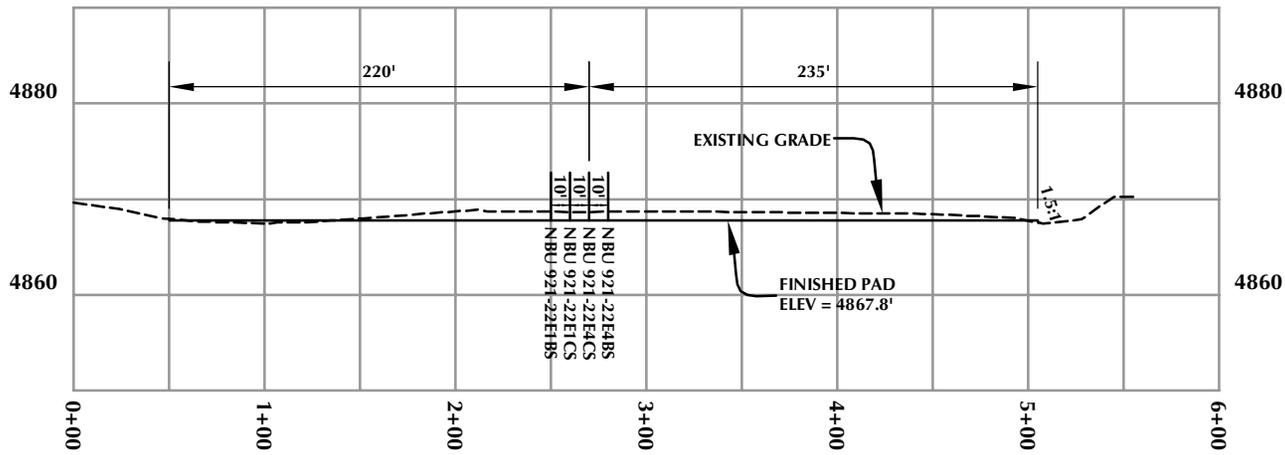
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PROPOSED PIPELINE
- EXISTING PIPELINE



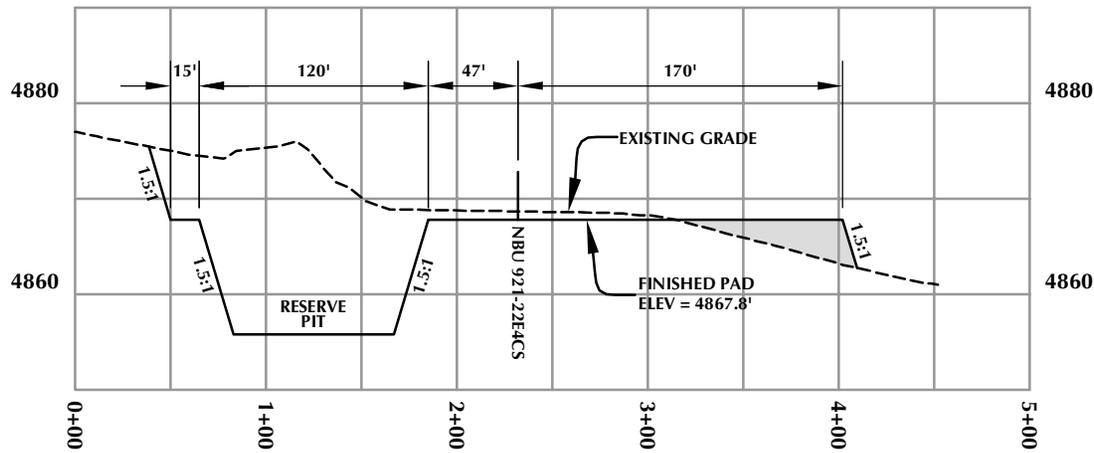
HORIZONTAL 0 30' 60' 1" = 60'  
 2' CONTOURS

SCALE: 1"=60' DATE: 12/1/11 SHEET NO:  
 REVISED: **6B** 6B OF 16

**TIMBERLINE** (435) 789-1365  
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**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

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WELL PAD - NBU 921-22E

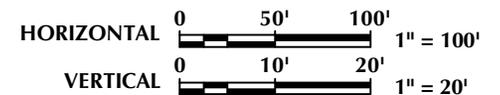
WELL PAD - CROSS SECTIONS  
NBU 921-22E4BS, NBU 921-22E4CS,  
NBU 921-22E1CS & NBU 921-22E1BS  
LOCATED IN SECTION 22, T9S, R21E,  
S.L.B.&M., Uintah County, Utah



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Scale: 1"=100'

Date: 9/14/11

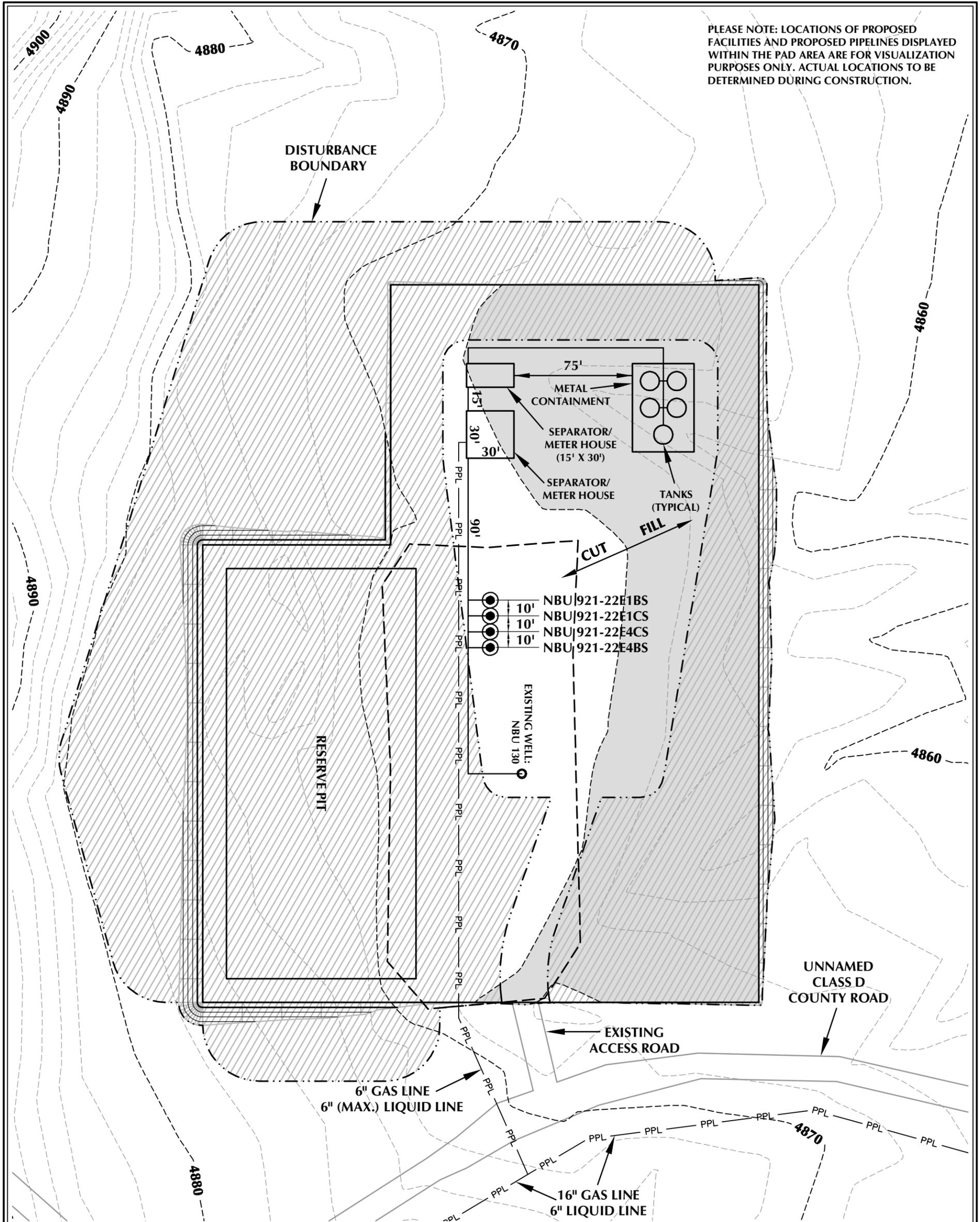
SHEET NO:

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 921-22E DESIGN SUMMARY**

TOTAL DISTURBANCE AREA = 4.77 ACRES (INCLUDING EXISTING)  
 RECLAMATION AREA = 3.68 ACRES  
 TOTAL WELL PAD AREA AFTER RECLAMATION = 1.09 ACRES

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WELL PAD - NBU 921-22E

WELL PAD - LOCATION LAYOUT  
 NBU 921-22E4BS, NBU 921-22E4CS,  
 NBU 921-22E1CS & NBU 921-22E1BS  
 LOCATED IN SECTION 22, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH



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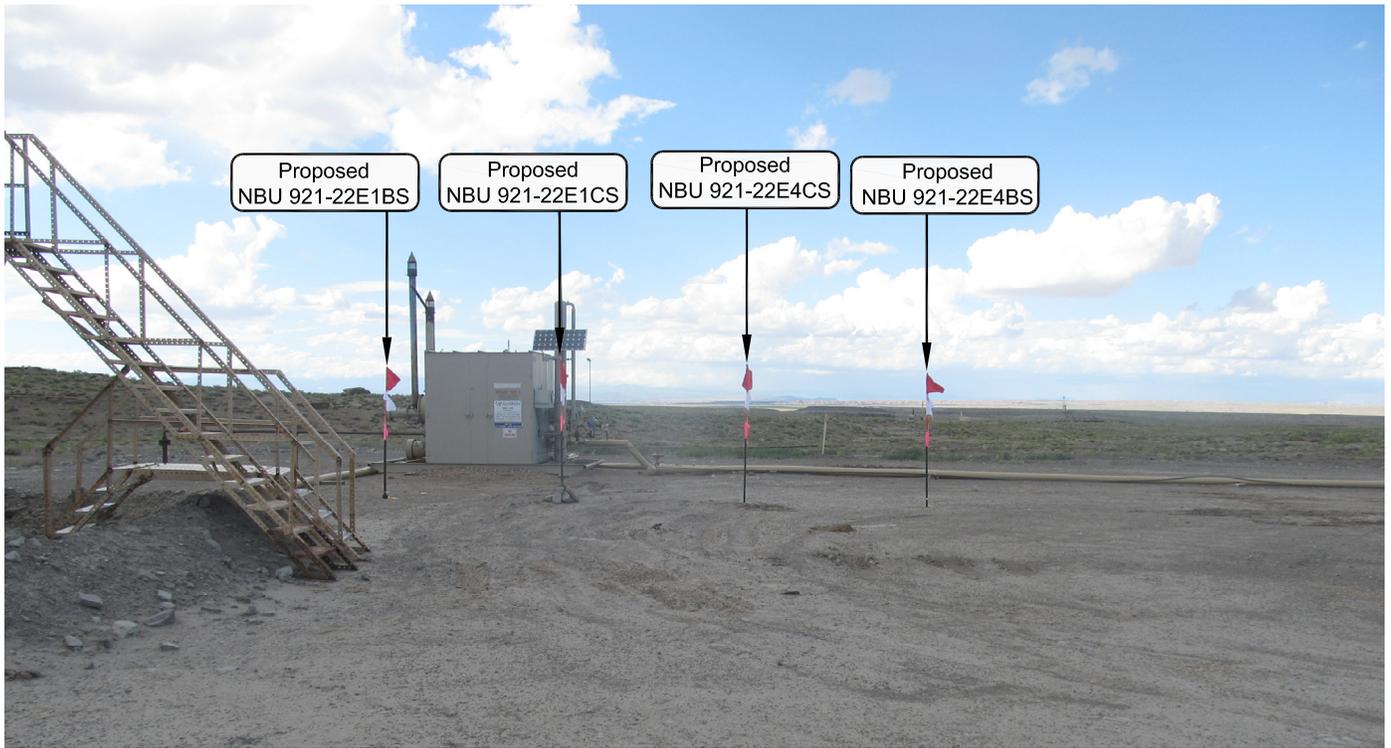
**WELL PAD LEGEND**

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



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

SCALE: 1"=60' DATE: 12/1/11 SHEET NO:  
 REVISED: **8** 8 OF 16



Proposed  
NBU 921-22E1BS

Proposed  
NBU 921-22E1CS

Proposed  
NBU 921-22E4CS

Proposed  
NBU 921-22E4BS

PHOTO VIEW: FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY



Existing Access Road

PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: WESTERLY

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1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 921-22E**

**LOCATION PHOTOS**

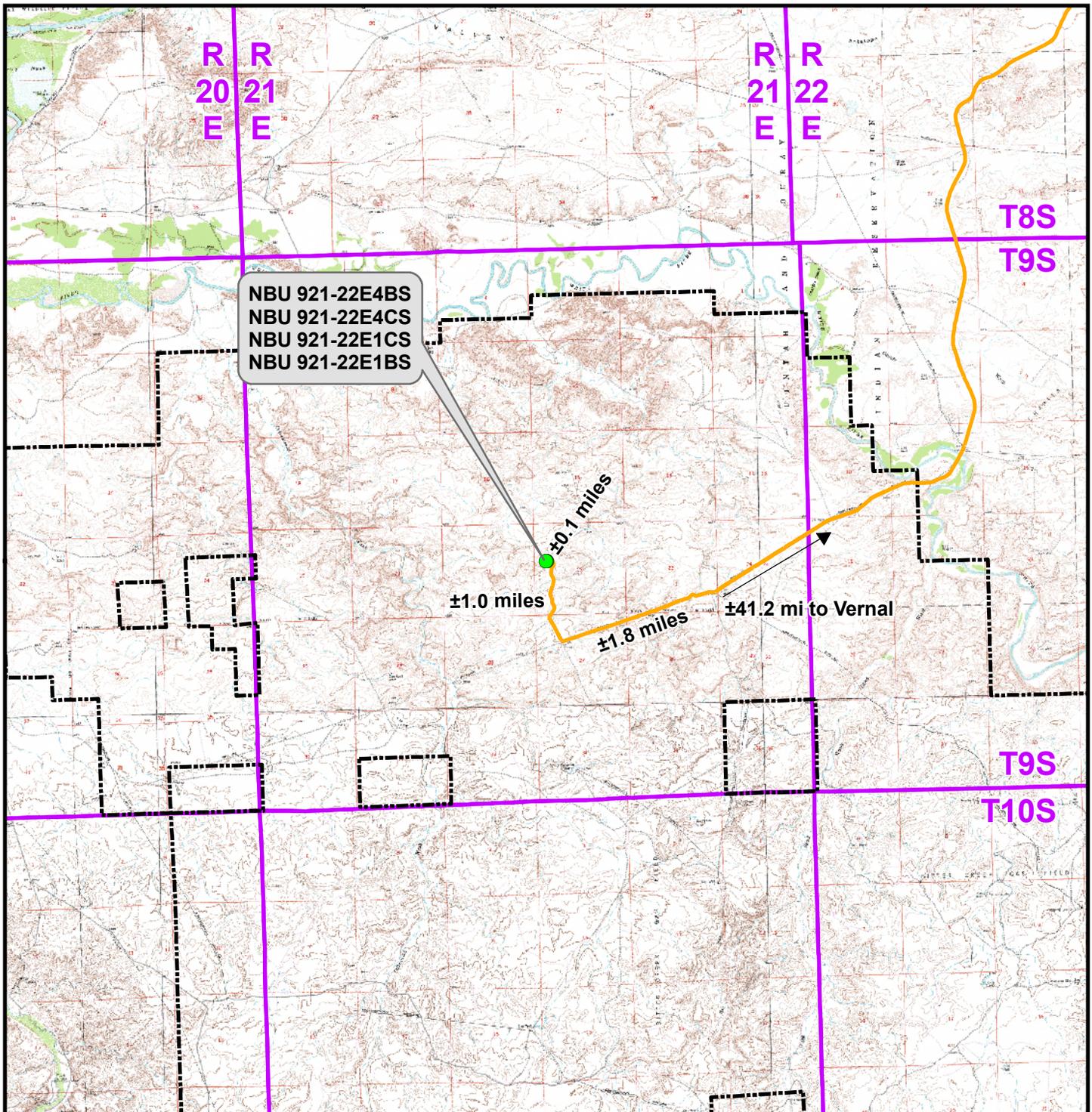
NBU 921-22E4BS, NBU 921-22E4CS,  
NBU 921-22E1CS & NBU 921-22E1BS  
LOCATED IN SECTION 22, T9S, R21E,  
S.L.B.&M., Uintah County, Utah.



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209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 7-19-11	PHOTOS TAKEN BY: D.J.S.	SHEET NO: <b>9</b> 9 OF 16
DATE DRAWN: 8-22-11	DRAWN BY: C.T.C.	
Date Last Revised:		



**Legend**

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

Distance From Well Pad - NBU 921-22E To Unit Boundary: ±12,549ft

**WELL PAD - NBU 921-22E**

**TOPO A**  
 NBU 921-22E4BS, NBU 921-22E4CS,  
 NBU 921-22E1CS & NBU 921-22E1BS  
 LOCATED IN SECTION 22, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**Kerr-McGee Oil &  
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 Phone 307-674-0609  
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SCALE: 1:100,000

NAD83 USP Central

SHEET NO:

DRAWN: TL

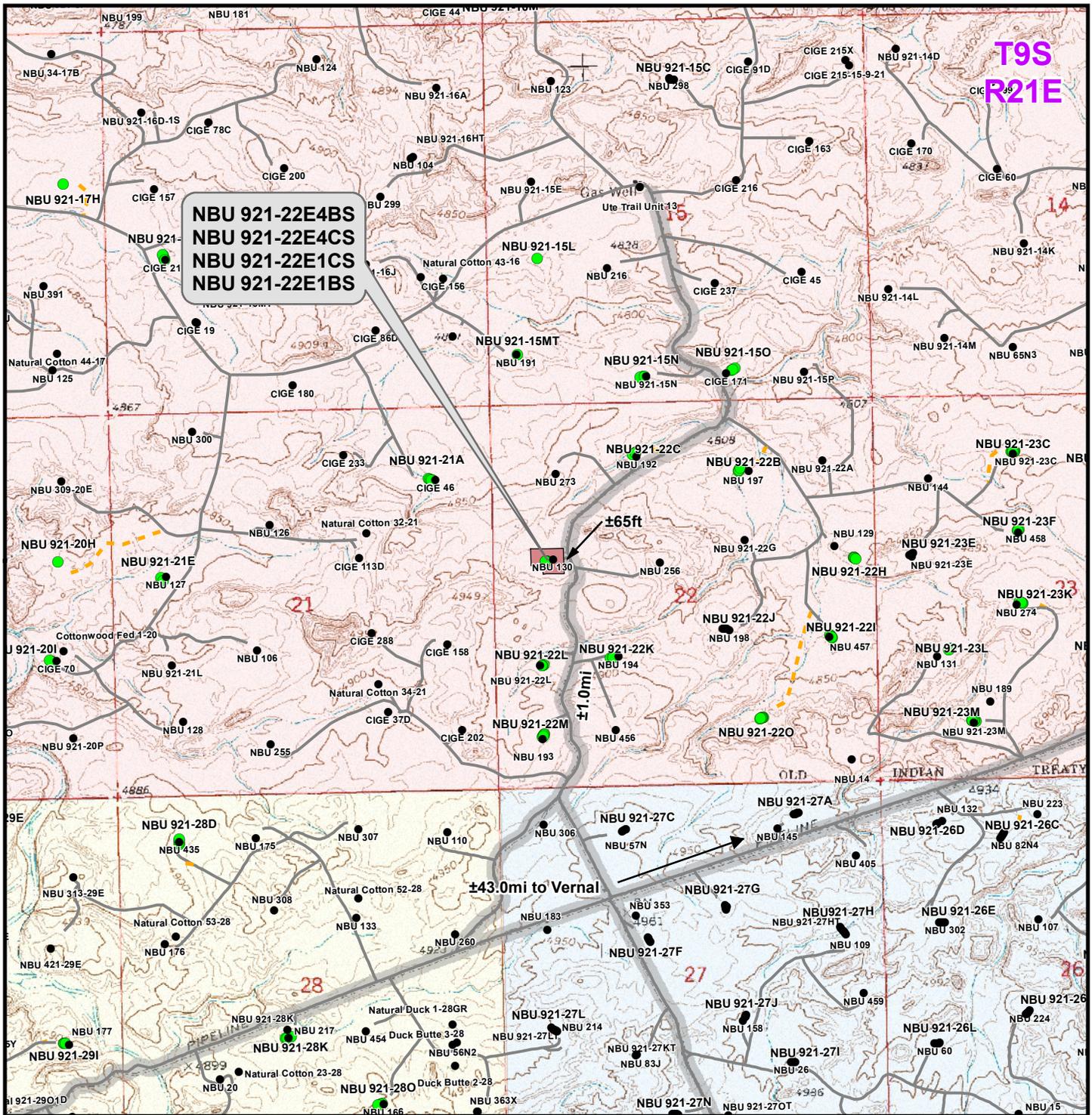
DATE: 14 Sept 2011

**10**

REVISED:

DATE:

10 OF 16



**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: ±0ft

**WELL PAD - NBU 921-22E**

**TOPO B**  
**NBU 921-22E4BS, NBU 921-22E4CS,**  
**NBU 921-22E1CS & NBU 921-22E1BS**  
**LOCATED IN SECTION 22, T9S, R21E,**  
**S.L.B.&M., UINTAH COUNTY, UTAH**

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

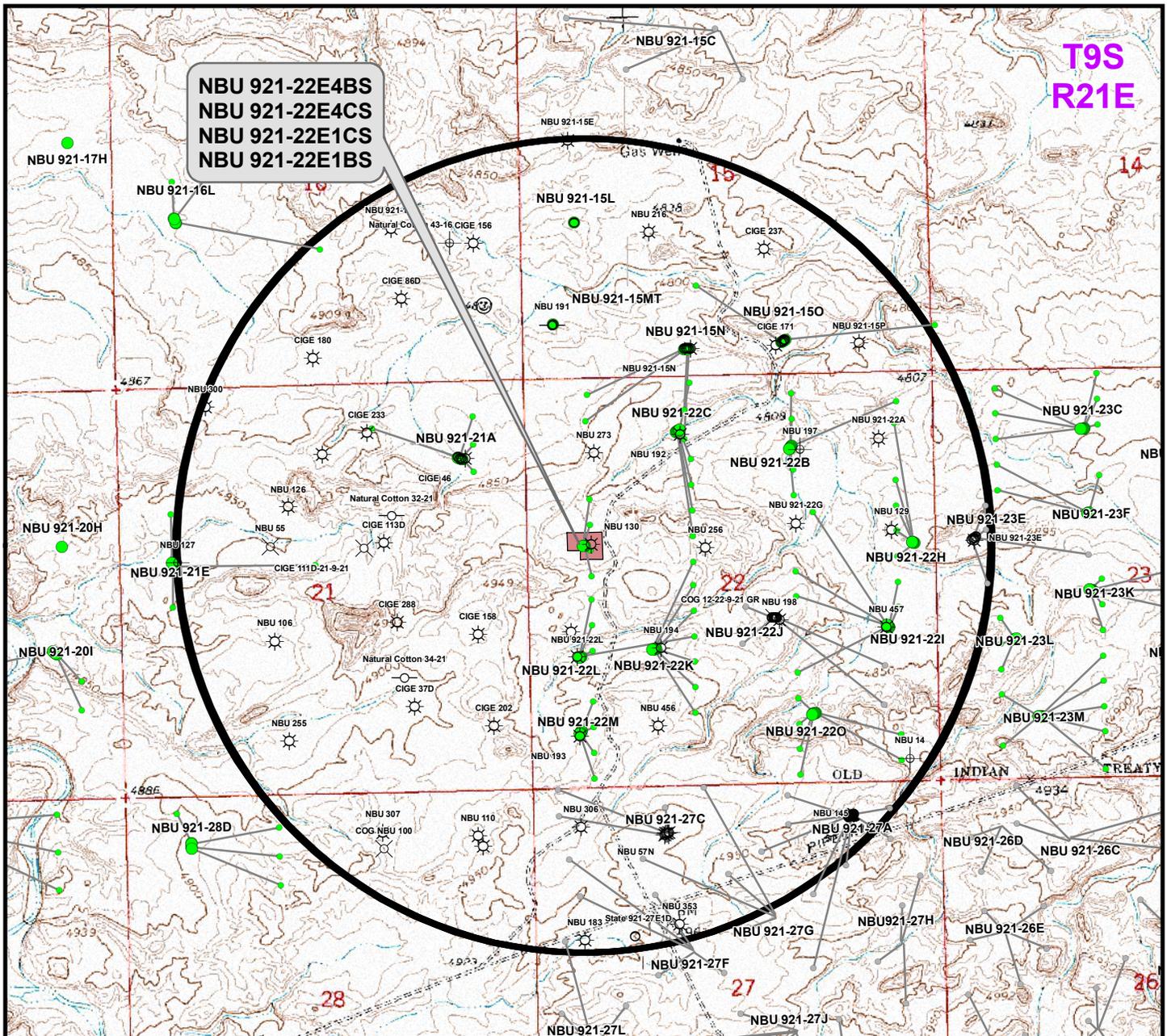
**1099 18th Street  
 Denver, Colorado 80202**



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 2155 North Main Street  
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SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO:
DRAWN: TL	DATE: 14 Sept 2011	<b>11</b>
REVISED:	DATE:	



Well locations derived from Utah Division 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 921-22E4BS	NBU 130	81ft
NBU 921-22E4CS	NBU 130	413ft
NBU 921-22E1CS	NBU 130	251ft
NBU 921-22E1BS	NBU 130	582ft

**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
- ☀ Active Injector
- ⊗ Location Abandoned
- ⊖ Plugged & Abandoned
- ⊖ Shut-In

**WELL PAD - NBU 921-22E**

**TOPO C**  
**NBU 921-22E4BS, NBU 921-22E4CS,**  
**NBU 921-22E1CS & NBU 921-22E1BS**  
**LOCATED IN SECTION 22, T9S, R21E,**  
**S.L.B.&M., UINTAH COUNTY, UTAH**

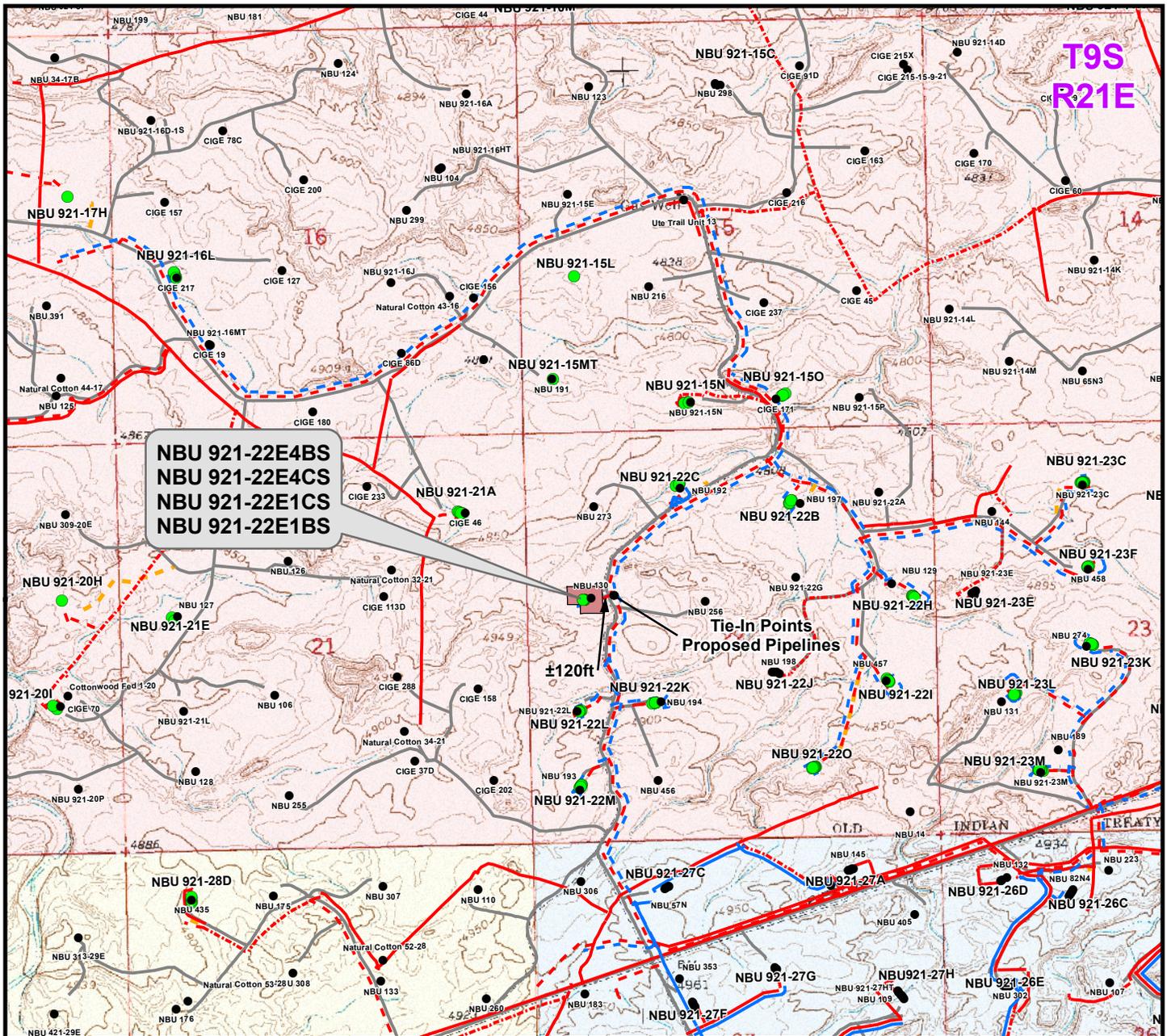
**Kerr-McGee Oil & Gas Onshore L.P.**

**1099 18th Street**  
**Denver, Colorado 80202**



**CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan, Wyoming 82801  
 Phone 307-674-0609  
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SCALE: 1" = 2,000ft	NAD83 USP Central	<b>12</b> 12 OF 16
DRAWN: TL	DATE: 14 Sept 2011	
REVISED:	DATE:	



Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
Buried 6" (Max.) (Meter House to Edge of Pad)	±360ft	Buried 6" (Meter House to Edge of Pad)	±360ft
Buried 6" (Max.) (Edge of Pad to Proposed 6" Liquid Pipeline ROW In Progress)	±120ft	Buried 6" (Edge of Pad to Proposed 16" Gas Pipeline ROW In Progress)	±120ft
<b>TOTAL PROPOSED BURIED LIQUID PIPELINE =</b>	<b>±480ft</b>	<b>TOTAL PROPOSED BURIED GAS PIPELINE =</b>	<b>±480ft</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 921-22E**

**TOPO D**  
**NBU 921-22E4BS, NBU 921-22E4CS,**  
**NBU 921-22E1CS & NBU 921-22E1BS**  
**LOCATED IN SECTION 22, T9S, R21E,**  
**S.L.B.&M., UINTAH COUNTY, UTAH**

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

**1099 18th Street**  
**Denver, Colorado 80202**

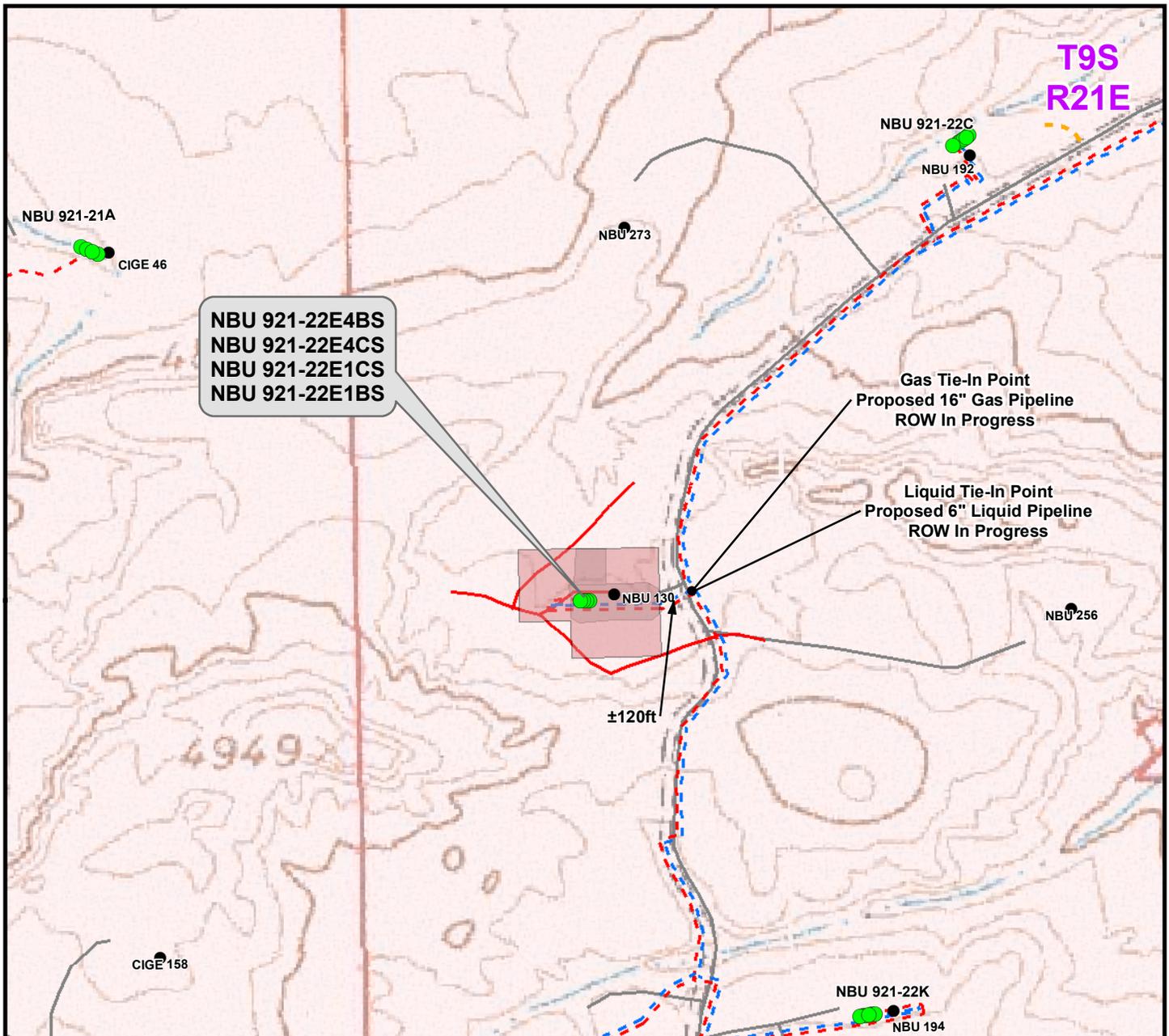


**609 CONSULTING, LLC**  
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 Fax 307-674-0182

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

NAD83 USP Central  
 DATE: 14 Sept 2011  
 DATE:

SHEET NO:  
13  
 13 OF 16



Proposed Liquid Pipeline		Length	Proposed Gas Pipeline		Length
Buried 6" (Max.) (Meter House to Edge of Pad)		±360ft	Buried 6" (Meter House to Edge of Pad)		±360ft
Buried 6" (Max.) (Edge of Pad to Proposed 6" Liquid Pipeline ROW In Progress)		±120ft	Buried 6" (Edge of Pad to Proposed 16" Gas Pipeline ROW In Progress)		±120ft
<b>TOTAL PROPOSED BURIED LIQUID PIPELINE =</b>		<b>±480ft</b>	<b>TOTAL PROPOSED BURIED GAS PIPELINE =</b>		<b>±480ft</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 921-22E**

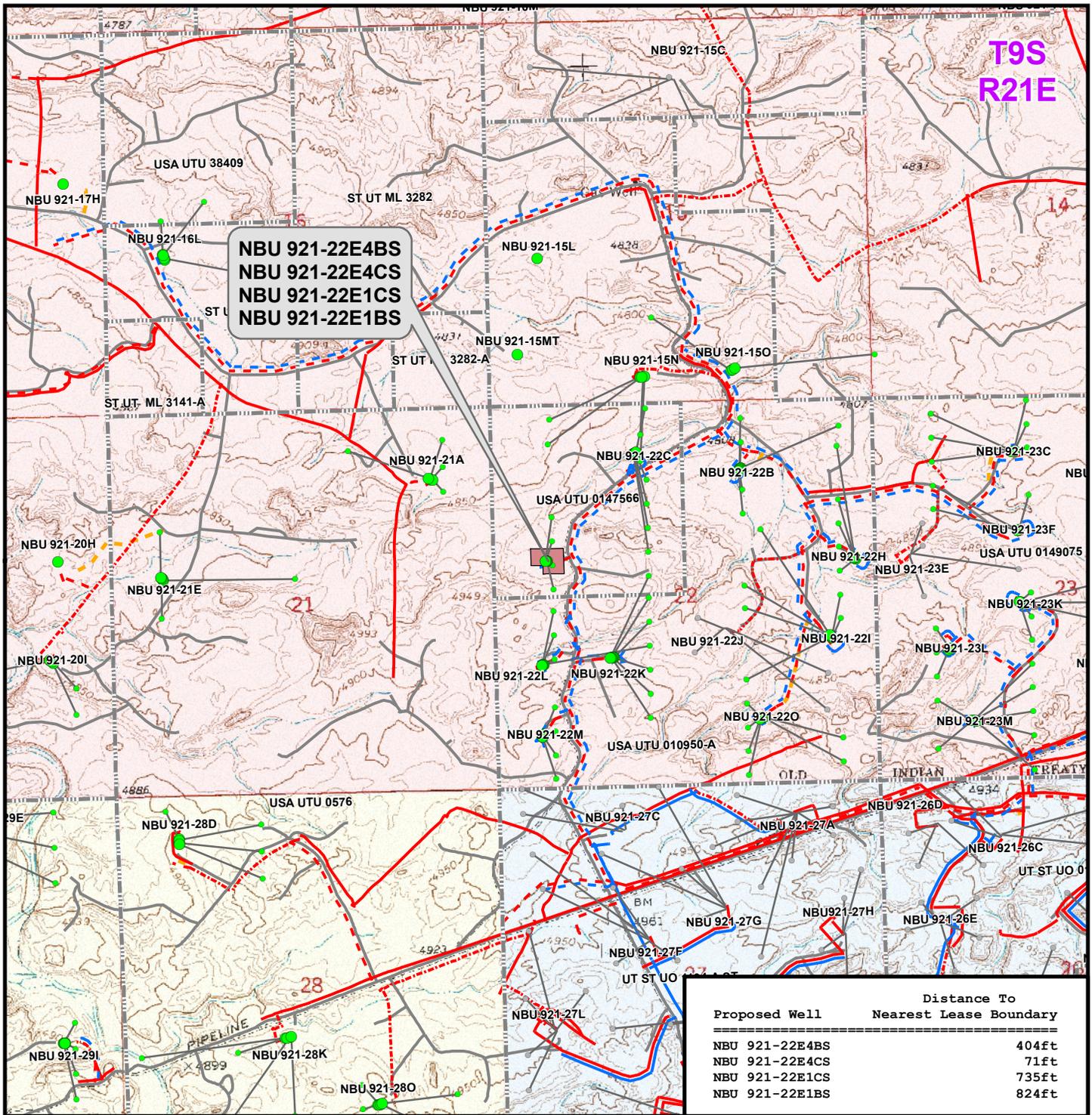
**TOPO D2 (PAD & PIPELINE DETAIL)**  
 NBU 921-22E4BS, NBU 921-22E4CS,  
 NBU 921-22E1CS & NBU 921-22E1BS  
 LOCATED IN SECTION 22, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**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  
 Fax 307-674-0182

SCALE: 1" = 500ft	NAD83 USP Central	<b>14</b> 14 OF 16
DRAWN: TL	DATE: 14 Sept 2011	
REVISED:	DATE:	



Proposed Well	Distance To Nearest Lease Boundary
NBU 921-22E4BS	404ft
NBU 921-22E4CS	71ft
NBU 921-22E1CS	735ft
NBU 921-22E1BS	824ft

**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 921-22E**

**TOPO E**  
**NBU 921-22E4BS, NBU 921-22E4CS,**  
**NBU 921-22E1CS & NBU 921-22E1BS**  
**LOCATED IN SECTION 22, 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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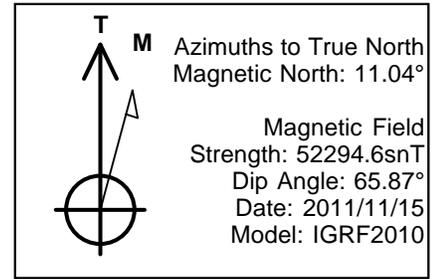
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DRAWN: TL	DATE: 14 Sept 2011	
REVISED:	DATE:	

SHEET NO:  
15 OF 16

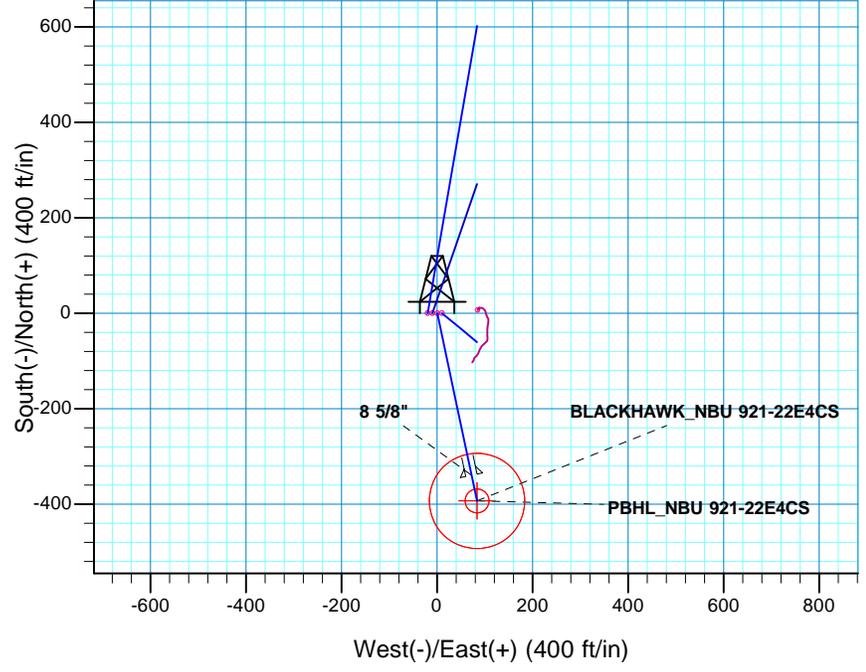
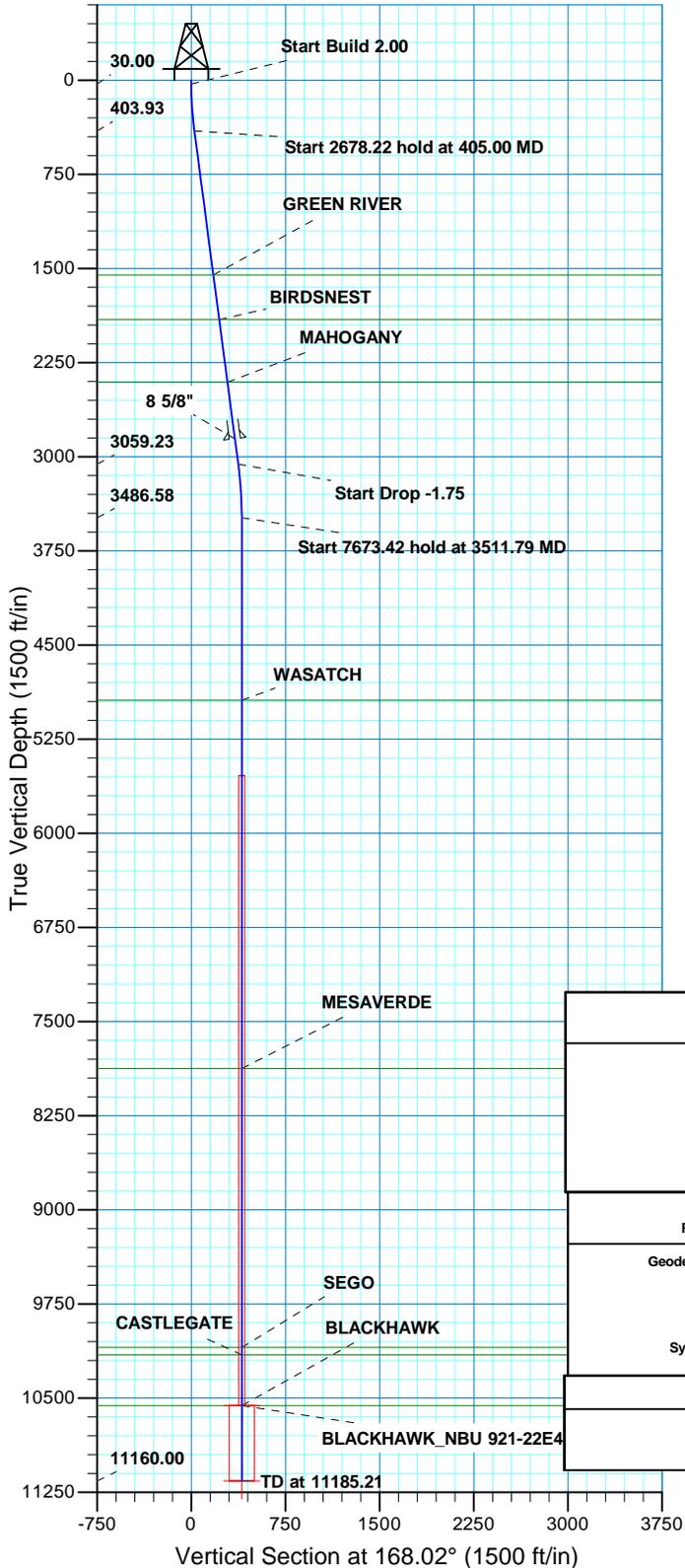
**Kerr-McGee Oil & Gas Onshore, LP  
WELL PAD - NBU 921-22E  
WELLS - NBU 921-22E4BS, NBU 921-22E4CS,  
NBU 921-22E1CS & NBU 921-22E1BS  
Section 22, T9S, R21E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.7 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly direction along the Class D County Road approximately 1.8 miles to a second Class D County Road to the north. Exit right and proceed in a northerly direction along the second Class D County Road approximately 1.0 miles to the existing access road for the NBU 130 well pad. Exit left and proceed in a southwesterly direction along the access road approximately 65 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 44.0 miles in a southerly direction.



WELL DETAILS: NBU 921-22E4CS								
GL 4868 & KB 4 @ 4872.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14537714.80	2048060.83	40° 1' 22.444 N	109° 32' 38.299 W			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BLACKHAWK	10560.00	-393.34	83.45	14537322.88	2048150.70	40° 1' 18.556 N	109° 32' 37.226 W	Circle (Radius: 25.00)
- plan hits target center								
PBHL	11160.00	-393.34	83.45	14537322.88	2048150.70	40° 1' 18.556 N	109° 32' 37.226 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	
30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	
405.00	7.50	168.02	403.93	-23.98	5.09	2.00	168.02	24.51	
3083.22	7.50	168.02	3059.23	-365.94	77.63	0.00	0.00	374.09	
3511.79	0.00	0.00	3486.58	-393.34	83.45	1.75	180.00	402.10	
11185.21	0.00	0.00	11160.00	-393.34	83.45	0.00	0.00	402.10	PBHL_NBU 921-22E4CS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N					FORMATION TOP DETAILS				
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 22 T9S R21E System Datum: Mean Sea Level					TVDPath	MDPath	Formation		
					1551.00	1561.97	GREEN RIVER		
					1909.00	1923.06	BIRDSNEST		
					2406.00	2424.35	MAHOGANY		
					4940.00	4965.21	WASATCH		
					7874.00	7899.21	MESAVERDE		
10097.00	10122.21	SEGO							
10156.00	10181.21	CASTLEGATE							
10560.00	10585.21	BLACKHAWK							
CASING DETAILS									
TVD	MD	Name	Size						
2856.00	2878.23	8 5/8"	8.625						

RECEIVED



**Scientific Drilling**  
Rocky Mountain Operations

# **US ROCKIES REGION PLANNING**

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

**NBU 921-22E PAD**

**NBU 921-22E4CS**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**15 November, 2011**





**SDI**  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-22E4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4868 & KB 4 @ 4872.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4868 & KB 4 @ 4872.00ft (ASSUMED)
<b>Site:</b>	NBU 921-22E PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-22E4CS	<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 921-22E PAD, SECTION 22 T9S R21E				
<b>Site Position:</b>	<b>Northing:</b>	14,537,714.95 usft	<b>Latitude:</b>	40° 1' 22.443 N	
<b>From:</b> Lat/Long	<b>Easting:</b>	2,048,070.64 usft	<b>Longitude:</b>	109° 32' 38.173 W	
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.94 °

<b>Well</b>	NBU 921-22E4CS, 2179 FNL 740 FWL					
<b>Well Position</b>	<b>+N/-S</b>	0.01 ft	<b>Northing:</b>	14,537,714.80 usft	<b>Latitude:</b>	40° 1' 22.444 N
	<b>+E/-W</b>	-9.81 ft	<b>Easting:</b>	2,048,060.83 usft	<b>Longitude:</b>	109° 32' 38.299 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,868.00 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	2011/11/15	11.04	65.87	52,295

<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	168.02

<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	
30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	
405.00	7.50	168.02	403.93	-23.98	5.09	2.00	2.00	0.00	168.02	
3,083.22	7.50	168.02	3,059.23	-365.94	77.63	0.00	0.00	0.00	0.00	
3,511.79	0.00	0.00	3,486.58	-393.34	83.45	1.75	-1.75	0.00	180.00	
11,185.21	0.00	0.00	11,160.00	-393.34	83.45	0.00	0.00	0.00	0.00	PBHL_NBU 921-22E4



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-22E4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4868 & KB 4 @ 4872.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4868 & KB 4 @ 4872.00ft (ASSUMED)
<b>Site:</b>	NBU 921-22E PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-22E4CS	<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	0.00
30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>										
100.00	1.40	168.02	99.99	-0.84	0.18	0.86	2.00	2.00	0.00	0.00
200.00	3.40	168.02	199.90	-4.93	1.05	5.04	2.00	2.00	0.00	0.00
300.00	5.40	168.02	299.60	-12.44	2.64	12.71	2.00	2.00	0.00	0.00
400.00	7.40	168.02	398.97	-23.34	4.95	23.86	2.00	2.00	0.00	0.00
405.00	7.50	168.02	403.93	-23.98	5.09	24.51	2.00	2.00	0.00	0.00
<b>Start 2678.22 hold at 405.00 MD</b>										
500.00	7.50	168.02	498.12	-36.11	7.66	36.91	0.00	0.00	0.00	0.00
600.00	7.50	168.02	597.26	-48.87	10.37	49.96	0.00	0.00	0.00	0.00
700.00	7.50	168.02	696.41	-61.64	13.08	63.01	0.00	0.00	0.00	0.00
800.00	7.50	168.02	795.55	-74.41	15.79	76.07	0.00	0.00	0.00	0.00
900.00	7.50	168.02	894.70	-87.18	18.49	89.12	0.00	0.00	0.00	0.00
1,000.00	7.50	168.02	993.84	-99.95	21.20	102.17	0.00	0.00	0.00	0.00
1,100.00	7.50	168.02	1,092.98	-112.72	23.91	115.22	0.00	0.00	0.00	0.00
1,200.00	7.50	168.02	1,192.13	-125.48	26.62	128.28	0.00	0.00	0.00	0.00
1,300.00	7.50	168.02	1,291.27	-138.25	29.33	141.33	0.00	0.00	0.00	0.00
1,400.00	7.50	168.02	1,390.42	-151.02	32.04	154.38	0.00	0.00	0.00	0.00
1,500.00	7.50	168.02	1,489.56	-163.79	34.75	167.43	0.00	0.00	0.00	0.00
1,561.97	7.50	168.02	1,551.00	-171.70	36.43	175.52	0.00	0.00	0.00	0.00
<b>GREEN RIVER</b>										
1,600.00	7.50	168.02	1,588.71	-176.56	37.46	180.49	0.00	0.00	0.00	0.00
1,700.00	7.50	168.02	1,687.85	-189.33	40.17	193.54	0.00	0.00	0.00	0.00
1,800.00	7.50	168.02	1,787.00	-202.09	42.87	206.59	0.00	0.00	0.00	0.00
1,900.00	7.50	168.02	1,886.14	-214.86	45.58	219.65	0.00	0.00	0.00	0.00
1,923.06	7.50	168.02	1,909.00	-217.81	46.21	222.65	0.00	0.00	0.00	0.00
<b>BIRDSNEST</b>										
2,000.00	7.50	168.02	1,985.28	-227.63	48.29	232.70	0.00	0.00	0.00	0.00
2,100.00	7.50	168.02	2,084.43	-240.40	51.00	245.75	0.00	0.00	0.00	0.00
2,200.00	7.50	168.02	2,183.57	-253.17	53.71	258.80	0.00	0.00	0.00	0.00
2,300.00	7.50	168.02	2,282.72	-265.94	56.42	271.86	0.00	0.00	0.00	0.00
2,400.00	7.50	168.02	2,381.86	-278.71	59.13	284.91	0.00	0.00	0.00	0.00
2,424.35	7.50	168.02	2,406.00	-281.81	59.79	288.09	0.00	0.00	0.00	0.00
<b>MAHOGANY</b>										
2,500.00	7.50	168.02	2,481.01	-291.47	61.84	297.96	0.00	0.00	0.00	0.00
2,600.00	7.50	168.02	2,580.15	-304.24	64.54	311.01	0.00	0.00	0.00	0.00
2,700.00	7.50	168.02	2,679.30	-317.01	67.25	324.07	0.00	0.00	0.00	0.00
2,800.00	7.50	168.02	2,778.44	-329.78	69.96	337.12	0.00	0.00	0.00	0.00
2,878.23	7.50	168.02	2,856.00	-339.77	72.08	347.33	0.00	0.00	0.00	0.00
<b>8 5/8"</b>										
2,900.00	7.50	168.02	2,877.58	-342.55	72.67	350.17	0.00	0.00	0.00	0.00
3,000.00	7.50	168.02	2,976.73	-355.32	75.38	363.22	0.00	0.00	0.00	0.00
3,083.22	7.50	168.02	3,059.23	-365.94	77.63	374.09	0.00	0.00	0.00	0.00
<b>Start Drop -1.75</b>										
3,100.00	7.21	168.02	3,075.88	-368.04	78.08	376.23	1.75	-1.75	0.00	0.00
3,200.00	5.46	168.02	3,175.27	-378.83	80.37	387.26	1.75	-1.75	0.00	0.00
3,300.00	3.71	168.02	3,274.94	-386.64	82.03	395.25	1.75	-1.75	0.00	0.00
3,400.00	1.96	168.02	3,374.82	-391.48	83.05	400.19	1.75	-1.75	0.00	0.00
3,500.00	0.21	168.02	3,474.79	-393.32	83.44	402.07	1.75	-1.75	0.00	0.00
3,511.79	0.00	168.02	3,486.58	-393.34	83.45	402.10	1.75	-1.75	0.00	0.00
<b>Start 7673.42 hold at 3511.79 MD</b>										
3,600.00	0.00	0.00	3,574.79	-393.34	83.45	402.10	0.00	0.00	0.00	0.00



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-22E4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4868 & KB 4 @ 4872.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4868 & KB 4 @ 4872.00ft (ASSUMED)
<b>Site:</b>	NBU 921-22E PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-22E4CS	<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)
3,700.00	0.00	0.00	3,674.79	-393.34	83.45	402.10	0.00	0.00	0.00
3,800.00	0.00	0.00	3,774.79	-393.34	83.45	402.10	0.00	0.00	0.00
3,900.00	0.00	0.00	3,874.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,000.00	0.00	0.00	3,974.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,100.00	0.00	0.00	4,074.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,200.00	0.00	0.00	4,174.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,300.00	0.00	0.00	4,274.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,400.00	0.00	0.00	4,374.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,500.00	0.00	0.00	4,474.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,600.00	0.00	0.00	4,574.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,700.00	0.00	0.00	4,674.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,800.00	0.00	0.00	4,774.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,900.00	0.00	0.00	4,874.79	-393.34	83.45	402.10	0.00	0.00	0.00
4,965.21	0.00	0.00	4,940.00	-393.34	83.45	402.10	0.00	0.00	0.00
<b>WASATCH</b>									
5,000.00	0.00	0.00	4,974.79	-393.34	83.45	402.10	0.00	0.00	0.00
5,100.00	0.00	0.00	5,074.79	-393.34	83.45	402.10	0.00	0.00	0.00
5,200.00	0.00	0.00	5,174.79	-393.34	83.45	402.10	0.00	0.00	0.00
5,300.00	0.00	0.00	5,274.79	-393.34	83.45	402.10	0.00	0.00	0.00
5,400.00	0.00	0.00	5,374.79	-393.34	83.45	402.10	0.00	0.00	0.00
5,500.00	0.00	0.00	5,474.79	-393.34	83.45	402.10	0.00	0.00	0.00
5,600.00	0.00	0.00	5,574.79	-393.34	83.45	402.10	0.00	0.00	0.00
5,700.00	0.00	0.00	5,674.79	-393.34	83.45	402.10	0.00	0.00	0.00
5,800.00	0.00	0.00	5,774.79	-393.34	83.45	402.10	0.00	0.00	0.00
5,900.00	0.00	0.00	5,874.79	-393.34	83.45	402.10	0.00	0.00	0.00
6,000.00	0.00	0.00	5,974.79	-393.34	83.45	402.10	0.00	0.00	0.00
6,100.00	0.00	0.00	6,074.79	-393.34	83.45	402.10	0.00	0.00	0.00
6,200.00	0.00	0.00	6,174.79	-393.34	83.45	402.10	0.00	0.00	0.00
6,300.00	0.00	0.00	6,274.79	-393.34	83.45	402.10	0.00	0.00	0.00
6,400.00	0.00	0.00	6,374.79	-393.34	83.45	402.10	0.00	0.00	0.00
6,500.00	0.00	0.00	6,474.79	-393.34	83.45	402.10	0.00	0.00	0.00
6,600.00	0.00	0.00	6,574.79	-393.34	83.45	402.10	0.00	0.00	0.00
6,700.00	0.00	0.00	6,674.79	-393.34	83.45	402.10	0.00	0.00	0.00
6,800.00	0.00	0.00	6,774.79	-393.34	83.45	402.10	0.00	0.00	0.00
6,900.00	0.00	0.00	6,874.79	-393.34	83.45	402.10	0.00	0.00	0.00
7,000.00	0.00	0.00	6,974.79	-393.34	83.45	402.10	0.00	0.00	0.00
7,100.00	0.00	0.00	7,074.79	-393.34	83.45	402.10	0.00	0.00	0.00
7,200.00	0.00	0.00	7,174.79	-393.34	83.45	402.10	0.00	0.00	0.00
7,300.00	0.00	0.00	7,274.79	-393.34	83.45	402.10	0.00	0.00	0.00
7,400.00	0.00	0.00	7,374.79	-393.34	83.45	402.10	0.00	0.00	0.00
7,500.00	0.00	0.00	7,474.79	-393.34	83.45	402.10	0.00	0.00	0.00
7,600.00	0.00	0.00	7,574.79	-393.34	83.45	402.10	0.00	0.00	0.00
7,700.00	0.00	0.00	7,674.79	-393.34	83.45	402.10	0.00	0.00	0.00
7,800.00	0.00	0.00	7,774.79	-393.34	83.45	402.10	0.00	0.00	0.00
7,899.21	0.00	0.00	7,874.00	-393.34	83.45	402.10	0.00	0.00	0.00
<b>MESAVERDE</b>									
7,900.00	0.00	0.00	7,874.79	-393.34	83.45	402.10	0.00	0.00	0.00
8,000.00	0.00	0.00	7,974.79	-393.34	83.45	402.10	0.00	0.00	0.00
8,100.00	0.00	0.00	8,074.79	-393.34	83.45	402.10	0.00	0.00	0.00
8,200.00	0.00	0.00	8,174.79	-393.34	83.45	402.10	0.00	0.00	0.00
8,300.00	0.00	0.00	8,274.79	-393.34	83.45	402.10	0.00	0.00	0.00
8,400.00	0.00	0.00	8,374.79	-393.34	83.45	402.10	0.00	0.00	0.00
8,500.00	0.00	0.00	8,474.79	-393.34	83.45	402.10	0.00	0.00	0.00
8,600.00	0.00	0.00	8,574.79	-393.34	83.45	402.10	0.00	0.00	0.00



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-22E4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4868 & KB 4 @ 4872.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4868 & KB 4 @ 4872.00ft (ASSUMED)
<b>Site:</b>	NBU 921-22E PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-22E4CS	<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)
8,700.00	0.00	0.00	8,674.79	-393.34	83.45	402.10	0.00	0.00	0.00
8,800.00	0.00	0.00	8,774.79	-393.34	83.45	402.10	0.00	0.00	0.00
8,900.00	0.00	0.00	8,874.79	-393.34	83.45	402.10	0.00	0.00	0.00
9,000.00	0.00	0.00	8,974.79	-393.34	83.45	402.10	0.00	0.00	0.00
9,100.00	0.00	0.00	9,074.79	-393.34	83.45	402.10	0.00	0.00	0.00
9,200.00	0.00	0.00	9,174.79	-393.34	83.45	402.10	0.00	0.00	0.00
9,300.00	0.00	0.00	9,274.79	-393.34	83.45	402.10	0.00	0.00	0.00
9,400.00	0.00	0.00	9,374.79	-393.34	83.45	402.10	0.00	0.00	0.00
9,500.00	0.00	0.00	9,474.79	-393.34	83.45	402.10	0.00	0.00	0.00
9,600.00	0.00	0.00	9,574.79	-393.34	83.45	402.10	0.00	0.00	0.00
9,700.00	0.00	0.00	9,674.79	-393.34	83.45	402.10	0.00	0.00	0.00
9,800.00	0.00	0.00	9,774.79	-393.34	83.45	402.10	0.00	0.00	0.00
9,900.00	0.00	0.00	9,874.79	-393.34	83.45	402.10	0.00	0.00	0.00
10,000.00	0.00	0.00	9,974.79	-393.34	83.45	402.10	0.00	0.00	0.00
10,100.00	0.00	0.00	10,074.79	-393.34	83.45	402.10	0.00	0.00	0.00
10,122.21	0.00	0.00	10,097.00	-393.34	83.45	402.10	0.00	0.00	0.00
<b>SEGO</b>									
10,181.21	0.00	0.00	10,156.00	-393.34	83.45	402.10	0.00	0.00	0.00
<b>CASTLEGATE</b>									
10,200.00	0.00	0.00	10,174.79	-393.34	83.45	402.10	0.00	0.00	0.00
10,300.00	0.00	0.00	10,274.79	-393.34	83.45	402.10	0.00	0.00	0.00
10,400.00	0.00	0.00	10,374.79	-393.34	83.45	402.10	0.00	0.00	0.00
10,500.00	0.00	0.00	10,474.79	-393.34	83.45	402.10	0.00	0.00	0.00
10,585.21	0.00	0.00	10,560.00	-393.34	83.45	402.10	0.00	0.00	0.00
<b>BLACKHAWK - BLACKHAWK_NBU 921-22E4CS</b>									
10,600.00	0.00	0.00	10,574.79	-393.34	83.45	402.10	0.00	0.00	0.00
10,700.00	0.00	0.00	10,674.79	-393.34	83.45	402.10	0.00	0.00	0.00
10,800.00	0.00	0.00	10,774.79	-393.34	83.45	402.10	0.00	0.00	0.00
10,900.00	0.00	0.00	10,874.79	-393.34	83.45	402.10	0.00	0.00	0.00
11,000.00	0.00	0.00	10,974.79	-393.34	83.45	402.10	0.00	0.00	0.00
11,100.00	0.00	0.00	11,074.79	-393.34	83.45	402.10	0.00	0.00	0.00
11,185.21	0.00	0.00	11,160.00	-393.34	83.45	402.10	0.00	0.00	0.00
<b>PBHL_NBU 921-22E4CS</b>									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BLACKHAWK_NBU 921 - hit/miss target - Shape - plan hits target center - Circle (radius 25.00)	0.00	0.00	10,560.00	-393.34	83.45	14,537,322.88	2,048,150.69	40° 1' 18.556 N	109° 32' 37.226 W
PBHL_NBU 921-22E4C: - plan hits target center - Circle (radius 100.00)	0.00	0.00	11,160.00	-393.34	83.45	14,537,322.88	2,048,150.69	40° 1' 18.556 N	109° 32' 37.226 W



**SDI**  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-22E4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4868 & KB 4 @ 4872.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4868 & KB 4 @ 4872.00ft (ASSUMED)
<b>Site:</b>	NBU 921-22E PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-22E4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,878.23	2,856.00	8 5/8"	8.625	11.000

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,561.97	1,551.00	GREEN RIVER			
1,923.06	1,909.00	BIRDSNEST			
2,424.35	2,406.00	MAHOGANY			
4,965.21	4,940.00	WASATCH			
7,899.21	7,874.00	MESAVERDE			
10,122.21	10,097.00	SEGO			
10,181.21	10,156.00	CASTLEGATE			
10,585.21	10,560.00	BLACKHAWK			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
30.00	30.00	0.00	0.00	Start Build 2.00
405.00	403.93	-23.98	5.09	Start 2678.22 hold at 405.00 MD
3,083.22	3,059.23	-365.94	77.63	Start Drop -1.75
3,511.79	3,486.58	-393.34	83.45	Start 7673.42 hold at 3511.79 MD
11,185.21	11,160.00	-393.34	83.45	TD at 11185.21

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-22E Pad**

<b><u>API #</u></b>	<b><u>NBU 921-22E1BS</u></b>		
	Surface: 2179 FNL / 720 FWL	SWNW	Lot
	BHL: 1576 FNL / 824 FWL	SWNW	Lot
<b><u>API #</u></b>	<b><u>NBU 921-22E1CS</u></b>		
	Surface: 2179 FNL / 730 FWL	SWNW	Lot
	BHL: 1908 FNL / 824 FWL	SWNW	Lot
<b><u>API #</u></b>	<b><u>NBU 921-22E4BS</u></b>		
	Surface: 2179 FNL / 750 FWL	SWNW	Lot
	BHL: 2239 FNL / 824 FWL	SWNW	Lot
<b><u>API #</u></b>	<b><u>NBU 921-22E4CS</u></b>		
	Surface: 2179 FNL / 740 FWL	SWNW	Lot
	BHL: 2572 FNL / 824 FWL	SWNW	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:

- 
- 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 BIA.

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

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

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

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

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

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

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

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

No new access road is proposed for this well pad - See Topo B.

**C. Location of Existing Wells:**

A) Refer to Topo Map C.

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

This pad will expand the existing pad for the NBU 130, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on November 3, 2011. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

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

**GAS GATHERING**

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

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is  $\pm 480'$  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.**

$\pm 480'$  (0.1 miles) – Section 22 T9S R21E (NW/4) – On-lease UTU0147566 Ute Indian Tribe surface, New 6" buried gas gathering pipeline from the meter to the proposed 16" gas pipeline- ROW in progress. 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  $\pm 480'$  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.**

$\pm 480'$  (0.1 miles) – Section 22 T9S R21E (NW/4) – On-lease UTU0147566 Ute Indian Tribe surface, New 6" buried liquid gathering pipeline from the separator to the proposed 6" liquid pipeline- ROW in progress. Please refer to Topo D2 - Pad and Pipeline Detail.

**Pipeline Gathering Construction**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

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

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

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

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

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

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

No water well is to be drilled on this lease.

**F. Construction Materials:**

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

**G. Methods for Handling Waste:**

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

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

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

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

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

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

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

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

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

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

### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or contaminant 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.

NBU 921-22E1BS/ 921-22E1CS  
NBU 921-22E4BS/ 921-22E4CS  
Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22E Pad  
Surface Use Plan of Operations  
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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:**

ancillary facilities are

#### **I. Well Site Layout:**

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

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

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

#### **J. Plans for Surface Reclamation:**

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

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

**Interim Reclamation**

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

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

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

**Final Reclamation**

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

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

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

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

**Measures Common to Interim and Final Reclamation**

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

NBU 921-22E1BS/ 921-22E1CS  
 NBU 921-22E4BS/ 921-22E4CS  
 Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22E Pad  
 Surface Use Plan of Operations  
 10 of 12

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a “picker box” in order to seed “fluffy” seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BIA/Tribe or a specific seed mix will be proposed by Kerr-McGee to the BIA/Tribe and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain “cheat grass free seed”.

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

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

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

#### **Weed Control**

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

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

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

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

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

- Construct diversion ditch along east side of topsoil stockpile
- Energy and Minerals monitoring during construction
- 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 BIA.

**Resource Reports:**

A Class I literature survey was completed in December, 2011 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-406.

A paleontological reconnaissance survey was completed on July 21, 2010 by SWCA Environmental Consultants. For additional details please refer to report UT11-14314-116.

Biological field survey was completed on August 8 and 16, 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-567.

**Proposed Action Annual Emissions Tables:**

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

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

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory <sup>a</sup> (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NO <sub>x</sub>	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 921-22E1BS/ 921-22E1CS  
NBU 921-22E4BS/ 921-22E4CS  
Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22E Pad  
Surface Use Plan of Operations  
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**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 16, 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 921-22E4CS  
T9S-R21E  
Section 22 SWNW (Surface and Bottom Hole)  
Surface: 2179' FNL, 740' FWL  
Bottom Hole: 2572' FNL, 824' FWL  
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 921-22E4CS 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.

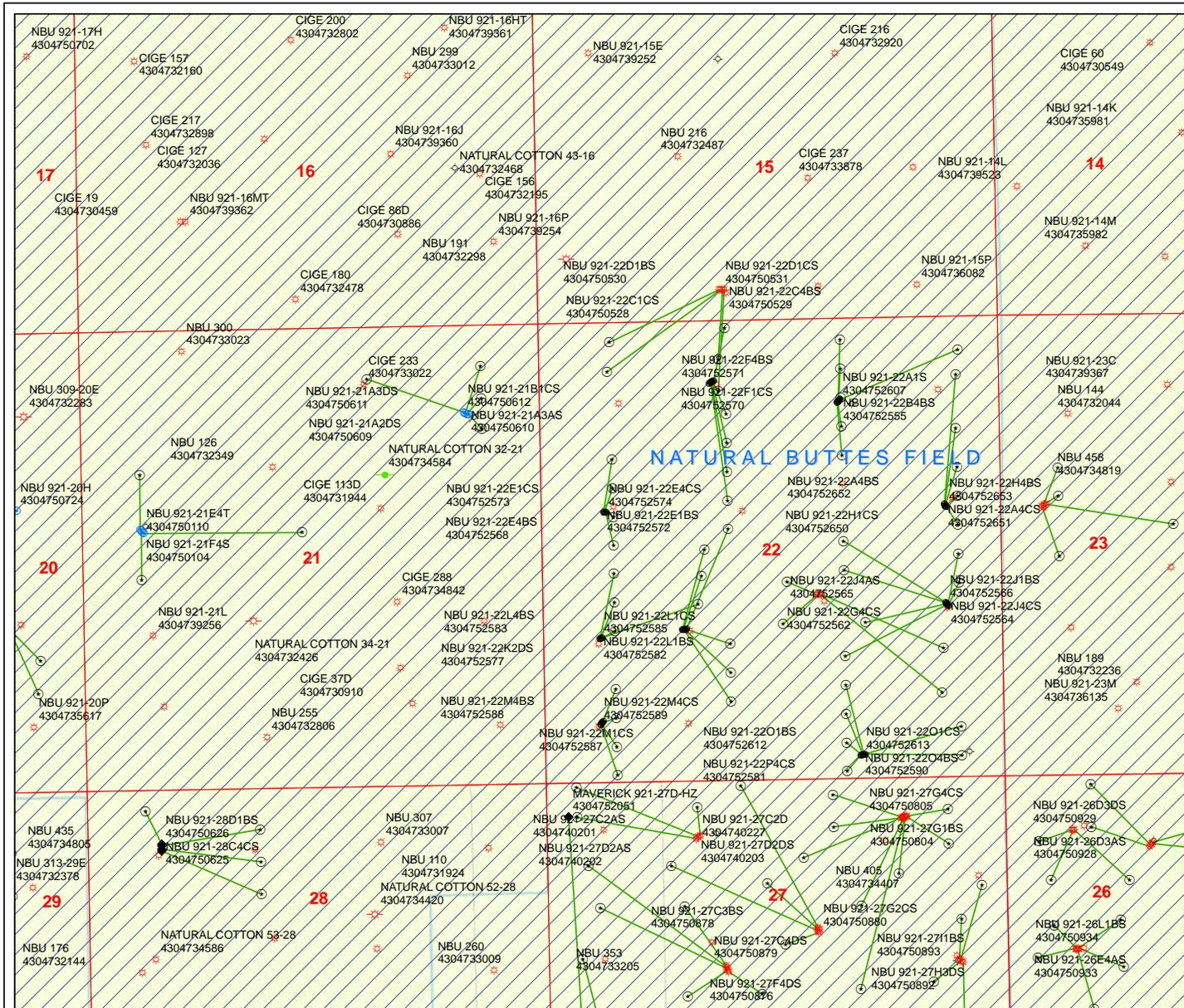
Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

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

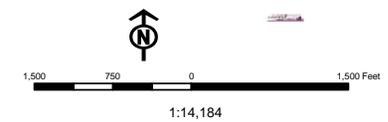
Joe Matney  
Sr. Staff Landman



**API Number: 4304752574**  
**Well Name: NBU 921-22E4CS**  
 Township T09.0 Range R2.1 Section 22  
 Meridian: SLBM  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason

- |  |   |
|--|---|
| <b>Units</b>   | <b>Wells Query</b>  |
| <ul style="list-style-type: none"> <li>ACTIVE</li> <li>EXPLORATORY</li> <li>GAS STORAGE</li> <li>NF PP OIL</li> <li>NF SECONDARY</li> <li>PI OIL</li> <li>PP GAS</li> <li>PP GEOTHERM.</li> <li>PP OIL</li> <li>SECONDARY</li> <li>TERMINATED</li> </ul> | <ul style="list-style-type: none"> <li>APD - Approved Permit</li> <li>DRL - Spudded (Drilling Commenced)</li> <li>GW - Gas Injection</li> <li>GS - Gas Storage</li> <li>LA - Location Abandoned</li> <li>LOC - New Location</li> <li>OPS - Operation Suspended</li> <li>PA - Plugged Abandoned</li> <li>PGW - Producing Gas Well</li> <li>POW - Returned APD</li> <li>RET - Shut-in Gas Well</li> <li>SOW - Shut-in Oil Well</li> <li>TA - Temp. Abandoned</li> <li>TW - Test Well</li> <li>WDW - Water Disposal</li> <li>WW - Water Injection Well</li> <li>WSW - Water Supply Well</li> </ul> |
| <b>Fields</b>  |   |
| <ul style="list-style-type: none"> <li>Unknown</li> <li>ABANDONED</li> <li>ACTIVE</li> <li>COMBINED</li> <li>INACTIVE</li> <li>STORAGE</li> <li>TERMINATED</li> </ul>  |   |



# 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 14, 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 921-22K</b>		
43-047-52550	NBU 921-22K2AS Sec 22	T09S R21E 1748 FSL 1611 FWL
	BHL Sec 22	T09S R21E 2366 FSL 1832 FWL
43-047-52551	NBU 921-22K4CS Sec 22	T09S R21E 1753 FSL 1640 FWL
	BHL Sec 22	T09S R21E 1576 FSL 2147 FWL
43-047-52552	NBU 921-22N1BS Sec 22	T09S R21E 1751 FSL 1630 FWL
	BHL Sec 22	T09S R21E 1244 FSL 2147 FWL
43-047-52575	NBU 921-22F4CS Sec 22	T09S R21E 1755 FSL 1650 FWL
	BHL Sec 22	T09S R21E 2406 FNL 2148 FWL
43-047-52576	NBU 921-22F3DS Sec 22	T09S R21E 1747 FSL 1601 FWL
	BHL Sec 22	T09S R21E 2634 FNL 1870 FWL
43-047-52580	NBU 921-22N1CS Sec 22	T09S R21E 1750 FSL 1620 FWL
	BHL Sec 22	T09S R21E 0912 FSL 2146 FWL
<b>WELL PAD - NBU 921-22B</b>		
43-047-52553	NBU 921-22G1CS Sec 22	T09S R21E 0973 FNL 1861 FEL
	BHL Sec 22	T09S R21E 1574 FNL 1818 FEL
43-047-52554	NBU 921-22B4CS Sec 22	T09S R21E 0965 FNL 1854 FEL
	BHL Sec 22	T09S R21E 1243 FNL 1819 FEL
43-047-52555	NBU 921-22B4BS Sec 22	T09S R21E 0935 FNL 1828 FEL
	BHL Sec 22	T09S R21E 0911 FNL 1819 FEL
43-047-52556	NBU 921-22B1CS Sec 22	T09S R21E 0950 FNL 1841 FEL
	BHL Sec 22	T09S R21E 0579 FNL 1819 FEL

RECEIVED: May 15, 2012

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-52557	NBU 921-22B1BS	Sec 22 T09S R21E 0958 FNL 1848 FEL
	BHL	Sec 22 T09S R21E 0249 FNL 1819 FEL
43-047-52607	NBU 921-22A1S	Sec 22 T09S R21E 0943 FNL 1835 FEL
	BHL	Sec 22 T09S R21E 0386 FNL 0464 FEL
<b>WELL PAD - NBU 921-22C</b>		
43-047-52558	NBU 921-22C1BS	Sec 22 T09S R21E 0691 FNL 2010 FWL
	BHL	Sec 22 T09S R21E 0085 FNL 2150 FWL
43-047-52567	NBU 921-22C4CS	Sec 22 T09S R21E 0696 FNL 2001 FWL
	BHL	Sec 22 T09S R21E 1078 FNL 2149 FWL
43-047-52569	NBU 921-22F1BS	Sec 22 T09S R21E 0701 FNL 1993 FWL
	BHL	Sec 22 T09S R21E 1410 FNL 2149 FWL
43-047-52570	NBU 921-22F1CS	Sec 22 T09S R21E 0707 FNL 1984 FWL
	BHL	Sec 22 T09S R21E 1742 FNL 2149 FWL
43-047-52571	NBU 921-22F4BS	Sec 22 T09S R21E 0712 FNL 1976 FWL
	BHL	Sec 22 T09S R21E 2073 FNL 2149 FWL
<b>WELL PAD - NBU 921-22I</b>		
43-047-52560	NBU 921-22I1CS	Sec 22 T09S R21E 1973 FSL 0620 FEL
	BHL	Sec 22 T09S R21E 2237 FSL 0494 FEL
43-047-52561	NBU 921-22I1BS	Sec 22 T09S R21E 1981 FSL 0626 FEL
	BHL	Sec 22 T09S R21E 2569 FSL 0494 FEL
43-047-52562	NBU 921-22G4CS	Sec 22 T09S R21E 2013 FSL 0650 FEL
	BHL	Sec 22 T09S R21E 2569 FNL 1818 FEL
43-047-52564	NBU 921-22J4CS	Sec 22 T09S R21E 1989 FSL 0632 FEL
	BHL	Sec 22 T09S R21E 1410 FSL 1817 FEL
43-047-52565	NBU 921-22J4AS	Sec 22 T09S R21E 1997 FSL 0638 FEL
	BHL	Sec 22 T09S R21E 1796 FSL 1580 FEL
43-047-52566	NBU 921-22J1BS	Sec 22 T09S R21E 2005 FSL 0644 FEL
	BHL	Sec 22 T09S R21E 2405 FSL 1817 FEL
<b>WELL PAD - NBU 921-22H</b>		
43-047-52563	NBU 921-22H4CS	Sec 22 T09S R21E 2196 FNL 0627 FEL
	BHL	Sec 22 T09S R21E 2403 FNL 0494 FEL
43-047-52650	NBU 921-22H1CS	Sec 22 T09S R21E 2179 FNL 0637 FEL
	BHL	Sec 22 T09S R21E 1740 FNL 0494 FEL
43-047-52651	NBU 921-22A4CS	Sec 22 T09S R21E 2170 FNL 0642 FEL
	BHL	Sec 22 T09S R21E 1288 FNL 0504 FEL
43-047-52652	NBU 921-22A4BS	Sec 22 T09S R21E 2162 FNL 0647 FEL
	BHL	Sec 22 T09S R21E 0670 FNL 0494 FEL
43-047-52653	NBU 921-22H4BS	Sec 22 T09S R21E 2188 FNL 0632 FEL
	BHL	Sec 22 T09S R21E 2071 FNL 0494 FEL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
<b>WELL PAD - NBU 921-22E</b>		
43-047-52568	NBU 921-22E4BS Sec 22 T09S R21E 2179 FNL 0750 FWL	
	BHL Sec 22 T09S R21E 2239 FNL 0824 FWL	
43-047-52572	NBU 921-22E1BS Sec 22 T09S R21E 2179 FNL 0720 FWL	
	BHL Sec 22 T09S R21E 1576 FNL 0824 FWL	
43-047-52573	NBU 921-22E1CS Sec 22 T09S R21E 2179 FNL 0730 FWL	
	BHL Sec 22 T09S R21E 1908 FNL 0824 FWL	
43-047-52574	NBU 921-22E4CS Sec 22 T09S R21E 2179 FNL 0740 FWL	
	BHL Sec 22 T09S R21E 2572 FNL 0824 FWL	
<b>WELL PAD - NBU 921-22L</b>		
43-047-52577	NBU 921-22K2DS Sec 22 T09S R21E 1668 FSL 0666 FWL	
	BHL Sec 22 T09S R21E 2038 FSL 1784 FWL	
43-047-52582	NBU 921-22L1BS Sec 22 T09S R21E 1660 FSL 0648 FWL	
	BHL Sec 22 T09S R21E 2408 FSL 0824 FWL	
43-047-52583	NBU 921-22L4BS Sec 22 T09S R21E 1672 FSL 0675 FWL	
	BHL Sec 22 T09S R21E 1744 FSL 0824 FWL	
43-047-52585	NBU 921-22L1CS Sec 22 T09S R21E 1664 FSL 0657 FWL	
	BHL Sec 22 T09S R21E 2076 FSL 0824 FWL	
<b>WELL PAD - NBU 921-22O</b>		
43-047-52578	NBU 921-22O4CS Sec 22 T09S R21E 0269 FSL 1655 FEL	
	BHL Sec 22 T09S R21E 0086 FSL 1816 FEL	
43-047-52579	NBU 921-22P4BS Sec 22 T09S R21E 0280 FSL 1606 FEL	
	BHL Sec 22 T09S R21E 0581 FSL 0494 FEL	
43-047-52581	NBU 921-22P4CS Sec 22 T09S R21E 0278 FSL 1616 FEL	
	BHL Sec 22 T09S R21E 0251 FSL 0494 FEL	
43-047-52590	NBU 921-22O4BS Sec 22 T09S R21E 0271 FSL 1645 FEL	
	BHL Sec 22 T09S R21E 0416 FSL 1816 FEL	
43-047-52612	NBU 921-22O1BS Sec 22 T09S R21E 0276 FSL 1625 FEL	
	BHL Sec 22 T09S R21E 1079 FSL 1817 FEL	
43-047-52613	NBU 921-22O1CS Sec 22 T09S R21E 0274 FSL 1635 FEL	
	BHL Sec 22 T09S R21E 0747 FSL 1816 FEL	
<b>WELL PAD - NBU 921-22M</b>		
43-047-52586	NBU 921-22M1BS Sec 22 T09S R21E 0695 FSL 0660 FWL	
	BHL Sec 22 T09S R21E 1080 FSL 0823 FWL	
43-047-52587	NBU 921-22M1CS Sec 22 T09S R21E 0686 FSL 0654 FWL	
	BHL Sec 22 T09S R21E 0748 FSL 0823 FWL	
43-047-52588	NBU 921-22M4BS Sec 22 T09S R21E 0678 FSL 0649 FWL	
	BHL Sec 22 T09S R21E 0416 FSL 0823 FWL	
43-047-52589	NBU 921-22M4CS Sec 22 T09S R21E 0670 FSL 6043 FWL	
	BHL Sec 22 T09S R21E 0086 FSL 0823 FWL	

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: 2012.05.15 07:17:01 -06'00'

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

MCoulthard:mc:5-14-12

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 4/27/2012

API NO. ASSIGNED: 43047525740000

WELL NAME: NBU 921-22E4CS

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

PHONE NUMBER: 720 929-6356

CONTACT: Laura Abrams

PROPOSED LOCATION: SWNW 22 090S 210E

Permit Tech Review: 

SURFACE: 2179 FNL 0740 FWL

Engineering Review: 

BOTTOM: 2572 FNL 0824 FWL

Geology Review: 

COUNTY: UINTAH

LATITUDE: 40.02282

LONGITUDE: -109.54463

UTM SURF EASTINGS: 624191.00

NORTHINGS: 4431304.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU 0147566

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 - dducet  
 4 - Federal Approval - dmason  
 15 - Directional - dmason  
 17 - Oil Shale 190-5(b) - dmason



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

## Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-22E4CS  
**API Well Number:** 43047525740000  
**Lease Number:** UTU 0147566  
**Surface Owner:** INDIAN  
**Approval Date:** 5/30/2012

### 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

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

JAN 10 2012

BLM VERNAL, UTAH

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0147566
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 921-22E4CS
3b. Phone No. (include area code) Ph: 720-929-6356 Fx: 720-929-7356		9. API Well No. 43 047 52574
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWNW 2179FNL 740FWL 40.022866 N Lat, 109.544660 W Lon At proposed prod. zone SWNW 2572FNL 824FWL 40.021786 N Lat, 109.544362 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 44.0 MILES SOUTH OF VERNAL, UT		11. Sec., T., R., M., or Blk. and Survey or Area Sec 22 T9S R21E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 71'	16. No. of Acres in Lease 160.00	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. 413'
19. Proposed Depth 11185 MD 11160 TVD	20. BLM/BIA Bond No. on file WYB000291	21. Elevations (Show whether DF, KB, RT, GL, etc.) 4869 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 12/19/2011
Title REGULATORY ANALYST II		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date JUN 05 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.

Additional Operator Remarks (see next page)

Electronic Submission #126258 verified by the BLM Well Information System  
For KERR MCGEE OIL&GAS ONSHORE, LP, sent to the Vernal

RECEIVED

JUN 11 2012

DIV. OF OIL, GAS & MINING

NOTICE OF APPROVAL

UDOGM

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

12RRH1302AE

NO NOS APD posted  
11/12/2012



**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**

<b>Company:</b>	<b>Kerr McGee Oil &amp; Gas Onshore, LP</b>	<b>Location:</b>	<b>SWNW, Sec. 22, T9S, R21E</b>
<b>Well No:</b>	<b>NBU 921-22E4CS</b>	<b>Lease No:</b>	<b>UTU-0147566</b>
<b>API No:</b>	<b>43-047-52574</b>	<b>Agreement:</b>	<b>Natural Butte</b>

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

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

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

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

**NOTIFICATION REQUIREMENTS**

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

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

- Paint facilities "Shadow Gray" .
- Conduct a raptor survey prior to construction operation if such activities would take place during raptor nesting season (January 1- September 30). If active raptor nests are identified during the survey, operations should be conducted according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah.
- If construction and/or drilling operations have not been initiated prior to August 8, 2012, conduct a biological survey to determine the guidelines specified in the USFWS Rare Plant Conservation Measures and the BLM RMP ROD. KMG will implement commitment contained in the GNB BO.
- Monitor construction operation with a permitted archaeologist.
- Monitor construction operation with a permitted paleontologist.
- Monitor construction operations with Ute Energy and Minerals technician.
- Construct diversion ditch on east side of topsoil stockpile.

**Pipeline Route from North Compressor to West Cottonwood Compressor**

- If construction and/or drilling operations have not been initiated prior to August 8, 2012, conduct a biological survey to determine the guidelines specified in the USFWS Rare Plant Conservation Measures and the BLM RMP ROD. KMG will implement commitment contained in the GNB BO.
- Monitor areas with a permitted paleontologist where pipeline travels through Sections 15, 16, 17, and 22. Monitor section 27 at the beginning of construction and spot monitor thereafter.

**ACTS line**

- If construction and/or drilling operations have not been initiated prior to August 8, 2012, conduct a biological survey to determine the guidelines specified in the USFWS Rare Plant Conservation Measures and the BLM RMP ROD. KMG will implement commitment contained in the GNB BO.
- Monitor areas with a permitted paleontologist where ACTS line travels through Section 15 SWSE, and Section 22 NWNE, NENW, SWSW, and SWSE.

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

**SITE SPECIFIC DOWNHOLE COAs:**

- A copy of Kerr McGee's Standard Operating Practices (SOP version: dated 7/17/08 and approved 7/28/08) shall be on location.
- Surface casing cement shall be brought to surface.
- Production casing cement shall be brought 200' up and into the surface casing.
- Electronic/mechanical mud monitoring equipment shall be required, from surface casing shoe to TD, which shall include as a minimum: pit volume totalizer (PVT); stroke counter; and flow sensor.
- Require usage of a modified 5m stack. The 5M BOPE (minimum) shall be a modified 5m BOPE stack to include a third (3) pipe ram and one (1) remote kill line.

**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 (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if

performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>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 0147566
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute In
<b>1. TYPE OF WELL</b> Gas Well		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>8. WELL NAME and NUMBER:</b> NBU 921-22E4CS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047525740000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2179 FNL 0740 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNW Section: 22 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		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 10/9/2012  <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> APD EXTENSION  <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER: <input style="width: 100px; height: 15px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
MIRU BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CMT W/ 28 SX READY MIX. SPUD WELL LOCATION ON OCTOBER 9, 2012 AT 13:00 HRS.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY October 16, 2012</b>		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 10/12/2012	

## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
 Submitted By J. Scharnowske Phone Number 720.929.6304  
 Well Name/Number NBU 921-22E4CS  
 Qtr/Qtr SWNW Section 22 Township 9S Range 21E  
 Lease Serial Number UTU0147566  
 API Number 4304752574

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

Date/Time 10/09/2012 13:00 HRS AM  PM

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

- Surface Casing  
 Intermediate Casing  
 Production Casing  
 Liner  
 Other

Date/Time 11/13/2012 08:00 HRS AM  PM

BOPE

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

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

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT

435.828.0986 OR LEVEL YOUNG AT 435.781.7051

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

FORM 6

**ENTITY ACTION FORM**

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
 Address: P.O. Box 173779  
city DENVER  
state CO zip 80217 Phone Number: (720) 929-6304

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752572	NBU 921-22E1BS		SWNW	22	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	10/9/2012			10/24/2012	
Comments: MIRU BUCKET RIG. SPUD WELL LOCATION ON 10/09/2012 AT 7:00 HRS. WSMVD BHL SWNW							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752573	NBU 921-22E1CS		SWNW	22	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	10/9/2012			10/24/2012	
Comments: MIRU BUCKET RIG. SPUD WELL LOCATION ON 10/09/2012 AT 10:00 HRS. WSMVD BHL: SWNW							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752574	NBU 921-22E4CS		SWNW	22	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	10/9/2012			10/24/2012	
Comments: MIRU BUCKET RIG. SPUD WELL LOCATION ON 10/09/2012 AT 13:00 HRS. WSMVD BHL SWNW							

**ACTION CODES:**

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

JAIME SCHARNOWSKE

Name (Please Print)

*Jaime Scharnowske*

Signature

REGULATORY ANALYST

10/12/2012

Title

Date

RECEIVED  
OCT 17 2012

<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 0147566
<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>1. TYPE OF WELL</b> Gas Well	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>8. WELL NAME and NUMBER:</b> NBU 921-22E4CS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>9. API NUMBER:</b> 43047525740000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2179 FNL 0740 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNW Section: 22 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: 12/3/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

No Activity for the month of November 2012. Well TD at 2,895.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 December 03, 2012

<b>NAME (PLEASE PRINT)</b> Lindsey Frazier	<b>PHONE NUMBER</b> 720 929-6857	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/3/2012	

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# HP 318 Submitted  
By BRAD PEDERSEN Phone Number 435- 828-0988/1544  
Well Name/Number NBU 921-22E4CS  
Qtr/Qtr SW/NW Section 22 Township 9S Range 21E  
Lease Serial Number UTU-0147566  
API Number 43047525740000

Casing – Time casing run starts, not cementing times.

- Production Casing  
 Other

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

BOPE

- Initial BOPE test at surface casing point  
 Other

Date/Time 12/5/2012 01:00 AM  PM

Rig Move

Location To: NBU 921-22E4CS

Date/Time 12/5/2012 22:00 AM  PM

Remarks TIME IS ESTIMATED

---

RECEIVED

DEC 04 2012

DIV. OF OIL, GAS & MINING

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0147566	
<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 921-22E4CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047525740000
<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> 2179 FNL 0740 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNW Section: 22 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: 12/11/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

FINISHED DRILLING TO 10,120' ON 12/10/2012. CEMENTED PRODUCTION CASING. RELEASED H&P 318 RIG ON 12/11/2012. DETAILS OF CASING AND CEMENT WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 December 17, 2012

<b>NAME (PLEASE PRINT)</b> Lindsey Frazier	<b>PHONE NUMBER</b> 720 929-6857	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/14/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0147566
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 921-22E4CS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047525740000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2179 FNL 0740 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNW Section: 22 Township: 09.0S Range: 21.0E Meridian: S	<b>COUNTY:</b> UINTAH	
		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> 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: 2/4/2013	<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 the month of January 2013. Well TD at 10,120		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          February 11, 2013</b>		
<b>NAME (PLEASE PRINT)</b> Laura Abrams	<b>PHONE NUMBER</b> 720 929-6356	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/4/2013	

<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 0147566	

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute In
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 921-22E4CS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047525740000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2179 FNL 0740 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNW Section: 22 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 checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
<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: 2/27/2013			

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

The subject well was placed on production on 02/27/2013. The Chronological Well History will be submitted with the well completion report.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 March 01, 2013

<b>NAME (PLEASE PRINT)</b> Laura Abrams	<b>PHONE NUMBER</b> 720 929-6356	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/28/2013	

<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 0147566
<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>1. TYPE OF WELL</b> Gas Well	<b>7.UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>8. WELL NAME and NUMBER:</b> NBU 921-22E4CS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>9. API NUMBER:</b> 43047525740000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2179 FNL 0740 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNW Section: 22 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: 3/4/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width:100px;" type="text"/>

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

Well was completed, finishing well completion report. Well TD at 10,120

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 March 05, 2013

<b>NAME (PLEASE PRINT)</b> Laura Abrams	<b>PHONE NUMBER</b> 720 929-6356	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/4/2013	

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.  
UTU0147566

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 & GAS ONSHORE Mail: lindsey.frazier@anadarko.com Contact: LINDSEY A FRAZIER

3. Address PO BOX 173779 DENVER, CO 80217 3a. Phone No. (include area code) Ph: 720-929-6857

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*  
 At surface SWNW 2179FNL 740FWL 40.022866 N Lat, 109.544660 W Lon  
 At top prod interval reported below SWNW 2560FNL 814FWL  
 At total depth SWNW 2575FNL 829FWL

6. If Indian, Allottee or Tribe Name  
 7. Unit or CA Agreement Name and No. UTU63047A  
 8. Lease Name and Well No. NBU 921-22E4CS  
 9. API Well No. 43-047-52574  
 10. Field and Pool, or Exploratory NATURAL BUTTES  
 11. Sec., T., R., M., or Block and Survey or Area Sec 22 T9S R21E Mer SLB  
 12. County or Parish UINTAH 13. State UT  
 14. Date Spudded 10/09/2012 15. Date T.D. Reached 12/10/2012 16. Date Completed  D & A  Ready to Prod. 02/27/2013  
 17. Elevations (DF, KB, RT, GL)\* 4892 KB  
 18. Total Depth: MD 10120 TVD 10095 19. Plug Back T.D.: MD 10056 TVD 10031 20. Depth Bridge Plug Set: MD TVD  
 21. Type Electric & Other Mechanical Logs Run (Submit copy of each) CBL/GR/CCL/TEMP 22. Was well cored?  No  Yes (Submit analysis)  
 Was DST run?  No  Yes (Submit analysis)  
 Directional Survey?  No  Yes (Submit analysis)

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

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 IJ-55	28.0	0	2861		750		0	
7.875	4.500 I-80	11.6	0	4994		1790		2150	
7.875	4.500 P-110	11.6	4994	10104					

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	9484							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WASATCH	6484	7844	6484 TO 7844	0.360	96	OPEN
B) MESAVERDE	8022	9966	8022 TO 9966	0.360	216	OPEN
C)						
D)						

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

Depth Interval	Amount and Type of Material
6484 TO 9966	PUMP 14,888 BBLs SLICK H2O AND 341,633 LBS 30/50 OTTAWA SAND

**RECEIVED**  
**APR 01 2013**

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
02/27/2013	03/13/2013	24	→	0.0	2424.0	0.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
20/64	1646	2521.0	→	0	2424	0		PGW	

28a. Production - Interval B

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

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

ELECTRONIC SUBMISSION #202704 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

28b. Production - Interval C

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

28c. Production - Interval D

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

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

30. Summary of Porous Zones (Include Aquifers):

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

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1551 1880 2398 4981 8010

32. Additional remarks (include plugging procedure):

The first 210 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. DQX I-80 csg was run from surface to 4994 ft; LTC P-110 csg was run from 4994 ft. to 10,104 ft. Attached is the chronological well history, perforation report & final survey.

33. Circle enclosed attachments:

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

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

**Electronic Submission #202704 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal**

Name (please print) LINDSEY A FRAZIER Title REGUALTORY ANALYST

Signature \_\_\_\_\_ (Electronic Submission) Date 03/26/2013

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

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

Well: NBU 921-22E4CS BLUE		Spud Date: 11/8/2012	
Project: UTAH-UJINTAH	Site: NBU 921-22E PAD	Rig Name No: PROPETRO 12/12, H&P 318/318	
Event: DRILLING	Start Date: 10/22/2012	End Date: 12/11/2012	
Active Datum: RKB @4,892.00usft (above Mean Sea Level)		UWI: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/NW/0/740/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/8/2012	2:00 - 7:00	5.00	MIRU	01	C	P		RIG UP DIVERTER & FLOWLINE /// SPOT RIG OVER WELL, SET CATWALK & PIPE RACKS, HOOK UP & PRIME PUMP & PRIME
	7:00 - 7:30	0.50	DRLSUR	06	A	P		PICK UP 12.25" BIT & 8" MUD MOTOR
	7:30 - 9:00	1.50	DRLSUR	02	B	P		DRILL 12.25" SURFACE HOLE F/44'-210' ROP= 166' @ 111FPH WOB= 5-15K. RPM= TOP DRIVE~55 / MOTOR ~83 /// TOTAL RPM~138 GPM= 491 @ 120 SPM SPP ON/OFF= 800/500 UP/DN/ROT = 37/33/35 NOV ON LINE MW= 8.5
	9:00 - 9:30	0.50	DRLSUR	06	A	P		TOOH & LAY DOWN 12.25" BIT
	9:30 - 12:00	2.50	DRLSUR	06	A	P		PU 11" BIT, DIR. TOOLS, SCRIBE & TIH
	12:00 - 18:00	6.00	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE F/ 210'- 942' ROP= 732' @ 122 FPH WOB= 18-22K. RPM= TOP DRIVE~55 / MOTOR ~83 /// TOTAL RPM~138 GPM= 491 @ 120 SPM SPP ON/OFF= 1050/800 UP/DOWN/ ROT= 61/49/55K.~DRAG= 6K. NOV ON LINE MW= 8.5 SLIDE= 99' / 13.5% 3.8' ABOVE & 3.4' LEFT OF TARGET LINE NO HOLE ISSUES
	18:00 - 0:00	6.00	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE F/ 942'- 1480' ROP= 1270' @ 106 FPH WOB= 18-22K. RPM= TOP DRIVE~55 / MOTOR ~83 /// TOTAL RPM~138 GPM= 491 @ 120 SPM SPP ON/OFF= 1350/1200 UP/DOWN/ ROT= 68/60/62K.~DRAG= 6K. NOV ON LINE MW= 8.5 SLIDE= 26' / 4% 8' ABOVE & 2' LEFT OF TARGET LINE NO HOLE ISSUES

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-22E4CS BLUE		Spud Date: 11/8/2012	
Project: UTAH-UINTAH		Site: NBU 921-22E PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING		Start Date: 10/22/2012	End Date: 12/11/2012
Active Datum: RKB @4,892.00usft (above Mean Sea Level)		UWI: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/NW/0/740/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/9/2012	0:00 - 3:00	3.00	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE F/ 1480'- 1750' ROP= 270' @ 90 FPH WOB= 18-22K. RPM= TOP DRIVE~55 / MOTOR ~83 /// TOTAL RPM~138 GPM= 491 @ 120 SPM SPP ON/OFF= 1400/1200 UP/DOWN/ ROT= 70/62/64K.~DRAG= 6K. NOV ON LINE MW= 8.5 SLIDE= 133' / 8.5% 7.5' ABOVE & 3' LEFT OF TARGET LINE NO HOLE ISSUES
	3:00 - 7:00	4.00	DRLSUR	06	A	X		*** TOOH W/ BIT # 2 ( QUITE DRILLING ) 1 CUTTER MISSING, SEVERAL CHIPPED, ALL WORN ON SHOULDER ) *** TIH W/ BIT # 3
	7:00 - 12:00	5.00	DRLSUR	06	A	X		
	12:00 - 18:00	6.00	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE F/ 1750'- 2220' ROP= 470' @ 78 FPH WOB= 18-22K. RPM= TOP DRIVE~55 / MOTOR ~83 /// TOTAL RPM~138 GPM= 491@ 120 SPM SPP ON/OFF= 1500/1300 UP/DOWN/ ROT= 80/61/71K.~DRAG= 9K. NOV ON LINE MW= 8.5 10' ABOVE & 2.5' LEFT OF TARGET LINE NO HOLE ISSUES
	18:00 - 0:00	6.00	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE F/ 2220'-2510' ROP= 290 @ 48' FPH WOB= 18-22K. RPM= TOP DRIVE~55 / MOTOR ~83 /// TOTAL RPM~138 GPM= 491@ 120 SPM SPP ON/OFF= 1400/1300 UP/DOWN/ ROT= 75/66/69K.~DRAG= 9K. NOV ON LINE MW= 8.5 SLIDE= 186' / 7% 7' ABOVE & 3' LEFT OF TARGET LINE NO HOLE ISSUES
11/10/2012	0:00 - 3:30	3.50	DRLSUR	02	B	P		DRILL 11". SURFACE HOLE F/ 2510'-2875' ROP= 365' @ 104 FPH WOB= 18-22K. RPM= TOP DRIVE~55 / MOTOR ~83 /// TOTAL RPM~138 GPM= 491@ 120 SPM SPP ON/OFF= 1550/1350 UP/DOWN/ ROT= 88/72/80K.~DRAG= 9K. NOV ON LINE MW= 8.5 SLIDE= 204' / 7% 5' ABOVE & 2.5' LEFT OF TARGET LINE NO HOLE ISSUES

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-22E4CS BLUE			Spud Date: 11/8/2012		
Project: UTAH-UINTAH		Site: NBU 921-22E PAD		Rig Name No: PROPETRO 12/12, H&P 318/318	
Event: DRILLING		Start Date: 10/22/2012		End Date: 12/11/2012	
Active Datum: RKB @4,892.00usft (above Mean Sea Level)			UWM: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/NW/0/740/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	3:30 - 5:30	2.00	DRLSUR	05	A	P		CIRCULATE & CONDITION HOLE FOR 8-5/8" SURFACE CSG
	5:30 - 10:30	5.00	DRLSUR	06	A	P		LAY DOWN DRILL STRING & DIR. TOOLS
	10:30 - 11:00	0.50	CSGSUR	12	A	P		PJSM FOR RUN CSG /// MOVE PIPE RACKS & CATWALK & MOVE CSG INTO POSITION TO PICK UP
	11:00 - 14:00	3.00	CSGSUR	12	C	P		RUN 64 JT'S, 8-5/8", 28#, J-55, LT&C CSG /// SHOE SET @ 2840' & BAFFLE @ 2794'
	14:00 - 14:30	0.50	CSGSUR	12	B	P		CIRCULATE CSG /// RUN 200' OF 1" DOWN BACKSIDE, RIG DOWN & MOVE RIG OF WELL /// INSTALL CMT HEAD & PLUG/// PJSM FOR CEMENTING
	14:30 - 16:30	2.00	CSGSUR	12	E	P		RIG UP PUMP TRUCK /// TEST LINES TO 1500 PSI /// PUMP 140 BBL'S WATER AHEAD FOLLOWED BY 20 BBL GEL WATER FLUSH /// LEAD = 300sx CLASS G CMT @ 12.0 ppg & 2.86 YIELD /// TAIL= 300sx CLASS G CMT @ 15.8 ppg & 1.15 YIELD /// DROP PLUG & DISPLACE W/ 174 BBL'S WATER /// PLUG DN @ 16:21 11/10/2012 /// BUMP PLUG W/ 1200 PSI /// FINAL LIFT = 900 PSI /// CHECK FLOAT- HELD W/ 1 BBL BACK /// 28 BBL'S CMT TO SURFACE /// FULL RETURNS THROUGH OUT JOB /// PUMP DOWN 1" W/ 75 sx CMT @ 15.8ppg & 1.15 YIELD ~ CMT FELL
								WAIT 1.5 HOURS & PUMP 2nd TOP OUT W/ 75 sx CLASS G CMT @ 15.8 ppg & 1.15 YIELD /// CMT TO SURFACE & STAYED
								RELEASE RIG @ 16:30 11/10/2012 TO THE NBU 921-22E1BS
12/5/2012	0:00 - 0:30	0.50	MIRU3	01	E	P		PREPARE RIG F/ SKID
	0:30 - 1:30	1.00	MIRU3	01	C	P		SKID RIG , CENTER RIG ON HOLE
	1:30 - 2:00	0.50	MIRU3	01	B	P		RIG UP ROTARY TOOLS
	2:00 - 4:00	2.00	PRPSPD	14	A	P		NIPPLE UP BOP & EQUIPMENT
	4:00 - 7:00	3.00	PRPSPD	21	E	Z		*** WAIT ON TESTER TO TEST BOPS ( WAS CALLED @ 22:00 TO SHOW UP @ 01:00 NEVER SHOWED UP UNTILL 07:00 3 HRS
	7:00 - 12:30	5.50	PRPSPD	15	A	P		TEST BOP BLINDS . PIPE RAMS CHOKE MAN FOILD WING VAVLES, IBOP, FLOOR VAVLES HCR LOW 250 HIGH 5,000 PSI HY-DRILL LOW 250 HIGH 2500 PSI 8 5/8 CASING 1500 PSI FOR 30 MINS
	12:30 - 16:00	3.50	PRPSPD	15	A	P		INSTALL BEARING PACK, TEST SWACO LINES , SMITH ROTATING HEAD TO 1,000 PSI
	16:00 - 16:30	0.50	PRPSPD	07	A	P		RIG SER
	16:30 - 17:30	1.00	PRPSPD	08	B	Z		*** CHANGED OUT SWMVL E PACKING
	17:30 - 18:00	0.50	PRPSPD	15	A	P		INSTALLED WEAR BUSHING
	18:00 - 19:00	1.00	PRPSPD	06	G	Z		***TIH TO LAY DOWN 4.5 RENTED HEAVEY WEIGHT DP (KNIGHTS OIL TOOL PIPE)
	19:00 - 20:00	1.00	PRPSPD	06	A	P		PICK UP MUD MOTOR BIT MWD TOOLS SCRIBE IN HOLE
	20:00 - 21:00	1.00	PRPSPD	08	A	Z		*** PICK UP REPAIRED 30 JTS HEAVEY WEIGHT OF H&P"S
	21:00 - 22:30	1.50	PRPSPD	06	A	P		TRIP IN HOLE TO 2735'

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-22E4CS BLUE Spud Date: 11/8/2012  
 Project: UTAH-UINTAH Site: NBU 921-22E PAD Rig Name No: PROPETRO 12/12, H&P 318/318  
 Event: DRILLING Start Date: 10/22/2012 End Date: 12/11/2012  
 Active Datum: RKB @4,892.00usft (above Mean Sea Level) UWI: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/NW/0/740/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	22:30 - 0:00	1.50	PRSPD	08	B	Z		RETIGHTEN SWMVEL PACKING GREASE ZERTS
12/6/2012	0:00 - 0:30	0.50	DRLPRV	06	A	P		WAS BROKE OFF LEAKING REPLACED ZERT. && TIH TAGED TOP CMT @ 2770
	0:30 - 1:00	0.50	DRLPRV	02	F	P		DRILL OUT SHOE TRACK
	1:00 - 1:30	0.50	DRLPRV	02	D	P		DRILL SLIDE F/ 2895 TO 3040 WOB 18-20 K RPM MUD MOTOR 156 TD 40RPM PUMP PSI 1700 ON OFF 1150 GPM 540 MW 8.6 VIS 33 TRQ. ON /OFF 5 / 2 P/U 102, S/O 90 R/T 100 NOV - CONVENTIONAL SWACO - OFF LINE
	1:30 - 2:00	0.50	DRLPRV	22	L	Z		***TROUBLE SHOT MWD TOOL MOVE GROUND WIRES AROUND
	2:00 - 17:30	15.50	DRLPRV	02	B	P		DRILL/SLIDE F/ 3040' TO 5381' (2341'@151fph) WOB 18-20 K RPM MUD MOTOR 156 TD 40RPM PUMP PSI 1900 ON OFF 1550 GPM 540 TQ 5/7 MW 9.0 VIS 33 P/U 152, S/O 115 R/T 133 SLIDE - 162'/2.5 hrs 16% ROT - 2179'/13 hrs 84% 11' WEST & 12' NORTH OF CENTER NOV - CONVENTIONAL SWACO - OFF LINE
	17:30 - 18:00	0.50	DRLPRV	07	A	P		RIG SER
	18:00 - 0:00	6.00	DRLPRV	02	B	P		DRILL/SLIDE F/5381' TO 6145' (764' @ 128fph) WOB 18/24 RPM MUD MOTOR 156 - TD 45 PSI 1750/2200 TQ 5/7 MW 9.2 VIS 36 PU 170 SO 126 ROT 144 SLIDE 31'/.75 hrs 12% ROT 733'/5.25 hrs 88% 9' WEST & 17' NORTH CENTER NOV - DE-WATERING SWACO - OFF LINE
12/7/2012	0:00 - 15:30	15.50	DRLPRV	02	B	P		DRILL/SLIDE F/6145' TO 7363' (1218' @ 78fph) WOB 18/24 RPM MUD MOTOR 156 - TD 45 PSI 1800/2150 TQ 7/9 MW 9.3 VIS 34 PU 197 SO 136 ROT 144 SLIDE 76'/4.0 hrs 25% ROT 1142'/11.5 hrs 75% 12' WEST & 8' NORTH CENTER NOV - DE-WATERING SWACO - OFF LINE
	15:30 - 16:00	0.50	DRLPRV	07	A	P		RIG SER

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-22E4CS BLUE Spud Date: 11/8/2012

Project: UTAH-UINTAH Site: NBU 921-22E PAD Rig Name No: PROPETRO 12/12, H&P 318/318

Event: DRILLING Start Date: 10/22/2012 End Date: 12/11/2012

Active Datum: RKB @4,892.00usft (above Mean Sea Level) UWI: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/NW/0/740/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	16:00 - 23:00	7.00	DRLPRV	02	B	P		DRILL/SLIDE F/7363' TO 7741' (378' @ 54fph) WOB 26 RPM MUD MOTOR 156 - TD 40 PSI 1900/2200 TQ 7/9 MW 9.5 VIS 34 PU 197 SO 136 ROT 144 SLIDE 0% ROT 378'/7 hrs 100% 12' WEST & 8' NORTH CENTER NOV - OFF LINE SWACO - OFF LINE
	23:00 - 0:00	1.00	DRLPRV	06	A	P		TRIP OUT FOR MUD MOTOR & BIT - 6895' @ MIDNIGHT
12/8/2012	0:00 - 10:00	10.00	DRLPRV	06	A	P		TRIP OUT FOR MUD MOTOR & BIT, TIGHT SPOT @ 4800', SPOT 60 BBLs 12.0 PILL & 2900' - CONTINUE TRIP OUT L/DN MUD MOTOR & BIT - PICK UP NEW MUD MOTOR SCIENTIFIC 1.50 DEG .23 RPG & SMITH MDI616 BIT, SCRIBE & ORIENT DIRECTIONAL TOOLS - TRIP IN TO 7741' (NO PROBLEMS ON TRIP IN) - BROKE CIRC @ 2900' 4500' & 7500
	10:00 - 17:00	7.00	DRLPRV	02	B	P		DRILL/SLIDE F/7741' TO 8203' (462' @ 66fph) WOB 22 RPM MUD MOTOR 115 - TD 45 PSI 1600/2000 GPM 500 TQ 9/11 MW 9.5 VIS 34 PU 225 SO 148 ROT 176 SLIDE 10'/6.7 hrs 9% ROT 452'/6.33 hrs 91% 9' WEST & 11' NORTH CENTER NOV - ON LINE SWACO - OFF LINE RIG SER
	17:00 - 17:30	0.50	DRLPRV	07	A	P		
	17:30 - 0:00	6.50	DRLPRV	02	B	P		DRILL/SLIDE F/8203' TO 8520' (317' @ 49fph) WOB 22 RPM MUD MOTOR 115 - TD 45 PSI 1700/2050 GPM 500 TQ 9/11 MW 9.4 VIS 34 PU 228 SO 152 ROT 180 SLIDE 38'/3 hrs 46% ROT 289'/3.5 hrs 154% 8' WEST & 8' NORTH CENTER NOV - ON LINE SWACO - OFF LINE 5' CONNECTION GAS FLARE

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-22E4CS BLUE Spud Date: 11/8/2012

Project: UTAH-UINTAH Site: NBU 921-22E PAD Rig Name No: PROPETRO 12/12, H&P 318/318

Event: DRILLING Start Date: 10/22/2012 End Date: 12/11/2012

Active Datum: RKB @4,892.00usft (above Mean Sea Level) UWI: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/NW/0/740/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/9/2012	0:00 - 17:00	17.00	DRLPRV	02	B	P		DRILL/SLIDE F/8203' TO 9429' (1226' @ 72fph) WOB 22/24 RPM MUD MOTOR 115 - TD 45 PSI 1850/2100 GPM 500 TQ 10/12 MW9.5 VIS 34 PU 250 SO 163 ROT 191 SLIDE 10'/1 hrs 5% ROT 1216'/16 hrs 95% 4' WEST & 14' NORTH CENTER NOV - ON LINE SWACO - OFF LINE 5' FLARE WHILE DRILLING RIG SER
	17:00 - 17:30	0.50	DRLPRV	07	A	P		
	17:30 - 0:00	6.50	DRLPRV	02	B	P		DRILL/SLIDE F/9429' TO 9715' (286' @ 44fph) WOB 22/24 RPM MUD MOTOR 115 - TD 50 PSI 1850/2100 GPM 500 TQ 10/12 MW9.6 VIS 34 PU 252 SO 165 ROT 200 SLIDE 0% ROT 100% 2' WEST & 8' NORTH CENTER NOV - ON LINE SWACO - OFF LINE 5/10' FLARE WHILE DRILLING
12/10/2012	0:00 - 11:30	11.50	DRLPRV	02	B	P		DRILL/SLIDE F/9715' TO 10120' (405' @ 35 fph) WOB 22/24 RPM MUD MOTOR 115 - TD 50 PSI 1850/2100 GPM 500 TQ 10/12 MW9.6 VIS 34 PU 252 SO 165 ROT 200 SLIDE 0% ROT 100% 2' WEST & 8' NORTH CENTER NOV - OFF LINE SWACO - OFF LINE 5/10' FLARE WHILE DRILLING WITH LIGHT MUD MUD UP SYSTEM @ 9800'
	11:30 - 13:00	1.50	DRLPRV	05	A	P		CIRCULATE & CONDITION HOLE FOR WIPER TRIP
	13:00 - 16:00	3.00	DRLPRV	06	E	P		WIPER TRIP TO 7765' /// NO PROBLEMS
	16:00 - 18:30	2.50	DRLPRV	05	A	P		CIRCULATE & CONDITION HOLE FOR 4.5" PRODUCTION CSG
	18:30 - 23:30	5.00	DRLPRV	06	A	P		TRIP OUT OF TO RUN 4.5" CSG
	23:30 - 0:00	0.50	CSGPRO	14	B	P		PULL WEAR BUSHING
12/11/2012	0:00 - 1:00	1.00	CSGPRO	12	A	P		PJSM WITH KIMZEY /// RIG UP CSG TOOLS
	1:00 - 6:00	5.00	CSGPRO	12	C	P		RUN 115 JT'S, 4.5", 11.6#, P110, LT&C CSG & 113 JT'S, 4.5", 11.6#, I-80, DQX CSG /// SHOE SET @ 10103' /// FLOAT COLLAR @ 10056' /// TOP OFF MARKER JT @ 7880 /// TOP LTC x DQX CROSSOVER @ 4994'
	6:00 - 8:00	2.00	CSGPRO	05	A	P		LAND CSG & CIRCULATE /// RIG DOWN CASING CREW /// SPOT IN & RIG UP BJ CMT CREW

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

Well: NBU 921-22E4CS BLUE Spud Date: 11/8/2012

Project: UTAH-UINTAH Site: NBU 921-22E PAD Rig Name No: PROPETRO 12/12, H&P 318/318

Event: DRILLING Start Date: 10/22/2012 End Date: 12/11/2012

Active Datum: RKB @4,892.00usft (above Mean Sea Level) UWI: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/NW/0/740/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 11:00	3.00	CSGPRO	12	E	P		PJSM WITH BJ CMT CREW /// TEST LINES TO 5000 PSI /// DROP BOTTOM PLUG & PUMP 25 BBL SPACER /// LEAD = 625sx (197 BBL'S) PREMIUM LITE II CMT @ 1.77 Cu.ft./sack YIELD & 13ppg WT /// TAIL= 1165 sx (276 BBL'S) PREMIUM LITE CMT @ 1.33 Cu.ft./sack YEILD & 14.3 ppg WT. /// DROP TOP PLUG & DISPLACE W/ 156 BBL'S CLAYCARE /// PLUG DOWN @ 10:45 12/11/2012 /// BUMP PLUG W/ 3588 PSI /// FINAL LIFT =3050 PSI /// CHECK FLOATS ~ HELD W/ 2 BBL'S BACK /// 90-95% RETURNS THRU OUT JOB /// NO CMT TO SURFACE /// ESTIMATED TOP OF TAIL @ 4465'
	11:00 - 11:30	0.50	CSGPRO	12	B	P		FLUSH EQUIPMENT & RIG DOWN CMT CREW
	11:30 - 13:00	1.50	CSGPRO	14	B	P		SET PACK OFF & LAY DOWN LANDING JT
	13:00 - 14:00	1.00	CSGPRO	14	A	P		NIPPLE DOWN BOPE /// RELEASE RIG @ 14:00 12/11/2012 TO THE NBU 921-22E1CS

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 921-22E4CS BLUE	Wellbore No.	OH
Well Name	NBU 921-22E4CS	Wellbore Name	NBU 921-22E4CS
Report No.	1	Report Date	2/18/2013
Project	UTAH-UINTAH	Site	NBU 921-22E PAD
Rig Name/No.		Event	COMPLETION
Start Date	2/14/2013	End Date	2/27/2013
Spud Date	11/8/2012	Active Datum	RKB @4,892.00usft (above Mean Sea Level)
UWI	SW/NW/0/9/S/21/E/22/0/0/26/PM/N/21 79/NW/0/740/0/0		

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	6,484.0 (usft)-9,966.0 (usft)	Start Date/Time	2/18/2013 12:00AM
No. of Intervals	90	End Date/Time	2/18/2013 12:00AM
Total Shots	312	Net Perforation Interval	100.00 (usft)
Avg Shot Density	3.12 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/18/2013 12:00AM	WASATCH/			6,484.0	6,486.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add_Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/18/2013 12:00AM	WASATCH/			6,574.0	6,576.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			6,680.0	6,682.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			6,789.0	6,790.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			6,804.0	6,806.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			6,906.0	6,907.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			6,922.0	6,924.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			6,936.0	6,938.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,048.0	7,049.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,098.0	7,100.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,216.0	7,217.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,280.0	7,282.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,392.0	7,394.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,596.0	7,598.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,624.0	7,625.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,638.0	7,639.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,656.0	7,657.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,681.0	7,682.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,786.0	7,787.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	WASATCH/			7,843.0	7,844.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,022.0	8,023.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,038.0	8,039.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add_Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/18/2013 12:00AM	MESAVERDE/			8,084.0	8,085.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,102.0	8,103.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,122.0	8,123.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,142.0	8,143.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,169.0	8,170.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,185.0	8,186.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,200.0	8,201.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,219.0	8,220.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,233.0	8,234.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,259.0	8,260.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,276.0	8,277.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,292.0	8,293.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,386.0	8,387.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,427.0	8,428.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,440.0	8,441.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,462.0	8,463.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,495.0	8,496.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,505.0	8,506.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,534.0	8,535.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,559.0	8,560.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,586.0	8,587.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter I (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/18/2013 12:00AM	MESAVERDE/			8,640.0	8,641.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,694.0	8,695.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,709.0	8,710.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,723.0	8,724.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,761.0	8,762.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,774.0	8,775.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,896.0	8,897.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,925.0	8,926.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,941.0	8,942.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,959.0	8,960.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,980.0	8,981.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			8,997.0	8,998.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,016.0	9,017.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,034.0	9,035.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,055.0	9,056.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,098.0	9,099.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,115.0	9,116.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,146.0	9,147.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,175.0	9,176.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,205.0	9,206.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,232.0	9,233.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

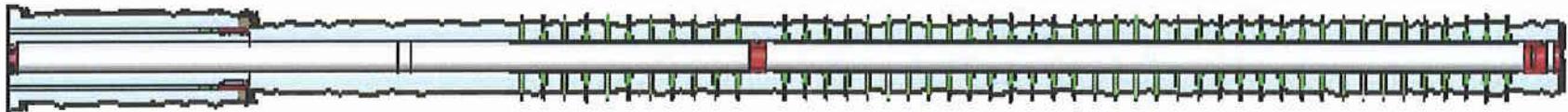
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/18/2013 12:00AM	MESAVERDE/			9,245.0	9,246.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,263.0	9,264.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,300.0	9,301.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,338.0	9,339.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,368.0	9,369.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,404.0	9,405.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,435.0	9,436.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,463.0	9,464.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,483.0	9,484.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,499.0	9,500.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,524.0	9,525.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,538.0	9,539.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,564.0	9,565.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,588.0	9,589.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,602.0	9,603.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,626.0	9,627.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,652.0	9,653.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,718.0	9,719.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,744.0	9,745.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,764.0	9,765.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,787.0	9,788.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr. Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/18/2013 12:00AM	MESAVERDE/			9,819.0	9,820.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,834.0	9,835.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,851.0	9,852.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,933.0	9,934.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/18/2013 12:00AM	MESAVERDE/			9,965.0	9,966.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

3 Plots

3.1 Wellbore Schematic



**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-22E4CS BLUE

Spud Date: 11/8/2012

Project: UTAH-UINTAH

Site: NBU 921-22E PAD

Rig Name No:

Event: COMPLETION

Start Date: 2/14/2013

End Date: 2/27/2013

Active Datum: RKB @4,892.00usft (above Mean Sea Level)

UWI: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/NW/0/740/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/8/2012	-							
2/14/2013	10:30 - 11:30	1.00	SUBSPR	33	B	P		<p>FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG &amp; FRAC VALVES 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 62 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.</p> <p>PRESSURE TEST 8 5/8 X 4 1/2 TO 510 PSI HELD FOR 5 MIN LOST -15 PSI, BLED PSI OFF, REINSTALLED POP OFF SWFN</p>
2/15/2013	7:00 - 10:00	3.00	SUBSPR	36		P		<p>PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. SWFW JSA-SAFETY MEETING</p>
2/19/2013	6:30 - 7:00	0.50	FRAC	48		P		<p>PRESSURE TEST SURFACE LINE TO 8618#, LOST 465# IN 15 MIN, 1.REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUME, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELL, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT.</p> <p>( FRAC STG #1) WHP = 1865#, BRK DN PERFS = 4903 #, @ 4.9 BPM, ISIP =3050 #, FG = 0.75 , FINAL ISIP = 3105 #, FINAL FG = 0.75,</p> <p>( FRAC STG #2) WHP = 2400#, BRK DN PERFS = 3545#, @ = 5.7 BPM, ISIP = 2787#, FG = 0.73, FINAL ISIP = 3150#, FINAL FG, 0.77,</p> <p>( FRAC STG #3) WHP = 2255#, BRK DN PERFS = 2952#, @ 4.9 BPM, ISIP = 2400#, F.G = 0.69 , FINAL ISIP = 3054#, FINIAL F.G. = 0.76,</p> <p>( FRAC STG #4) WHP = 1765#, BRK DN PERFS = 2670#, @ 4.9 BPM, ISIP = 2139#, FG = 0.67 , FINAL ISIP = 2898#, FINAL FG = 0.75 ,</p>
	7:00 - 17:30	10.50	FRAC	36	B	P		
2/20/2013	6:30 - 7:00	0.50	FRAC	48		P		<p>SHUT WELL IN, SDFN JSA-SAFETY MEETING</p>

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-22E4CS BLUE Spud Date: 11/8/2012

Project: UTAH-UINTAH Site: NBU 921-22E PAD Rig Name No:

Event: COMPLETION Start Date: 2/14/2013 End Date: 2/27/2013

Active Datum: RKB @4,892.00usft (above Mean Sea Level) UWI: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/NW/0/740/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 17:30	10.50	FRAC	36	B	P		<p>1.REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUME, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELL, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT.</p> <p>( FRAC STG #5 ) WHP = 2070#, BRK DN PERFS = 3347#, @ = 4.7 BPM, ISIP = 2566#, F G = 0.72 , FINAL ISIP = 2782#, FINAL F G = 0.75 ,</p> <p>( FRAC STG #6 ) WHP = 2560#, BRK DN PERFS = 3116#, @ = 6.1 BPM, ISIP = 2600#, F G = 0.74 , FINAL ISIP = 2884#, FINAL F G = 0.77 ,</p> <p>( FRAC STG #7 ) WHP = 2540#, BRK DN PERFS = 2834#, @ = 6.9 BPM, ISIP = 2545#, F G = 0.74 , FINAL ISIP = 2808#, FINAL F G = 0.77 ,</p> <p>( FRAC STG #8 ) WHP = 1130#, BRK DN PERFS = 2411#, @ = 5.9 BPM, ISIP = 1957#, F G = 0.68 , FINAL ISIP = 2445#, FINAL F G = 0.74 ,</p> <p>S.M. JSA-SAFETY MEETING</p>
2/21/2013	6:30 - 7:00	0.50	FRAC	48		P		<p>1.REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUME, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELL, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT.</p> <p>( FRAC STG #9) WHP = 1885#, BRK DN PERFS = 2241# , @ = 6 BPM, ISIP = 1820#, FG = 0.67 , FINAL ISIP = 2484 #, FINAL FG = 0.75,</p> <p>( FRAC STG #10) WHP = 1550#, BRK DN PERFS = 3616# , @ = 4.8 BPM, ISIP = 2337#, FG = 0.74, FINAL ISIP = 2943#, FINAL FG = 0.82,</p> <p>( FRAC STG #11) WHP = 725#, BRK DN PERFS = 1955# , @ = 5.1 BPM, ISIP = 1648#, F.G = 0.67 , FINAIL ISIP = 2075#, FINIAL F.G. = 0.73,</p> <p>( FRAC STG #12) WHP = 1500#, BRK DN PERFS = 1966# , @ = 5.1 BPM, ISIP = 1661#, FG = 0.68 , FINAL ISIP = 1763#, FINAL FG = 0.70 ,</p> <p>JSA-SAFETY MEETING</p>
	7:00 - 17:30	10.50	FRAC	36	B	P		
2/22/2013	6:30 - 7:00	0.50	FRAC	48		P		

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-22E4CS BLUE		Spud Date: 11/8/2012	
Project: UTAH-UINTAH		Site: NBU 921-22E PAD	Rig Name No:
Event: COMPLETION		Start Date: 2/14/2013	End Date: 2/27/2013
Active Datum: RKB @4,892.00usft (above Mean Sea Level)		UWI: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/W/0/740/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 12:00	5.00	FRAC	36	B	P		( FRAC STG #13 ) WHP = 368#, BRK DN PERFS = 1700#, @ 4.2 BPM, ISIP = 1225#, F G = 0.62 , FINAL ISIP = 1361 #, FINAL F G = 0.65 ,
								( KILL PLUG ) P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @ = 6434' R/D WIRELINE AND FRAC CREW, SHUT WELL IN,
								TOTAL FLUID PUMP'D = 14888 BBLS TOTAL SAND PUMP'D = 341633# HSM, SLIPS, TRIPS & FALLS, PU TBG, P/T BOP
2/26/2013	7:00 - 7:15	0.25	DRLOUT	48		P		2 OF 4, MIRU, SPOT EQUIP, PU 3 7/8", POBS, 1.875"
	7:15 - 13:30	6.25	DRLOUT	31	I	P		XN S/N, TALLY & PU TBG, RU P/S, FILL TBG & P/T TO 3,000 PSI, TEST GOOD, SURFACE CSG VALVE OPEN & LOCKED
	13:30 - 17:00	3.50	DRLOUT	44	C	P		D/O 6 PLUGS
								C/O 10' SAND, TAG 1ST PLUG @ 6,434' DRL PLUG IN 9 MIN. 200 PSI INCREASE RIH, CSG PRESS 0 PSI.
								C/O 30' SAND, TAG 2ND PLUG @ 6,712' DRL PLUG IN 8 MIN. 100 PSI INCREASE RIH, CSG PRESS 50 PSI.
								C/O 30' SAND, TAG 3RD PLUG @ 6,968' DRL PLUG IN 10 MIN. 100 PSI INCREASE RIH, CSG PRESS 100 PSI.
								C/O 20' SAND, TAG 4TH PLUG @ 7,424' DRL PLUG IN 9 MIN. 400 PSI INCREASE RIH, CSG PRESS 250 PSI.
								C/O 30' SAND, TAG 5TH PLUG @ 7,874' DRL PLUG IN 10 MIN. 500 PSI INCREASE RIH, CSG PRESS 350 PSI.
								C/O 25' SAND, TAG 6TH PLUG @ 8,153' DRL PLUG IN 8 MIN. 200 PSI INCREASE RIH, CSG PRESS 250 PSI.
2/27/2013	7:00 - 7:15	0.25	DRLOUT	48		P		EOT @ 8,181', LET WELL CLEAN UP FOR 30 MIN, SVM, DRAIN & WINTERIZE EQUIP, SDFN. HSM, SLIPS, TRIPS & FALLS, BLEEDING OFF PRESS, D/O PLUGS, LANDING TBG

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

Well: NBU 921-22E4CS BLUE Spud Date: 11/8/2012

Project: UTAH-UINTAH Site: NBU 921-22E PAD Rig Name No:

Event: COMPLETION Start Date: 2/14/2013 End Date: 2/27/2013

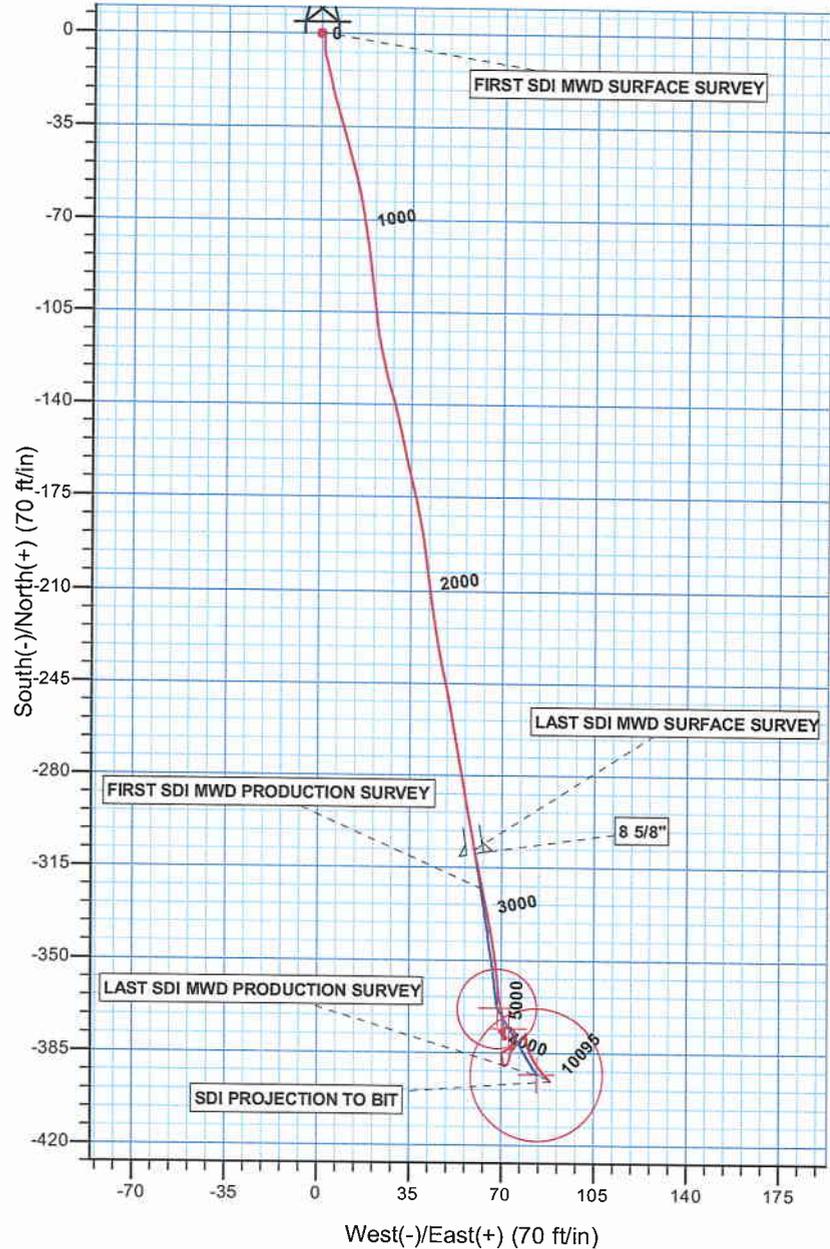
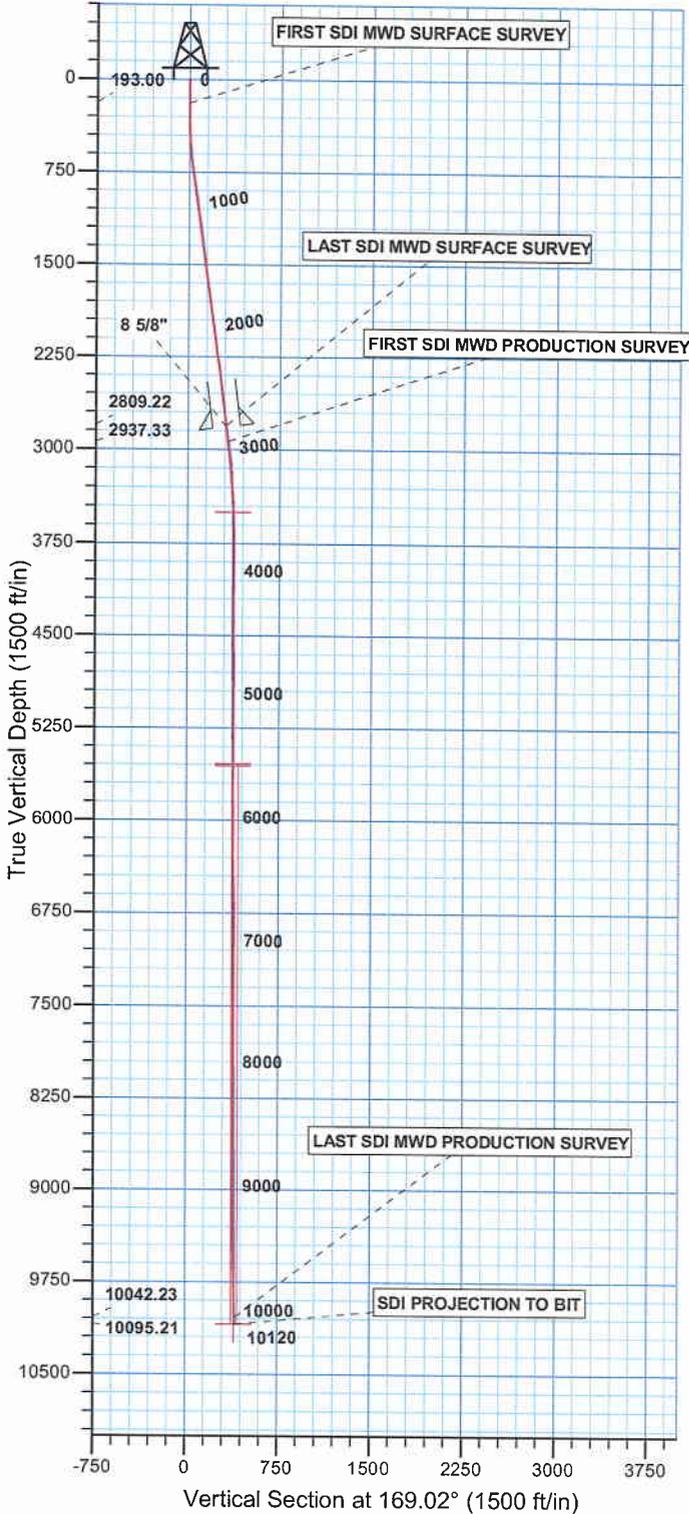
Active Datum: RKB @4,892.00usft (above Mean Sea Level) UWI: SW/NW/0/9/S/21/E/22/0/0/26/PM/N/2179/NW/0/740/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 13:00	5.75	DRLOUT	44	C	P		<p>2 OF 4, SICP 1,700 PSI, OPEN WELL, D/O 7 CBP'S</p> <p>C/O 40' SAND, TAG 7TH PLUG @ 8,323' DRL PLUG IN 9 MIN. 700 PSI INCREASE RIH, CSG PRESS 300 PSI.</p> <p>C/O 30' SAND, TAG 8TH PLUG @ 8,570' DRL PLUG IN 10 MIN. 400 PSI INCREASE RIH, CSG PRESS 400 PSI.</p> <p>C/O 20' SAND, TAG 9TH PLUG @ 8,907' DRL PLUG IN 8 MIN. 400 PSI INCREASE RIH, CSG PRESS 400 PSI.</p> <p>C/O 30' SAND, TAG 10TH PLUG @ 9,086' DRL PLUG IN 9 MIN. 1000 PSI INCREASE RIH, CSG PRESS 400 PSI.</p> <p>C/O 20' SAND, TAG 11TH PLUG @ 9,274' DRL PLUG IN 10 MIN. 800 PSI INCREASE RIH, CSG PRESS 500 PSI.</p> <p>C/O 10' SAND, TAG 12TH PLUG @ 9,510' DRL PLUG IN 9 MIN. 800 PSI INCREASE RIH, CSG PRESS 600 PSI.</p> <p>C/O 10' SAND, TAG 13TH PLUG @ 9,729' DRL PLUG IN 8 MIN. 700 PSI INCREASE RIH, CSG PRESS 800 PSI.</p> <p>PBTD @ 10,056', BTM PERF @ 9,966', RIH TAGGED @ 9,980', C/O TO PBTD, 90' PAST BTM PERF W/ 316 JTS 2 3/8" L-80 TBG, LD 18 JTS, PU &amp; STRIP IN TBG HANGER &amp; LAND TBG W/ 298 JTS 2 3/8" L-80, EOT 9,483.91'.</p> <p>RD P/S, FLOOR &amp; TBG EQUIP, ND BOPS, NU WH, DROP BALL &amp; SHEAR OFF BIT, P/T LINE FROM WH TO HAL 9000 TO 3,000 PSI, NO VISIBLE LEAKS, LET BIT FALL FOR 20 MIN.</p> <p>TURN OVER TO FLOW BACK CREW &amp; SALES, RD &amp; MOVE TO NEXT WELL ON PAD.</p> <p>KB= 24' 4 1/16" CAMERON HANGER= .83' <span style="float: right;">TBG</span> DELIVERED 318 JTS 298 JTS 2 3/8" L-80 = 9,456.88' TBG USED 298 JTS POBS= 2.20' TBG RETURNED 20 JTS EOT @ 9,483.91'</p> <p>TWTR= 14,888 BBLs TWR= 4,000 BBLs TWLTR= 10,888 BBLs</p>

WELL DETAILS: NBU 921-22E4CS					
GL 4868 & KB 24 @ 4892.00ft (HP 318)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14537714.80	2048060.83	40.022901	-109.543972



Azimuths to True North  
 Magnetic North: 11.04°  
  
 Magnetic Field  
 Strength: 52294.4snT  
 Dip Angle: 65.87°  
 Date: 11/15/2011  
 Model: IGRF2010



PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 22 T9S R21E
System Datum: Mean Sea Level

Design: OH (NBU 921-22E4CS/OH)
Created By: Gabe Kendall Date: 8:18, January 02 2013



**Scientific Drilling**

## **US ROCKIES REGION PLANNING**

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

NBU 921-22E PAD

NBU 921-22E4CS

OH

Design: OH

## **Standard Survey Report**

02 January, 2013

**Anadarko**   
Petroleum Corporation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-22E4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4868 & KB 24 @ 4892.00ft (HP 318)
<b>Site:</b>	NBU 921-22E PAD	<b>MD Reference:</b>	GL 4868 & KB 24 @ 4892.00ft (HP 318)
<b>Well:</b>	NBU 921-22E4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

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

<b>Site</b>	NBU 921-22E PAD, SECTION 22 T9S R21E				
<b>Site Position:</b>		<b>Northing:</b>	14,537,714.95 usft	<b>Latitude:</b>	40.022901
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,048,070.64 usft	<b>Longitude:</b>	-109.543937
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.94 °

<b>Well</b>	NBU 921-22E4CS, 2179 FNL 740 FWL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,537,714.80 usft	<b>Latitude:</b>	40.022901
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,048,060.83 usft	<b>Longitude:</b>	-109.543972
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,868.00 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	11/15/11	11.04	65.87	52,294

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	169.02	

<b>Survey Program</b>	<b>Date</b>	01/02/13			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
20.00	2,830.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,959.00	10,120.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

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	
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	
193.00	0.26	48.27	193.00	0.26	0.29	-0.20	0.15	0.15	0.00	
<b>FIRST SDI MWD SURFACE SURVEY</b>										
279.00	0.97	151.46	279.00	-0.25	0.79	0.39	1.23	0.83	119.99	
362.00	1.76	180.72	361.97	-2.14	1.11	2.31	1.24	0.95	35.25	
452.00	2.55	176.07	451.91	-5.52	1.23	5.65	0.90	0.88	-5.17	
542.00	4.13	167.28	541.75	-10.68	2.08	10.88	1.84	1.76	-9.77	
632.00	5.64	166.36	631.42	-18.14	3.83	18.54	1.68	1.68	-1.02	
722.00	7.48	163.90	720.83	-28.07	6.50	28.79	2.07	2.04	-2.73	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-22E4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 4868 & KB 24 @ 4892.00ft (HP 318)
<b>Site:</b>	NBU 921-22E PAD	<b>MD Reference:</b>	GL 4868 & KB 24 @ 4892.00ft (HP 318)
<b>Well:</b>	NBU 921-22E4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

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)	
812.00	8.71	163.41	809.93	-40.22	10.07	41.41	1.37	1.37	-0.54	
902.00	9.58	166.31	898.79	-54.03	13.79	55.67	1.09	0.97	3.22	
992.00	8.79	170.97	987.63	-68.10	16.64	70.02	1.20	-0.88	5.18	
1,082.00	8.88	171.85	1,076.57	-81.77	18.71	83.83	0.18	0.10	0.98	
1,172.00	8.09	173.43	1,165.58	-94.94	20.41	97.09	0.92	-0.88	1.76	
1,262.00	8.00	174.22	1,254.69	-107.46	21.77	109.64	0.16	-0.10	0.88	
1,352.00	7.12	168.42	1,343.91	-119.15	23.52	121.45	1.29	-0.98	-6.44	
1,442.00	6.95	165.34	1,433.24	-129.89	26.02	132.46	0.46	-0.19	-3.42	
1,532.00	7.21	164.90	1,522.55	-140.61	28.87	143.53	0.30	0.29	-0.49	
1,622.00	7.47	168.60	1,611.81	-151.79	31.50	155.01	0.60	0.29	4.11	
1,712.00	7.91	166.66	1,701.00	-163.55	34.08	167.05	0.57	0.49	-2.16	
1,802.00	8.33	167.13	1,790.10	-175.94	36.96	179.75	0.47	0.47	0.52	
1,892.00	8.71	170.09	1,879.11	-189.00	39.59	193.08	0.64	0.42	3.29	
1,982.00	8.35	173.87	1,968.11	-202.21	41.46	206.41	0.74	-0.40	4.20	
2,072.00	7.74	170.71	2,057.23	-214.69	43.13	218.98	0.84	-0.68	-3.51	
2,162.00	7.86	170.59	2,146.39	-226.75	45.12	231.19	0.13	0.13	-0.13	
2,252.00	7.21	168.95	2,235.62	-238.36	47.21	242.99	0.76	-0.72	-1.82	
2,342.00	7.12	168.51	2,324.91	-249.37	49.40	254.21	0.12	-0.10	-0.49	
2,432.00	6.95	171.23	2,414.24	-260.22	51.34	265.23	0.42	-0.19	3.02	
2,522.00	6.77	169.56	2,503.59	-270.81	53.13	275.98	0.30	-0.20	-1.86	
2,612.00	7.21	170.97	2,592.92	-281.61	54.98	286.93	0.52	0.49	1.57	
2,702.00	7.12	169.47	2,682.22	-292.67	56.89	298.15	0.23	-0.10	-1.67	
2,792.00	7.21	168.95	2,771.52	-303.70	58.99	309.37	0.12	0.10	-0.58	
2,830.00	7.12	171.14	2,809.22	-308.37	59.81	314.11	0.76	-0.24	5.76	
<b>LAST SDI MWD SURFACE SURVEY</b>										
2,959.00	6.39	166.17	2,937.33	-323.24	62.76	329.27	0.72	-0.57	-3.85	
<b>FIRST SDI MWD PRODUCTION SURVEY</b>										
3,054.00	6.13	171.02	3,031.76	-333.38	64.81	339.62	0.62	-0.27	5.11	
3,148.00	5.32	168.99	3,125.29	-342.61	66.43	348.99	0.89	-0.86	-2.16	
3,242.00	5.69	173.11	3,218.86	-351.52	67.82	358.00	0.58	0.39	4.38	
3,337.00	5.54	173.46	3,313.40	-360.75	68.90	367.27	0.16	-0.16	0.37	
3,431.00	3.78	170.52	3,407.09	-368.31	69.93	374.89	1.89	-1.87	-3.13	
3,525.00	2.45	173.99	3,500.95	-373.37	70.65	379.99	1.43	-1.41	3.69	
3,620.00	1.30	149.06	3,595.89	-376.31	71.42	383.03	1.46	-1.21	-26.24	
3,715.00	0.39	262.69	3,690.89	-377.28	71.65	384.02	1.58	-0.96	119.61	
3,809.00	0.74	224.28	3,784.88	-377.75	70.91	384.34	0.53	0.37	-40.86	
3,903.00	0.18	233.10	3,878.88	-378.28	70.37	384.75	0.60	-0.60	9.38	
3,998.00	0.80	19.99	3,973.88	-377.74	70.48	384.25	1.01	0.65	154.62	
4,092.00	0.44	11.86	4,067.87	-376.77	70.78	383.36	0.39	-0.38	-8.65	
4,187.00	0.17	32.94	4,162.87	-376.30	70.93	382.92	0.30	-0.28	22.19	
4,281.00	0.52	170.76	4,256.87	-376.60	71.07	383.24	0.70	0.37	146.62	
4,375.00	0.40	264.12	4,350.87	-377.06	70.81	383.64	0.72	-0.13	99.32	
4,470.00	0.09	24.46	4,445.87	-377.02	70.51	383.55	0.48	-0.33	126.67	

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 921-22E PAD  
**Well:** NBU 921-22E4CS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-22E4CS  
**TVD Reference:** GL 4868 & KB 24 @ 4892.00ft (HP 318)  
**MD Reference:** GL 4868 & KB 24 @ 4892.00ft (HP 318)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,564.00	0.53	177.90	4,539.86	-377.39	70.56	383.92	0.65	0.47	163.23
4,658.00	0.62	184.37	4,633.86	-378.33	70.54	384.84	0.12	0.10	6.88
4,753.00	0.27	54.28	4,728.86	-378.71	70.68	385.24	0.86	-0.37	-136.94
4,847.00	0.17	179.39	4,822.86	-378.72	70.86	385.29	0.42	-0.11	133.10
4,942.00	0.62	175.49	4,917.85	-379.38	70.90	385.94	0.47	0.47	-4.11
5,036.00	0.21	65.65	5,011.85	-379.81	71.10	386.40	0.76	-0.44	-116.85
5,131.00	0.29	108.72	5,106.85	-379.82	71.49	386.48	0.21	0.08	45.34
5,225.00	0.43	33.88	5,200.85	-379.60	71.91	386.35	0.48	0.15	-79.62
5,319.00	0.24	160.29	5,294.85	-379.49	72.17	386.29	0.64	-0.20	134.48
5,414.00	0.69	334.75	5,389.85	-379.16	72.00	385.93	0.98	0.47	183.64
5,508.00	0.81	311.55	5,483.84	-378.21	71.26	384.86	0.34	0.13	-24.68
5,603.00	0.79	302.71	5,578.83	-377.41	70.20	383.87	0.13	-0.02	-9.31
5,697.00	0.62	276.60	5,672.82	-377.00	69.15	383.27	0.38	-0.18	-27.78
5,792.00	0.92	76.25	5,767.82	-376.76	69.38	383.08	1.60	0.32	168.05
5,886.00	0.79	54.74	5,861.81	-376.21	70.65	382.78	0.37	-0.14	-22.88
5,980.00	1.14	71.03	5,955.80	-375.53	72.06	382.38	0.47	0.37	17.33
6,075.00	0.63	126.88	6,050.79	-375.54	73.37	382.64	0.99	-0.54	58.79
6,169.00	0.86	126.27	6,144.78	-376.26	74.35	383.54	0.24	0.24	-0.65
6,263.00	0.94	144.57	6,238.77	-377.31	75.37	384.76	0.32	0.09	19.47
6,358.00	1.62	205.75	6,333.75	-379.15	75.24	386.54	1.50	0.72	64.40
6,452.00	1.34	200.35	6,427.72	-381.38	74.28	388.55	0.33	-0.30	-5.74
6,547.00	1.74	185.89	6,522.68	-383.86	73.74	390.88	0.58	0.42	-15.22
6,641.00	1.85	193.55	6,616.64	-386.75	73.24	393.62	0.28	0.12	8.15
6,736.00	1.23	203.48	6,711.60	-389.18	72.48	395.86	0.71	-0.65	10.45
6,830.00	0.88	275.08	6,805.59	-390.04	71.35	396.49	1.35	-0.37	76.17
6,924.00	0.95	357.98	6,899.58	-389.20	70.61	395.52	1.29	0.07	88.19
7,018.00	0.85	355.21	6,993.57	-387.72	70.52	394.06	0.12	-0.11	-2.95
7,113.00	0.45	342.00	7,088.56	-386.67	70.35	392.99	0.45	-0.42	-13.91
7,207.00	0.14	327.46	7,182.56	-386.22	70.17	392.51	0.34	-0.33	-15.47
7,301.00	0.03	122.15	7,276.56	-386.14	70.13	392.42	0.18	-0.12	164.56
7,396.00	0.62	7.27	7,371.56	-385.64	70.22	391.95	0.67	0.62	-120.93
7,490.00	0.67	53.63	7,465.55	-384.81	70.72	391.23	0.54	0.05	49.32
7,585.00	0.64	50.85	7,560.55	-384.14	71.58	390.75	0.05	-0.03	-2.93
7,679.00	0.64	68.11	7,654.54	-383.62	72.48	390.40	0.20	0.00	18.36
7,773.00	0.37	109.39	7,748.54	-383.52	73.25	390.45	0.46	-0.29	43.91
7,868.00	0.54	9.04	7,843.54	-383.18	73.61	390.19	0.74	0.18	-105.63
7,962.00	0.37	3.51	7,937.53	-382.44	73.70	389.48	0.19	-0.18	-5.88
8,056.00	0.22	101.40	8,031.53	-382.17	73.89	389.25	0.48	-0.16	104.14
8,151.00	0.49	168.00	8,126.53	-382.61	74.16	389.73	0.47	0.28	70.11
8,245.00	0.34	220.51	8,220.53	-383.21	74.06	390.30	0.42	-0.16	55.86
8,339.00	0.52	184.14	8,314.53	-383.85	73.85	390.89	0.34	0.19	-38.69
8,434.00	0.48	81.02	8,409.52	-384.22	74.21	391.32	0.82	-0.04	-108.55
8,528.00	1.07	25.68	8,503.52	-383.37	74.98	390.63	0.95	0.63	-58.87
8,623.00	1.23	29.64	8,598.50	-381.68	75.87	389.14	0.19	0.17	4.17

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 921-22E PAD  
**Well:** NBU 921-22E4CS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 921-22E4CS  
**TVD Reference:** GL 4868 & KB 24 @ 4892.00ft (HP 318)  
**MD Reference:** GL 4868 & KB 24 @ 4892.00ft (HP 318)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,717.00	1.15	54.22	8,692.48	-380.25	77.13	387.98	0.55	-0.09	26.15	
8,812.00	0.93	74.39	8,787.46	-379.49	78.65	387.52	0.45	-0.23	21.23	
8,906.00	0.84	17.37	8,881.45	-378.62	79.59	386.85	0.90	-0.10	-60.66	
9,001.00	0.35	308.59	8,976.45	-377.78	79.57	386.02	0.83	-0.52	-72.40	
9,095.00	0.24	216.86	9,070.45	-377.76	79.23	385.93	0.46	-0.12	-97.59	
9,190.00	0.50	185.63	9,165.44	-378.33	79.07	386.46	0.34	0.27	-32.87	
9,284.00	0.87	169.63	9,259.44	-379.44	79.15	387.57	0.44	0.39	-17.02	
9,379.00	1.00	165.47	9,354.43	-380.95	79.49	389.12	0.15	0.14	-4.38	
9,473.00	1.11	164.74	9,448.41	-382.62	79.94	390.84	0.12	0.12	-0.78	
9,568.00	1.28	150.04	9,543.39	-384.43	80.71	392.76	0.37	0.18	-15.47	
9,662.00	1.50	164.01	9,637.36	-386.52	81.57	394.98	0.43	0.23	14.86	
9,757.00	1.32	147.26	9,732.33	-388.64	82.51	397.24	0.47	-0.19	-17.63	
9,851.00	1.49	139.67	9,826.31	-390.48	83.88	399.31	0.27	0.18	-8.07	
9,946.00	1.51	138.75	9,921.27	-392.36	85.51	401.47	0.03	0.02	-0.97	
10,040.00	1.60	138.66	10,015.24	-394.28	87.19	403.67	0.10	0.10	-0.10	
10,067.00	1.49	132.17	10,042.23	-394.80	87.70	404.27	0.76	-0.41	-24.04	
<b>LAST SDI MWD PRODUCTION SURVEY</b>										
10,120.00	1.49	132.17	10,095.21	-395.72	88.72	405.38	0.00	0.00	0.00	
<b>SDI PROJECTION TO BIT</b>										

**Casing Points**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,841.00	2,820.14	8 5/8"	8.625	11.000

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
193.00	193.00	0.26	0.29	FIRST SDI MWD SURFACE SURVEY
2,830.00	2,809.22	-308.37	59.81	LAST SDI MWD SURFACE SURVEY
2,959.00	2,937.33	-323.24	62.76	FIRST SDI MWD PRODUCTION SURVEY
10,067.00	10,042.23	-394.80	87.70	LAST SDI MWD PRODUCTION SURVEY
10,120.00	10,095.21	-395.72	88.72	SDI PROJECTION TO BIT

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