

**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 922-30P4BS				
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES				
<b>4. TYPE OF WELL</b> Gas Well      Coalbed Methane Well: NO						<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES				
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.						<b>7. OPERATOR PHONE</b> 720 929-6515				
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217						<b>9. OPERATOR E-MAIL</b> julie.jacobson@anadarko.com				
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> ML 22935			<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" 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>			<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		255 FNL 797 FWL		NWNW	32	9.0 S	22.0 E	S		
Top of Uppermost Producing Zone		576 FSL 601 FEL		SESE	30	9.0 S	22.0 E	S		
At Total Depth		576 FSL 601 FEL		SESE	30	9.0 S	22.0 E	S		
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 576			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 200				
<b>27. ELEVATION - GROUND LEVEL</b> 4965			<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 369			<b>26. PROPOSED DEPTH</b> MD: 10799 TVD: 10479				
<b>28. BOND NUMBER</b> 22013542			<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 - 2570	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 - 10799	11.6	HCP-110 LT&C	12.5	Premium Lite High Strength	320	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> 05/18/2012				<b>EMAIL</b> Laura.Abrams@anadarko.com		
<b>API NUMBER ASSIGNED</b> 43047526930000				<b>APPROVAL</b> <div style="text-align: right;">                       Permit Manager                 </div>						

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

**NBU 922-30P4BS**

Surface: 255 FNL / 797 FWL      NWNW  
BHL: 576 FSL / 601 FEL      SESE

Section 32 T9S R22E

Unitah County, Utah  
Mineral Lease: ST ML 22935

**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	1,315'	
Birds Nest	1,643'	Water
Mahogany	2,116'	Water
Wasatch	4,588'	Gas
Mesaverde	7,132'	Gas
Sego	9,381'	Gas
Castlegate	9,422'	Gas
Blackhawk	9,879'	Gas
TVD =	10,479'	
TD =	10,799'	

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

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

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

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

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

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

**5. Drilling Fluids Program:**

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

**6. Evaluation Program:**

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

**7. Abnormal Conditions:**

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

Maximum anticipated bottom hole pressure calculated at 10479' TVD, approximately equals  
6,707 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,386 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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

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

Maximum anticipated bottom hole pressure calculated at 9381' TVD, approximately equals  
5,722 psi (0.61 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,683 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

Please refer to the attached 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 not put the booster and standby compressor opposite from the blooie line.

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

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

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

**Conclusion**

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

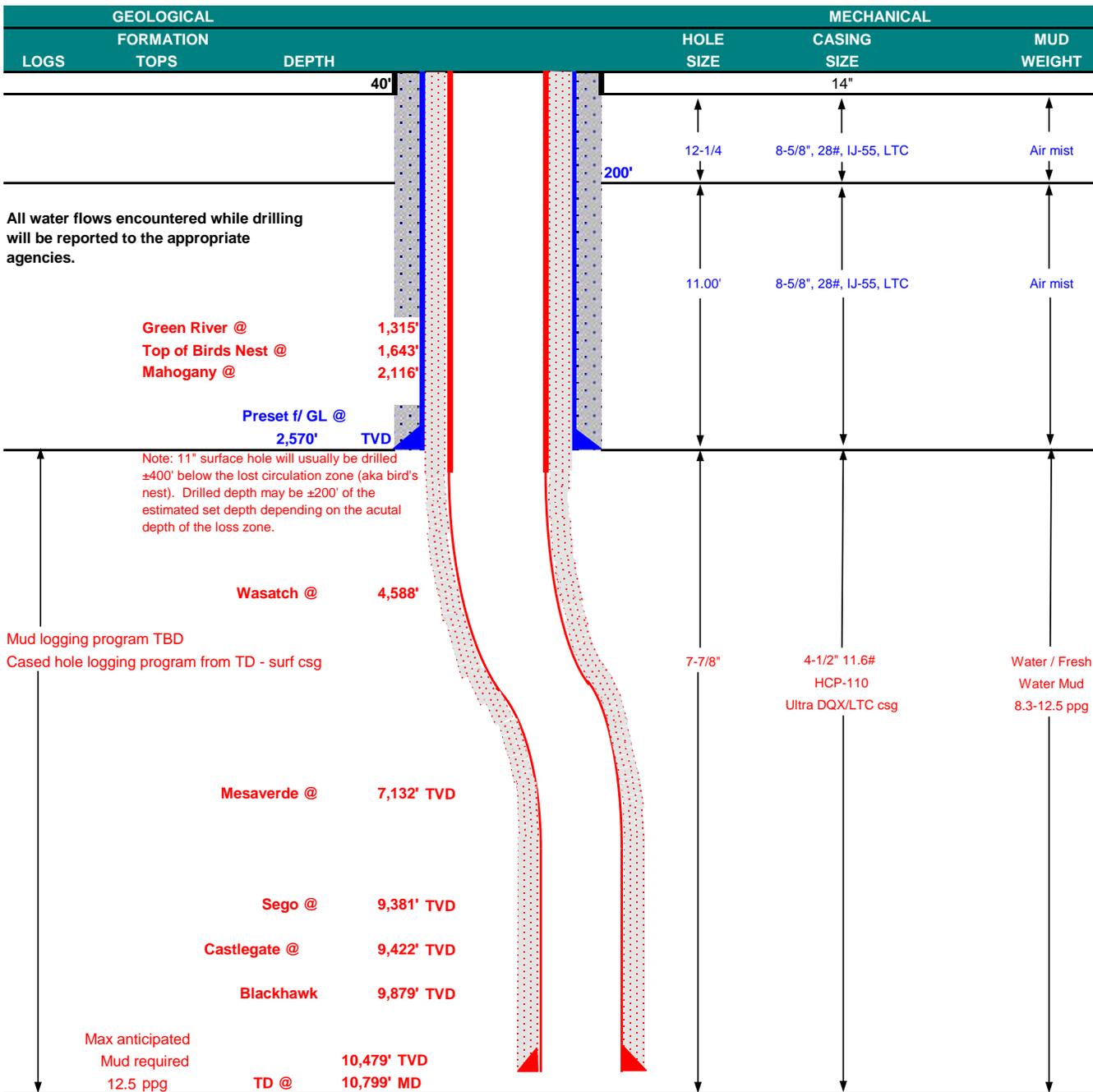
10. **Other Information:**

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



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP			DATE	May 17, 2012	
WELL NAME	<b>NBU 922-30P4BS</b>			TD	10,479'	TVD 10,799' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION 4,965'
SURFACE LOCATION	NWNW	255 FNL	797 FWL	Sec 32	T 9S	R 22E
	Latitude: 39.999080	Longitude: -109.470444		NAD 83		
BTM HOLE LOCATION	SESE	576 FSL	601 FEL	Sec 30	T 9S	R 22E
	Latitude: 40.001353	Longitude: -109.475433		NAD 83		
OBJECTIVE ZONE(S)	BLACKHAWK (Part of the Mesaverde Group)					
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.					





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

**CASING PROGRAM**

							DESIGN FACTORS		
							LTC	DQX	
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'							
							3,390	1,880	348,000
SURFACE	8-5/8"	0	to 2,570	28.00	IJ-55	LTC	2.09	1.56	5.52
							10,690	8,650	279,000
PRODUCTION	4-1/2"	0	to 5,000	11.60	HCP-110	DQX	1.19	1.27	367,174
	4-1/2"	5,000	to 10,799'	11.60	HCP-110	LTC	1.19	1.27	5.13

**Surface Casing:**

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

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

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

**Production casing:**

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

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

**CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
Option 1						
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
SURFACE	<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
Option 2						
LEAD	2,070'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	190	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	4,079'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	320	35%	12.00	3.38
TAIL	6,720'	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**

**CASING PROGRAM**

							DESIGN FACTORS			
							LTC		DQX	
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'								
SURFACE	8-5/8"	0	to 2,570	28.00	IJ-55	LTC	3,390	1,880	348,000	N/A
							2.09	1.56	5.52	N/A
PRODUCTION	4-1/2"	0	to 5,000	11.60	I-80	DQX	7,780	6,350		267,035
							1.11	1.08		2.91
							7,780	6,350	223,000	
	4-1/2"	5,000	to 9,701'	11.60	I-80	LTC	1.11	1.08	5.01	

**Surface Casing:**

(Burst Assumptions: TD = 12.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe  
Fracture at surface shoe with 0.1 psi/ft gas gradient above

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

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.61 psi/ft = bottomhole gradient

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<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE Option 2	LEAD	2,070'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	190	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	4,081'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	320	35%	12.00	3.38
	TAIL	5,620'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,330	35%	14.30	1.31

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

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

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**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

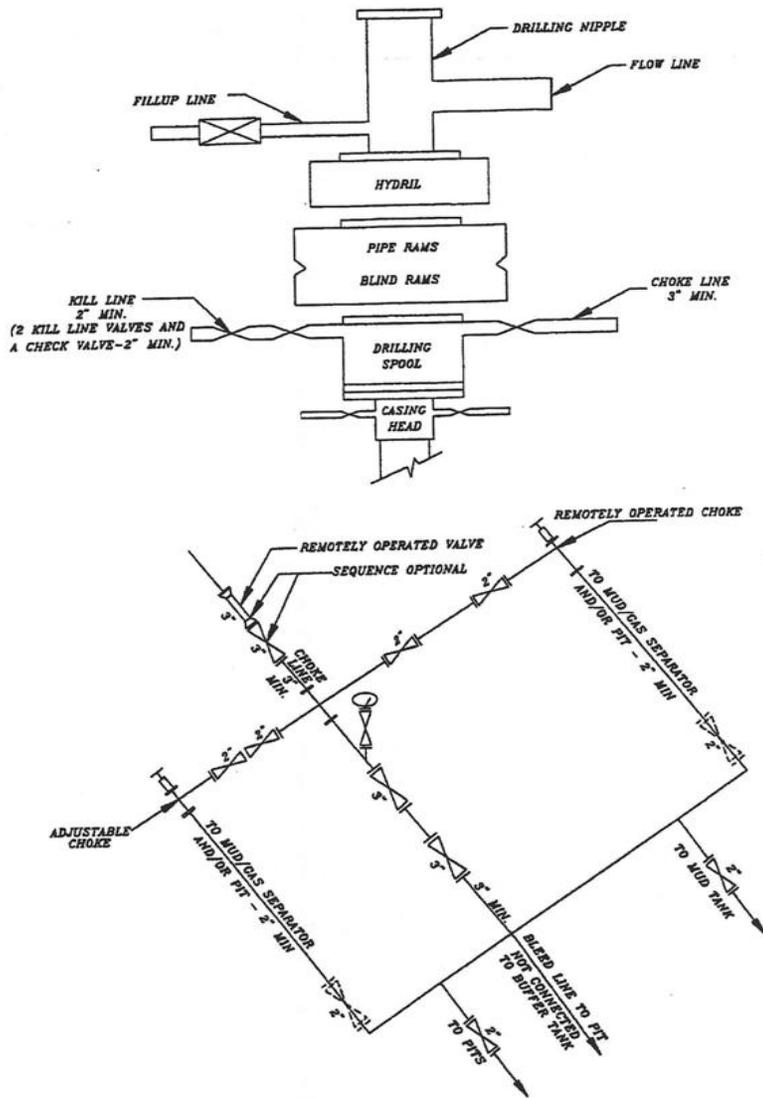
**DATE:**

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

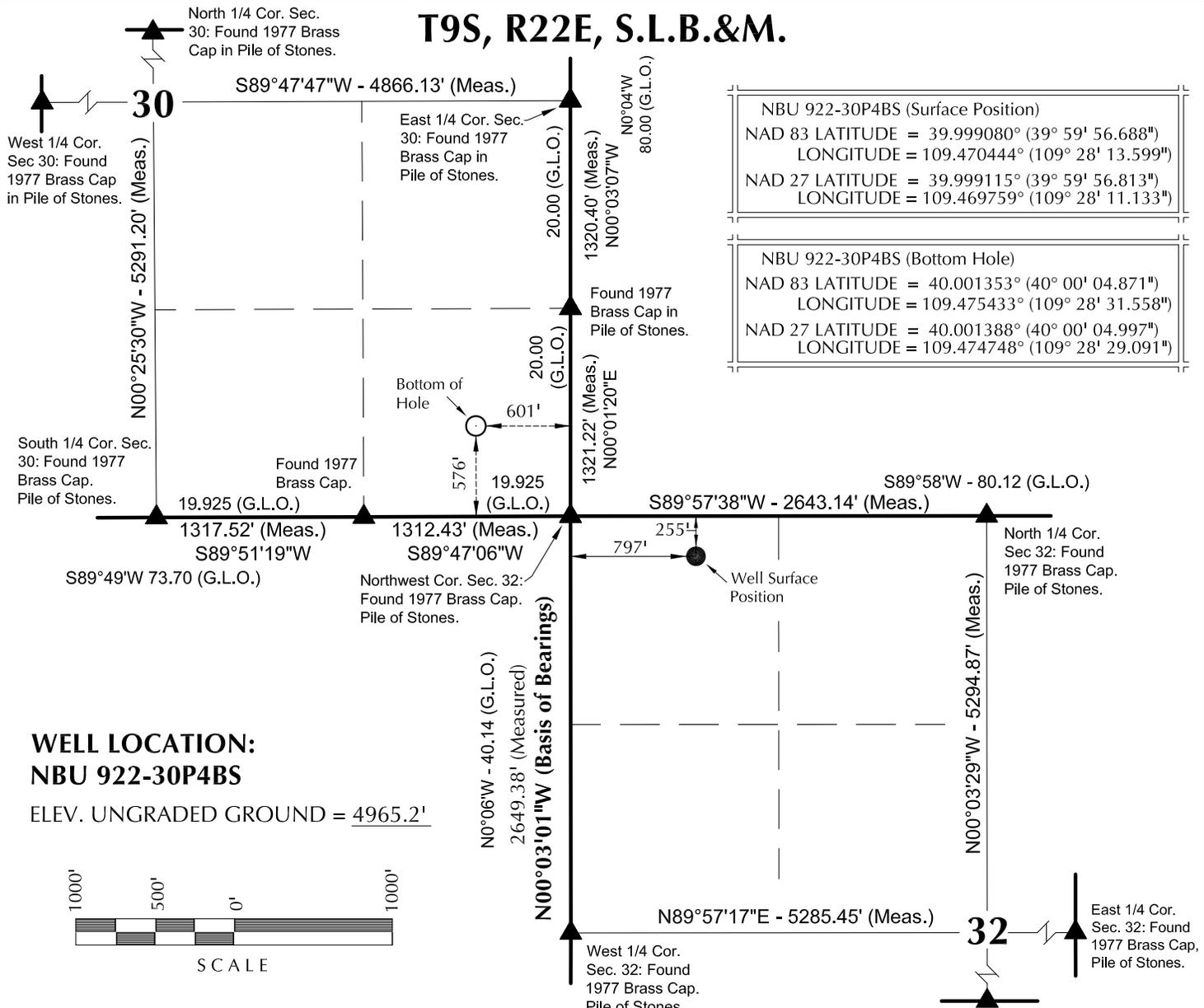
**DATE:**

**EXHIBIT A**  
**NBU 922-30P4BS**



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

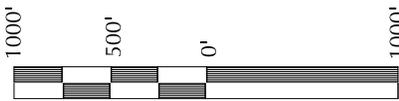
# T9S, R22E, S.L.B.&M.



NBU 922-30P4BS (Surface Position)	
NAD 83 LATITUDE = 39.999080° (39° 59' 56.688")	LONGITUDE = 109.470444° (109° 28' 13.599")
NAD 27 LATITUDE = 39.999115° (39° 59' 56.813")	LONGITUDE = 109.469759° (109° 28' 11.133")
NBU 922-30P4BS (Bottom Hole)	
NAD 83 LATITUDE = 40.001353° (40° 00' 04.871")	LONGITUDE = 109.475433° (109° 28' 31.558")
NAD 27 LATITUDE = 40.001388° (40° 00' 04.997")	LONGITUDE = 109.474748° (109° 28' 29.091")

## WELL LOCATION: NBU 922-30P4BS

ELEV. UNGRADED GROUND = 4965.2'



SCALE

### 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 N59°20'52"W 1624.92' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

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

**WELL PAD: NBU 922-32D1**

**NBU 922-30P4BS  
WELL PLAT  
576' FSL, 601' FEL (Bottom Hole)  
SE ¼ SE ¼ OF SECTION 30, T9S, R22E,  
S.L.B.&M., UTAH COUNTY, UTAH.**

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



### SURVEYOR'S CERTIFICATE

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

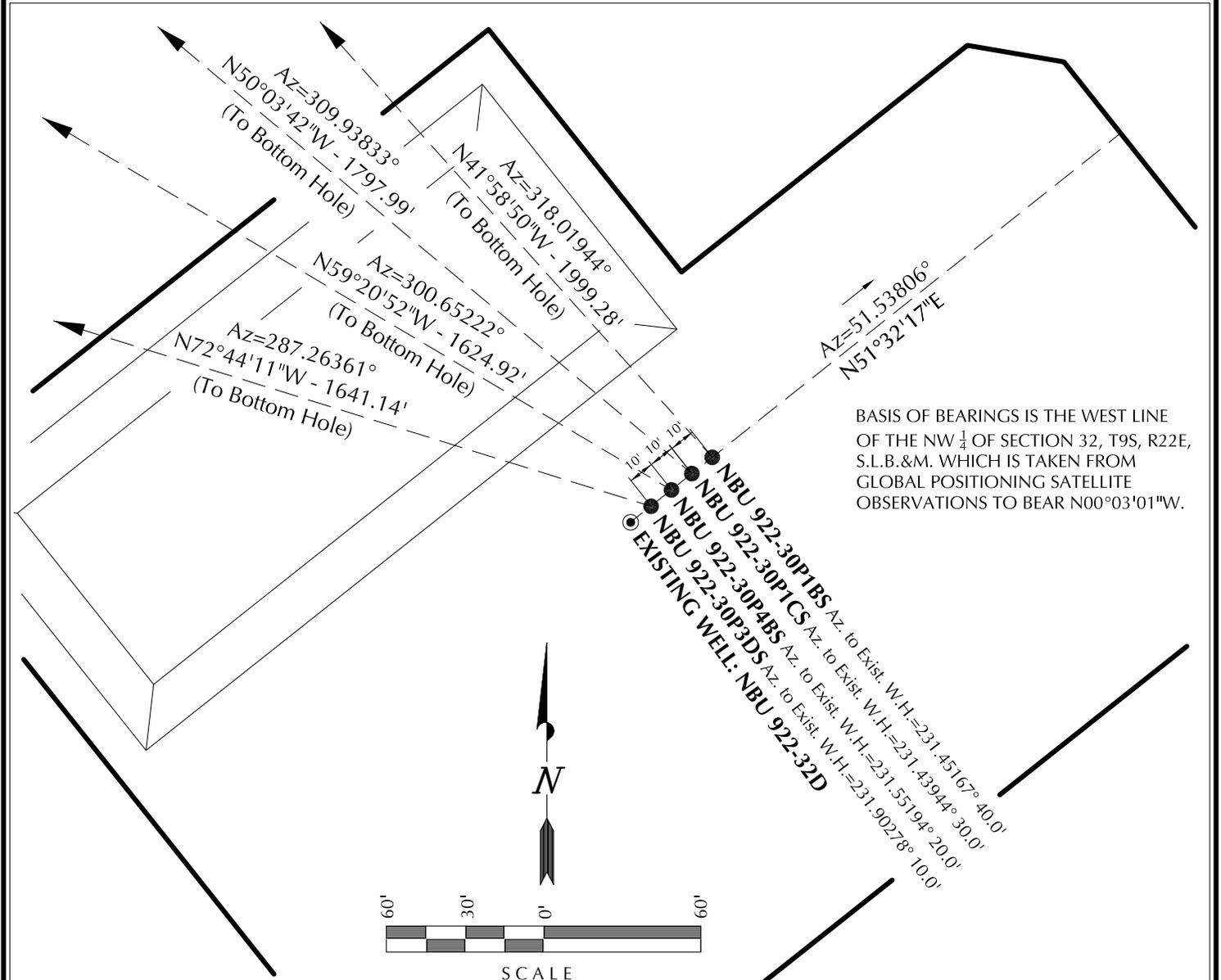
*John R. Laugh*  
No. 6028691  
JOHN R. LAUGH  
PROFESSIONAL LAND SURVEYOR  
REGISTRATION No. 6028691  
STATE OF UTAH  
1-8-11

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

DATE SURVEYED: 07-19-10	SURVEYED BY: M.S.B.	SHEET NO: <b>3</b> 3 OF 16
DATE DRAWN: 07-20-10	DRAWN BY: K.O.B.	
SCALE: 1" = 1000'	Date Last Revised: 12-30-10 E.M.S.	

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 922-30P1BS	39°59'56.811" 39.999114°	109°28'13.398" 109.470388°	39°59'56.937" 39.999149°	109°28'10.932" 109.469703°	243' FNL 813' FWL	40°00'11.493" 40.003193°	109°28'30.580" 109.475161°	40°00'11.619" 40.003228°	109°28'28.112" 109.474476°	1246' FSL 525' FEL
NBU 922-30P1CS	39°59'56.750" 39.999097°	109°28'13.499" 109.470416°	39°59'56.875" 39.999132°	109°28'11.033" 109.469731°	249' FNL 805' FWL	40°00'08.152" 40.002264°	109°28'31.210" 109.475336°	40°00'08.278" 40.002299°	109°28'28.743" 109.474651°	908' FSL 574' FEL
NBU 922-30P4BS	39°59'56.688" 39.999080°	109°28'13.599" 109.470444°	39°59'56.813" 39.999115°	109°28'11.133" 109.469759°	255' FNL 797' FWL	40°00'04.871" 40.001353°	109°28'31.558" 109.475433°	40°00'04.997" 40.001388°	109°28'29.091" 109.474748°	576' FSL 601' FEL
NBU 922-30P3DS	39°59'56.626" 39.999063°	109°28'13.700" 109.470472°	39°59'56.751" 39.999098°	109°28'11.233" 109.469787°	261' FNL 789' FWL	40°00'01.436" 40.000399°	109°28'33.833" 109.476065°	40°00'01.562" 40.000434°	109°28'31.366" 109.475379°	229' FSL 778' FEL
NBU 922-32D	39°59'56.565" 39.999046°	109°28'13.800" 109.470500°	39°59'56.690" 39.999081°	109°28'11.334" 109.469815°	268' FNL 781' 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 922-30P1BS	1,486.2'	-1,337.3'	NBU 922-30P1CS	1,154.2'	-1,378.6'	NBU 922-30P4BS	828.4'	-1,397.9'	NBU 922-30P3DS	487.0'	-1,567.2'



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

**WELL PAD - NBU 922-32D1**

**WELL PAD INTERFERENCE PLAT**  
WELLS - NBU 922-30P1BS, NBU 922-30P1CS,  
NBU 922-30P4BS & NBU 922-30P3DS  
LOCATED IN SECTION 32, T9S, R22E,  
S.L.B.&M., UTAH COUNTY, UTAH.

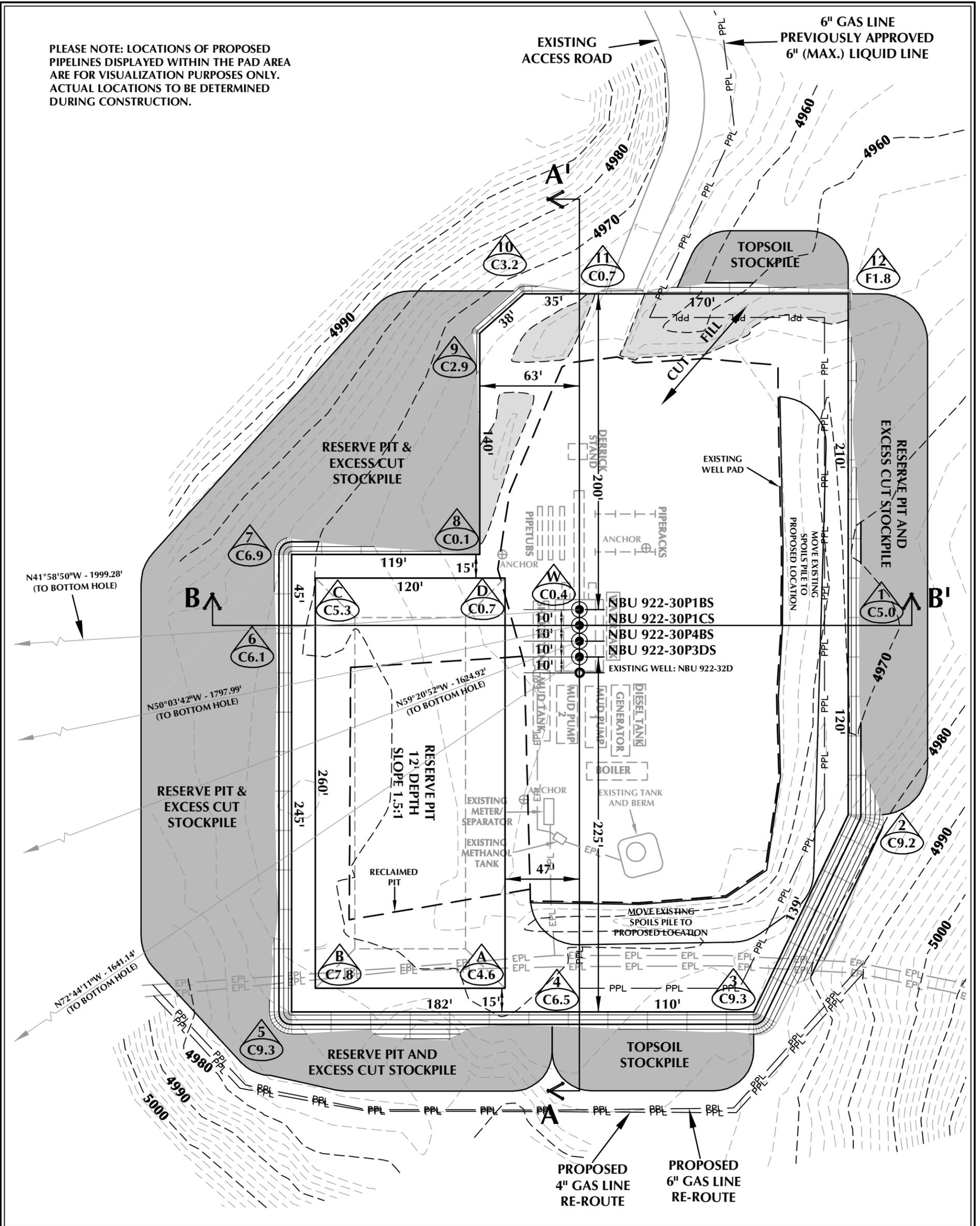


**CONSULTING, LLC**  
2155 North Main Street  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

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

DATE SURVEYED: 07-19-10	SURVEYED BY: M.S.B.	SHEET NO: <b>5</b> 5 OF 16
DATE DRAWN: 07-20-10	DRAWN BY: K.O.B.	
SCALE: 1" = 60'	Date Last Revised: 12-30-10 E.M.S.	

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 922-32D1 DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 4965.1'  
 FINISHED GRADE ELEVATION = 4964.7'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.47 ACRES  
 TOTAL DAMAGE AREA = 6.28 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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

WELL PAD - NBU 922-32D1

WELL PAD - LOCATION LAYOUT  
 NBU 922-30P1BS, NBU 922-30P1CS,  
 NBU 922-30P4BS & NBU 922-30P3DS  
 LOCATED IN SECTION 32, T9S, R22E,  
 S.L.B.&M., UTAH COUNTY, UTAH



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**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 14,112 C.Y.  
 TOTAL FILL FOR WELL PAD = 644 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,785 C.Y.  
 EXCESS MATERIAL = 13,468 C.Y.

**RESERVE PIT QUANTITIES**

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

**WELL PAD LEGEND**

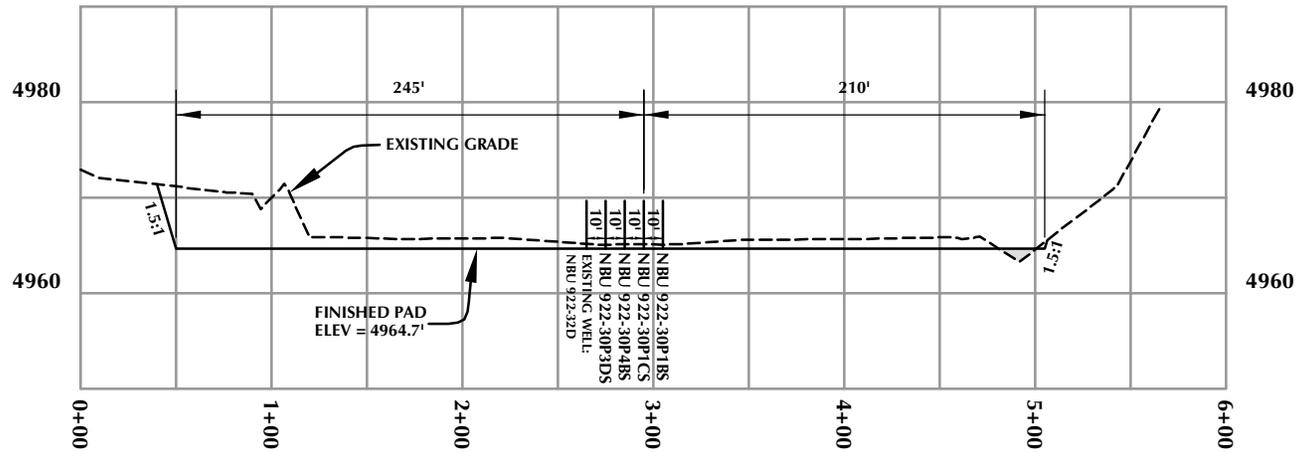
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL - PROPOSED PIPELINE
- EPL - EXISTING PIPELINE



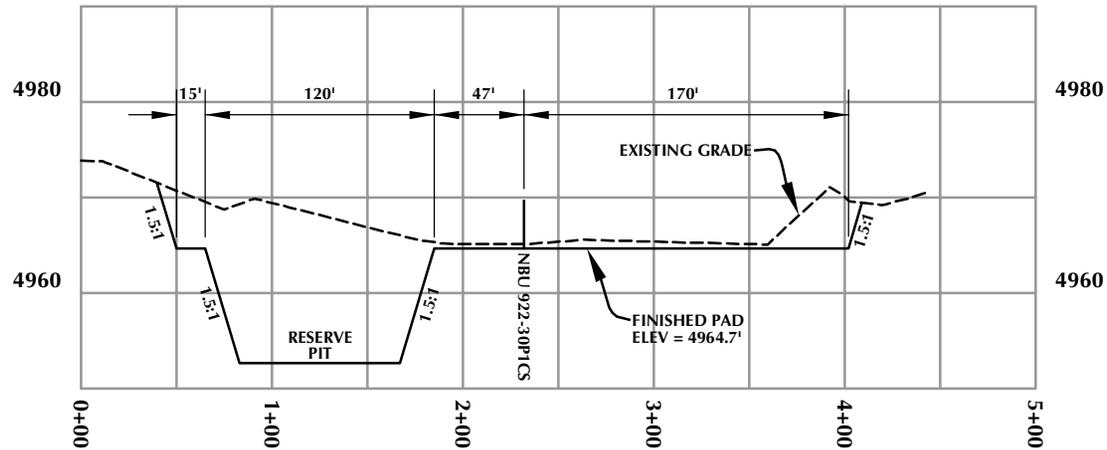
HORIZONTAL 0 30 60 1" = 60'  
 2' CONTOURS

Scale: 1"=60' Date: 1/14/11 SHEET NO:  
 REVISED: TAR 3/21/11 **6** 6 OF 16

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



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

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1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 922-32D1**

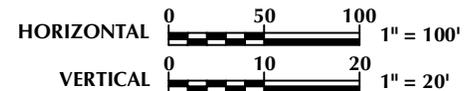
**WELL PAD - CROSS SECTIONS**  
NBU 922-30P1BS, NBU 922-30P1CS,  
NBU 922-30P4BS & NBU 922-30P3DS  
LOCATED IN SECTION 32, T9S, R22E,  
S.L.B.&M., UTAH COUNTY, UTAH



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

(435) 789-1365



Scale: 1"=100'

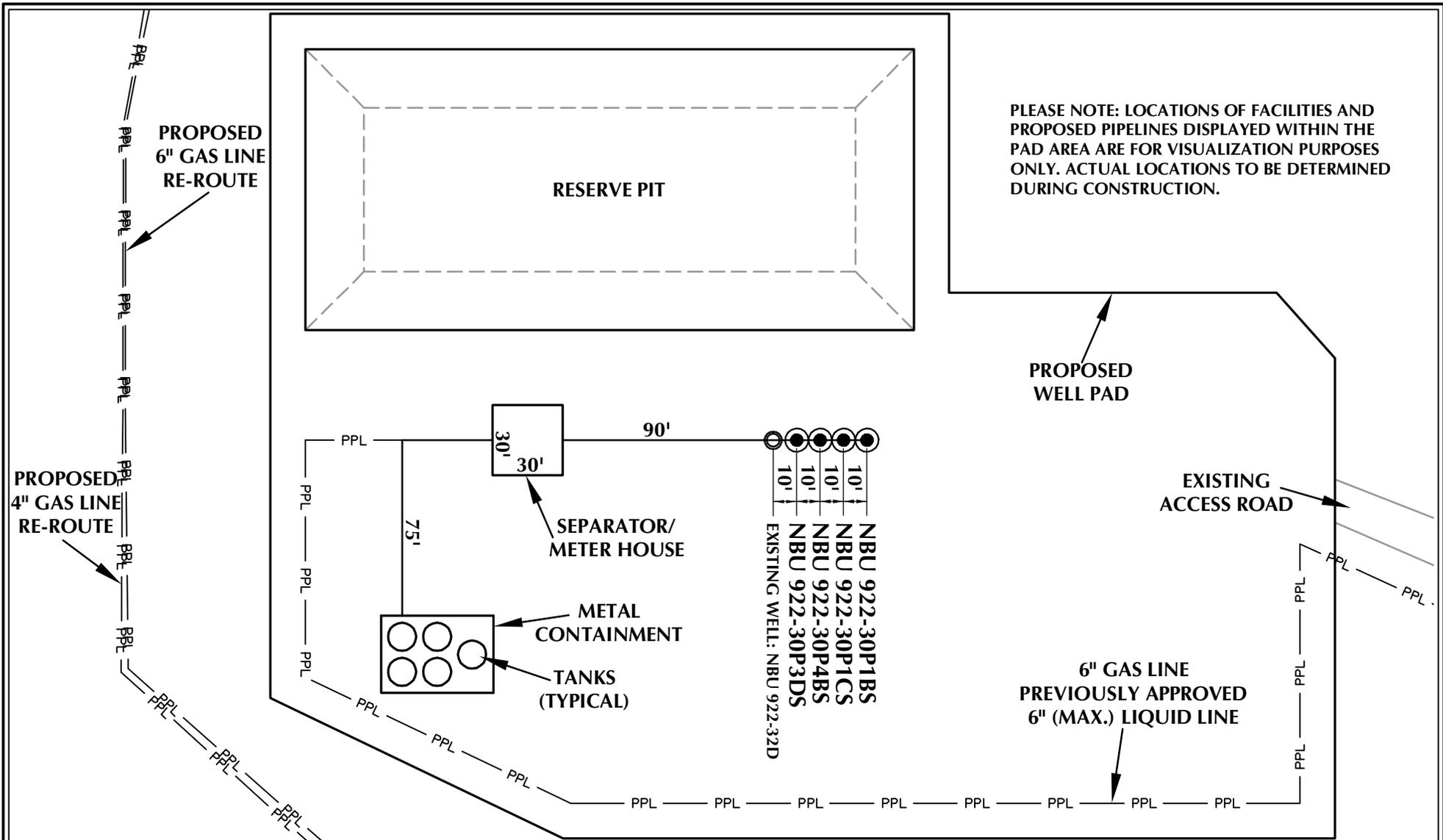
Date: 1/14/11

SHEET NO:

REVISED:

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

**WELL PAD - NBU 922-32D1**

**WELL PAD - FACILITIES DIAGRAM**  
 NBU 922-30P1BS, NBU 922-30P1CS,  
 NBU 922-30P4BS & NBU 922-30P3DS  
 LOCATED IN SECTION 32, T9S, R22E,  
 S.L.B.&M., Uintah County, Utah



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

**WELL PAD LEGEND**

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE



HORIZONTAL 0 30' 60' 1" = 60'

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

(435) 789-1365

Scale: 1"=60'

Date: 1/14/11

SHEET NO:

REVISED:

TAR  
 3/21/11

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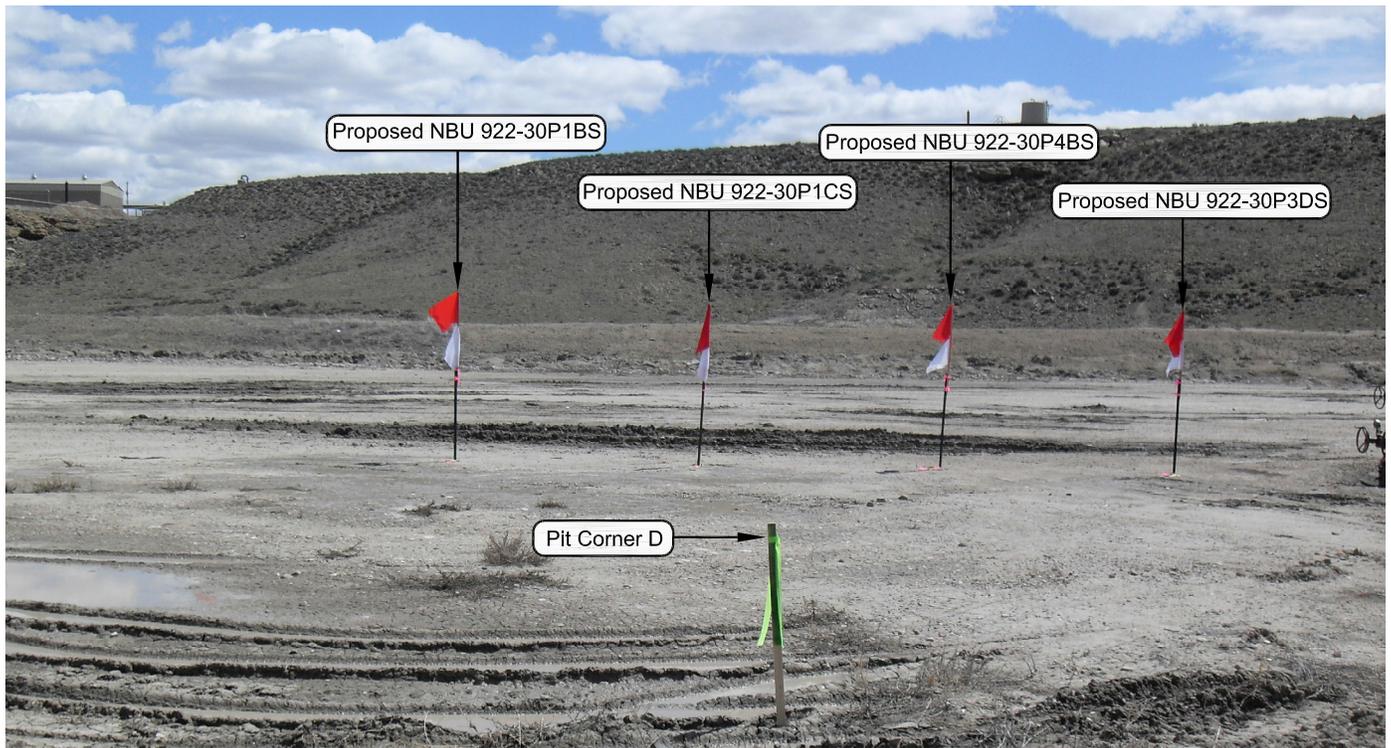


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: SOUTHEASTERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: SOUTHWESTERLY

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

**WELL PAD - NBU 922-32D1**

**LOCATION PHOTOS**

**NBU 922-30P1BS, NBU 922-30P1CS,  
NBU 922-30P4BS & NBU 922-30P3DS  
LOCATED IN SECTION 32, T9S, R22E,  
S.L.B.&M., UINTAH COUNTY, UTAH.**



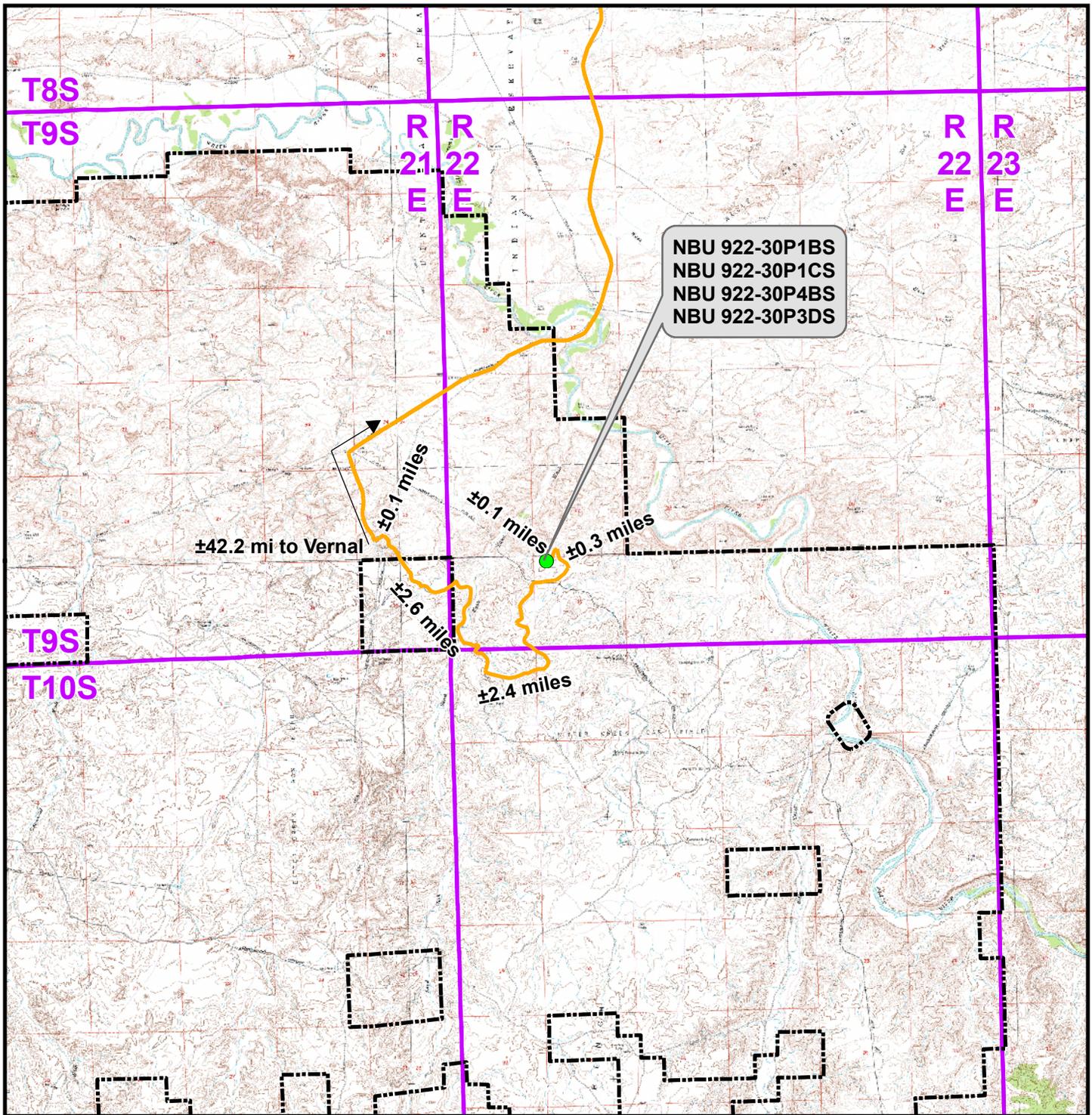
**CONSULTING, LLC**  
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Phone 307-674-0609  
Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

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

DATE PHOTOS TAKEN: 04-22-10	PHOTOS TAKEN BY: M.S.B.	SHEET NO: <b>9</b>
DATE DRAWN: 07-20-10	DRAWN BY: K.O.B.	
Date Last Revised: 12-30-10 E.M.S.		9 OF 16



**Legend**

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

Distance From Well Pad - NBU 922-32D1 To Unit Boundary: ±4,480ft

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

**WELL PAD - NBU 922-32D1**

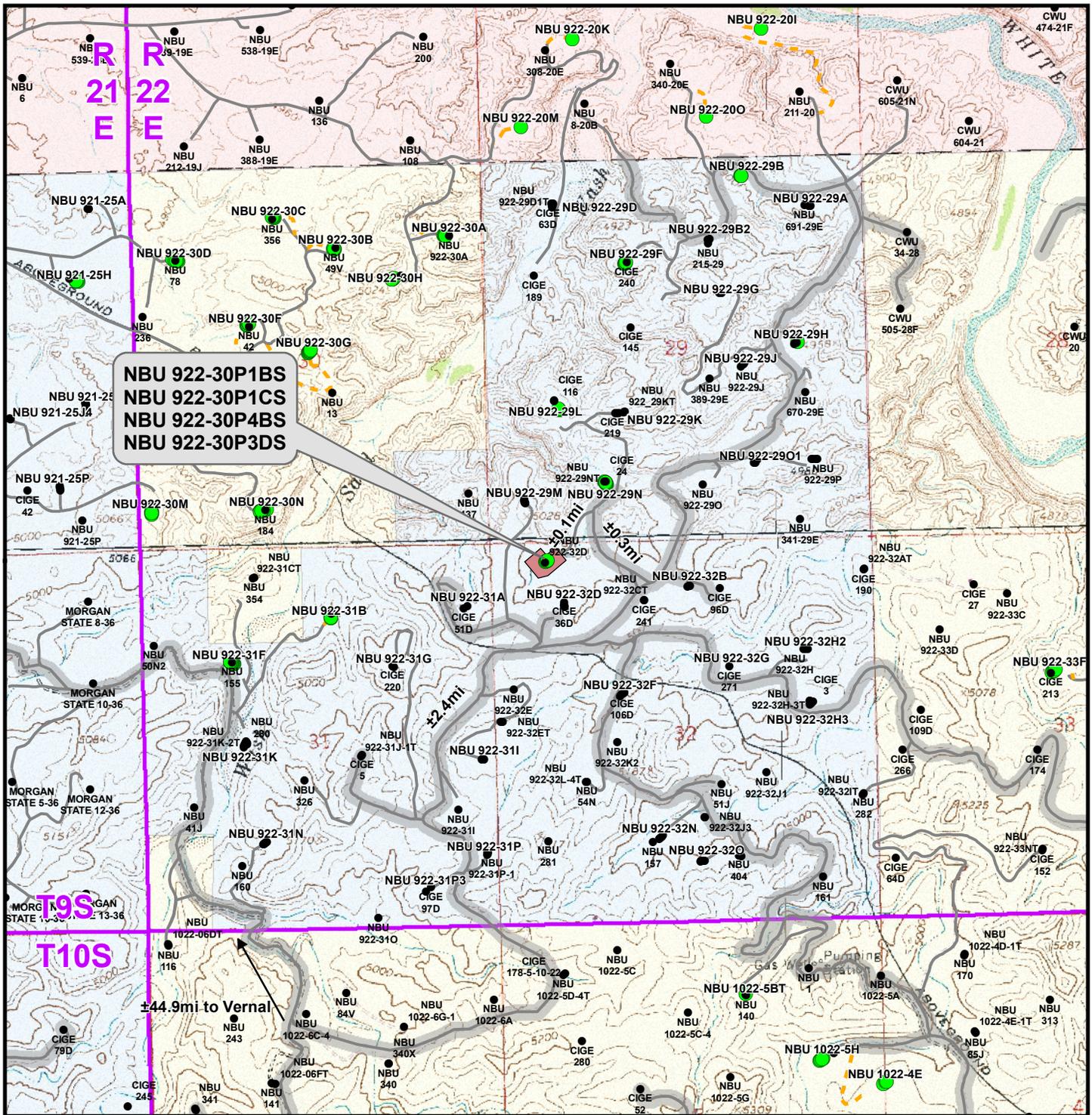
**TOPO A**  
 NBU 922-30P1BS, NBU 922-30P1CS,  
 NBU 922-30P4BS & NBU 922-30P3DS  
 LOCATED IN SECTION 32, T9S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

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



Scale: 1:100,000	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 14 Jan 2011	10
Revised:	Date:	

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**NBU 922-30P1BS  
NBU 922-30P1CS  
NBU 922-30P4BS  
NBU 922-30P3DS**

**Legend**

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

Total Proposed Road Length: ±0ft

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

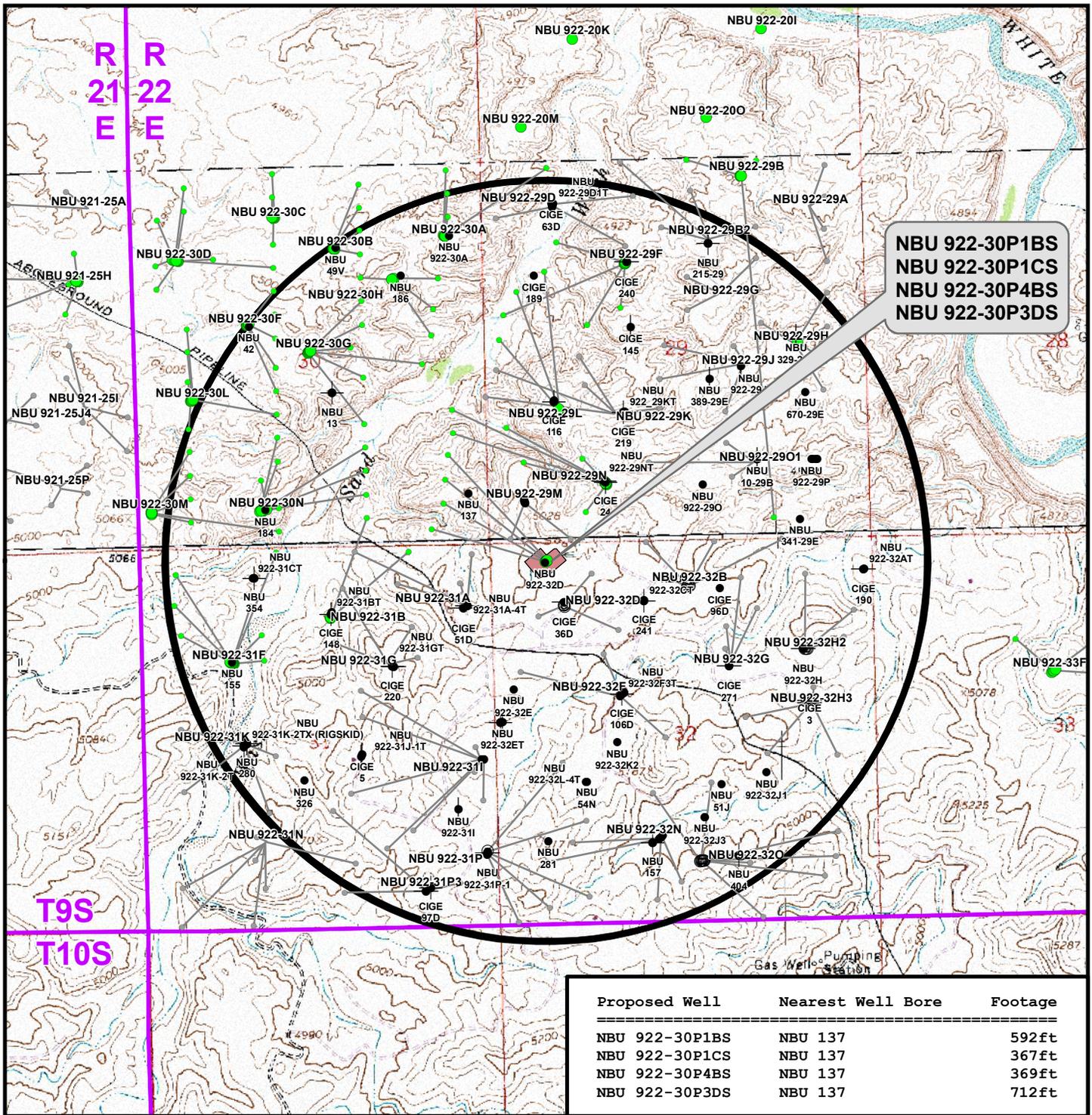
**WELL PAD - NBU 922-32D1**

**TOPO B**  
NBU 922-30P1BS, NBU 922-30P1CS,  
NBU 922-30P4BS & NBU 922-30P3DS  
LOCATED IN SECTION 32, T9S, R22E,  
S.L.B.&M., UTAH COUNTY, UTAH

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Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: <b>11</b> of 16
Drawn: KGS	Date: 14 Jan 2011	
Revised:	Date:	



**NBU 922-30P1BS  
NBU 922-30P1CS  
NBU 922-30P4BS  
NBU 922-30P3DS**

Proposed Well	Nearest Well Bore	Footage
NBU 922-30P1BS	NBU 137	592ft
NBU 922-30P1CS	NBU 137	367ft
NBU 922-30P4BS	NBU 137	369ft
NBU 922-30P3DS	NBU 137	712ft

Well locations derived from State of Utah, Dept. of Natural Resources, Division of Oil, Gas and Mining

**Legend**

- Well - Proposed
- Bottom Hole - Proposed
- Well Pad
- Well Path
- Bottom Hole - Existing
- Well - 1 Mile Radius

- Producing
- ★ Active
- ⊙ Spudded (Drilling commenced; Not yet completed)
- ▲ Approved permit (APD); not yet spudded
- New Permit (Not yet approved or drilled)
- ⊕ Inactive
- ⊗ Drilling Operations Suspended
- Temporarily-Abandoned
- Shut-In
- Plugged and Abandoned
- ⊗ Location Abandoned
- ⊗ Dry hole marker, buried
- ⊗ Returned APD (Unapproved)

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

**WELL PAD - NBU 922-32D1**

**TOPO C**  
NBU 922-30P1BS, NBU 922-30P1CS,  
NBU 922-30P4BS & NBU 922-30P3DS  
LOCATED IN SECTION 32, T9S, R22E,  
S.L.B.&M., UTAH COUNTY, UTAH

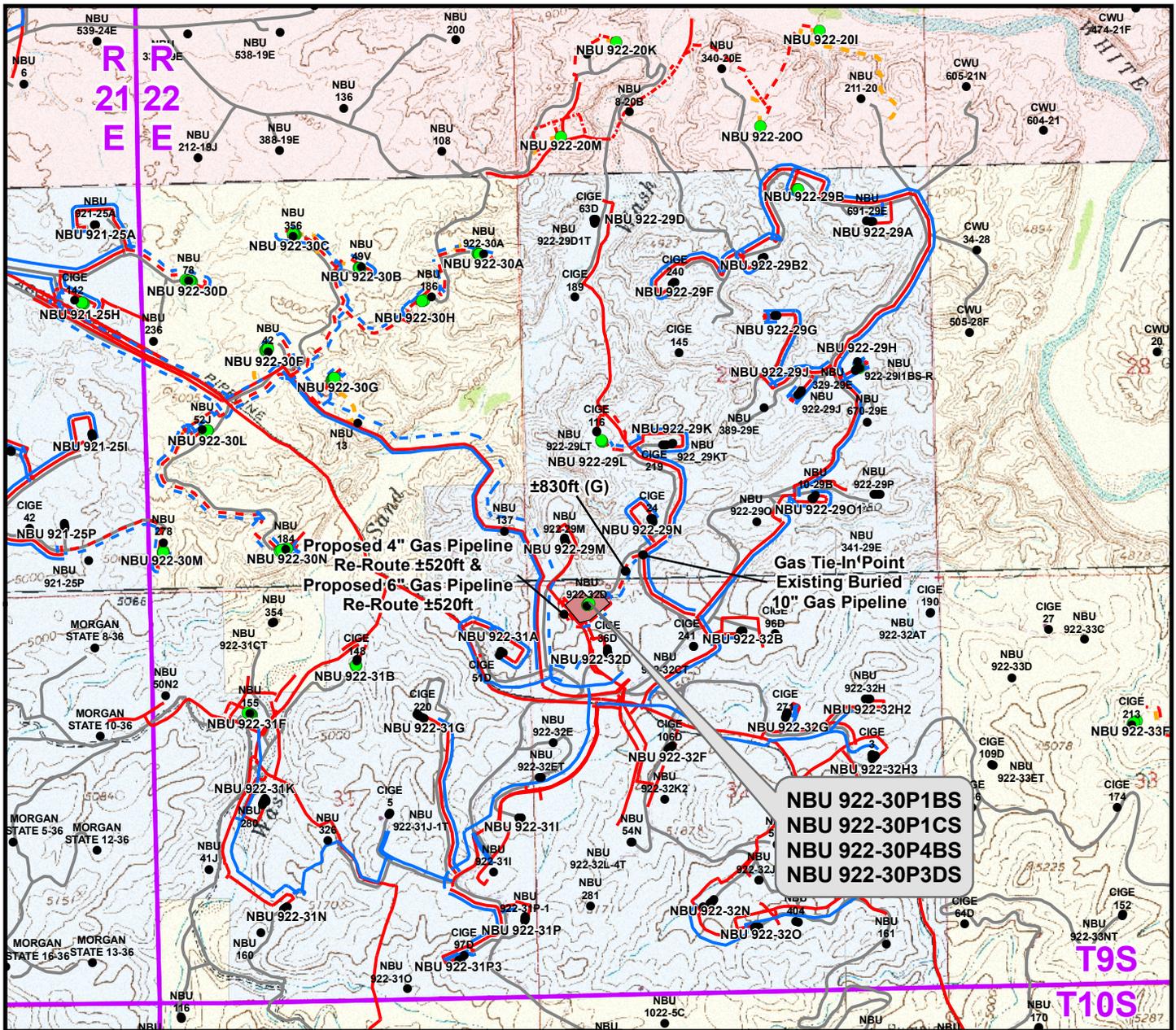


**609**  
CONSULTING, LLC  
2155 North Main Street  
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Phone (307) 674-0609  
Fax (307) 674-0182

Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: **12** of 16

Drawn: KGS | Date: 14 Jan 2011

Revised: | Date:



**Note:**  
 The liquid pipeline associated with the NBU 922-32D1 pad was permitted via sundry.

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±760ft
Proposed 6" (Edge of Pad to Existing Buried 10" Gas Pipeline)	±830ft
Proposed 4" (Proposed Pipeline Re-route)	±520ft
Proposed 6" (Proposed Pipeline Re-route)	±520ft
<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±2,630ft</b>

**Legend**

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

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

**WELL PAD - NBU 922-32D1**

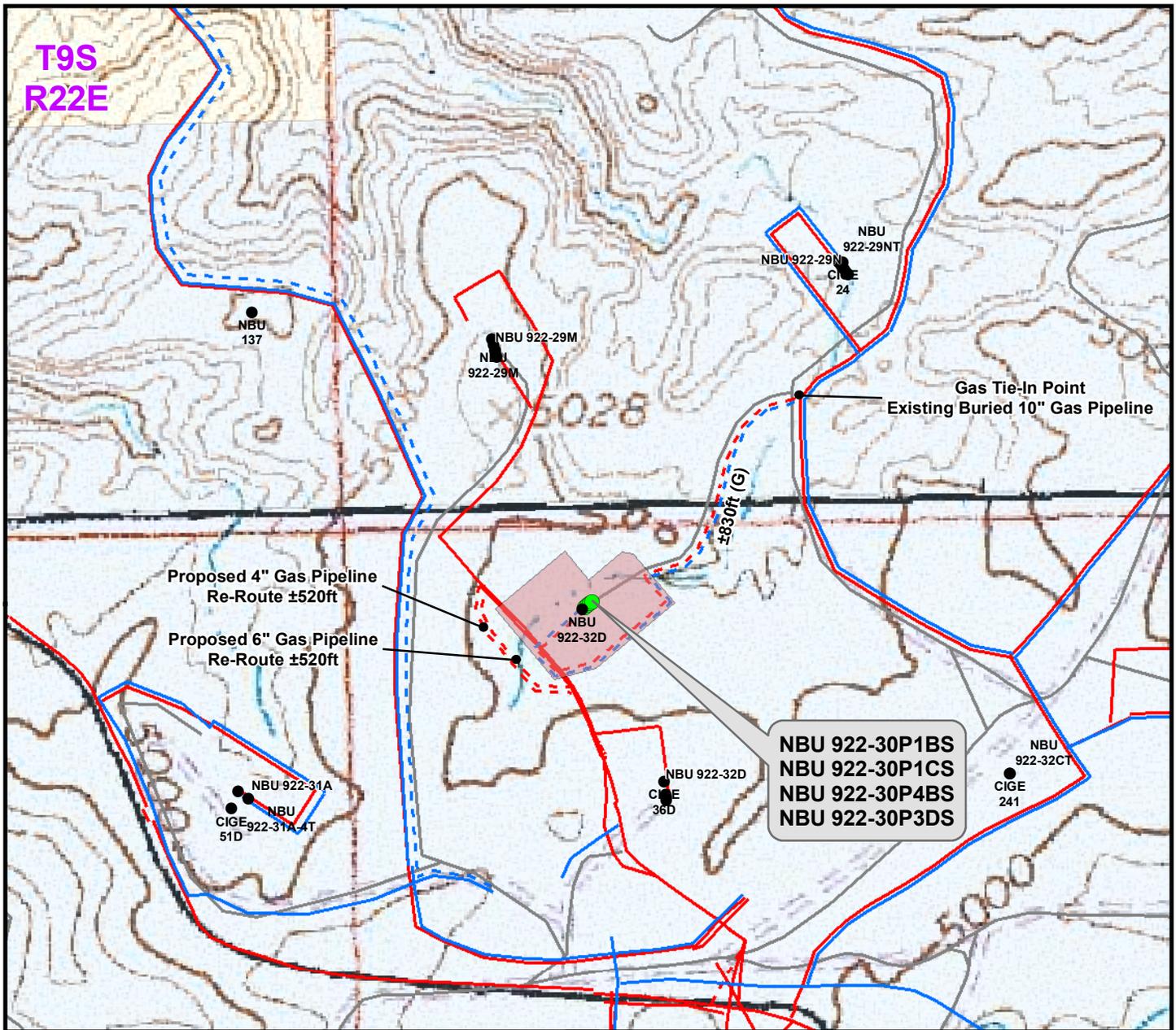
**TOPO D**  
 NBU 922-30P1BS, NBU 922-30P1CS,  
 NBU 922-30P4BS & NBU 922-30P3DS  
 LOCATED IN SECTION 32, T9S, R22E,  
 S.L.B.&M., UTAH COUNTY, UTAH

**609**

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 Sheridan, WY 82801  
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Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: **13** of 16

Drawn: KGS Date: 14 Jan 2011  
 Revised: TL Date: 21 Mar 2011



**Note:**  
 -----  
 The liquid pipeline associated with the NBU 922-32D1 pad was permitted via sundry.

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±760ft
Proposed 6" (Edge of Pad to Existing Buried 10" Gas Pipeline)	±830ft
Proposed 4" (Proposed Pipeline Re-route)	±520ft
Proposed 6" (Proposed Pipeline Re-route)	±520ft
<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±2,630ft</b>

**Legend**

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

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 1099 18th Street, Denver, Colorado 80202

**WELL PAD - NBU 922-32D1**

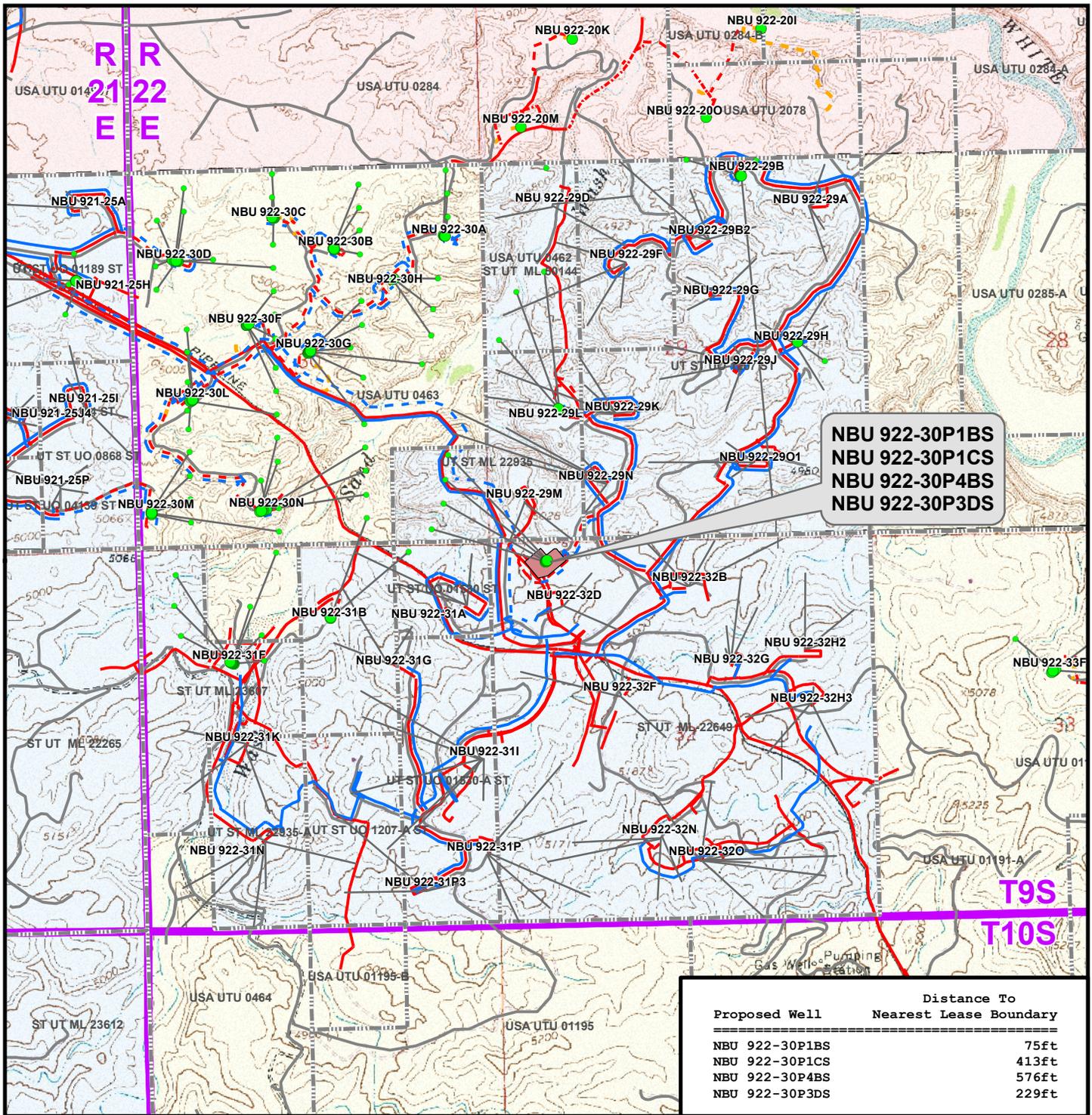
**TOPO D2 (PAD & PIPELINE DETAIL)**  
 NBU 922-30P1BS, NBU 922-30P1CS,  
 NBU 922-30P4BS & NBU 922-30P3DS  
 LOCATED IN SECTION 32, T9S, R22E,  
 S.L.B.&M., UTAH COUNTY, UTAH

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Scale: 1" = 500ft	NAD83 USP Central	Sheet No:
Drawn: KGS	Date: 14 Jan 2011	<b>14</b>
Revised: TL	Date: 21 Mar 2011	

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**NBU 922-30P1BS  
NBU 922-30P1CS  
NBU 922-30P4BS  
NBU 922-30P3DS**

Proposed Well	Distance To Nearest Lease Boundary
NBU 922-30P1BS	75ft
NBU 922-30P1CS	413ft
NBU 922-30P4BS	576ft
NBU 922-30P3DS	229ft

**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 - To Be Upgraded
- - - Road - Existing
- Indian Reservation
- Bottom Hole - Existing
- - - Gas Pipeline - Existing
- - - Liquid Pipeline - Existing
- - - State
- Private
- Well Path

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

**WELL PAD - NBU 922-32D1**

**TOPO E**  
**NBU 922-30P1BS, NBU 922-30P1CS,**  
**NBU 922-30P4BS & NBU 922-30P3DS**  
**LOCATED IN SECTION 32, T9S, R22E,**  
**S.L.B.&M., UINTAH COUNTY, UTAH**

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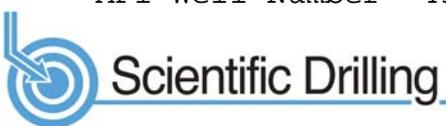
Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: KGS	Date: 14 Jan 2011	<b>15</b>
Revised: TL	Date: 21 Mar 2011	

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**Kerr-McGee Oil & Gas Onshore, LP**  
**WELL PAD – NBU 922-32D1**  
**WELLS – NBU 922-30P1BS, NBU 922-30P1CS,**  
**NBU 922-30P4BS & NBU 922-30P3DS**  
**Section 32, T9S, R22E, S.L.B.&M.**

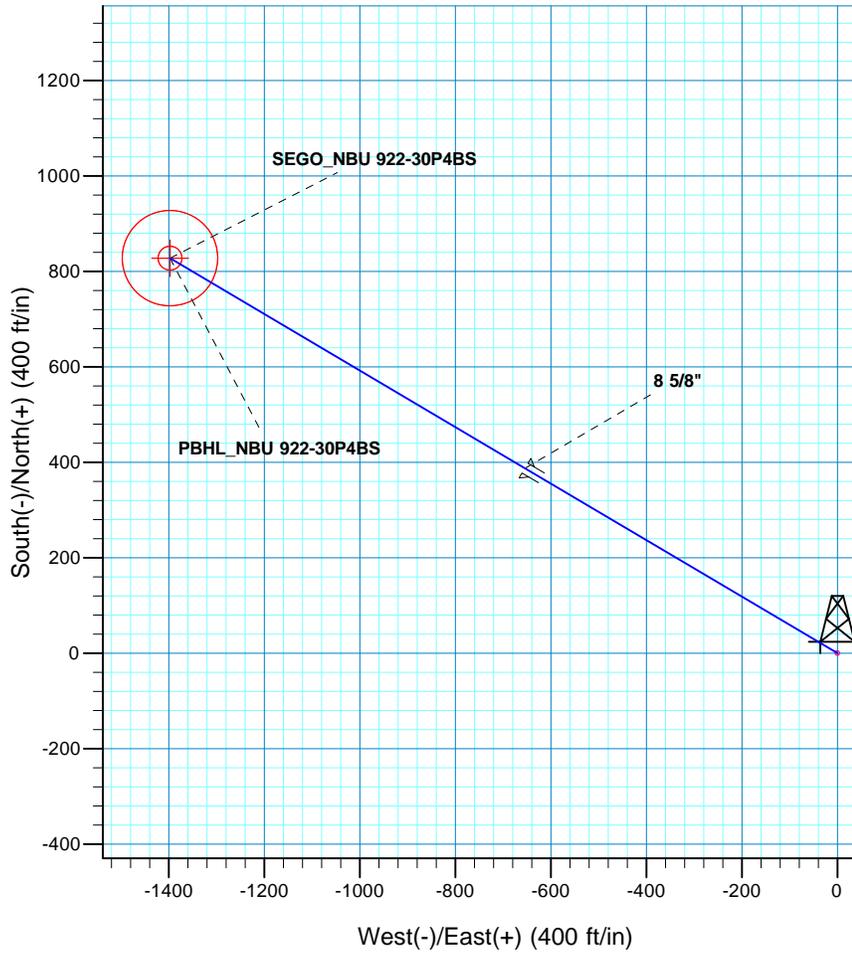
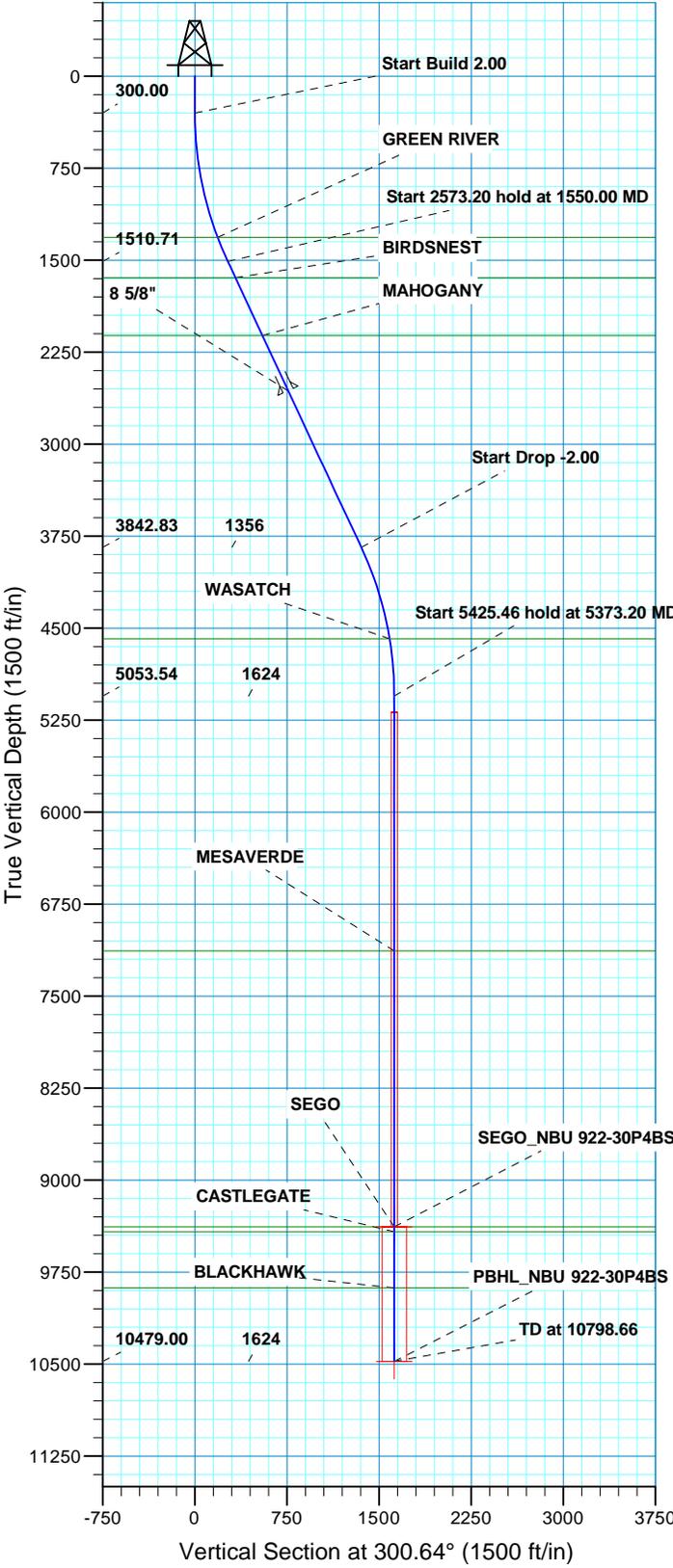
From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45; exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles 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 18.7 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road to the southeast. Exit right and proceed in a southeasterly direction along the second Class D County Road approximately 2.6 miles to a third Class D County Road to the east. Exit left and proceed in an easterly then northerly direction along the third Class D County Road approximately 2.4 miles to a fourth Class D County Road to the northwest. Exit left and proceed in a northwesterly then northeasterly direction along the fourth Class D Country Road approximately 0.3 miles to a service road to the southwest. Exit left and proceed in a southwesterly direction along service road approximately 0.1 miles to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 47.7 miles in a southerly direction.



Azimuths to True North  
 Magnetic North: 10.95°  
  
 Magnetic Field  
 Strength: 52241.6snT  
 Dip Angle: 65.85°  
 Date: 05/15/2012  
 Model: IGRF2010

WELL DETAILS: NBU 922-30P4BS									
GL 4965 & KB 4 @ 4969.00ft (ASSUMED)									
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude				
0.00	0.00	14529401.26	20668987.86	39.999115	-109.469759				
DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
SEGO	9381.00	827.89	-1397.48	14530205.03	2067576.38	40.001388	-109.474748	Circle (Radius: 25.00)	
- plan hits target center									
PBHL	10479.00	827.89	-1397.48	14530205.03	2067576.38	40.001388	-109.474748	Circle (Radius: 100.00)	
- plan hits target center									



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1550.00	25.00	300.64	1510.71	136.81	-230.93	2.00	300.64	268.41	
4123.20	25.00	300.64	3842.83	691.09	-1166.55	0.00	0.00	1355.89	
5373.20	0.00	0.00	5053.54	827.89	-1397.48	2.00	180.00	1624.30	
10798.66	0.00	0.00	10479.00	827.89	-1397.48	0.00	0.00	1624.30	PBHL_NBU 922-30P4BS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N				FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)	TVDPath	MDPath	Formation			
Datum: NAD 1927 (NADCON CONUS)	1315.00	1337.53	GREEN RIVER			
Ellipsoid: Clarke 1866	1643.00	1695.96	BIRDSNEST			
Zone: Zone 12N (114 W to 108 W)	2116.00	2217.86	MAHOGANY			
Location: SECTION 32 T10S R22E	4588.00	4905.59	WASATCH			
System Datum: Mean Sea Level	7132.00	7451.66	MESAVERDE			
	9381.00	9700.66	SEGO			
	9422.00	9741.66	CASTLEGATE			
	9879.00	10198.66	BLACKHAWK			

CASING DETAILS			
TVD	MD	Name	Size
2566.00	2714.38	8 5/8"	8.625

RECEIVED



# Scientific Drilling

## **US ROCKIES REGION PLANNING**

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

**NBU 921-32D1 PAD**

**NBU 922-30P4BS**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**15 May, 2012**





<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 922-30P4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4965 & KB 4 @ 4969.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4965 & KB 4 @ 4969.00ft (ASSUMED)
<b>Site:</b>	NBU 921-32D1 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-30P4BS	<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 921-32D1 PAD, SECTION 32 T10S R22E				
<b>Site Position:</b>	<b>Northing:</b>	14,529,394.93 usft	<b>Latitude:</b>	39.999098	
<b>From:</b> Lat/Long	<b>Easting:</b>	2,068,980.12 usft	<b>Longitude:</b>	-109.469787	
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.98 °

<b>Well</b>	NBU 922-30P4BS, 255 FNL 797 FWL					
<b>Well Position</b>	<b>+N/-S</b>	6.19 ft	<b>Northing:</b>	14,529,401.26 usft	<b>Latitude:</b>	39.999115
	<b>+E/-W</b>	7.84 ft	<b>Easting:</b>	2,068,987.86 usft	<b>Longitude:</b>	-109.469759
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,965.00 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	05/15/12	10.94	65.85	52,242

<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	300.64

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,550.00	25.00	300.64	1,510.71	136.81	-230.93	2.00	2.00	0.00	300.64	
4,123.20	25.00	300.64	3,842.83	691.09	-1,166.55	0.00	0.00	0.00	0.00	
5,373.20	0.00	0.00	5,053.54	827.89	-1,397.48	2.00	-2.00	0.00	180.00	
10,798.66	0.00	0.00	10,479.00	827.89	-1,397.48	0.00	0.00	0.00	0.00	PBHL_NBU 922-30P4



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 922-30P4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4965 & KB 4 @ 4969.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4965 & KB 4 @ 4969.00ft (ASSUMED)
<b>Site:</b>	NBU 921-32D1 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-30P4BS	<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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>										
400.00	2.00	300.64	399.98	0.89	-1.50	1.75	2.00	2.00	2.00	0.00
500.00	4.00	300.64	499.84	3.56	-6.00	6.98	2.00	2.00	2.00	0.00
600.00	6.00	300.64	599.45	8.00	-13.50	15.69	2.00	2.00	2.00	0.00
700.00	8.00	300.64	698.70	14.21	-23.99	27.88	2.00	2.00	2.00	0.00
800.00	10.00	300.64	797.47	22.18	-37.44	43.52	2.00	2.00	2.00	0.00
900.00	12.00	300.64	895.62	31.91	-53.86	62.60	2.00	2.00	2.00	0.00
1,000.00	14.00	300.64	993.06	43.37	-73.21	85.10	2.00	2.00	2.00	0.00
1,100.00	16.00	300.64	1,089.64	56.56	-95.48	110.98	2.00	2.00	2.00	0.00
1,200.00	18.00	300.64	1,185.27	71.47	-120.63	140.21	2.00	2.00	2.00	0.00
1,300.00	20.00	300.64	1,279.82	88.06	-148.64	172.77	2.00	2.00	2.00	0.00
1,337.53	20.75	300.64	1,315.00	94.72	-159.89	185.84	2.00	2.00	2.00	0.00
<b>GREEN RIVER</b>										
1,400.00	22.00	300.64	1,373.17	106.32	-179.47	208.60	2.00	2.00	2.00	0.00
1,500.00	24.00	300.64	1,465.21	126.24	-213.09	247.67	2.00	2.00	2.00	0.00
1,550.00	25.00	300.64	1,510.71	136.81	-230.93	268.41	2.00	2.00	2.00	0.00
<b>Start 2573.20 hold at 1550.00 MD</b>										
1,600.00	25.00	300.64	1,556.03	147.58	-249.11	289.54	0.00	0.00	0.00	0.00
1,695.96	25.00	300.64	1,643.00	168.25	-284.00	330.10	0.00	0.00	0.00	0.00
<b>BIRDSNEST</b>										
1,700.00	25.00	300.64	1,646.66	169.12	-285.47	331.80	0.00	0.00	0.00	0.00
1,800.00	25.00	300.64	1,737.29	190.66	-321.83	374.06	0.00	0.00	0.00	0.00
1,900.00	25.00	300.64	1,827.92	212.20	-358.19	416.32	0.00	0.00	0.00	0.00
2,000.00	25.00	300.64	1,918.55	233.74	-394.55	458.59	0.00	0.00	0.00	0.00
2,100.00	25.00	300.64	2,009.18	255.28	-430.91	500.85	0.00	0.00	0.00	0.00
2,200.00	25.00	300.64	2,099.81	276.82	-467.27	543.11	0.00	0.00	0.00	0.00
2,217.86	25.00	300.64	2,116.00	280.67	-473.76	550.66	0.00	0.00	0.00	0.00
<b>MAHOGANY</b>										
2,300.00	25.00	300.64	2,190.44	298.36	-503.63	585.37	0.00	0.00	0.00	0.00
2,400.00	25.00	300.64	2,281.07	319.90	-539.99	627.63	0.00	0.00	0.00	0.00
2,500.00	25.00	300.64	2,371.70	341.44	-576.35	669.90	0.00	0.00	0.00	0.00
2,600.00	25.00	300.64	2,462.34	362.98	-612.71	712.16	0.00	0.00	0.00	0.00
2,700.00	25.00	300.64	2,552.97	384.52	-649.07	754.42	0.00	0.00	0.00	0.00
2,714.38	25.00	300.64	2,566.00	387.62	-654.30	760.50	0.00	0.00	0.00	0.00
<b>8 5/8"</b>										
2,800.00	25.00	300.64	2,643.60	406.06	-685.43	796.68	0.00	0.00	0.00	0.00
2,900.00	25.00	300.64	2,734.23	427.60	-721.79	838.94	0.00	0.00	0.00	0.00
3,000.00	25.00	300.64	2,824.86	449.14	-758.15	881.20	0.00	0.00	0.00	0.00
3,100.00	25.00	300.64	2,915.49	470.68	-794.51	923.47	0.00	0.00	0.00	0.00
3,200.00	25.00	300.64	3,006.12	492.22	-830.87	965.73	0.00	0.00	0.00	0.00
3,300.00	25.00	300.64	3,096.75	513.76	-867.23	1,007.99	0.00	0.00	0.00	0.00
3,400.00	25.00	300.64	3,187.38	535.30	-903.59	1,050.25	0.00	0.00	0.00	0.00
3,500.00	25.00	300.64	3,278.01	556.85	-939.95	1,092.51	0.00	0.00	0.00	0.00
3,600.00	25.00	300.64	3,368.64	578.39	-976.31	1,134.78	0.00	0.00	0.00	0.00
3,700.00	25.00	300.64	3,459.27	599.93	-1,012.67	1,177.04	0.00	0.00	0.00	0.00
3,800.00	25.00	300.64	3,549.90	621.47	-1,049.03	1,219.30	0.00	0.00	0.00	0.00
3,900.00	25.00	300.64	3,640.54	643.01	-1,085.39	1,261.56	0.00	0.00	0.00	0.00
4,000.00	25.00	300.64	3,731.17	664.55	-1,121.75	1,303.82	0.00	0.00	0.00	0.00
4,100.00	25.00	300.64	3,821.80	686.09	-1,158.11	1,346.09	0.00	0.00	0.00	0.00



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 922-30P4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4965 & KB 4 @ 4969.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4965 & KB 4 @ 4969.00ft (ASSUMED)
<b>Site:</b>	NBU 921-32D1 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-30P4BS	<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)	
4,123.20	25.00	300.64	3,842.83	691.09	-1,166.55	1,355.89	0.00	0.00	0.00	
<b>Start Drop -2.00</b>										
4,200.00	23.46	300.64	3,912.85	707.15	-1,193.67	1,387.41	2.00	-2.00	0.00	
4,300.00	21.46	300.64	4,005.26	726.63	-1,226.54	1,425.62	2.00	-2.00	0.00	
4,400.00	19.46	300.64	4,098.95	744.44	-1,256.62	1,460.58	2.00	-2.00	0.00	
4,500.00	17.46	300.64	4,193.79	760.59	-1,283.87	1,492.25	2.00	-2.00	0.00	
4,600.00	15.46	300.64	4,289.69	775.03	-1,308.25	1,520.59	2.00	-2.00	0.00	
4,700.00	13.46	300.64	4,386.51	787.76	-1,329.74	1,545.56	2.00	-2.00	0.00	
4,800.00	11.46	300.64	4,484.15	798.76	-1,348.30	1,567.15	2.00	-2.00	0.00	
4,900.00	9.46	300.64	4,582.48	808.02	-1,363.93	1,585.31	2.00	-2.00	0.00	
4,905.59	9.35	300.64	4,588.00	808.48	-1,364.72	1,586.22	2.00	-2.00	0.00	
<b>WASATCH</b>										
5,000.00	7.46	300.64	4,681.39	815.52	-1,376.59	1,600.02	2.00	-2.00	0.00	
5,100.00	5.46	300.64	4,780.75	821.26	-1,386.28	1,611.28	2.00	-2.00	0.00	
5,200.00	3.46	300.64	4,880.44	825.22	-1,392.97	1,619.06	2.00	-2.00	0.00	
5,300.00	1.46	300.64	4,980.34	827.41	-1,396.67	1,623.36	2.00	-2.00	0.00	
5,373.20	0.00	0.00	5,053.54	827.89	-1,397.48	1,624.30	2.00	-2.00	0.00	
<b>Start 5425.46 hold at 5373.20 MD</b>										
5,400.00	0.00	0.00	5,080.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,180.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,280.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,380.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,480.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,580.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,680.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,780.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,880.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
6,300.00	0.00	0.00	5,980.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,080.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,180.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,280.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,380.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,480.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,580.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,680.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,780.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,880.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
7,300.00	0.00	0.00	6,980.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,080.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
7,451.66	0.00	0.00	7,132.00	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
<b>MESAVERDE</b>										
7,500.00	0.00	0.00	7,180.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,280.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,380.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,480.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,580.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,680.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,780.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
8,200.00	0.00	0.00	7,880.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
8,300.00	0.00	0.00	7,980.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,080.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,180.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,280.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00	



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 922-30P4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4965 & KB 4 @ 4969.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4965 & KB 4 @ 4969.00ft (ASSUMED)
<b>Site:</b>	NBU 921-32D1 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-30P4BS	<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	8,380.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
8,800.00	0.00	0.00	8,480.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
8,900.00	0.00	0.00	8,580.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
9,000.00	0.00	0.00	8,680.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
9,100.00	0.00	0.00	8,780.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
9,200.00	0.00	0.00	8,880.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
9,300.00	0.00	0.00	8,980.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
9,400.00	0.00	0.00	9,080.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
9,500.00	0.00	0.00	9,180.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
9,600.00	0.00	0.00	9,280.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
9,700.00	0.00	0.00	9,380.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
9,700.66	0.00	0.00	9,381.00	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
<b>SEGO - SEGO_NBU 922-30P4BS</b>									
9,741.66	0.00	0.00	9,422.00	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
<b>CASTLEGATE</b>									
9,800.00	0.00	0.00	9,480.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
9,900.00	0.00	0.00	9,580.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
10,000.00	0.00	0.00	9,680.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
10,100.00	0.00	0.00	9,780.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
10,198.66	0.00	0.00	9,879.00	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
<b>BLACKHAWK</b>									
10,200.00	0.00	0.00	9,880.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
10,300.00	0.00	0.00	9,980.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
10,400.00	0.00	0.00	10,080.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
10,500.00	0.00	0.00	10,180.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
10,600.00	0.00	0.00	10,280.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
10,700.00	0.00	0.00	10,380.34	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
10,798.66	0.00	0.00	10,479.00	827.89	-1,397.48	1,624.30	0.00	0.00	0.00
<b>TD at 10798.66 - PBHL_NBU 922-30P4BS</b>									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SEGO_NBU 922-30P4B - hit/miss target - Shape	0.00	0.00	9,381.00	827.89	-1,397.48	14,530,205.03	2,067,576.37	40.001388	-109.474748
- plan hits target center - Circle (radius 25.00)									
PBHL_NBU 922-30P4B - hit/miss target - Shape	0.00	0.00	10,479.00	827.89	-1,397.48	14,530,205.03	2,067,576.37	40.001388	-109.474748
- plan hits target center - Circle (radius 100.00)									

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,714.38	2,566.00	8 5/8"	8.625	11.000		



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 922-30P4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4965 & KB 4 @ 4969.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4965 & KB 4 @ 4969.00ft (ASSUMED)
<b>Site:</b>	NBU 921-32D1 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-30P4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

## Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,337.53	1,315.00	GREEN RIVER			
1,695.96	1,643.00	BIRDSNEST			
2,217.86	2,116.00	MAHOGANY			
4,905.59	4,588.00	WASATCH			
7,451.66	7,132.00	MESAVERDE			
9,700.66	9,381.00	SEGO			
9,741.66	9,422.00	CASTLEGATE			
10,198.66	9,879.00	BLACKHAWK			

## Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,550.00	1,510.71	136.81	-230.93	Start 2573.20 hold at 1550.00 MD
4,123.20	3,842.83	691.09	-1,166.55	Start Drop -2.00
5,373.20	5,053.54	827.89	-1,397.48	Start 5425.46 hold at 5373.20 MD
10,798.66	10,479.00	827.89	-1,397.48	TD at 10798.66

**NBU 922-32D1 PAD**

<b>NBU 922-30P1BS</b>			
Surface:	243 FNL / 813 FWL	NWNW	Lot
BHL:	1246 FSL / 525 FEL	SESE	Lot
<b>NBU 922-30P1CS</b>			
Surface:	249 FNL / 805 FWL	NWNW	Lot
BHL:	908 FSL / 574 FEL	SESE	Lot
<b>NBU 922-30P3DS</b>			
Surface:	261 FNL / 789 FWL	NWNW	Lot
BHL:	229 FSL / 778 FEL	SESE	Lot
<b>NBU 922-30P4BS</b>			
Surface:	255 FNL / 797 FWL	NWNW	Lot
BHL:	576 FSL / 601 FEL	SESE	Lot

Section 30 T9S R22E  
Mineral Lease: ST ML 22935

Uintah County, Utah  
Operator: Kerr-McGee Oil & Gas Onshore LP

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including but not limited to, APDs/SULAs/ROEs/ROWs and/or easements.)

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

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.

**A. Existing Roads:**

Existing roads consist of county and improved/unimproved lease roads. KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

**B. Planned Access Roads:**

No new access road is proposed. (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

If there are roads that are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

During the onsite, turnouts, major cut and fills, culverts, bridges, gates, cattle guards, low water crossings, or modifications needed to existing infrastructure/facilities were determined, as applicable, are typically shown on attached Exhibits and Topo maps.

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

This pad will expand the existing pad for the NBU 922-32D. The NBU 922-32D well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of May 4, 2012.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of the well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) above ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

**Gathering Facilities:**

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 1,590'$  and the individual segments are broken up as follows:

- $\pm 760'$  (0.14 miles) – New 6" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- $\pm 830'$  (0.16 miles) – New 6" buried gas pipeline from the edge of pad to the existing 10" pipeline. Please refer to Topo D2 - Pad and Pipeline Detail.
- $\pm 520'$  (0.10 miles) – 4" buried gas gathering pipeline re-route around southwesterly edge of pad expansion. Please refer to Topo D2 - Pad and Pipeline Detail.
- $\pm 520'$  (0.10 miles) – 6" buried gas gathering pipeline re-route around southwesterly edge of pad expansion. Please refer to Topo D2 - Pad and Pipeline Detail.

**The liquid pipeline associated with the NBU 922-32D1 pad was permitted via sundry.**

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.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. 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. KMG requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, KMG requests a temporary 45' construction right-of-way 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity and ownership, as well as to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

**D. Location and Type of Water Supply:**

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

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.

**E. Source of Construction Materials:**

Construction operations will typically be completed with native materials found on location. If needed, 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 and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

**F. Methods for Handling Waste Materials:**

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E  
 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  
 Ouray #1 SWD in Sec. 1 T9S R21E  
 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. 33 T9S R21E  
 NBU 921-34L SWD in Sec. 34 T9S R21E

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

Unless otherwise approved, no oil or other oil based drill additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water, biodegradable polymer soap, bentonite clay, and /or non-toxic additives will be used in the system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions, or well testing, product 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 release into the pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternative is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as the hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods. (e.g. solidification)

Any additional pits necessary for subsequent operations, such as temporary flare pits, 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 the work.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered 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.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months 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. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

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 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.

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.

Any undesirable event, including accidental release of fluids, or release in excess of reportable quantities, will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule. Where State wells are participatory to a Federal agreement, according to NTL-3A, the appropriate Federal agencies will be notified.

### **Materials Management**

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

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 and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

**G. Ancillary Facilities:**

None are anticipated.

**H. Well Site Layout (see Well Pad Design Summary):**

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; 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 and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1927 (NAD27) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

**I. Plans for Reclamation of the Surface:**

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. This 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 includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

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.

**Final Reclamation**

Final reclamation will be performed for newly drilled unproductive wells and/or at 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 KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. 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, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

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.

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

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

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope 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 and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. 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 site specific seed mix will be provided by SITLA.

**J. Surface/Mineral Ownership:**

SITLA

675 East 500 South, Suite 500

Salt Lake City, UT 84102

**L. Other Information:**

None

**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 for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, 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.



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Laura Abrams

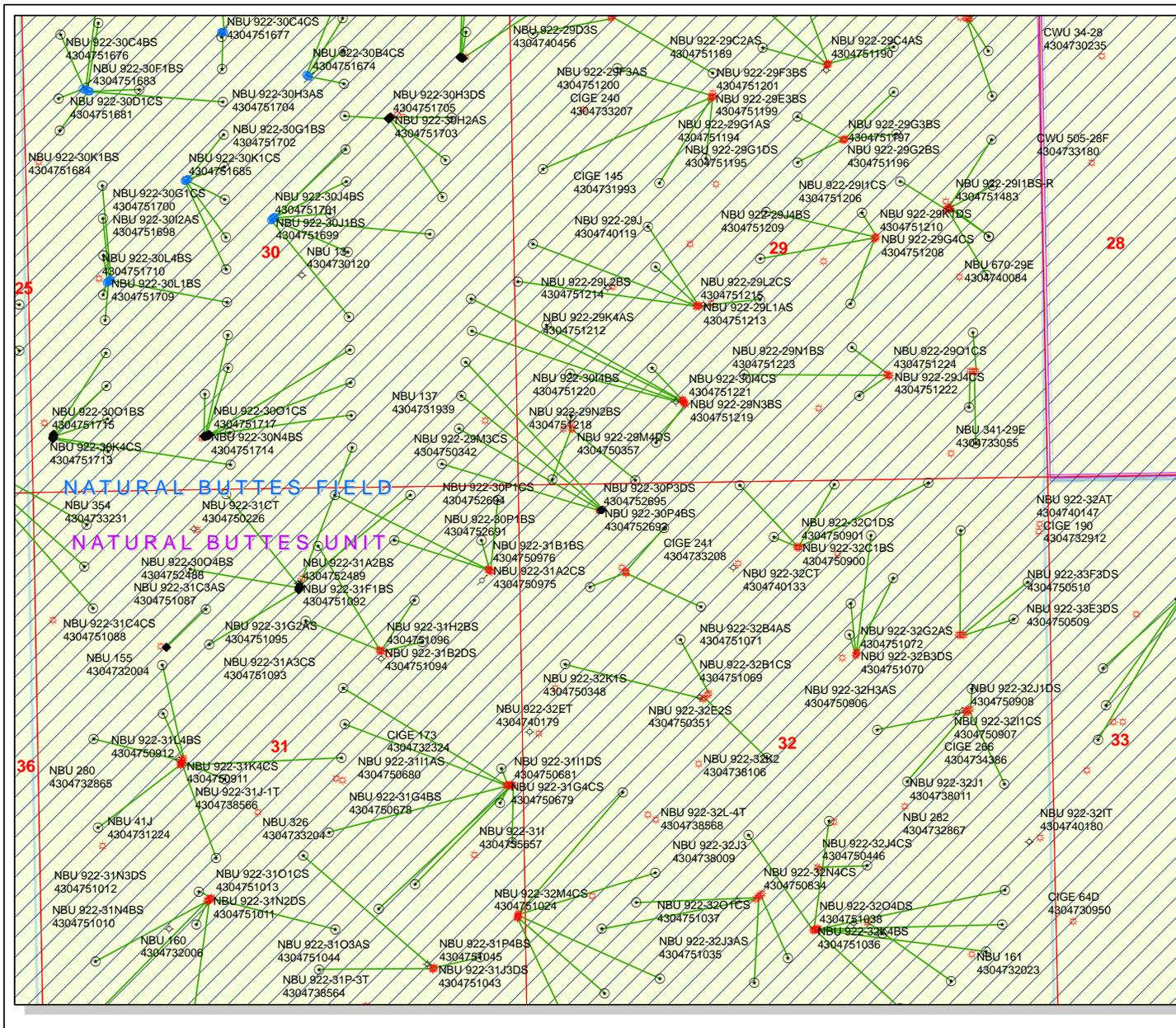
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May 15, 2012

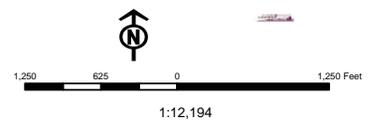
Date

**API Number: 4304752693**  
**Well Name: NBU 922-30P4BS**  
**Township T0.9 . Range R2.2 . Section 32**  
**Meridian: SLBM**  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason



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



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

May 30, 2012

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2012 Plan of Development Natural Buttes Unit  
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2012 within the Natural Buttes Unit, Uintah County, Utah.

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

RECEIVED: May 30, 2012

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

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

API #	WELL NAME	LOCATION
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(Proposed PZ WASATCH-MESA VERDE)

**WELL PAD - NBU 921-23P**

43-047-52744	NBU 921-23P4BS	Sec 23 T09S R21E 0383 FSL 1166 FEL
	BHL	Sec 23 T09S R21E 0578 FSL 0494 FEL

43-047-52746	NBU 921-23O4BS	Sec 23 T09S R21E 0375 FSL 1205 FEL
	BHL	Sec 23 T09S R21E 0414 FSL 1818 FEL

43-047-52747	NBU 921-23I4CS	Sec 23 T09S R21E 0377 FSL 1195 FEL
	BHL	Sec 23 T09S R21E 1567 FSL 0494 FEL

43-047-52748	NBU 921-23O4CS	Sec 23 T09S R21E 0373 FSL 1215 FEL
	BHL	Sec 23 T09S R21E 0084 FSL 1818 FEL

43-047-52749	NBU 921-23P1CS	Sec 23 T09S R21E 0381 FSL 1175 FEL
	BHL	Sec 23 T09S R21E 0907 FSL 0494 FEL

43-047-52751	NBU 921-23P4CS	Sec 23 T09S R21E 0379 FSL 1185 FEL
	BHL	Sec 23 T09S R21E 0005 FSL 0494 FEL

**WELL PAD - NBU 921-23M**

43-047-52745	NBU 921-23N4CS	Sec 23 T09S R21E 0791 FSL 1329 FWL
	BHL	Sec 23 T09S R21E 0105 FSL 2149 FWL

43-047-52750	NBU 921-23N1CS	Sec 23 T09S R21E 0790 FSL 1339 FWL
	BHL	Sec 23 T09S R21E 0910 FSL 2148 FWL

43-047-52752	NBU 921-23K4CS	Sec 23 T09S R21E 0794 FSL 1310 FWL
	BHL	Sec 23 T09S R21E 1571 FSL 2148 FWL

43-047-52753	NBU 921-23M4BS	Sec 23 T09S R21E 0795 FSL 1300 FWL
	BHL	Sec 23 T09S R21E 0415 FSL 0824 FWL

43-047-52755	NBU 921-23N1BS	Sec 23 T09S R21E 0792 FSL 1319 FWL
	BHL	Sec 23 T09S R21E 1240 FSL 2148 FWL

43-047-52756	NBU 921-23M1BS	Sec 23 T09S R21E 0796 FSL 1290 FWL
	BHL	Sec 23 T09S R21E 1077 FSL 0824 FWL

43-047-52759	NBU 921-23N4BS	Sec 23 T09S R21E 0788 FSL 1349 FWL
	BHL	Sec 23 T09S R21E 0495 FSL 2158 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: 2012.05.30 10:20:35 -0600

RECEIVED: May 30, 2012

API Well Number: 43047526930000

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

MCoulthard:mc:5-30-12

RECEIVED: May 30, 2012

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

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

**From:** Jeff Conley  
**To:** Hill, Brad; Mason, Diana  
**CC:** Bonner, Ed; Davis, Jim; Garrison, LaVonne; laura.abrams@anadarko.com  
**Date:** 9/25/2012 10:52 AM  
**Subject:** Anadarko APD Approvals

Hi,

The following wells have been cleared by SITLA for arch. Paleo is cleared under the condition that a permitted paleontologist monitor all ground disturbing activities at the beginning of construction/development and spot-monitor thereafter as paleontological conditions merit.

(4304752693) NBU 922-30P4BS  
(4304752694) NBU 922-30P1CS  
(4304752695) NBU 922-30P3DS  
(4304752691) NBU 922-30P1BS

Thanks,

Jeff Conley  
SITLA Resource Specialist  
(801)-538-5157  
jconley@utah.gov

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 922-30P4BS 43047526			
String	SURF	PROD		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2570	10479		
Previous Shoe Setting Depth (TVD)	0	2570		
Max Mud Weight (ppg)	8.3	12.5		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	10690		
Operators Max Anticipated Pressure (psi)	6707	12.3		

Calculations	SURF String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	1109	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	801	NO <input type="checkbox"/> air/mist system, air bowl
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	544	NO <input type="checkbox"/> Reasonable depth in area
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	544	NO <input type="checkbox"/>
Required Casing/BOPE Test Pressure=		2373	psi
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient

Calculations	PROD String	4.500	"
Max BHP (psi)	.052*Setting Depth*MW=	6811	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	5554	NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	4506	YES <input type="checkbox"/> OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	5071	NO <input type="checkbox"/> Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2570	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="checkbox"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO <input type="checkbox"/>
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="checkbox"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO <input type="checkbox"/>
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

# 43047526930000 NBU 922-30P4BS

## Casing Schematic

Surface

25° max incl. KOP 300'

8-5/8"  
MW 8.3  
Frac 19.3

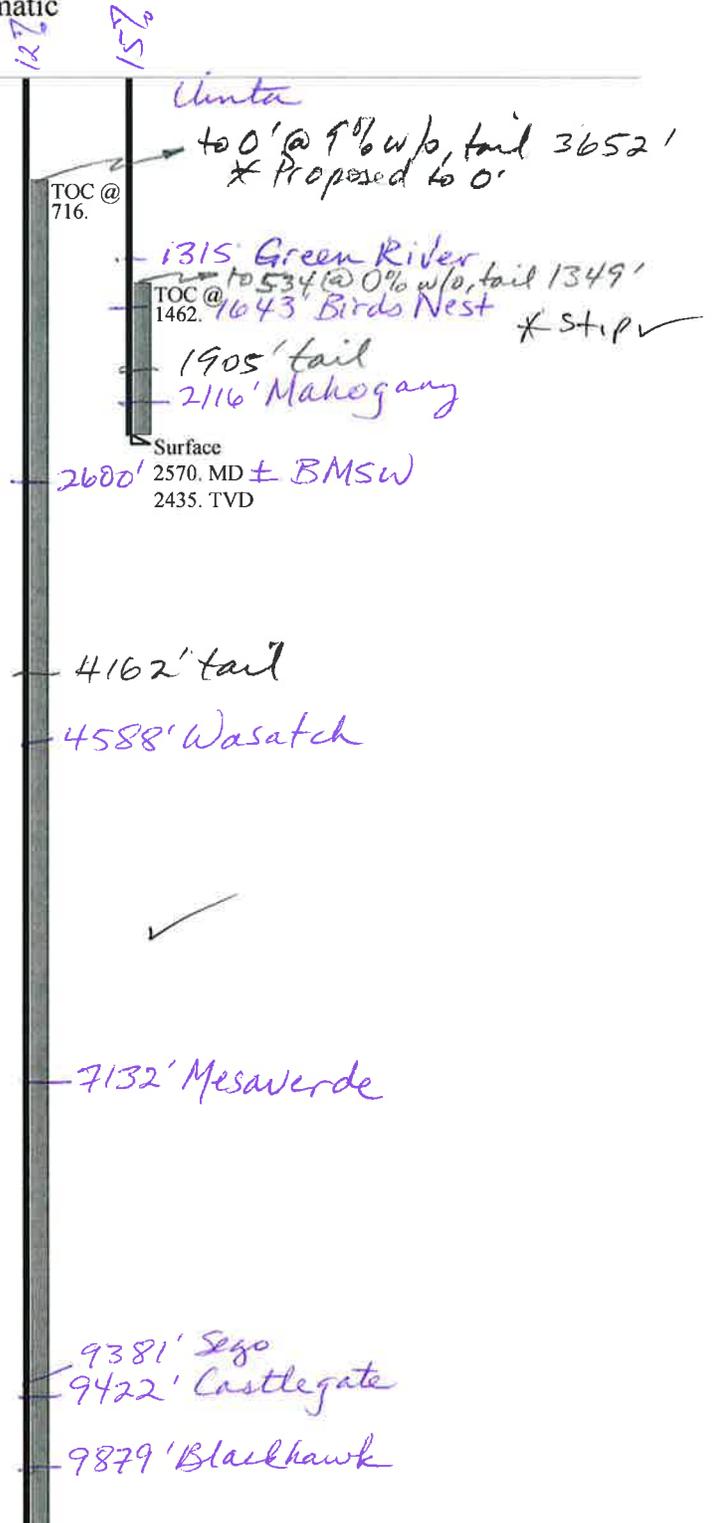
✓ Strip cmts.

rtn to vert. 5425'

4-1/2"  
MW 12.5

Production  
10799. MD  
10479. TVD

255NL	797WL
828	-1397
573FSL ✓	600FEL ✓
SESE Sec 30-9S-22E <sup>04.</sup>	



Well name:	<b>43047526930000 NBU 922-30P4BS</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Surface	Project ID: 43-047-52693
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 8.300 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 108 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: 1,462 ft

**Burst**

Max anticipated surface pressure: 2,143 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,435 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.70 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on air weight.  
Neutral point: 2,241 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
Departure at shoe: 699 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 25 °

**Re subsequent strings:**

Next setting depth: 10,479 ft  
Next mud weight: 12.500 ppg  
Next setting BHP: 6,805 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,435 ft  
Injection pressure: 2,435 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2570	8.625	28.00	I-55	LT&C	2435	2570	7.892	101772
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1050	1880	1.791	2435	3390	1.39	68.2	348	5.10 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: November 5, 2012  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2435 ft, a mud weight of 8.3 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:	<b>43047526930000 NBU 922-30P4BS</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Production	Project ID: 43-047-52693
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 12.500 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 221 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

Cement top: 716 ft

**Burst**

Max anticipated surface pressure: 4,499 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 6,805 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

Tension is based on air weight.  
Neutral point: 8,841 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
Departure at shoe: 1624 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 0 °

Estimated cost: 159,940 (\$)

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
2	5000	4.5	11.60	HCP-110	DQX	4681	5000	3.875	132000
1	5799	4.5	11.60	HCP-110	LT&C	10479	10799	3.875	27940

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
2	3040	8033	2.643	5529	10690	1.93	121.6	367.2	3.02 B
1	6805	8650	1.271	6805	10690	1.57	67.3	279	4.15 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: November 5, 2012  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 10479 ft, a mud weight of 12.5 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

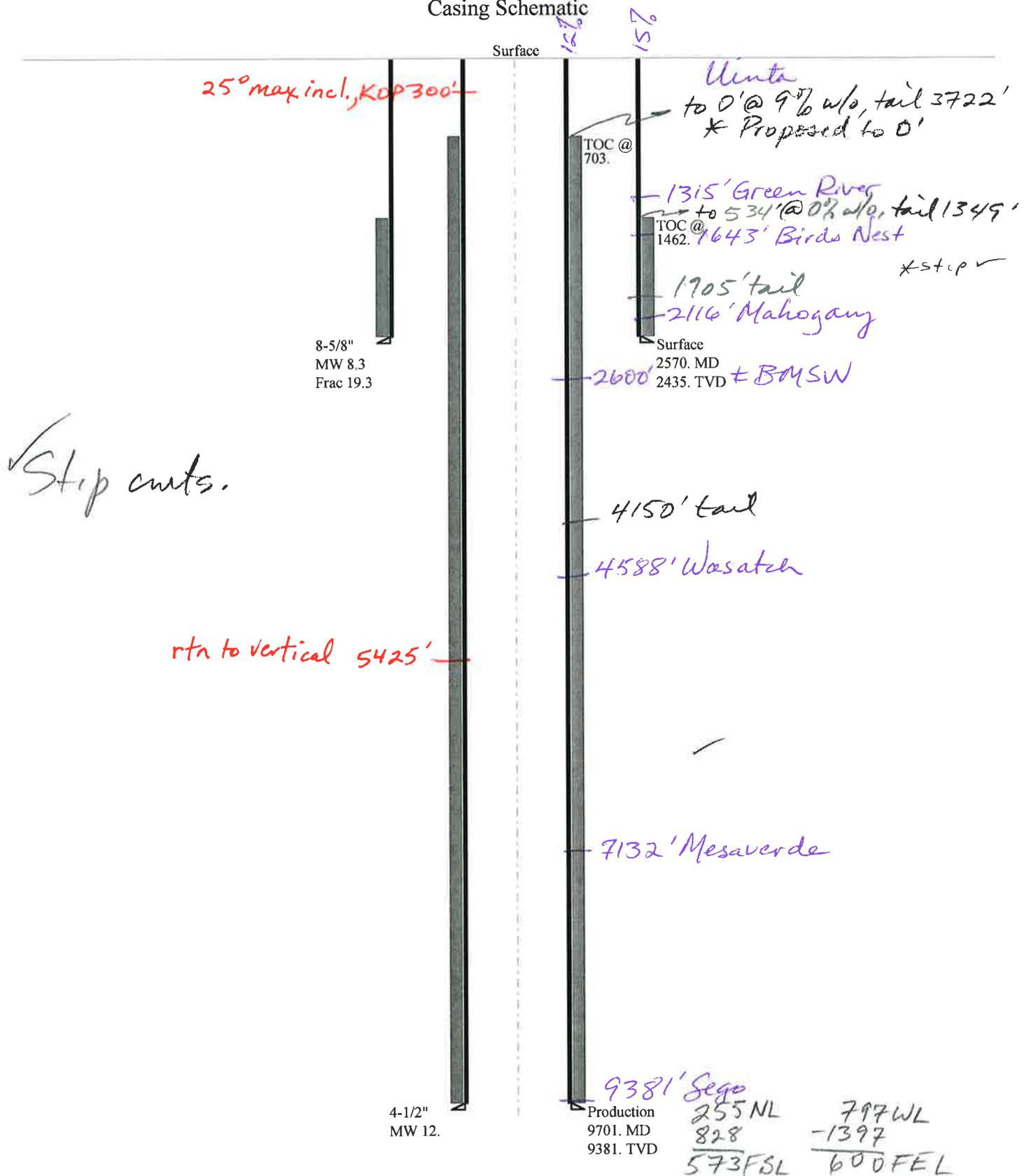
Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*Engineering responsibility for use of this design will be that of the purchaser.*

# 43047526930000alt NBU 922-30P4BS

## Casing Schematic



25° max incl., KOP 300'

Uinta  
to 0' @ 9% w/o, tail 3722'  
\* Proposed to 0'

1315' Green River  
to 534' @ 0% w/o, tail 1349'  
TOC @ 1462' Birds Nest

1905' tail  
2116' Mahogany

2600'  
Surface  
2570. MD  
2435. TVD ± BMSW

4150' tail

4588' Wasatch

rtn to vertical 5425'

7132' Mesaverde

9381' Segro

Production  
9701. MD  
9381. TVD

255 NL      797 WL  
828      -1397  
573 FSL    600 FEL

SESE Sec 24-9S-22E

Step cuts.

Well name:	<b>43047526930000alt NBU 922-30P4BS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Production	Project ID:	43-047-52693
Location:	UINTAH COUNTY		

**Design parameters:**

**Collapse**

Mud weight: 12.000 ppg  
 Internal fluid density: 1.000 ppg

**Burst**

Max anticipated surface pressure: 3,784 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP: 5,848 psi

No backup mud specified.

**Minimum design factors:**

**Collapse:**

Design factor: 1.125

**Burst:**

Design factor: 1.00

**Tension:**

8 Round STC: 1.80 (J)  
 8 Round LTC: 1.80 (J)  
 Buttress: 1.60 (J)  
 Premium: 1.50 (J)  
 Body yield: 1.60 (B)

Tension is based on air weight.  
 Neutral point: 8,018 ft

Estimated cost: 194,052 (\$)

**Environment:**

H2S considered? No  
 Surface temperature: 74 °F  
 Bottom hole temperature: 205 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 1,000 ft

Cement top: 703 ft

**Directional well information:**

Kick-off point: 300 ft  
 Departure at shoe: 1624 ft  
 Maximum dogleg: 2 °/100ft  
 Inclination at shoe: 0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
2	5000	4.5	11.60	I-80	DQX	4681	5000	3.875	132000
1	4701	4.5	11.60	I-80	LT&C	9381	9701	3.875	62052

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
2	2675	5816	2.174	4814	7780	1.62	108.8	267	2.45 J
1	5361	6360	1.186	5848	7780	1.33	54.5	212	3.89 J

Prepared by: Helen Sadik-Macdonald  
 Div of Oil, Gas & Mining

Phone: 801 538-5357  
 FAX: 801-359-3940

Date: November 5, 2012  
 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 9381 ft, a mud weight of 12 ppg. An internal gradient of .052 psi/ft was used for collapse from TD to TD. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

## ON-SITE PREDRILL EVALUATION

### Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.  
**Well Name** NBU 922-30P4BS  
**API Number** 43047526930000      **APD No** 5967      **Field/Unit** NATURAL BUTTES  
**Location: 1/4,1/4** NWNW      **Sec** 32      **Tw** 9.0S      **Rng** 22.0E      255 FNL 797 FWL  
**GPS Coord (UTM)** 630569 4428775      **Surface Owner**

#### Participants

Jaime Scharnowske, Gina Becker, Cara Mahler, Doyle Holmes, (Anadarko). Mitch Batty, (Timberline). Jim Davis (SITLA), David Hackford, (DOGM).

#### Regional/Local Setting & Topography

The general area is in the Natural Buttes Unit on the east slope of the Sand Wash drainage of Uintah, County approximately 47.7 miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads. Topography of the general area is characterized by wide drainage bottoms and open flats bordered or dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the area. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. Also, no springs exist in the area. An occasional constructed pond occurs furnishing water for antelope or livestock.

The existing pad of the producing NBU 922-32D gas well will be slightly enlarged to add four wells that will be directionally drilled. They are the NBU 922-30P1BS, NBU 922-30P1CS, NBU 922-30P3DS, and NBU 922-30P4BS. Kerr McGee representatives at the pre-site did not know the future of the existing well. The reserve pit will be on the west side of the location. The White River is approximately 1.5 miles to the Northeast. No stability concerns were noted with the existing pad. The selected site appears to be an acceptable site for constructing a pad, drilling and operating the additional wells.

#### Surface Use Plan

##### **Current Surface Use**

Grazing  
Wildlfe Habitat  
Existing Well Pad

<b>New Road Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0	<b>Width</b> 352 <b>Length</b> 425	Onsite	UNTA

**Ancillary Facilities** N

**Waste Management Plan Adequate?** Y**Environmental Parameters****Affected Floodplains and/or Wetlands** N**Flora / Fauna**

Vegetation includes black sagebrush, bud sage, horsebrush, halogeton, curly mesquite, shadscale, cheatgrass, broom snakeweed, rabbit brush and spring annuals.

Antelope, coyote, small mammals and birds. Endangered fish species exist in the White River. Domestic sheep graze the area in the winter.

**Soil Type and Characteristics**

Rocky sandy clay loam.

**Erosion Issues** N**Sedimentation Issues** N**Site Stability Issues** N**Drainage Diversion Required?** N**Berm Required?** N**Erosion Sedimentation Control Required?** N

**Paleo Survey Run?** Y    **Paleo Potential Observed?** N    **Cultural Survey Run?** Y    **Cultural Resources?** N

**Reserve Pit**

<b>Site-Specific Factors</b>		<b>Site Ranking</b>
<b>Distance to Groundwater (feet)</b>	100 to 200	5
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>		20
<b>Native Soil Type</b>	Mod permeability	10
<b>Fluid Type</b>	Fresh Water	5
<b>Drill Cuttings</b>	Normal Rock	0
<b>Annual Precipitation (inches)</b>		0
<b>Affected Populations</b>		
<b>Presence Nearby Utility Conduits</b>	Not Present	0
	<b>Final Score</b>	40    1 Sensitivity Level

**Characteristics / Requirements**

The reserve pit is planned in an area of cut on the west side of the location. Dimensions are 260' x 120' x 12' deep with two feet of freeboard. Kerr McGee has agreed to line this pit with a 30 mil synthetic liner and a felt sub-liner.

API Well Number: 43047526930000

**Closed Loop Mud Required? N Liner Required? Y Liner Thickness 30 Pit Underlayment Required? Y**

**Other Observations / Comments**

David Hackford  
**Evaluator**

5/23/2012  
**Date / Time**

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**Application for Permit to Drill  
Statement of Basis  
Utah Division of Oil, Gas and Mining**

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<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
5967	43047526930000	LOCKED	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 922-30P4BS		<b>Unit</b>	NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>	DRILL	
<b>Location</b>	NWNW 32 9S 22E S 255 FNL	797 FWL	GPS Coord		
	(UTM) 630576E	4428778N			

**Geologic Statement of Basis**

Kerr McGee proposes to set 2,570' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 2,600'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 32. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement program should adequately protect ground water in this area.

Brad Hill  
APD Evaluator

11/1/2001  
Date / Time

**Surface Statement of Basis**

The general area is in the Natural Buttes Unit of Uintah County, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads. Topography of the general area is characterized by wide drainage bottoms and open flats bordered or dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the area. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. Also, no springs exist in the area. An occasional constructed pond occurs furnishing water for antelope or livestock.

The existing pad of the producing NBU 922-32D gas well will be slightly enlarged to add four wells that will be directionally drilled. They are the NBU 922-30P1BS, NBU 922-30P1CS, NBU 922-30P3DS, and NBU 922-30P4BS. Kerr McGee representatives at the pre-site did not know the future of the existing well. The White River is approximately 1.5 miles to the northeast. No stability concerns were noted with the existing pad. The selected site appears to be an acceptable site for constructing a pad, drilling and operating the additional wells.

New construction will amount to 50" or less on all sides of the existing location. Reserve pit will be constructed in the same area as the reserve pit for the original location.

The surface and minerals for all wells proposed are owned by SITLA. Jim Davis of SITLA and Ben Williams of DWR were invited to the pre-site evaluation. Jim Davis attended and had no concerns regarding the drilling of these wells or the enlargement of the location.

David Hackford  
**Onsite Evaluator**

5/23/2012  
**Date / Time**

**Conditions of Approval / Application for Permit to Drill**

<b>Category</b>	<b>Condition</b>
Pits	A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Pits	The reserve pit should be located on the west side of the location.

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 5/18/2012

API NO. ASSIGNED: 43047526930000

WELL NAME: NBU 922-30P4BS

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

PHONE NUMBER: 720 929-6356

CONTACT: Laura Abrams

PROPOSED LOCATION: NWNW 32 090S 220E

Permit Tech Review: 

SURFACE: 0255 FNL 0797 FWL

Engineering Review: 

BOTTOM: 0576 FSL 0601 FEL

Geology Review: 

COUNTY: UINTAH

LATITUDE: 39.99910

LONGITUDE: -109.47034

UTM SURF EASTINGS: 630576.00

NORTHINGS: 4428778.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: ML 22935

PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 3 - State

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

- PLAT
- Bond: STATE - 22013542
- Potash
- Oil Shale 190-5
- Oil Shale 190-3
- Oil Shale 190-13
- Water Permit: 43-8496
- RDCC Review:
- Fee Surface Agreement
- Intent to Commingle

Commingle Approved

## LOCATION AND SITING:

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

Comments: Presite Completed

Stipulations: 3 - Commingle - ddoucet  
 5 - Statement of Basis - bhill  
 15 - Directional - dmason  
 17 - Oil Shale 190-5(b) - dmason  
 25 - Surface Casing - hmacdonald



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 922-30P4BS  
**API Well Number:** 43047526930000  
**Lease Number:** ML 22935  
**Surface Owner:** STATE  
**Approval Date:** 11/8/2012

### Issued to:

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

### Authority:

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

### Duration:

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

### Commingle:

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

### General:

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

### Conditions of Approval:

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.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

**Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan - contact Dustin Doucet
- Significant plug back of the well - contact Dustin Doucet
- Plug and abandonment of the well - contact Dustin Doucet

**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  
OR  
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website  
at <http://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program  
- contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well - contact Dan Jarvis

**Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office  
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office  
801-231-8956 - after office hours

**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:**

A handwritten signature in black ink, appearing to read "J. Rogers", written in a cursive style.

For John Rogers  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 22935
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
		<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 922-30P4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047526930000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0255 FNL 0797 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 32 Township: 09.0S Range: 22.0E 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 checked="" type="checkbox"/> SPUD REPORT Date of Spud: 4/8/2013	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> ALTER CASING	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> OTHER	
	<input type="checkbox"/> CASING REPAIR	
	<input type="checkbox"/> CHANGE WELL NAME	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> APD EXTENSION	
	OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
Spud well 04/08/2013 @ 11:00. MIRU Triple A Bucket Rig, drill 20" conductor hole to 40', run 14", 36.7# schedule 10 conductor pipe, cement with 28 sacks ready mix. Anticipated surface spud date and surface casing cement 05/17/2013-05/18/2013.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          April 09, 2013</b>		
<b>NAME (PLEASE PRINT)</b> Doreen Green	<b>PHONE NUMBER</b> 435 781-9758	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/9/2013	

<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> ML 22935
<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>  <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 922-30P4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047526930000
<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> 0255 FNL 0797 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 32 Township: 09.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 7/2/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

No activity for the month of June 2013. Well TD at 40 ft.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 July 02, 2013

<b>NAME (PLEASE PRINT)</b> Teena Paulo	<b>PHONE NUMBER</b> 720 929-6236	<b>TITLE</b> Staff Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/2/2013	

<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> ML 22935	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	
<b>8. WELL NAME and NUMBER:</b> NBU 922-30P4BS	
<b>9. API NUMBER:</b> 43047526930000	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 922-30P4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047526930000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>PHONE NUMBER:</b> 720 929-6511	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0255 FNL 0797 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 32 Township: 09.0S Range: 22.0E Meridian: S	

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: 8/5/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

No activity for the month of July 2013. Well TD at 40 ft.

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

**FOR RECORD ONLY**

August 05, 2013

<b>NAME (PLEASE PRINT)</b> Teena Paulo	<b>PHONE NUMBER</b> 720 929-6236	<b>TITLE</b> Staff Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/5/2013	

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# SST 8 Submitted By  
DALTON KING Phone Number 435- 828-0987  
Well Name/Number NBU 922-30P4BS  
Qtr/Qtr NW / NW 4 Section 32 Township 9S Range  
22E  
Lease Serial Number ML 22935  
API Number 4304752693

Casing – Time casing run starts, not cementing times.

- Production Casing  
 Other

Date/Time 9/16/2013 14:00 AM  PM

BOPE

- Initial BOPE test at surface casing point  
 Other

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

Rig Move

Location To: NBU 922-30P1CS

Date/Time 9/17/2013 11:00 AM  PM

Remarks TIME IS ESTIMATED

**RECEIVED**

**SEP 16 2013**

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

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# SST 8 Submitted By

JOSH SHEPPARD Phone Number 435- 828-0987

Well Name/Number NBU 922-30P4BS

Qtr/Qtr NW / NW 4 Section 32 Township 9S Range 22E

Lease Serial Number ML 22935

API Number 4304752693

Casing – Time casing run starts, not cementing times.

Production Casing

Other

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

RECEIVED

SEP 08 2013

DIV. OF OIL, GAS & MINING

BOPE

Initial BOPE test at surface casing point

Other

Date/Time 9/9/2013 2000 AM  PM

Rig Move

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

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

Remarks BOP TEST / TIME IS ESTIMATED

<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> ML 22935	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	
<b>8. WELL NAME and NUMBER:</b> NBU 922-30P4BS	
<b>9. API NUMBER:</b> 43047526930000	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

**SUNDRY NOTICES AND REPORTS ON WELLS**  
 Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

<b>1. TYPE OF WELL</b> Gas Well	<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>PHONE NUMBER:</b> 720 929-6511
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0255 FNL 0797 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 32 Township: 09.0S Range: 22.0E Meridian: S	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/5/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
 Drilled to 2,806 ft. in August 2013.

**Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
 FOR RECORD ONLY  
 October 02, 2013**

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

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>1. TYPE OF WELL</b> Gas Well	<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 22935
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0255 FNL 0797 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 32 Township: 09.0S Range: 22.0E Meridian: S	<b>8. WELL NAME and NUMBER:</b> NBU 922-30P4BS
<b>PHONE NUMBER:</b> 720 929-6511	<b>9. API NUMBER:</b> 43047526930000
<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: 10/4/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

Drilled to 9,715 ft. since last report.

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

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

<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> ML 22935	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	
<b>8. WELL NAME and NUMBER:</b> NBU 922-30P4BS	
<b>9. API NUMBER:</b> 43047526930000	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

<b>1. TYPE OF WELL</b> Gas Well	<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>PHONE NUMBER:</b> 720 929-6511
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0255 FNL 0797 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 32 Township: 09.0S Range: 22.0E Meridian: S	

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: 11/20/2013	<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 checked="" type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 11/20/2013. 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**

November 21, 2013

<b>NAME (PLEASE PRINT)</b> Teena Paulo	<b>PHONE NUMBER</b> 720 929-6236	<b>TITLE</b> Staff Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/21/2013	

<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> ML 22935
<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>  <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 922-30P4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047526930000
<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> 0255 FNL 0797 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 32 Township: 09.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 11/26/2013	<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.

FINISHED DRILLING TO 9715 ON 9/15/2013. CEMENTED PRODUCTION CASING. RELEASED SST 8 RIG ON 9/17/2013. 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**  
 November 26, 2013

<b>NAME (PLEASE PRINT)</b> Teena Paulo	<b>PHONE NUMBER</b> 720 929-6236	<b>TITLE</b> Staff Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/26/2013	

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

AMENDED REPORT  FORM 8  
 (highlight changes)

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. TYPE OF WELL: OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> DRY <input type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: <b>ST ML 22935</b>
b. TYPE OF WORK: NEW WELL <input checked="" type="checkbox"/> HORIZ. LATS <input type="checkbox"/> DEEP-EN <input type="checkbox"/> RE-ENTRY <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> OTHER _____		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
2. NAME OF OPERATOR: <b>KERR-MCGEE OIL AND GAS ONSHORE LP</b>		7. UNIT or CA AGREEMENT NAME <b>UTU63047A</b>
3. ADDRESS OF OPERATOR: P.O. Box 173779 CITY Denver STATE Co ZIP 82017		8. WELL NAME and NUMBER: <b>NBU 922-30P4BS</b>
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: <b>NWNW 255 FNL 797 FWL SEC 32</b> AT TOP PRODUCING INTERVAL REPORTED BELOW: <b>SESE 554 FSL 631 FEL SEC 30</b> AT TOTAL DEPTH: <b>SESE 530 FSL 605 FEL SEC 30</b>		9. API NUMBER: <b>43-047-52693</b>
14. DATE SPUDDED: <b>4/8/2013</b>		10. FIELD AND POOL, OR WILDCAT <b>Natural Buttes</b>
15. DATE T. D. REACHED: <b>9/15/2013</b>		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>NWNW 32 9S 22E SLB</b>
16. DATE COMPLETED: <b>11/20/2013</b>		12. COUNTY <b>UINTAH</b>
ABANDONED <input type="checkbox"/> READY TO PRODUCE <input checked="" type="checkbox"/>		13. STATE <b>UTAH</b>
17. ELEVATIONS (DF, RKB, RT, GL): <b>4991 RKB</b>		

18. TOTAL DEPTH: MD <b>9715</b>	19. PLUG BACK T.D.: MD <b>9643</b>	20. IF MULTIPLE COMPLETIONS, HOW MANY? *	21. DEPTH BRIDGE PLUG SET: MD _____
TVD <b>9423</b>	TVD <b>9352</b>		TVD _____
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) <b>AIDI/GR/VML-BHCL-RADIAL CEMENT/GR/CCL/TEMP/CBL</b>		23. WAS WELL CORED? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit analysis)	
		WAS DST RUN? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit report)	
		DIRECTIONAL SURVEY? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (Submit copy)	

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20	14 STL	36.7	0	40		28			
11	8.63 J-55	28	24	2772		900		0	
7.875	4.5 I-80	11.6	24	9691		1715		1650	

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2.375	8989							

26. PRODUCING INTERVALS					27. PERFORATION RECORD				
FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS	
(A) MESAVERDE	7440	9493			7,440 9,493	0.36	213	Open <input checked="" type="checkbox"/>	Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
7440-9493	PUMP 10,990 BBL SLICKWATER AND 217,821 LBS 30/50 MESH SAND
	9 STAGES

29. ENCLOSED ATTACHMENTS: <input type="checkbox"/> ELECTRICAL/MECHANICAL LOGS <input type="checkbox"/> SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION <input type="checkbox"/> GEOLOGICAL REPORT <input type="checkbox"/> CORE ANALYSIS <input type="checkbox"/> DST REPORT <input type="checkbox"/> OTHER:	30. WELL STATUS: <b>PRODUCING</b>
---	--------------------------------------

31. INITIAL PRODUCTION

INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED: <b>11/20/2013</b>		TEST DATE: <b>11/25/2013</b>		HOURS TESTED: <b>24</b>		TEST PRODUCTION RATES: →	OIL - BBL: <b>0</b>	GAS - MCF: <b>1394</b>	WATER - BBL: <b>0</b>	PROD. METHOD: <b>Flowing</b>
CHOKE SIZE: <b>20/64</b>	TBG. PRESS. <b>1289</b>	CSG. PRESS. <b>2215</b>	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR RATES: →	OIL - BBL: <b>0</b>	GAS - MCF: <b>1394</b>	WATER - BBL: <b>0</b>	INTERVAL STATUS <b>Producing</b>

INTERVAL B (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS

INTERVAL C (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS

INTERVAL D (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

**SOLD**

33. 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.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				<b>GREEN RIVER</b>	<b>1406</b>
				<b>BIRD'S NEST</b>	<b>1789</b>
				<b>MAHOGANY</b>	<b>2301</b>
				<b>WASATCH</b>	<b>4897</b>
				<b>MESAVERDE</b>	<b>7379</b>

35. ADDITIONAL REMARKS (Include plugging procedures)

The first 210 ft. of the surface hole was drilled with a 12 1/4 in. bit. The remainder of surface hole was drilled with an 11 in. bit. A DV tool was placed in the well from 4982.5 feet - 4985.5 feet. DQX csg was run from surface to 4982.5 ft.; LTC csg was run from 4982.5 ft. to 9691 ft. Attached is the chronological well history, perforation report & final survey.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) Kay Kelly

TITLE Sr Staff Regulatory Specialist

SIGNATURE *Kay Kelly*

DATE 12/16/13

This report must be submitted within 30 days of

- completing or plugging a new well
- reentering a previously plugged and abandoned well
- drilling horizontal laterals from an existing well bore
- significantly deepening an existing well bore below the previous bottom-hole depth
- recompleting to a different producing formation
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top - Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340  
Fax: 801-359-3940

US ROCKIES REGION  
**Operation Summary Report**

Well: NBU 922-30P4BS BLUE				Spud Date: 8/3/2013				
Project: UTAH-UINTAH			Site: NBU 922-32D1 PAD			Rig Name No: PROPETRO 12/12, SST 8/8		
Event: DRILLING			Start Date: 7/28/2013			End Date: 9/17/2013		
Active Datum: RKB @4,991.00usft (above Mean Sea Level)				UWI: NW/NW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0				

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/2/2013	4:30 - 7:00	2.50	MIRU	01	A	P	68	RIG DOWN AND MOVE OUT PRO PETRO RIG AND PIPE TRAILERS TO NBU 922-30P4BS / BEGIN TRANSFERING WATER TO NEW LOCATION & CLEAN MUD TANKS AND UPRIGHT STORAGE TANKS / WAIT ON DAYLIGHT TO MOVE BACK YARD AND HEAVY EQUIPMENT
	7:00 - 16:00	9.00	MIRU	01	A	P	68	PJSM WITH JD FIELD SERVICE & RIG CREW. MOVE 12 MILES TO NBU 922-30P4BS / MOVE IN AND RIG UP CAMPS AND SET IN CLOSED LOOP SYSTEM / STALLION 2 SEMI-TRUCKS, 2 CREW TRUCKS / J.D FIELD SERVICE HAD 4 BEDTRUCKS, 6 HAUL TRUCKS, 1 PUSHER, 1 SAFETY MAN, 2 SWAMPERS, 1 FORKLIFT / PROPETRO 4 SEMI LOADS, 1 RIG, 1 CREW RIDE, 1 PUSHER
	16:00 - 20:00	4.00	MIRU	08	A	Z	68	***FAILURE: RIG EQUIPMENT - RIG MAINTANENCE - BELT ON MOTOR FOR RIG UNIT BROKE ON TRANSIT TO NEW LOCATION
	20:00 - 23:00	3.00	MIRU	01	B	P	68	RIG UP MUD TANKS AND PEAK CLOSE LOOP SYSTEM. RIG UP DIVERTER & FLOW LINE. SPOT RIG MAT OVER WELL. SPOT RIG OVER WELL. SET CAT WALK & PIPE RACKS. HOOK UP AND PRIME PUMP.
	23:00 - 23:30	0.50	DRLSUR	23		P	68	PRE SPUD JOB SAFETY MEETING WITH RIG CREW, PEAK CREW, AND SCIENTIFIC CREW. REVIEW DIRECTIONAL PLANS WITH DIRECTIONAL DRILLERS PRIOR TO SPUD
	23:30 - 0:00	0.50	DRLSUR	06	A	P	68	PICK UP 12 1/4" BIT 1.83 BEND MUD MOTOR.
8/3/2013	0:00 - 0:30	0.50	DRLSUR	06	A	P	68	PICK UP 12 1/4" BIT 1.83 BEND MUD MOTOR.
	0:30 - 4:00	3.50	MIRU	08	A	Z	68	***FAILURE: RIG EQUIPMENT - RIG MAINTANENCE - POP OFF ON MUD PUMP WASHED OUT (WAIT ON NEW REBUILD KIT)
	4:00 - 5:00	1.00	DRLSUR	02	A	P	68	DRILL 12.25" SURFACE HOLE F/ 44'- T/210' BIT ROP= 166' @ 110.6 FPH WOB= 5-15K. RPM= TOP DRIVE~55 / MOTOR ~83 / TOTAL RPM~138 PUMPING 491 GPM @ 120 SPM STAND PIPE PRESSURE ON/OFF BOTTOM = 800/600 TORQUE ON/OFF BOTTOM = 2,400/700 UP/DN/ROT = 22/20/20 PEAK ON LINE MUD WT = 8.4
	5:00 - 6:00	1.00	DRLSUR	06	A	P	234	TRIP OUT OF HOLE. LAY DOWN 12 1/4" BIT
	6:00 - 11:00	5.00	DRLSUR	06	A	P	234	PICK UP 11"BIT AND DIRECTIONAL ASSEMBLY, SCRIBE. TRIP IN HOLE

## Operation Summary Report

Well: NBU 922-30P4BS BLUE

Spud Date: 8/3/2013

Project: UTAH-UINTAH

Site: NBU 922-32D1 PAD

Rig Name No: PROPETRO 12/12, SST 8/8

Event: DRILLING

Start Date: 7/28/2013

End Date: 9/17/2013

Active Datum: RKB @4,991.00usft (above Mean Sea Level)

UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	11:00 - 18:00	7.00	DRLSUR	02	B	P	234	DRILL 11". SURFACE HOLE, F/ 210' - T/ 1040', 830' @ 118 FPH WEIGHT ON BIT 18-25 K. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. PUMPING 491 GALLON PER MINUTE AT 120 STROKES PER MINUTES. PUMP PRESSURE ON/OFF(BOTTOM) 970/750 TORQUE ON OFF = 2,900/1000 UP/DOWN/ ROT 56/48/50 K. DRAG 6 K. PEAK ON LINE MUD WT 8.4 SLID 137' = 6.05% 4.7' ABOVE AND 0.3' RIGHT OF THE LINE HOLE ISSUES: NONE
	18:00 - 0:00	6.00	DRLSUR	02	B	P	1064	DRILL 11". SURFACE HOLE, F/ 1040' - T/ 1650', 610' @ 101.6 FPH WEIGHT ON BIT 18-25 K. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. PUMPING 491 GALLON PER MINUTE AT 120 STROKES PER MINUTES. PUMP PRESSURE ON/OFF(BOTTOM) 1050/850 TORQUE ON OFF = 3,100/1900 UP/DOWN/ ROT 67/50/58 K. DRAG 9 K. PEAK ON LINE MUD WT 8.4 SLID 105' = 22.5% 3.73' BELOW AND 4' LEFT OF THE LINE HOLE ISSUES: NONE
8/4/2013	0:00 - 12:00	12.00	DRLSUR	02	B	P	1674	DRILL 11". SURFACE HOLE, F/ 1650' - T/ 2480', 830' @ 69.1 FPH WEIGHT ON BIT 18-25 K. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. PUMPING 491 GALLON PER MINUTE AT 120 STROKES PER MINUTES. PUMP PRESSURE ON/OFF(BOTTOM) 1300/1040 TORQUE ON OFF = 3,100/1700 UP/DOWN/ ROT 83/56/65 K. DRAG 18 K. PEAK ON LINE MUD WT 8.4 SLID 67' = 12.3% 6.2' ABOVE AND 5.5' LEFT OF THE LINE HOLE ISSUES: NONE
	12:00 - 17:00	5.00	DRLSUR	02	B	P	2504	DRILL 11". SURFACE HOLE, F/ 2480' - T/ 2782', 302' @ 60.4 FPH WEIGHT ON BIT 18-25 K. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. PUMPING 491 GALLON PER MINUTE AT 120 STROKES PER MINUTES. PUMP PRESSURE ON/OFF(BOTTOM) 1450/1300 TORQUE ON OFF = 3,100/1700 UP/DOWN/ ROT 86/59/70 K. DRAG 16 K. PEAK ON LINE MUD WT 8.4 SLID 55' = 18.21% 2.4' ABOVE AND 0.2' LEFT OF THE LINE HOLE ISSUES: NONE

## Operation Summary Report

Well: NBU 922-30P4BS BLUE				Spud Date: 8/3/2013				
Project: UTAH-UINTAH			Site: NBU 922-32D1 PAD			Rig Name No: PROPETRO 12/12, SST 8/8		
Event: DRILLING			Start Date: 7/28/2013		End Date: 9/17/2013			
Active Datum: RKB @4,991.00usft (above Mean Sea Level)				UWI: NWNW/09/S/22/E/32/0/0/26/PM/N/255/N/0797/0/0				
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:00 - 19:00	2.00	DRLSUR	05	C	P	2806	CIRCULATE AND CONDITION HOLE / PUMPING 491 GPM @ 120 SPM / RETURNS CLEAN COMING OVER SHAKERS / MUD TANKS 1/2 FULL / 4 - 400 BBL UPRIGHT STORAGE TANKS FULL / 2 - 400 BBL UPRIGHT STORAGE TANKS EMPTY
	19:00 - 23:00	4.00	DRLSUR	06	D	P	2806	LAY DOWN DRILL PIPE & BHA
	23:00 - 0:00	1.00	DRLSUR	12	A	P	2806	PRE JOB SAFETY MEETING WITH PRO PETRO RIG CREW . MOVE PIPE RACKS AND CATWALK. RIG UP TO RUN SURFACE CASING. CLEAR UNRELATED TOOLS.
8/5/2013	0:00 - 3:00	3.00	DRLSUR	12	C	P	2806	RAN 62 JOINTS (2,752') OF 8-5/8", 28#, J-55, LT&C CASING WITH TOPCO FLOAT GUIDE SHOE AND BAFFLE PLATE LOCATED 1 JOINT ABOVE SHOE. 5 CENTRALIZERS SPACED 10' ABOVE SHOE, 2ND & 3RD COLLARS AND EVERY THIRD COLLAR TO 2,395'. LANDED SHOE @ 2,752' KB. BAFFLE PLATE @ 2,706' KB.

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	3:00 - 5:30	2.50	DRLSUR	12	E	P	2806	<p>CEMENT JOB SAFETY MEETING WITH PRO PETRO CEMENTERS.</p> <p>RAN 200' OF 1". PIPE DOWN BACK-SIDE OF CASING.</p> <p>PRESSURE TEST LINES TO 1500 PSI.</p> <p>PUMP 175 BBLS OF WATER AHEAD CLEARING SHOE.</p> <p>MIX AND PUMP 20 BBLS OF GEL WATER FLUSH AHEAD OF CEMENT.</p> <p>MIX AND PUMP 300 SX OF PREMIUM CEMENT WITH 2% CACL2 &amp; 0.25 LB/SX FLOCELE. 61.4 BBLS MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX.</p> <p>DROP PLUG ON FLY,</p> <p>DISPLACE WITH 168.0 BBLS OF FRESH WATER.</p> <p>PARTIAL RETURNS THROUGH OUT JOB, FINAL LIFT OF 450 PSI AT 3 BBL/MINUTE. BUMPED PLUG @ 800. HELD @ 800 PSI FOR 5 MINS WITHOUT BLEED OFF.</p> <p>TESTED FLOAT AND FLOAT HELD.</p> <p>RELEASE RIG @ 05:30, 8/05/2013</p> <p>TOP JOB # 1: PUMP CEMENT DOWN ONE INCH PIPE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 3% GR-3, &amp; .25 LB/SX FLOCELE, 30.7 BBLS MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO CEMENT RETURNS TO SURFACE.</p> <p>WAIT ON CEMENT 2.5 HOURS.</p> <p>TOP JOB # 2: CEMENT DOWN BACKSIDE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, &amp; .25 LB/SX FLOCELE, 30.7 BBLS MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX.</p> <p>WAIT ON CEMENT 2.0 HOURS.</p> <p>TOP JOB # 3: CEMENT DOWN BACKSIDE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, &amp; .25 LB/SX FLOCELE, 30.7 BBLS MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX.</p> <p>WAIT ON CEMENT 2.0 HOURS.</p> <p>TOP JOB # 4: CEMENT DOWN BACKSIDE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, &amp; .25 LB/SX FLOCELE, 30.7 BBLS MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX.</p> <p>2 BBLS CEMENT RETURNS TO SURFACE.</p> <p>CEMENT HELD AT SURFACE</p> <p>RIG DOWN PRO PETRO CEMENTERS.</p> <p>CEMENT JOB FINISHED @ 13:00 8/05/2013</p>
9/9/2013	16:00 - 17:00	1.00	MIRU	01	E	P	2806	PREPARE TO SKID
	17:00 - 17:30	0.50	MIRU	01	C	P	2806	SKID RIG T/ NBU 922-30P4BS
	17:30 - 18:00	0.50	MIRU	01	B	P	2806	PREPARE TO DRILL
	18:00 - 20:00	2.00	MIRU	14	A	P	2806	NIPPLE UP BOP

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	20:00 - 0:00	4.00	PRSPD	15	A	P	2806	HELD A SAFETY MEETING WITH A-1 TESTER, FILL THE TRUCK WITH WATER, RIGGED UP TESTER TESTING CASING AND CHOKE TO 1500 PSI FOR 30 MINUTES. TEST ANNULAR TO 2500 PSI FOR 10 MIN AND 250 PSI FOR 5 MINUTES. TEST I-BOP VALVE, FLOOR VALVE, DART VALVE, PIPE AND BLIND RAMS, INSIDE AND OUTSIDE KILL LINE VALVES INSIDE OUTSIDE CHOKE LINE VALVE, HCR VALVE, CHOKE LINE, CHOKE MANIFOLD VALVES TO 5000 PSI FOR 10 MINUTES AND 250 PSI FOR 5 MINUTES.
9/10/2013	0:00 - 0:30	0.50	PRSPD	15	A	P	2806	RIG DOWN TESTER
	0:30 - 2:00	1.50	PRSPD	06	A	P	2806	SET WEAR BUSHING / PRE SPUD INSPECTION
	2:00 - 6:30	4.50	PRSPD	06	A	P	2806	LAY DOWN MONELS AND GAP SUB / PICK UP MOTOR / MAKE UP BIT / PICK UP DIRECTIONAL TOOLS / TRIP IN HOLE / TAG CEMENT @ 2665'
	6:30 - 7:30	1.00	DRLPRC	02	D	P	2806	DRILL SHOE TRACK F/ 2665 - WOB 10 SPM 90 GPM 335 ROT 40 MUD MOTOR RPM 70 PSI 550

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:30 - 15:00	7.50	DRLPRC	02	D	P	2806	DRILL (ROT/SLIDE) 2806' -3494' (688' @91.73' / HR) WEIGHT ON BIT 15-20 K. AVERAGE WEIGHT ON BIT 18K ROTARY RPM 65, MUD MOTOR RPM 114 STROKES PER MINUTE 130 GALLONS PER MINUTE 544 OFF/ON PSI 1200/1500 DIFFERENTIAL 300 TORQUE HIGH/LOW 5000/8000 OFF BOTTOM TORQUE 4000 STRING WEIGHT UP/DOWN/ROT 115/80/100 DRAG 15 K. BOS DEWATER AS NEEDED WT 8.5 VIS 31. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 34 BBL. FLUID FOR HOLE VOLUME 0 BARRELS LOSSES @ 0 BBL/HR NO FLARE Bit Position: 3494' MD: 3494' Low 0.96' Right 3.85' Proposal  Footage Feet% Total: 714' Slide: 160 '= 22.4% Rotate: 554'= 77.6 % Time/Min/Hrs%:0800 Hrs-1500 Hrs = 7.00 Hrs. Total Drilling: 5.75 hrs: Total Conn/Ream/Rig Time: 1.25 hrs= 17.9 % Slide: 2.75 hrs= 47.8% Rotate:3.0 hrs= 52.2 %  Projection to Bit from Last Survey MD: 3494' Low 0.96' Right 3.85' Proposal  Last survey MD: 3434' Inc 24.3 Azimuth 299.6 TVD 3231.46' RIG SERVICE
	15:00 - 15:30	0.50	DRLPRC	07	A	P	3494	RIG SERVICE

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	15:30 - 0:00	8.50	DRLPRC	02	D	P	3494	DRILL (ROT/SLIDE) 3494' - 4255' (761' @90' / HR) WEIGHT ON BIT 15-20 K. AVERAGE WEIGHT ON BIT 18K ROTARY RPM 65, MUD MOTOR RPM 114 STROKES PER MINUTE 130 GALLONS PER MINUTE 544 OFF/ON PSI 1200/1500 DIFFERENTIAL 300 TORQUE HIGH/LOW 5000/8000 OFF BOTTOM TORQUE 4000 STRING WEIGHT UP/DOWN/ROT 140/90/120 DRAG 22 K. BOS DEWATER AS NEEDED WT 8.5 VIS 31. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 47 BBL. FLUID FOR HOLE VOLUME 0 BARRELS LOSSES @ 0 BBL/HR NO FLARE Bit Position: 4255' MD: 4255' Low 35.68' Left 5.29' Proposal  Footage Feet% Total: 761' Slide: 178 '= 23.4% Rotate: 583'= 76.6 % Time/Min/Hrs%:1500 Hrs-2400 Hrs = 9.00 Hrs. Total Drilling: 7.67 hrs: Total Conn/Ream/Rig Time: 1.33 hrs= 14.8 % Slide: 3.58 hrs= 46.7% Rotate:4.08 hrs= 53.3 %  Projection to Bit from Last Survey MD: 4255' Low 35.68' Left 5.29' Proposal  Last survey MD: 4101' Inc 17.9 Azimuth 295.7 TVD 3850.24'

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH	Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8	
Event: DRILLING	Start Date: 7/28/2013	End Date: 9/17/2013	
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/11/2013	0:00 - 6:00	6.00	DRLPRC	02	D	P	4255	DRILL (ROT/SLIDE) 4255' - 4604' (349' @58' /HR) WEIGHT ON BIT 15-20 K. AVERAGE WEIGHT ON BIT 18K ROTARY RPM 65, MUD MOTOR RPM 114 STROKES PER MINUTE 130 GALLONS PER MINUTE 544 OFF/ON PSI 1200/1500 DIFFERENTIAL 300 TORQUE HIGH/LOW 5000/8000 OFF BOTTOM TORQUE 4000 STRING WEIGHT UP/DOWN/ROT 140/90/120 DRAG 22 K. BOS DEWATER AS NEEDED WT 8.8 VIS 34. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 22 BBL. FLUID FOR HOLE VOLUME 0 BARRELS LOSSES @ 0 BBL/HR NO FLARE  Bit Position: 4604' MD: 4604' South 89.58' East 170.82' PBHL  Footage Feet% Total: 342' Slide: 85' = 24.8% Rotate: 257' = 75.2 % Time/Min/Hrs%:0000 Hrs-0500 Hrs = 5.00 Hrs. Total Drilling: 4.50 hrs: Total Conn/Ream/Rig Time: 0.5 hrs= 10 % Slide: 2.75 hrs= 61.1% Rotate:1.75 hrs= 38.9 %  Projection to Bit from Last Survey MD: 4604' South 89.58' East 170.82' PBHL  Last survey MD: 4481' Inc 14.6 Azimuth 294.8 TVD 3850.24'

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 13:00	7.00	DRLPRC	02	D	P	4604	DRILL 4604' - 5206" ( 602' @ 86' / HR) WEIGHT ON BIT 18-22 K. AVERAGE WEIGHT ON BIT 20K ROTARY RPM 65, MUD MOTOR RPM 123 STROKES PER MINUTE 140 GALLONS PER MINUTE 586 OFF/ON PSI 1650/2000 DIFFERENTIAL 350 TORQUE HIGH/LOW 13000/11000 OFF BOTTOM TORQUE 9000 STRING WEIGHT UP/DOWN/ROT 140/95/120 DRAG 20 K. BOS DEWATER AS NEEDED WT 8.7 VIS 32. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 35 BBL. FLUID FOR HOLE VOLUME 20 BARRELS LOSSES @ 3 BBL/HR NO FLARE  Bit Position: 5206' MD: 5206' South 2.81' East 15.42' PBHL  Footage Feet% Total: 602' Slide: 91' = 14.9% Rotate: 511' = 85.1 % Time/Min/Hrs%:0500 Hrs-1300 Hrs = 8.00 Hrs. Total Drilling: 7.09 hrs: Total Conn/Ream/Rig Time: .91 hrs= 11.375 % Slide: 3.92 hrs= 55.29% Rotate:3.17 hrs= 44.71 %

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	13:00 - 0:00	11.00	DRLPRV	02	B	P	5206	DRILL 5206'- 6200' ( 994' @ 90.4' / HR) WEIGHT ON BIT 18-22 K. AVERAGE WEIGHT ON BIT 20K ROTARY RPM 65, MUD MOTOR RPM 123 STROKES PER MINUTE 140 GALLONS PER MINUTE 586 OFF/ON PSI 1700/2000 DIFFERENTIAL 300 TORQUE HIGH/LOW 14000/12000 OFF BOTTOM TORQUE 12000 STRING WEIGHT UP/DOWN/ROT 180/115/145 DRAG 35 K. BOS DEWATER AS NEEDED WT 8.7 VIS 35. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 60 BBL. FLUID FOR HOLE VOLUME 90 BARRELS LOSSES @ 8 BBL/HR NO FLARE  Bit Position: 6200' MD: 6200' North 10.57' West 17.07' PBHL  Footage Feet% Total: 994' Slide: 79' = 8.0% Rotate: 915' = 92.0 % Time/Min/Hrs%:1330 Hrs-2400 Hrs = 10.50 Hrs. Total Drilling: 9.4 hrs: Total Conn/Ream/Rig Time: 1.1 hrs= 10.5 % Slide: 2.99 hrs= 30.8% Rotate: 6.41 hrs= 68.2 %

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/12/2013	0:00 - 5:00	5.00	DRLPRV	02	B	P	6200	DRILL 6200' - 6632' ( 432' @ 86.4' / HR) WEIGHT ON BIT 18-22 K. AVERAGE WEIGHT ON BIT 20K ROTARY RPM 65, MUD MOTOR RPM 123 STROKES PER MINUTE 140 GALLONS PER MINUTE 586 OFF/ON PSI 1750/2000 DIFFERENTIAL 250 TORQUE HIGH/LOW 14000/12000 OFF BOTTOM TORQUE 12000 STRING WEIGHT UP/DOWN/ROT 180/115/145 DRAG 35 K. BOS DEWATER AS NEEDED WT 8.7 VIS 35. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 25 BBL. FLUID FOR HOLE VOLUME 100 BARRELS LOSSES @ 20 BBL/HR NO FLARE  Bit Position: 6632' MD: 6632' North 2.1' West 17.71' PBHL  Footage Feet% Total: 442' Slide: 0' = 0% Rotate: 442' = 100 % Time/Min/Hrs%:0000 Hrs-0500 Hrs = 5.0 Hrs. Total Drilling: 4.50 hrs: Total Conn/Ream/Rig Time: .50 hrs= 10 % Slide: 0 hrs= 0 % Rotate: 4.50 hrs= 100 %

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/09/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	5:00 - 15:00	10.00	DRLPRV	02	B	P	6632	DRILL 6632' - 7108' ( 476' @ 47.6' / HR) WEIGHT ON BIT 18-25 K. AVERAGE WEIGHT ON BIT 22K ROTARY RPM 65, MUD MOTOR RPM 123 STROKES PER MINUTE 140 GALLONS PER MINUTE 586 OFF/ON PSI 1900/2100 DIFFERENTIAL 200 TORQUE HIGH/LOW 14000/12000 OFF BOTTOM TORQUE 11000 STRING WEIGHT UP/DOWN/ROT 200/120/150 DRAG 50 K. BOS DEWATER AS NEEDED WT 8.9 VIS 33. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 30 BBL. FLUID FOR HOLE VOLUME 50 BARRELS LOSSES @ 5 BBL/HR NO FLARE  Bit Position: 7108' MD: 7108' North 2.35' West 15.77' PBHL  Footage Feet% Total: 476' Slide: 55' = 11.5% Rotate: 442' = 88.5 % Time/Min/Hrs%:0500 Hrs-1515 Hrs = 10.25 Hrs. Total Drilling: 9.50 hrs: Total Conn/Ream/Rig Time: .75 hrs= 7.3 % Slide: 3.67 hrs= 38.6 % Rotate: 5.83 hrs= 61.4 %
	15:00 - 15:30	0.50	DRLPRV	07	A	P	7108	RIG SERVICE

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	15:30 - 0:00	8.50	DRLPRV	02	B	P	7108	DRILL 7108' -7773' ( 667' @ 78.4' /HR) WEIGHT ON BIT 20-24 K. AVERAGE WEIGHT ON BIT 23K ROTARY RPM 65-70, MUD MOTOR RPM 123 STROKES PER MINUTE 140 GALLONS PER MINUTE 586 OFF/ON PSI 1950/2300 DIFFERENTIAL 450 TORQUE HIGH/LOW 18000/14000 OFF BOTTOM TORQUE 13000 STRING WEIGHT UP/DOWN/ROT 200/120/150 DRAG 50 K. BOS DEWATER AS NEEDED WT 8.9 VIS 33. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 40 BBL. FLUID FOR HOLE VOLUME 20 BARRELS LOSSES @ 2 BBL/HR NO FLARE  Bit Position: 7773' MD: 7773' North 14.51' West 8.26' PBHL  Footage Feet% Total: 665' Slide: 13' = 19.5% Rotate: 652' = 80.5 %  Time/Min/Hrs%:1515 Hrs-2400 Hrs = 8.75 Hrs. Total Drilling: 8.09 hrs: Total Conn/Ream/Rig Time: .66 hrs= 7.5 % Slide: .75 hrs= 9.2 % Rotate: 7.34 hrs= 90.8 %

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/13/2013	0:00 - 5:00	5.00	DRLPRV	02	B	P	7773	DRILL 7773' - 8220' ( 447' @ 89.4' / HR) WEIGHT ON BIT 20-24 K. AVERAGE WEIGHT ON BIT 23K ROTARY RPM 65-70, MUD MOTOR RPM 123 STROKES PER MINUTE 140 GALLONS PER MINUTE 586 OFF/ON PSI 1950/2300 DIFFERENTIAL 450 TORQUE HIGH/LOW 18000/14000 OFF BOTTOM TORQUE 13000 STRING WEIGHT UP/DOWN/ROT 200/120/150 DRAG 50 K. BOS DEWATER AS NEEDED WT 8.9 VIS 33. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 40 BBL. FLUID FOR HOLE VOLUME 20 BARRELS LOSSES @ 2 BBL/HR NO FLARE  Bit Position: 8220' MD: 8220' North 12.83' West 2.53' PBHL  Footage Feet% Total: 447' Slide: 0' = 0% Rotate: 447' = 100 % Time/Min/Hrs%:0000 Hrs-0500 Hrs = 5.0 Hrs. Total Drilling: 4.5 hrs: Total Conn/Ream/Rig Time: .50 hrs= 10 % Slide: 0 hrs= 0 % Rotate: 4.5 hrs= 100 %

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	5:00 - 15:30	10.50	DRLPRV	02	B	P	8220	DRILL 8220' - 8819' ( 559' @ 53.2' / HR) WEIGHT ON BIT 20-24 K. AVERAGE WEIGHT ON BIT 23K ROTARY RPM 65-70, MUD MOTOR RPM 123 STROKES PER MINUTE 140 GALLONS PER MINUTE 586 OFF/ON PSI 1950/2300 DIFFERENTIAL 450 TORQUE HIGH/LOW 18000/14000 OFF BOTTOM TORQUE 13000 STRING WEIGHT UP/DOWN/ROT 220/125/170 DRAG 50 K. BOS DEWATER AS NEEDED WT 9.0 VIS 35. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 40 BBL. FLUID FOR HOLE VOLUME 70 BARRELS LOSSES @ 7 BBL/HR 3-5' DRILLING FLARE / 5-10' CONNECTION FLARE  Bit Position: 8819' MD: 8819' North 7.60' East 0.90' PBHL  Footage Feet% Total: 599' Slide: 18' = 3.0% Rotate: 581' = 97.0 % Time/Min/Hrs%:0500 Hrs-1530 Hrs = x10.5 Hrs. Total Drilling: 8.5 hrs: Total Conn/Ream/Rig Time: 2.0 hrs= 19 % Slide: 1.0 hrs= 11.76 % Rotate: 7.5 hrs= 88.24 % Projection to Bit from Last Survey MD: 8819' North 7.06' East 0.90' PBHL
	15:30 - 16:00	0.50	DRLPRV	07	A	P	8819	RIG SERVICE

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	16:00 - 18:30	2.50	DRLPRV	02	B	P	8819	DRILL 8819' - 9010' ( 191' @ 76.4' / HR) WEIGHT ON BIT 20-24 K. AVERAGE WEIGHT ON BIT 23K ROTARY RPM 65-70, MUD MOTOR RPM 123 STROKES PER MINUTE 140 GALLONS PER MINUTE 586 OFF/ON PSI 1950/2300 DIFFERENTIAL 450 TORQUE HIGH/LOW 18000/14000 OFF BOTTOM TORQUE 13000 STRING WEIGHT UP/DOWN/ROT 220/125/170 DRAG 50 K. BOS DEWATER AS NEEDED WT 9.1 VIS 35. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 12 BBL. FLUID FOR HOLE VOLUME 35 BARRELS LOSSES @ 20 BBL/HR 3-5' DRILLING FLARE / 5-15' CONNECTION FLARE  Bit Position: 9010' MD: 9010' North 4.20' East 2.8' PBHL  Footage Feet% Total: 191' Slide: 0' = 0% Rotate: 191' = 100 % Time/Min/Hrs%: 1530 Hrs-1930 Hrs = x 4.0 Hrs. Total Drilling: 3.0 hrs: Total Conn/Ream/Rig Time: 1.0 hrs = 25 % Slide: 0 hrs = 0 % Rotate: 3.0 hrs = 100 % Projection to Bit from Last Survey MD: 8819' North 4.20' East 2.8' PBH
	18:30 - 19:30	1.00	DRLPRV	06	G	S	9010	***FAILURE: PIPE WASHOUT WHILE PICKING UP TO BACKREAM A CONNECTION THE DRILLER NOTICED THE PREVIOUS CONNECTION WAS WASHED AND SPRAYING MUD. WE LAYED DOWN 3 JOINTS OF PIPE AND MADE UP 2 STANDS TO KICK OUT THE WASHED BOX AND PIN

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	19:30 - 0:00	4.50	DRLPRV	02	B	P	9010	DRILL 9010' - 9300' ( 290' @ 64.4' / HR) WEIGHT ON BIT 20-24 K. AVERAGE WEIGHT ON BIT 23K ROTARY RPM 65-70, MUD MOTOR RPM 123 / 105 STROKES PER MINUTE 140 / 120 GALLONS PER MINUTE 586 / 502 OFF/ON PSI 1950/2300 2400/2600 DIFFERENTIAL 450 200 TORQUE HIGH/LOW 20000/16000 OFF BOTTOM TORQUE 15000 STRING WEIGHT UP/DOWN/ROT 235/150/175 DRAG 60 K. BOS CONVENTIONAL NEEDED WT 9.0 VIS 35. DISPLACED MUD @ 9200' 11.2 WT. 37 VIS ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 20 BBL. FLUID FOR HOLE VOLUME 350 BARRELS LOSSES DURING MUD TRANSFER 3-5' DRILLING FLARE / 5-10' CONNECTION FLARE  Bit Position: 9300' MD: 9300' South 2.73' East 6.05' PBHL  Footage Feet% Total: 290' Slide: 0' = 0% Rotate: 290' = 100 % Time/Min/Hrs%: 1930 Hrs-2400 Hrs = x 4.5 Hrs. Total Drilling: 4.0 hrs: Total Conn/Ream/Rig Time: .50 hrs = 11.11 % Slide: 0 hrs = 0 % Rotate: 4.0 hrs = 100 % Projection to Bit from Last Survey MD: 9300' South 2.73' East 6.05' PBHL

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: PROPETRO 12/12, SST 8/8
Event: DRILLING		Start Date: 7/28/2013	End Date: 9/17/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/14/2013	0:00 - 6:30	6.50	DRLPRV	02	B	P	9300	DRILL 9300' - 9603' ( 303' @ 46.6' / HR) WEIGHT ON BIT 20-24 K. AVERAGE WEIGHT ON BIT 23K ROTARY RPM 65-70, MUD MOTOR RPM 96 STROKES PER MINUTE 110 GALLONS PER MINUTE 460 OFF/ON PSI 2200/2400 DIFFERENTIAL 200 TORQUE HIGH/LOW 18000/16000 OFF BOTTOM TORQUE 15000 STRING WEIGHT UP/DOWN/ROT 235/150/175 DRAG 60 K. BOS CONVENTIONAL NEEDED WT 11.3 VIS 38. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 20 BBL. FLUID FOR HOLE VOLUME 225 BARRELS LOSSES @ 35 BBL. / HR. ( LOST 160 BBL. IN A FRACTURE @ 9572' ) 10' DRILL THROUGH FLARE @ 9455'  BIT POSITION: MD: 9603' South 10.70' East 12.18' OF CENTER
	6:30 - 7:00	0.50	DRLPRV	05	C	P	9603	CIRCULATE AND CONDITION FOR A BIT TRIP SPOT A CALCARB AND LCM PILL IN THE HOLE PUMPING 3-5% LCM IN THE MUD
	7:00 - 14:00	7.00	DRLPRV	06	A	P	9603	TRIP OUT TO CHANGE OUT BIT AND MOTOR MOTOR WAS OK PRECAUTIONARY CHANGE PUMPED AND ROTATED OUT TO 7600' LIGHT OVERPULL @ 4700' 20K OVER
	14:00 - 18:30	4.50	DRLPRV	06	A	P	9603	CHANGE OUT BIT MOTOR AND 1- DIRECTIONAL SUB TRIP IN THE HOLE TO 2728'
	18:30 - 19:30	1.00	DRLPRV	05	A	P	9603	PUMP THROUGH MUD LINED TO CLEAR THEM FILLED THE PIPE
	19:30 - 20:30	1.00	DRLPRV	09	A	P	9603	SLIP AND CUT 177' OF DRILLING LINE
	20:30 - 0:00	3.50	DRLPRV	06	A	P	9603	TRIP IN THE HOLE TO 8800' AT MIDNIGHT WASHED/ REAMED AT 4761', 5833' AND 8775'
9/15/2013	0:00 - 1:00	1.00	DRLPRV	06	A	P	9603	TRIP IN THE HOLE WITH BIT #2 PRECAUTIONARY: REAMED LAST 2 STANDS DOWN

## Operation Summary Report

Well: NBU 922-30P4BS BLUE

Spud Date: 8/3/2013

Project: UTAH-UINTAH

Site: NBU 922-32D1 PAD

Rig Name No: PROPETRO 12/12, SST 8/8

Event: DRILLING

Start Date: 7/28/2013

End Date: 9/17/2013

Active Datum: RKB @4,991.00usft (above Mean Sea Level)

UWI: NWNW/09/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	1:00 - 3:30	2.50	DRLPRV	02	B	P	9603	DRILL 9603' - 9715' ( 112' @ 44.8' / HR) WEIGHT ON BIT 18-20 K. AVERAGE WEIGHT ON BIT 20K ROTARY RPM 65-70, MUD MOTOR RPM 96 STROKES PER MINUTE 110 GALLONS PER MINUTE 460 OFF/ON PSI 2200/2400 DIFFERENTIAL 200 TORQUE HIGH/LOW 18000/16000 OFF BOTTOM TORQUE 15000 STRING WEIGHT UP/DOWN/ROT 235/150/175 DRAG 60 K. BOS CONVENTIONAL NEEDED WT 11.6 VIS 38. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 6 BBL. FLUID FOR HOLE VOLUME 100 BARRELS LOSSES @ 40 BBL. / HR. 25-30' BOTTOM UP FLARE  BIT POSITION: MD: 9715' - South 13.71' East 13.66' OF CENTER
	3:30 - 5:30	2.00	DRLPRV	05	C	P	9715	CIRCULATE AND CONDITION
	5:30 - 13:00	7.50	DRLPRV	06	A	P	9715	TRIP OUT TO PICK UP THE THROUGH BIT LOGGING ASSEMBLY. PUMP AND ROTATE OUT TO 8000' LAY DOWN THE MUD MOTOR, BIT AND PONY SUB.
	13:00 - 13:30	0.50	DRLPRV	07	A	P	9715	RIG SERVICE
	13:30 - 20:30	7.00	DRLPRV	06	B	P	9715	STRAP / CALIPER AND PICK UP THE LOGGING ASSEMBLY THEN TRIP IN THE HOLE. BROKE CIRCULATION AT THE SHOE AND EVERY 2000'. 7' OF FILL ON BOTTOM
	20:30 - 22:30	2.00	DRLPRV	05	C	P	9715	CIRCULATE AND CONDITION TO LOG START RIGGING UP THRU BIT LOGGERS SAFETY MEETING WITH THRU BIT 11.6 MW 38 VIS 15-20' FLARE ON BOTTOMS UP
	22:30 - 0:00	1.50	DRLPRV	11	D	P	9715	RUN IN WITH WIRELINE THE HOLE AND SET THE LOGGING TOOL IN THE SEATING SUB
9/16/2013	0:00 - 10:30	10.50	EVALPR	11	D	P	9715	TRIP OUT OF THE HOLE WITH THRU BIT LOGGING TOOL @ A MAXIMUM RATE OF 3.5"/ STAND
	10:30 - 11:00	0.50	EVALPR	14	B	P	9715	PULL THE WEAR BUSHING
	11:00 - 12:00	1.00	CSGPRO	12	A	P	9715	RIG UP THE LAYDOWN MACHINE AND FLOOR TO RUN CASING HOLD A SAFETY MEETING WITH THE CASING AND RIG CREWS

## Operation Summary Report

Well: NBU 922-30P4BS BLUE

Spud Date: 8/3/2013

Project: UTAH-UINTAH

Site: NBU 922-32D1 PAD

Rig Name No: PROPETRO 12/12, SST 8/8

Event: DRILLING

Start Date: 7/28/2013

End Date: 9/17/2013

Active Datum: RKB @4,991.00usft (above Mean Sea Level)

UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:00 - 15:00	3.00	CSGPRO	12	A	Z	9715	***FAILURE: 3RD PARTY EQUIPMENT - (CASING CREW EQUIPMENT) STILL TRYING TO RIG UP THE LAYDOWN TRUCK FOR 45 MINUTES. HAD PROBLEMS WITH THE PROPER RIG UP OF THE TORQUE TURN, THE TONGS WERE NOT OPERATING CORRECTLY. CHANGED OUT TONGS. REPLACED TORQUE TURN CABLES. ONLY MANAGED TO RUN 3 JOINTS OF CASING DURING THIS TIME.  BILL WITH KIMZEY AGREED TO DEDUCT TIME FROM THE TICKET
	15:00 - 22:00	7.00	CSGPRO	12	C	P	9715	RAN 220 TOTAL JTS. OF CASING (105 JOINTS OF 4.5'/11.6# / N-80/ LTC + 2 MARKER) + (112 JTS. OF 4.5'/ 11.6#/ I-80/ DQX + 1-DQX CROSS OVER).  LANDED @ 9690.60', FLOAT COLLAR @ 9643.24', MESA VERDE MARKER @ 7382.19', DV TOOL @ 4982.49, CROSS OVER JT. @ 4960.91'.
	22:00 - 23:30	1.50	CSGPRO	05	D	P	9715	CIRCULATE THE CASING ON BOTTOM PUMP: 80 STROKES/ MINUTE 475 PSI 335 GALLON / MINUTE
	23:30 - 0:00	0.50	CSGPRO	21	D	S	9715	*** CIRCULATING AND WAITING ON BJ CEMENTERS
9/17/2013	0:00 - 3:30	3.50	CSGPRO	21	D	S	9715	*** CIRCULATING WAITING ON BJ CEMENTERS TO FINISH ON PIONEER 54
	3:30 - 7:00	3.50	CSGPRO	12	E	P	9715	HELD SAFETY MEETING WITH RIG & BJ CEMENTING CREWS, MUD TRUCK DRIVER & WEATHERFORD DV TOOL HAND, TEST LINES TO 5000, 1st STAGE PUMP 25 BBLS WATER SPACER, 30% EXCESS, 240 BBLS / 1020 SACKS 14.3 PPG 1.32 YLD, 50/50 POZ +0.002 GPS FP-6L + .75 % BWOC SODIUM METASILICATE + 2% BWOC BENTONITE + .05% BWOC STATIC FREE + 10% BWOW SODIUM CHLORIDE + 0.55% R-3 58.7% FRESH WATER  DISPLACE WITH 80 BBLS WATER & 70 BBLS DRILL MUD, BUMP PLUG @ 2200 PSI FINAL LIFT OF 1750, TEST FLOATS, FLOATS HELD WITH 1 BBL BACK TO TRUCK, DROP BOMB 25 MINS TO TAG WAITED 40MINS, OPEN DV TOOL 905 PSI, BREAK CIRC & TURN OVER TO RIG TO CIRC, 0 CEMENT TO PIT 23 BBL. OF WATER TO THE PIT, CEMENT ESTIMATED 120' BELOW DV TOOL

## Operation Summary Report

Well: NBU 922-30P4BS BLUE				Spud Date: 8/3/2013					
Project: UTAH-UINTAH			Site: NBU 922-32D1 PAD			Rig Name No: PROPETRO 12/12, SST 8/8			
Event: DRILLING			Start Date: 7/28/2013			End Date: 9/17/2013			
Active Datum: RKB @4,991.00usft (above Mean Sea Level)				UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation	
	7:00 - 10:30	3.50	CSGPRO	05	D	P	9715	CIRCULATED BETWEEN STAGES 50 STROKES 210 GALLON / MINUTE 135 PSI HELD SAFETY MEETING WITH RIG & BJ CEMENTING CREWS, & WEATHERFORD DV TOOL HAND,	
	10:30 - 12:30	2.00	CSGPRO	12	E	P	9715	TEST LINES TO 5000, 2nd STAGE, LEAD 10% EXCESS, 25 BBLS FRESH WATER, LEAD 231 BBLS/ 645 SACKS 12.5 PPG 2.01 YLD PREMIUM LITE + 0.05 #/SACK OF STATIC FREE + 2% BWOC CALCIUM CHLORIDE, .25 #/SACK CELLO FLAKE + 5 #/SACK KOL-SEAL + .4% BWOC FL52 + .4% BWOC SODIUM METASILICATE + 6% BWOC BENTONITE 101.2% FRESH WATER  TAIL 10 BBLS 50 SACKS, 15.8 PPG 1.16 YLD "G"+.4%SMS+1%CaCl2  SHUT DOWN DROP CLOSING PLUG, DISPLACE WITH 77 BBLS CLAYCARE WATER, BUMP PLUG @ 2700 PSI, 1500 OVER FINAL LIFT OF 800 PSI, BLEED OFF PSI TEST TOOL, 1 BBL BLED BACK OFF, 0 CEMENT AND 23 BBL. OF SPACER TO PIT 2nd STAGE 120' BELOW SURFACE, R/D	
	12:30 - 13:00	0.50	CSGPRO	14	B	P	9715	SET THE PACK OFF	
	13:00 - 14:00	1.00	RDMO	14	A	P	9715	NIPPLE DOWN / CLEAN PITS RIG RELEASED @ 14:00	

US ROCKIES REGION

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 922-30P4BS BLUE	Wellbore No.	OH
Well Name	NBU 922-30P4BS	Wellbore Name	NBU 922-30P4BS
Report No.	1	Report Date	11/11/2013
Project	UTAH-JUNTAH	Site	NBU 922-32D1 PAD
Rig Name/No.		Event	COMPLETION
Start Date	10/10/2013	End Date	11/20/2013
Spud Date	8/3/2013	Active Datum	RKB @4,991.00usft (above Mean Sea Level)
UWI	NWNW/0/9/S/22/E/32/0/0/26/PMN/255W/0/797/0/0		

1.3 General

Contractor		Job Method		Supervisor	
Perforated Assembly		Conveyed Method			

1.4 Initial Conditions

Fluid Type		Fluid Density		Gross Interval	7,440.0 (usft)-9,493.0 (usft)	Start Date/Time	11/11/2013 12:00AM
Surface Press		Estimate Res Press		No. of Intervals	62	End Date/Time	11/11/2013 12:00AM
TVD Fluid Top		Fluid Head		Total Shots	213	Net Perforation Interval	69.00 (usft)
Hydrostatic Press		Press Difference		Avg Shot Density	3.09 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL					Final Press Date	

1.5 Summary


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
11/11/2013 12:00AM	MESAVERDE/			7,440.0	7,442.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N

US ROCKIES REGION

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
11/11/201 3 12:00AM	MESAVERDE/			7,466.0	7,469.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,514.0	7,517.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,550.0	7,551.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,599.0	7,600.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,621.0	7,622.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,676.0	7,677.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,694.0	7,695.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,725.0	7,726.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,782.0	7,783.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,806.0	7,807.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,819.0	7,820.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,841.0	7,842.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,868.0	7,869.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			7,915.0	7,916.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

US ROCKIES REGION

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/11/201 3 12:00AM	MESAVARDE/			7,933.0	7,934.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			7,946.0	7,947.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,013.0	8,014.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,044.0	8,045.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,049.0	8,050.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,063.0	8,064.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,075.0	8,076.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,110.0	8,111.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,120.0	8,121.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,126.0	8,127.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,138.0	8,139.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,223.0	8,224.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,270.0	8,271.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,275.0	8,276.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

US ROCKIES REGION

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
11/11/201 3 12:00AM	MESAVARDE/			8,289.0	8,290.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,332.0	8,333.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,373.0	8,374.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,386.0	8,387.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,408.0	8,409.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,447.0	8,448.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,456.0	8,457.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,486.0	8,487.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,539.0	8,540.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,623.0	8,624.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,675.0	8,676.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,728.0	8,729.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,743.0	8,744.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,807.0	8,808.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

US ROCKIES REGION

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
11/11/201 3 12:00AM	MESAVARDE/			8,822.0	8,823.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,830.0	8,831.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,912.0	8,913.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,942.0	8,943.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			8,969.0	8,970.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			9,016.0	9,017.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			9,038.0	9,039.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			9,051.0	9,052.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			9,057.0	9,058.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			9,063.0	9,064.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			9,084.0	9,085.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			9,101.0	9,102.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			9,202.0	9,203.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVARDE/			9,265.0	9,266.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

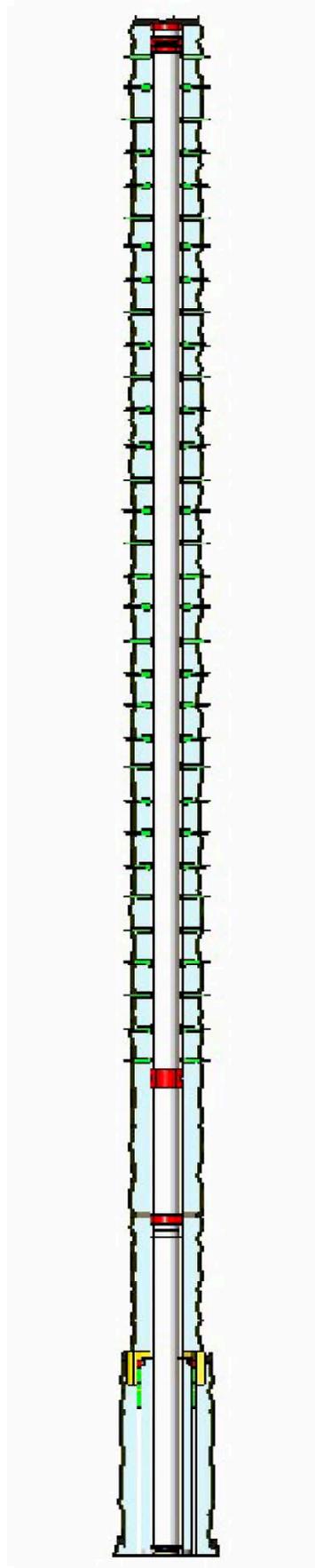
US ROCKIES REGION

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Weight (gram)	Reason	Misrun
11/11/201 3 12:00AM	MESAVERDE/			9,332.0	9,333.0	3.00		0.360	EXP/	3.375	120.00	23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			9,359.0	9,360.0	3.00		0.360	EXP/	3.375	120.00	23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			9,426.0	9,427.0	3.00		0.360	EXP/	3.375	120.00	23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			9,448.0	9,450.0	3.00		0.360	EXP/	3.375	120.00	23.00	PRODUCTIO N	
11/11/201 3 12:00AM	MESAVERDE/			9,491.0	9,493.0	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 922-30P4BS BLUE				Spud Date: 8/3/2013			
Project: UTAH-UINTAH			Site: NBU 922-32D1 PAD			Rig Name No: MILES 3/3	
Event: COMPLETION			Start Date: 10/10/2013		End Date: 11/20/2013		
Active Datum: RKB @4,991.00usft (above Mean Sea Level)				UWI: NWNW/09/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/7/2013	-							
10/10/2013	7:00 - 10:00	3.00	SUBSPR	32	A	P		MIRU CUDD COIL TBG,
	10:00 - 17:30	7.50	SUBSPR	32	F	P		RIH W/ 3 7/8" MILL AND 2" COIL TBG, TAG CEMENT @ 4832', MILL OUT CEMENT TO 4982', MILL OUT DV TOOL @ 4982', MILL OUT IN 30 MIN, RIH TO PBTD @ 9643', CIRC BOTTOM UP, TOOH W/ COIL W/ KEEP WELL FULL OF T-MAC WTR,
10/12/2013	-							
10/30/2013	9:00 - 10:00	1.00	SUBSPR	52	E	P		SURFACE CASING HAD 200 PSI, BLED DOWN, RU HOT OILER, WELL FULL, PRESSURE TESTED TO 750 PSI HELD PRESSURE BLED WELL DOWN REINSTALL POP OFF EQUIP
11/6/2013	9:00 - 10:00	1.00	SUBSPR	52	B	P		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST -142 PSI. 2ND PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST -91 PSI NO COMMUNICATION, VERY SLIGHT MIGRATION FROM SURFACE CSG BLEED OFF PSI.  PRESSURE TEST 8 5/8 X 4 1/2 TO 530 PSI HELD FOR 5 MIN LOST -119 PSI, BLED PSI OFF, REINSTALLED POP OFF SWIFN 200 PRESSURE ON SURFACE CASING SURFACE CASING WAS FULL
11/8/2013	7:00 - 12:00	5.00	SUBSPR	37		P		PERF STG 1)PU 3 1/8 EXP GUN, 19 GM, .40 HOLE SIZE. RIH PERFWELL, AS PER PERF DESIGN. POOH. SWIFW
11/11/2013	6:30 - 6:45	0.25	FRAC	48		P		HSM-JSA
	6:45 - 18:00	11.25	FRAC	36	H	P		FRAC STG #1) WHP 1412 PSI, BRK 3094 PSI @ 3.9 BPM. ISIP 2183 PSI, FG. 0.67 ISIP 2777 PSI, FG. 0.73, NPI 594 PSI, SWI, SDFN.
11/12/2013	6:15 - 6:30	0.25	FRAC	48		P		HSM-JSA

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: MILES 3/3
Event: COMPLETION		Start Date: 10/10/2013	End Date: 11/20/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:30 - 17:30	11.00	FRAC	36	H	P		<p>SET CBP &amp; PERF STG #2 AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #2) WHP 1600 PSI, BRK 3021 PSI @ 3.9 BPM. ISIP 1877 PSI, FG. 0.64 ISIP 2765 PSI, FG. 0.74, NPI 888 PSI, X/O TO WL.</p> <p>SET CBP &amp; PERF STG #3 AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #3) WHP 996 PSI, BRK 3003 PSI @ 3.9 BPM. ISIP 1761 PSI, FG. 0.64 ISIP 2440 PSI, FG. 0.71, NPI 679 PSI, X/O TO WL.</p> <p>SET CBP &amp; PERF STG #4 AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #4) WHP 1333 PSI, BRK 2513 PSI @ 3.5 BPM. ISIP 1834 PSI, FG. 0.65 ISIP 2524 PSI, FG. 0.73, NPI 690 PSI, X/O TO WL.</p>
11/13/2013	6:15 - 6:30	0.25	FRAC	48		P		SET CBP & PERF STG #5 AS DESIGNED, SWI, SDFN. HSM-JSA
	6:30 - 17:00	10.50	FRAC	36	H	P		<p>FRAC STG #5) WHP 1396 PSI, BRK 3546 PSI @ 3.5 BPM. ISIP 2449 PSI, FG. 0.73 ISIP 2778 PSI, FG. 0.77, NPI 329 PSI, X/O TO WL.</p> <p>SET CBP &amp; PERF STG #6 AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #6) WHP 1680 PSI, BRK 2059 PSI @ 3.9 BPM. ISIP 1766 PSI, FG. 0.66 ISIP 2541 PSI, FG. 0.75, NPI 775 PSI, X/O TO WL.</p> <p>SET CBP &amp; PERF STG #7 AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #7) WHP 1612 PSI, BRK 2232 PSI @ 3.1 BPM. ISIP 1672 PSI, FG. 0.65 ISIP 2304 PSI, FG. 0.73, NPI 632 PSI, X/O TO WL.</p>
11/14/2013	7:00 - 7:15	0.25	FRAC	48		P		SET CBP & PERF STG #8 AS DESIGNED, SWI, SDFN. HSM-JSA

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: MILES 3/3
Event: COMPLETION		Start Date: 10/10/2013	End Date: 11/20/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 14:00	6.75	FRAC	36	H	P		<p>FRAC STG #8) WHP 1427 PSI, BRK 2199 PSI @ 3.9 BPM. ISIP 1621 PSI, FG. 0.65 ISIP 2088 PSI, FG. 0.71, NPI 467 PSI, X/O TO WL.</p> <p>SET CBP &amp; PERF STG #9 AS DESIGNED, X/O TO FRAC.</p> <p>FRAC STG #9) WHP 472 PSI, BRK 2443 PSI @ 4.9 BPM. ISIP 1607 PSI, FG. 0.65 ISIP 2113 PSI, FG. 0.72, NPI 506 PSI, X/O TO WL.</p> <p>SET TOP KILL PLUG, SWI, RDMO WL &amp; FRAC EQUIP.</p> <p>TOTAL CLN FLUID- 10990 BBLS TOTAL SAND- 217821 LBS</p>
11/19/2013	7:00 - 7:30	0.50	DRLOUT	48		P		HSM, RIGGING DOWN & RIGGING UP.
	7:30 - 9:30	2.00	DRLOUT	30	A	P		RIG DWN OF 1 OF 4, MOVED OVER & RIGGED UP, ND WH NU BOPS RU FLOOR & TBG EQUIP.
	9:30 - 17:00	7.50	DRLOUT	31	I	P		<p>TALLY &amp; PU 37/8 BIT, POBS, 1.875 X/N, 150 JTS 23/8 J-55, L-80 PUP JT, 82 JTS 23/8 L-80, TAG UP @ 7356' RU DRLG EQUIP BROKE CIRC CONV, TEST BOPS TO 3,000 PSI, RIH.</p> <p>C/O 30' SAND TAG 1ST PLUG @ 7380' DRL PLG IN 3 MIN, 400 PSI INCREASE RIH.</p> <p>C/O 20' SAND TAG 2ND PLUG @ 7535' DRL PLG IN 2 MIN, 200 PSI INCREASE RIH.</p> <p>C/O 10' SAND TAG 3RD PLUG @ 7796' DRL PLG IN 2 MIN, 300 PSI INCREASE RIH TO 7868 CIRC CLN SWI DRAIN EQUIP SDFN.</p>
11/20/2013	7:00 - 7:30	0.50	DRLOUT	48		P		HSM, DRILLING PLUGS TROUGH VESSEL.

Operation Summary Report

Well: NBU 922-30P4BS BLUE		Spud Date: 8/3/2013	
Project: UTAH-UINTAH		Site: NBU 922-32D1 PAD	Rig Name No: MILES 3/3
Event: COMPLETION		Start Date: 10/10/2013	End Date: 11/20/2013
Active Datum: RKB @4,991.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/32/0/0/26/PM/N/255/N/0/797/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:30 - 14:00	6.50	DRLOUT	44	D	P		<p>SICP 1600 , OPEN WELL TO VESSEL, BROKE CIRC CONV, RIH.</p> <p>C/O 115' SAND TAG 4TH PLUG @ 8026' DRL PLG IN 4 MIN, 400 PSI INCREASE RIH.</p> <p>C/O 30' SAND TAG 5TH PLUG @ 8169' DRL PLG IN 6 MIN, 500 PSI INCREASE RIH.</p> <p>C/O 25' SAND TAG 6TH PLUG @ 8434' DRL PLG IN 7 MIN, 400 PSI INCREASE RIH.</p> <p>C/O 45' SAND TAG 7TH PLUG @ 8706' DRL PLG IN 5 MIN, 400 PSI INCREASE RIH.</p> <p>C/O 55' SAND TAG 8TH PLUG @ 9000' DRL PLG IN 6 MIN, 400 PSI INCREASE RIH. VESSEL WASHED OUT,</p> <p>C/O 25' SAND TAG 9TH PLUG @ 9233' DRL PLG IN 4 MIN, 500 PSI INCREASE RIH.</p> <p>C/O TO 9593', CIRC CLN, RD SWIVEL, L/D 19 JTS, LAND TBG, ND BOPS NU WH, PUMPED OFF BIT, TURN WELL TO FB CREW.</p> <p>( SURFACE VALVE OPEN &amp; LOCKED ) SICP 1800 FTP 100</p> <p>KB = 19'</p> <p>41/16 HANGER = .83'</p> <p>133 JTS 23/8 L-80 = 4199.02'</p> <p>6' L-80 PUP JT = 6.13'</p> <p>150 JTS 23/8 J-55 = 4757.11'</p> <p>POBS W/ 1.875 X/N = 2.20'</p> <p>EOT @ 8989.29'</p> <p>TWTR 11,200 BBLS</p> <p>TWR 900 BBLS</p> <p>TWLTR 10,300 BBLS</p> <p>315 JT HAULED OUT, 150 J-55, 165 L-80.</p> <p>283 LANDED</p> <p>32 TO RETURN L-80</p>
	14:00 - 14:00	0.00	DRLOUT	50				<p>WELL TURNED TO SALES @ 12:30 HR ON 11/20/2013. 500 MCFD, 1920 BWPD, FCP 1700#, FTP 1185#, 20/64" CK .</p>

# Anadarko Petroleum Corporation



**Project:** Uintah Co., UT  
**Site:** Sec 32-T9S-R22E  
**Well:** NBU 922-30P4BS  
**Wellbore:** Original Hole  
**Final Surveys**  
**Rig:** SST 8

**Surface Location:**  
 SHL 255' FNL & 797' FWL Sec 32-T9S-R22E

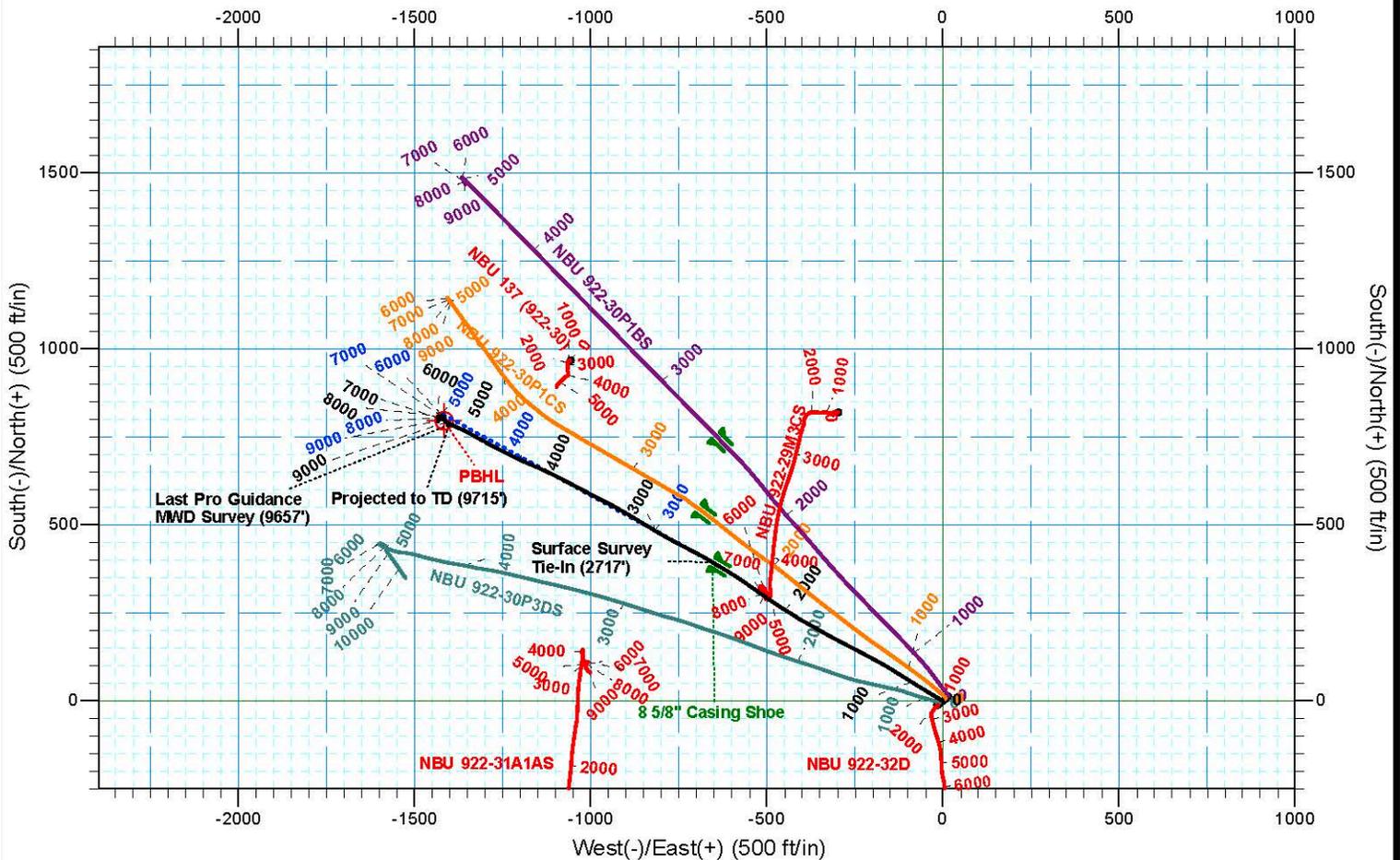
US State Plane 1927 (Exact solution)  
 Utah Central 4302  
**Elevation: 4960' GL + 24' KB @ 4984.00ft (SST 8)**  
 Northing 613178.90    Easting 2568721.79    Latitude 39.999115    Longitude -109.469759

**SECTION DETAILS**  
 Plan 1

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
2717.00	23.48	300.30	2573.19	394.43	-653.64	0.00	0.00	763.06	Surface Survey Tie-In/Begin Turn at 2717' MD, 2573' TVD
2746.60	23.48	298.74	2600.34	400.24	-663.90	2.10	-90.72	774.86	Begin Hold at 2747' MD, 2600' TVD
4357.60	23.48	298.74	4077.95	708.87	-1226.70	0.00	0.00	1416.69	Begin Drop at 4358' MD, 4078' TVD
5475.69	0.00	0.00	5165.01	817.50	-1424.78	2.10	180.00	1642.59	Begin Build at 5476' MD, 5165' TVD
5582.36	0.32	157.84	5271.67	817.22	-1424.67	0.30	157.84	1642.35	Begin Hold at 5582' MD, 5272' TVD
9691.75	0.32	157.84	9381.00	796.05	-1416.04	0.00	-180.00	1624.46	<b>PBHL</b>

**WELLBORE TARGET DETAILS (LAT/LONG)**

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
<b>PBHL</b>	9381.00	796.05	-1416.04	40.001388	-109.474748



**Azimuths to Grid North**  
 True North: -1.30°  
 Magnetic North: 9.48°

Magnetic Field  
 Strength: 52112.5snT  
 Dip Angle: 65.82°  
 Date: 09/01/2013  
 Model: IGRF2010

To convert a Magnetic Direction to a Grid Direction, Add 9.48°

Created By: Bob Hays    Date: 14:51, September 16 2013

# Anadarko Petroleum Corporation



**Project: Uintah Co., UT**  
**Site: Sec 32-T9S-R22E**  
**Well: NBU 922-30P4BS**  
**Wellbore: Original Hole**  
**Final Surveys**  
**Rig: SST 8**

**Surface Location:**  
**SHL 255' FNL & 797' FWL Sec 32-T9S-R22E**

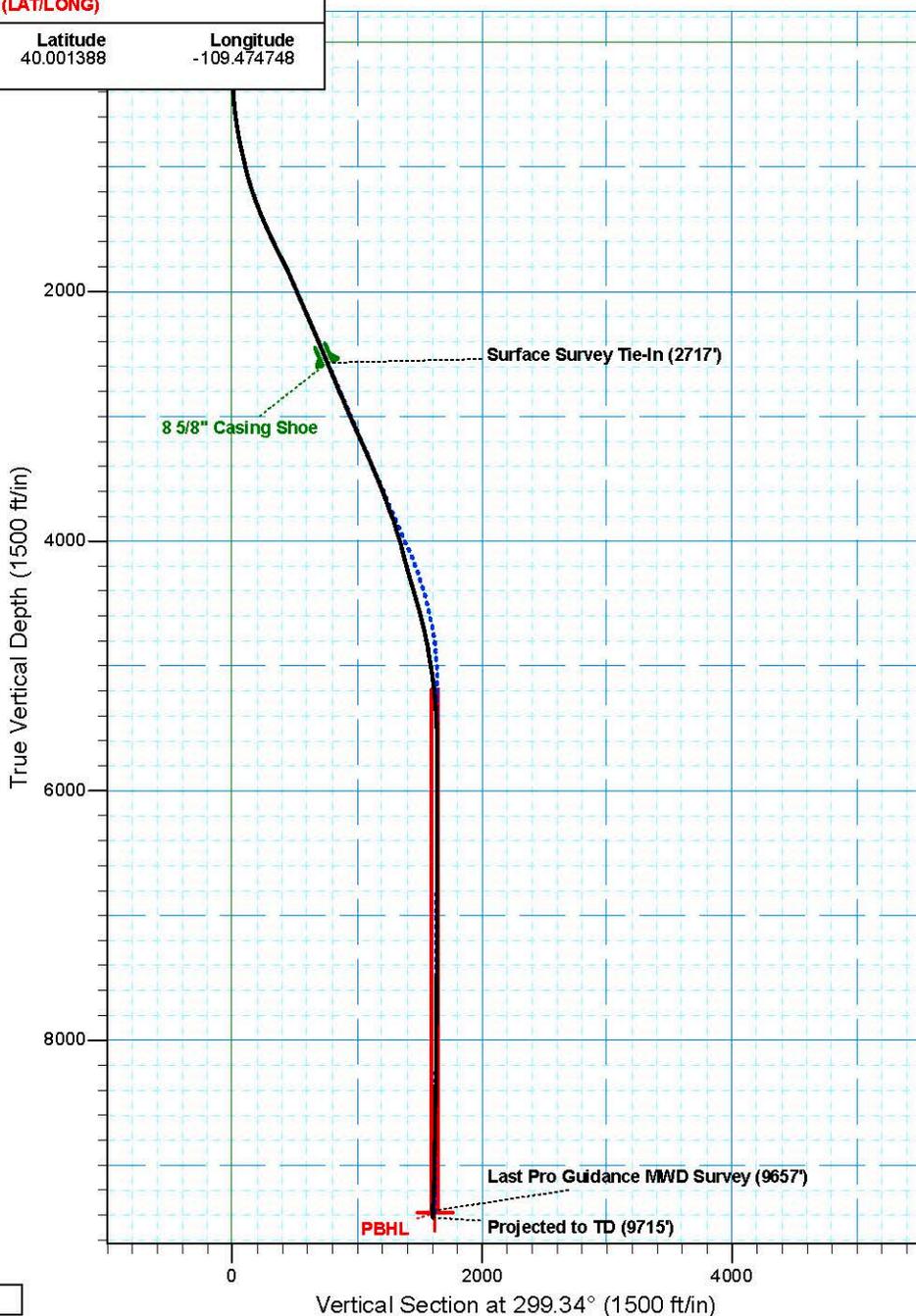
US State Plane 1927 (Exact solution)  
 Utah Central 4302  
**Elevation: 4960' GL + 24' KB @ 4984.00ft (SST 8)**  
**Northing** 613178.90 **Easting** 2568721.79 **Latitude** 39.999115 **Longitude** -109.469759

**SECTION DETAILS**  
 Plan 1

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
2717.00	23.48	300.30	2573.19	394.43	-653.64	0.00	0.00	763.06	Surface Survey Tie-In/Begin Turn at 2717' MD, 2573' TVD
2746.60	23.48	298.74	2600.34	400.24	-663.90	2.10	-90.72	774.86	Begin Hold at 2747' MD, 2600' TVD
4357.60	23.48	298.74	4077.95	708.87	-1226.70	0.00	0.00	1416.69	Begin Drop at 4358' MD, 4078' TVD
5475.69	0.00	0.00	5165.01	817.50	-1424.78	2.10	180.00	1642.59	Begin Build at 5476' MD, 5165' TVD
5582.36	0.32	157.84	5271.67	817.22	-1424.67	0.30	157.84	1642.35	Begin Hold at 5582' MD, 5272' TVD
9691.75	0.32	157.84	9381.00	796.05	-1416.04	0.00	-180.00	1624.46	<b>PBHL</b>

**WELLBORE TARGET DETAILS (LAT/LONG)**

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
<b>PBHL</b>	9381.00	796.05	-1416.04	40.001388	-109.474748





# **Anadarko Petroleum Corporation**

Uintah Co., UT  
Sec 32-T9S-R22E  
NBU 922-30P4BS

Original Hole

Design: Final Surveys

## **Standard Survey Report**

16 September, 2013





<b>Company:</b>	Anadarko Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well NBU 922-30P4BS
<b>Project:</b>	Uintah Co., UT	<b>TVD Reference:</b>	4960' GL + 24' KB @ 4984.00ft (SST 8)
<b>Site:</b>	Sec 32-T9S-R22E	<b>MD Reference:</b>	4960' GL + 24' KB @ 4984.00ft (SST 8)
<b>Well:</b>	NBU 922-30P4BS	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Final Surveys	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Uintah Co., UT		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Utah Central 4302		

<b>Site</b>	Sec 32-T9S-R22E				
<b>Site Position:</b>		<b>Northing:</b>	613,191.66 ft	<b>Latitude:</b>	39.999149
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,568,737.19 ft	<b>Longitude:</b>	-109.469703
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.30 °

<b>Well</b>	NBU 922-30P4BS					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	613,178.90 ft	<b>Latitude:</b>	39.999115
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,568,721.79 ft	<b>Longitude:</b>	-109.469759
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft	<b>Ground Level:</b>	4,960.00 ft

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	09/01/13	10.78	65.82	52,113

<b>Survey Program</b>	Date 09/16/13				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
180.00	2,717.00	Surface Surveys (Original Hole)	MWD	MWD	
2,799.00	9,657.00	Pro Guidance MWD Surveys (Original Hd	MWD	MWD	
9,715.00	9,715.00	Projected to TD (Original Hole)	MWD	MWD	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
180.00	0.35	317.09	180.00	0.40	-0.37	0.52	0.19	0.19	0.00	
262.00	1.39	306.44	261.99	1.18	-1.34	1.75	1.28	1.27	-12.99	
347.00	2.81	300.30	346.93	2.84	-3.97	4.86	1.69	1.67	-7.22	
435.00	4.22	299.33	434.76	5.51	-8.66	10.25	1.60	1.60	-1.10	
525.00	5.72	300.92	524.42	9.44	-15.39	18.05	1.67	1.67	1.77	
615.00	7.21	301.44	613.85	14.69	-24.06	28.17	1.66	1.66	0.58	
705.00	9.06	301.09	702.94	21.30	-34.95	40.90	2.06	2.06	-0.39	
795.00	11.17	301.09	791.53	29.46	-48.48	56.70	2.34	2.34	0.00	
885.00	12.84	301.18	879.56	39.14	-64.51	75.41	1.86	1.86	0.10	
975.00	14.60	302.15	966.99	50.35	-82.67	96.74	1.97	1.96	1.08	
1,065.00	15.21	301.53	1,053.96	62.56	-102.33	119.86	0.70	0.68	-0.69	
1,155.00	16.98	301.69	1,140.43	75.64	-123.58	144.79	1.97	1.97	0.18	
1,245.00	18.47	301.80	1,226.16	90.06	-146.88	172.17	1.66	1.66	0.12	
1,335.00	19.70	300.42	1,311.21	105.25	-172.08	201.58	1.46	1.37	-1.53	



<b>Company:</b>	Anadarko Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well NBU 922-30P4BS
<b>Project:</b>	Uintah Co., UT	<b>TVD Reference:</b>	4960' GL + 24' KB @ 4984.00ft (SST 8)
<b>Site:</b>	Sec 32-T9S-R22E	<b>MD Reference:</b>	4960' GL + 24' KB @ 4984.00ft (SST 8)
<b>Well:</b>	NBU 922-30P4BS	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Final Surveys	<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)	
1,425.00	22.42	298.37	1,395.19	121.09	-200.27	233.91	3.13	3.02	-2.28	
1,515.00	24.09	297.93	1,477.87	137.85	-231.60	269.44	1.87	1.86	-0.49	
1,605.00	25.70	297.57	1,559.51	155.49	-265.13	307.31	1.80	1.79	-0.40	
1,695.00	26.29	297.32	1,640.40	173.67	-300.14	346.73	0.67	0.66	-0.28	
1,785.00	26.38	298.98	1,721.06	192.50	-335.33	386.65	0.82	0.10	1.84	
1,875.00	25.85	300.30	1,801.88	212.09	-369.77	426.26	0.87	-0.59	1.47	
1,965.00	24.62	300.04	1,883.29	231.38	-402.94	464.62	1.37	-1.37	-0.29	
2,055.00	22.69	301.88	1,965.72	249.93	-433.91	500.71	2.30	-2.14	2.04	
2,145.00	23.57	303.55	2,048.49	269.04	-463.65	536.00	1.22	0.98	1.86	
2,235.00	23.92	304.08	2,130.87	289.21	-493.76	572.13	0.46	0.39	0.59	
2,325.00	23.39	305.40	2,213.31	309.78	-523.43	608.08	0.83	-0.59	1.47	
2,415.00	24.09	304.61	2,295.69	330.57	-553.11	644.14	0.85	0.78	-0.88	
2,505.00	22.95	303.91	2,378.21	350.79	-582.79	679.92	1.30	-1.27	-0.78	
2,595.00	22.95	301.53	2,461.09	369.75	-612.31	714.94	1.03	0.00	-2.64	
2,685.00	23.39	300.48	2,543.83	387.99	-642.66	750.34	0.67	0.49	-1.17	
2,717.00	23.48	300.30	2,573.19	394.43	-653.64	763.06	0.36	0.28	-0.56	
<b>Surface Survey Tie-In (2717')</b>										
2,799.00	23.00	299.30	2,648.54	410.51	-681.71	795.42	0.76	-0.59	-1.22	
2,863.00	22.80	297.30	2,707.49	422.32	-703.64	820.31	1.26	-0.31	-3.13	
2,958.00	23.60	298.70	2,794.81	439.89	-736.68	857.73	1.02	0.84	1.47	
3,053.00	21.70	296.90	2,882.48	456.97	-769.02	894.29	2.13	-2.00	-1.89	
3,149.00	23.10	298.90	2,971.24	474.11	-801.34	930.86	1.66	1.46	2.08	
3,244.00	24.60	302.10	3,058.13	493.62	-834.41	969.25	2.08	1.58	3.37	
3,339.00	23.90	301.90	3,144.74	514.30	-867.50	1,008.22	0.74	-0.74	-0.21	
3,434.00	24.30	299.60	3,231.46	534.12	-900.83	1,047.00	1.07	0.42	-2.42	
3,529.00	23.90	299.20	3,318.18	553.17	-934.63	1,085.79	0.45	-0.42	-0.42	
3,625.00	22.30	297.50	3,406.48	571.07	-967.76	1,123.44	1.81	-1.67	-1.77	
3,720.00	21.90	297.60	3,494.50	587.60	-999.45	1,159.16	0.42	-0.42	0.11	
3,815.00	22.50	297.60	3,582.46	604.23	-1,031.26	1,195.04	0.63	0.63	0.00	
3,910.00	21.10	297.10	3,670.67	620.44	-1,062.59	1,230.30	1.49	-1.47	-0.53	
4,005.00	20.30	296.90	3,759.53	635.68	-1,092.51	1,263.85	0.85	-0.84	-0.21	
4,101.00	17.90	295.70	3,850.24	649.62	-1,120.66	1,295.22	2.53	-2.50	-1.25	
4,195.00	17.60	293.80	3,939.77	661.62	-1,146.68	1,323.78	0.69	-0.32	-2.02	
4,290.00	15.40	291.90	4,030.85	672.12	-1,171.53	1,350.59	2.38	-2.32	-2.00	
4,385.00	15.30	296.10	4,122.46	682.34	-1,194.49	1,375.61	1.17	-0.11	4.42	
4,481.00	14.60	294.80	4,215.21	692.99	-1,216.85	1,400.32	0.81	-0.73	-1.35	
4,576.00	14.50	296.40	4,307.17	703.30	-1,238.37	1,424.13	0.44	-0.11	1.68	
4,671.00	16.10	298.40	4,398.80	714.85	-1,260.61	1,449.18	1.77	1.68	2.11	
4,766.00	17.60	300.10	4,489.72	728.32	-1,284.62	1,476.71	1.66	1.58	1.79	
4,861.00	14.90	298.00	4,580.91	741.26	-1,307.84	1,503.29	2.91	-2.84	-2.21	
4,956.00	13.70	297.30	4,672.97	752.15	-1,328.62	1,526.74	1.28	-1.26	-0.74	
5,051.00	12.00	297.60	4,765.59	761.89	-1,347.37	1,547.86	1.79	-1.79	0.32	
5,146.00	10.70	296.90	4,858.73	770.46	-1,363.99	1,566.54	1.38	-1.37	-0.74	
5,241.00	9.40	295.40	4,952.27	777.77	-1,378.86	1,583.09	1.40	-1.37	-1.58	



**Professional Directional LTD**

Survey Report



<b>Company:</b>	Anadarko Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well NBU 922-30P4BS
<b>Project:</b>	Uintah Co., UT	<b>TVD Reference:</b>	4960' GL + 24' KB @ 4984.00ft (SST 8)
<b>Site:</b>	Sec 32-T9S-R22E	<b>MD Reference:</b>	4960' GL + 24' KB @ 4984.00ft (SST 8)
<b>Well:</b>	NBU 922-30P4BS	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Final Surveys	<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)	
5,336.00	8.70	294.90	5,046.08	784.13	-1,392.39	1,598.00	0.74	-0.74	-0.53	
5,431.00	7.00	301.10	5,140.19	790.14	-1,403.86	1,610.95	2.00	-1.79	6.53	
5,527.00	5.10	303.50	5,235.65	795.52	-1,412.43	1,621.05	2.00	-1.98	2.50	
5,622.00	4.00	316.50	5,330.36	800.25	-1,418.23	1,628.43	1.58	-1.16	13.68	
5,716.00	3.60	322.90	5,424.15	804.99	-1,422.27	1,634.27	0.62	-0.43	6.81	
5,812.00	2.40	301.90	5,520.02	808.45	-1,425.79	1,639.04	1.68	-1.25	-21.88	
5,907.00	1.20	262.00	5,614.97	809.37	-1,428.47	1,641.82	1.76	-1.26	-42.00	
6,002.00	1.10	242.80	5,709.95	808.81	-1,430.26	1,643.11	0.42	-0.11	-20.21	
6,097.00	1.10	228.90	5,804.94	807.79	-1,431.76	1,643.92	0.28	0.00	-14.63	
6,192.00	0.00	280.80	5,899.93	807.19	-1,432.45	1,644.22	1.16	-1.16	0.00	
6,287.00	1.10	206.60	5,994.93	806.38	-1,432.86	1,644.18	1.16	1.16	0.00	
6,382.00	1.40	194.80	6,089.90	804.44	-1,433.56	1,643.84	0.41	0.32	-12.42	
6,478.00	1.40	178.60	6,185.87	802.14	-1,433.83	1,642.95	0.41	0.00	-16.88	
6,572.00	1.50	178.80	6,279.84	799.76	-1,433.78	1,641.74	0.11	0.11	0.21	
6,667.00	1.60	180.50	6,374.81	797.19	-1,433.76	1,640.47	0.12	0.11	1.79	
6,762.00	0.70	189.60	6,469.79	795.29	-1,433.87	1,639.63	0.96	-0.95	9.58	
6,858.00	0.90	178.70	6,565.78	793.96	-1,433.95	1,639.05	0.26	0.21	-11.35	
6,953.00	0.80	33.30	6,660.78	793.77	-1,433.57	1,638.62	1.71	-0.11	-153.05	
7,048.00	2.30	18.90	6,755.74	796.12	-1,432.59	1,638.92	1.62	1.58	-15.16	
7,143.00	2.20	19.20	6,850.67	799.65	-1,431.37	1,639.59	0.11	-0.11	0.32	
7,238.00	1.60	20.60	6,945.61	802.61	-1,430.31	1,640.11	0.63	-0.63	1.47	
7,333.00	1.10	31.40	7,040.59	804.63	-1,429.37	1,640.28	0.59	-0.53	11.37	
7,428.00	0.80	46.70	7,135.57	805.87	-1,428.41	1,640.05	0.41	-0.32	16.11	
7,523.00	0.40	76.30	7,230.57	806.40	-1,427.60	1,639.61	0.52	-0.42	31.16	
7,618.00	1.30	33.60	7,325.56	807.38	-1,426.68	1,639.29	1.10	0.95	-44.95	
7,713.00	1.20	36.90	7,420.53	809.07	-1,425.49	1,639.08	0.13	-0.11	3.47	
7,808.00	1.00	64.50	7,515.52	810.22	-1,424.14	1,638.47	0.59	-0.21	29.05	
7,904.00	0.90	95.00	7,611.51	810.52	-1,422.64	1,637.30	0.53	-0.10	31.77	
7,998.00	0.80	100.80	7,705.49	810.33	-1,421.26	1,636.00	0.14	-0.11	6.17	
8,093.00	1.00	122.80	7,800.48	809.76	-1,419.91	1,634.55	0.42	0.21	23.16	
8,188.00	1.00	126.80	7,895.47	808.81	-1,418.55	1,632.90	0.07	0.00	4.21	
8,284.00	0.30	26.10	7,991.46	808.53	-1,417.77	1,632.08	1.14	-0.73	-104.90	
8,379.00	0.30	117.40	8,086.46	808.64	-1,417.44	1,631.85	0.45	0.00	96.11	
8,474.00	0.70	137.30	8,181.46	808.10	-1,416.82	1,631.05	0.45	0.42	20.95	
8,570.00	0.90	161.90	8,277.45	806.95	-1,416.19	1,629.93	0.41	0.21	25.63	
8,664.00	1.00	166.00	8,371.44	805.46	-1,415.76	1,628.83	0.13	0.11	4.36	
8,759.00	1.10	163.50	8,466.42	803.78	-1,415.30	1,627.60	0.12	0.11	-2.63	
8,854.00	1.10	144.20	8,561.40	802.16	-1,414.51	1,626.12	0.39	0.00	-20.32	
8,950.00	1.50	150.80	8,657.38	800.32	-1,413.36	1,624.21	0.44	0.42	6.88	
9,045.00	1.30	151.30	8,752.35	798.29	-1,412.23	1,622.24	0.21	-0.21	0.53	
9,140.00	1.60	157.00	8,847.32	796.12	-1,411.20	1,620.27	0.35	0.32	6.00	
9,236.00	1.90	158.10	8,943.28	793.41	-1,410.08	1,617.97	0.31	0.31	1.15	
9,331.00	1.60	138.00	9,038.23	790.97	-1,408.61	1,615.49	0.71	-0.32	-21.16	



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<b>Well:</b>	NBU 922-30P4BS	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Final Surveys	<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)	
9,426.00	1.60	140.10	9,133.19	788.96	-1,406.87	1,612.99	0.06	0.00	2.21	
9,521.00	1.50	140.20	9,228.16	786.99	-1,405.22	1,610.59	0.11	-0.11	0.11	
9,614.00	1.60	150.80	9,321.13	784.92	-1,403.81	1,608.34	0.33	0.11	11.40	
9,657.00	1.70	151.00	9,364.11	783.84	-1,403.21	1,607.29	0.23	0.23	0.47	
<b>Last Pro Guidance MWD Survey (9657')</b>										
9,715.00	1.70	151.00	9,422.08	782.33	-1,402.37	1,605.82	0.00	0.00	0.00	
<b>Projected to TD (9715')</b>										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
PBHL NBU 922-30P4	0.00	0.00	9,381.00	796.05	-1,416.04	613,974.95	2,567,305.75	40.001388	-109.474748	
- hit/miss target										
- Shape										
- actual wellpath misses target center by 24.48ft at 9657.00ft MD (9364.11 TVD, 783.84 N, -1403.21 E)										
- Circle (radius 25.00)										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
2,717.00	2,573.19	394.43	-653.64	Surface Survey Tie-In (2717')	
9,657.00	9,364.11	783.84	-1,403.21	Last Pro Guidance MWD Survey (9657')	
9,715.00	9,422.08	782.33	-1,402.37	Projected to TD (9715')	