

**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 1022-7B4BS
<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 23609	<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"/>

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1051 FNL 2093 FWL	NENW	7	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	908 FNL 1672 FEL	NWNE	7	10.0 S	22.0 E	S
At Total Depth	908 FNL 1672 FEL	NWNE	7	10.0 S	22.0 E	S

<b>21. COUNTY</b> UINTAH	<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 908	<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 294
<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 375	<b>26. PROPOSED DEPTH</b> MD: 10478 TVD: 10300	
<b>27. ELEVATION - GROUND LEVEL</b> 5163	<b>28. BOND NUMBER</b> 22013542	<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496

Hole, Casing, and Cement Information										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2380	28.0	J-55 LT&C	0.2	Type V	110	1.15	15.8
							Class G	160	1.15	15.8
Prod	7.875	4.5	0 - 10478	11.6	I-80 Buttress	13.0	Premium Lite High Strength	300	3.38	11.0
							50/50 Poz	1370	1.31	14.3

**ATTACHMENTS**

**VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

<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> Andy Lytle	<b>TITLE</b> Regulatory Analyst	<b>PHONE</b> 720 929-6100
<b>SIGNATURE</b>	<b>DATE</b> 12/28/2010	<b>EMAIL</b> andrew.lytle@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047514330000	<b>APPROVAL</b>  Permit Manager	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 1022-7B4BS**

Surface: 1051 FNL / 2093 FWL NENW  
 BHL: 908 FNL / 1672 FEL NWNE

Section 7 T10S R22E

Unitah County, Utah  
 Mineral Lease: UT ST ML 23609

**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

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

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1203	
Birds Nest	1549	Water
Mahogany	1929	Water
Wasatch	4450	Gas
Mesaverde	7036	Gas
MVU2	7104	Gas
MVL1	8532	Gas
Sego*	9149	
Castlegate*	9338	
MN5*	9792	
TVD	10300	
TD	10,478	

\* The Blackhawk formation is in the Mesaverde group

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

*Please refer to the attached Drilling Program*

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

*Please refer to the attached Drilling Program*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program*

**6. Evaluation Program:**

*Please refer to the attached Drilling Program*

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 10,300' TVD, approximately equals 6,845 psi (calculated at 0.66 psi/foot).

Maximum anticipated surface pressure equals approximately 4,579 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

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

**9. Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

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

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

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

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

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

***Background***

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

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

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

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

#### *Variance for BOPE Requirements*

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

#### *Variance for Mud Material Requirements*

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

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

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

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

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

350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie 4 of 4 line.

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

**Conclusion**

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

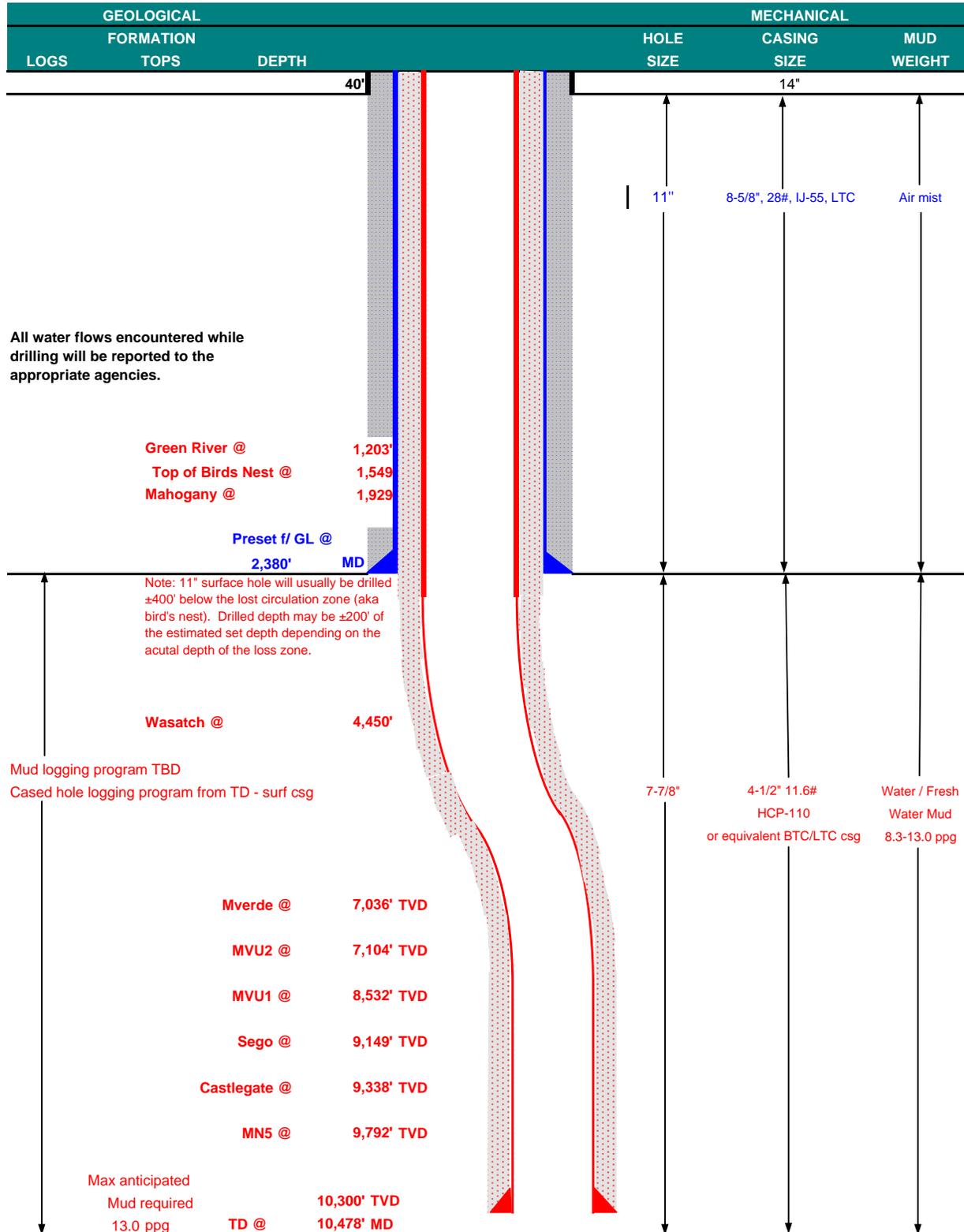
10. **Other Information:**

Please refer to the attached Drilling Program.



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	December 28, 2010	
WELL NAME	<b>NBU 1022-7B4BS</b>		TD	10,300' TVD	10,478' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
SURFACE LOCATION	NENW	1051 FNL	2093 FWL	Sec 7 T 10S R 22E	FINISHED ELEVATION 5,161'
BTM HOLE LOCATION	Latitude: 39.967845		Longitude: -109.482343		NAD 27
	NWNE	908 FNL	1672 FEL	Sec 7 T 10S R 22E	
OBJECTIVE ZONE(S)	Latitude: 39.968248		Longitude: -109.478365		NAD 27
	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.				



All water flows encountered while drilling will be reported to the appropriate agencies.



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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,390	1,880	348,000
SURFACE	8-5/8"	0 to 2,380'	28.00	IJ-55	LTC	0.71	1.69	5.17
PRODUCTION	4-1/2"	0 to 10,478'	11.60	HCP-110	BTC	10,690	8,650	367,000
						4.64	1.24	3.77

\*Burst on surface casing is controlled by fracture gradient as shoe with gas gradient above.

D.F. = 2.26

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 13.0 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 4,579 psi**

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

(Burst Assumptions: TD = 13.0 ppg)

0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 6,845 psi**

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	110	60%	15.80	1.15
<b>Option 1</b>			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	160	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
<b>Option 2</b>	LEAD	1,880'	65/35 Poz + 6% Gel + 10 pps gilsonite	110	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	100	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,948'	Premium Lite II + 3% KCl + 0.25 pps	300	20%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,530'	50/50 Poz/G + 10% salt + 2% gel	1,370	20%	14.30	1.31
			+ 0.1% R-3				

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

**ADDITIONAL INFORMATION**

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

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

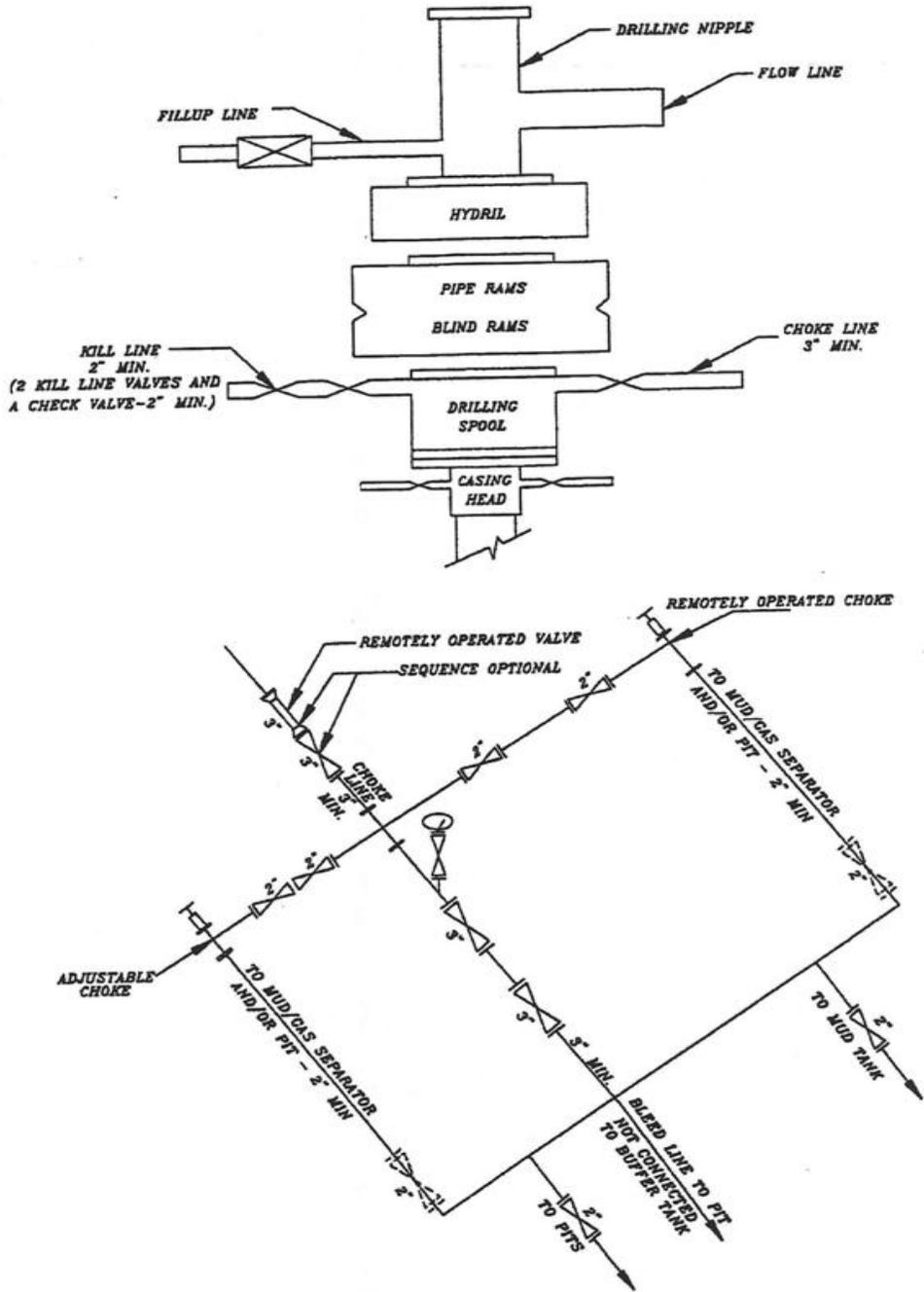
Surveys will be taken at 1,000' minimum intervals.

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

**DRILLING ENGINEER:** John Huycke / Emile Goodwin

**DRILLING SUPERINTENDENT:** John Merkel / Lovel Young

### EXHIBIT A NBU 1022-7B4BS



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

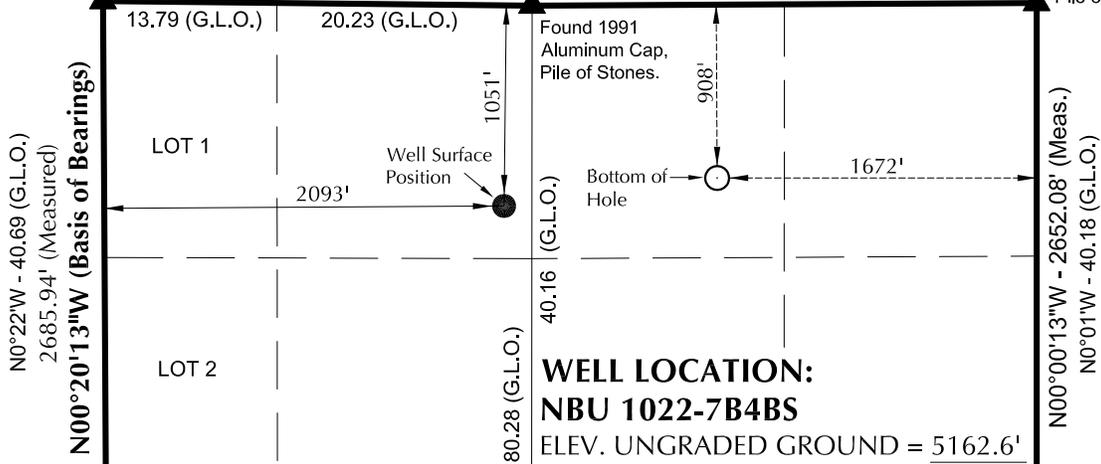
# T10S, R22E, S.L.B.&M.

Found 1977 Brass Cap in Pile of Stones. Fence Post South of Cap.

N89°24'W - 34.02 (G.L.O.)  
N89°22'54"W - 2245.54' (Meas.)

S89°40'W - 40.02 (G.L.O.)  
S89°41'37"W - 2641.02' (Meas.)

Found 1991 Aluminum Cap, Pile of Stones



## WELL LOCATION: NBU 1022-7B4BS

ELEV. UNGRADED GROUND = 5162.6'

NBU 1022-7B4BS (Surface Position)	
NAD 83 LATITUDE = 39.967810° (39° 58' 04.117")	LONGITUDE = 109.483028° (109° 28' 58.902")
NAD 27 LATITUDE = 39.967845° (39° 58' 04.242")	LONGITUDE = 109.482343° (109° 28' 56.436")
NBU 1022-7B4BS (Bottom Hole)	
NAD 83 LATITUDE = 39.968213° (39° 58' 05.567")	LONGITUDE = 109.479050° (109° 28' 44.581")
NAD 27 LATITUDE = 39.968248° (39° 58' 05.692")	LONGITUDE = 109.478365° (109° 28' 42.115")

Found 1977 Brass Cap, Pile of Stones.

S89°42'W 73.80 (G.L.O.)

Found 1991 Aluminum Cap, Steel Post & Pile of Stones

N0°22'W - 40.69 (G.L.O.)  
2685.94' (Measured)  
N00°20'13"W (Basis of Bearings)  
N0°20'13"W - 2646.49' (Meas.)  
N0°30'W - 40.10 (G.L.O.)  
N00°28'02"W - 2646.49' (Meas.)

13.585 (G.L.O.) 20.155 (G.L.O.)

N0°02'E 40.12 (G.L.O.)

N00°00'13"W - 2652.08' (Meas.)  
N0°01'W - 40.18 (G.L.O.)  
N00°02'34"E - 2648.81' (Meas.)  
N0°01'E - 40.14 (G.L.O.)

Found 1977 Brass Cap and T Post. Pile of Stones.

13.355 (G.L.O.) 20.035 (G.L.O.)

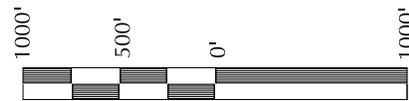
Found 1991 Aluminum Cap, Pile of Stones. 40.07 (G.L.O.)

Found 1991 Aluminum Cap, Pile of Stones

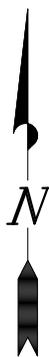
S89°44'59"W - 2203.36' (Meas.) S89°44'49"W - 2643.88' (Meas.)  
S89°44'W - 73.46 (G.L.O.)

**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 N82°30'52"E 1124.92' 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'.



SCALE



**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.

PROFESSIONAL LAND SURVEYOR  
No. 6028691  
JOHN R. GAUGH  
STATE OF UTAH

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

**WELL PAD: NBU 1022-7C**

**NBU 1022-7B4BS  
WELL PLAT**

**908' FNL, 1672' FEL (Bottom Hole)  
NW ¼ NE ¼ OF SECTION 7, T10S, 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

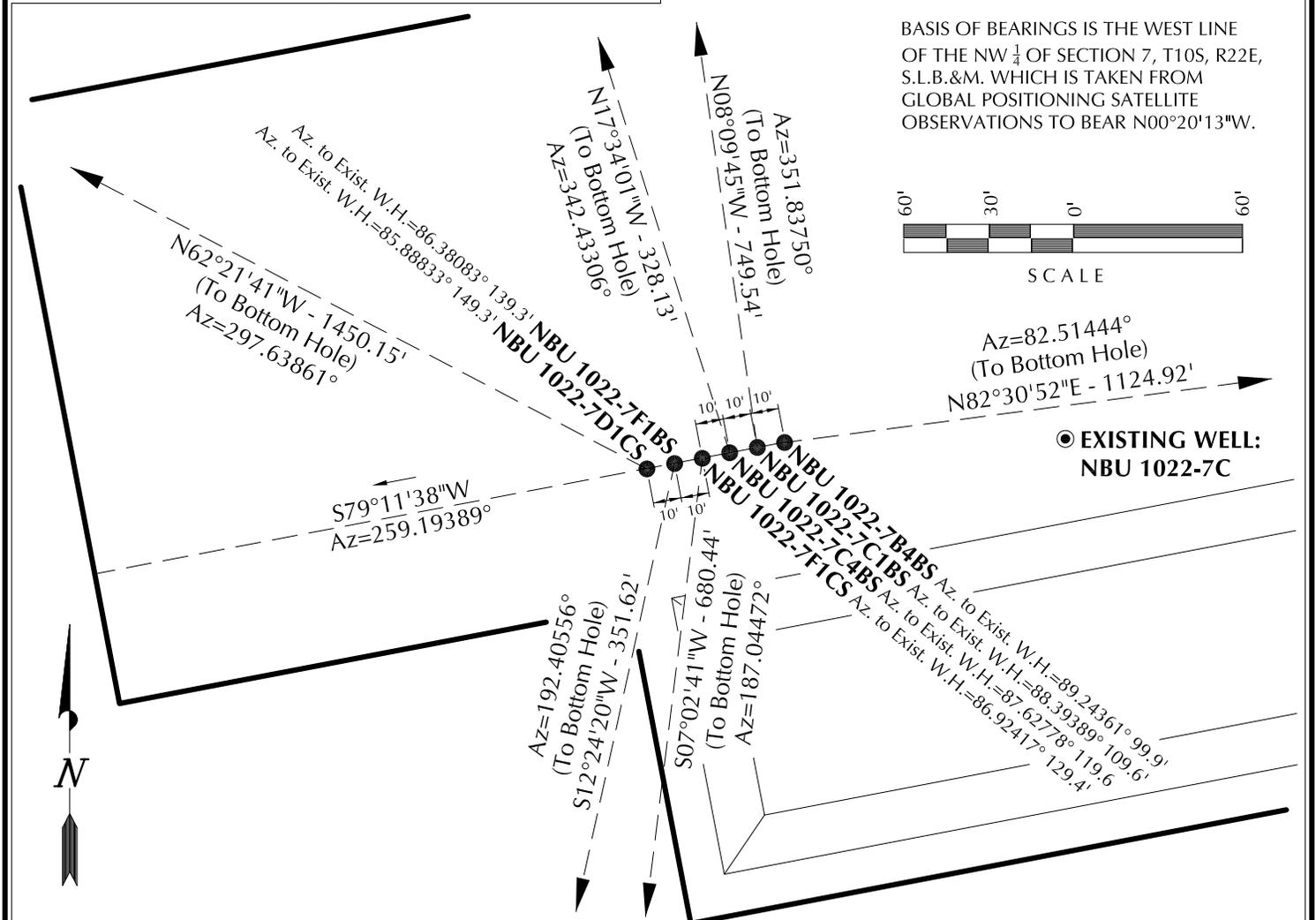
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 10-21-10	SURVEYED BY: M.S.B.	SHEET NO: <b>1</b>
DATE DRAWN: 10-27-10	DRAWN BY: B.M.	
SCALE: 1" = 1000'	Date Last Revised: 12-14-10 M.W.W.	1 OF 18

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 1022-7B4BS	39°58'04.117"	109°28'58.902"	39°58'04.242"	109°28'56.436"	1051' FNL 2093' FWL	39°58'05.567"	109°28'44.581"	39°58'05.692"	109°28'42.115"	908' FNL 1672' FEL
NBU 1022-7C1BS	39°58'04.100"	109°28'59.026"	39°58'04.225"	109°28'56.560"	1053' FNL 2083' FWL	39°58'11.430"	109°29'00.395"	39°58'11.555"	109°28'57.929"	312' FNL 1981' FWL
NBU 1022-7C4BS	39°58'04.081"	109°28'59.153"	39°58'04.206"	109°28'56.687"	1055' FNL 2073' FWL	39°58'07.172"	109°29'00.425"	39°58'07.297"	109°28'57.959"	743' FNL 1976' FWL
NBU 1022-7F1CS	39°58'04.061"	109°28'59.278"	39°58'04.186"	109°28'56.812"	1057' FNL 2063' FWL	39°57'57.389"	109°29'00.348"	39°57'57.514"	109°28'57.882"	1733' FNL 1976' FWL
NBU 1022-7F1BS	39°58'04.043"	109°28'59.405"	39°58'04.168"	109°28'56.939"	1059' FNL 2054' FWL	39°58'00.650"	109°29'00.374"	39°58'00.775"	109°28'57.907"	1403' FNL 1976' FWL
NBU 1022-7D1CS	39°58'04.024"	109°28'59.531"	39°58'04.149"	109°28'57.065"	1061' FNL 2044' FWL	39°58'10.667"	109°29'16.029"	39°58'10.793"	109°29'13.562"	402' FNL 763' FWL
NBU 1022-7C	39°58'04.130"	109°28'57.619"	39°58'04.255"	109°28'55.153"	1049' FNL 2193' FWL	39°58'04.130"	109°28'57.619"	39°58'04.255"	109°28'55.153"	

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 1022-7B4BS	146.6'	1115.3'	NBU 1022-7C1BS	741.9'	-106.4'	NBU 1022-7C4BS	312.8'	-99.0'	NBU 1022-7F1CS	-675.3'	-83.5'
NBU 1022-7F1BS	-343.4'	-75.5'	NBU 1022-7D1CS	672.7'	-1284.7'						



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

WELL PAD - NBU 1022-7C

WELL PAD INTERFERENCE PLAT  
WELLS - NBU 1022-7B4BS, NBU 1022-7C1BS,  
NBU 1022-7C4BS, NBU 1022-7F1CS,  
NBU 1022-7F1BS & NBU 1022-7D1CS  
LOCATED IN SECTION 7, T10S, R22E,  
S.L.B.&M., UTAH COUNTY, UTAH.



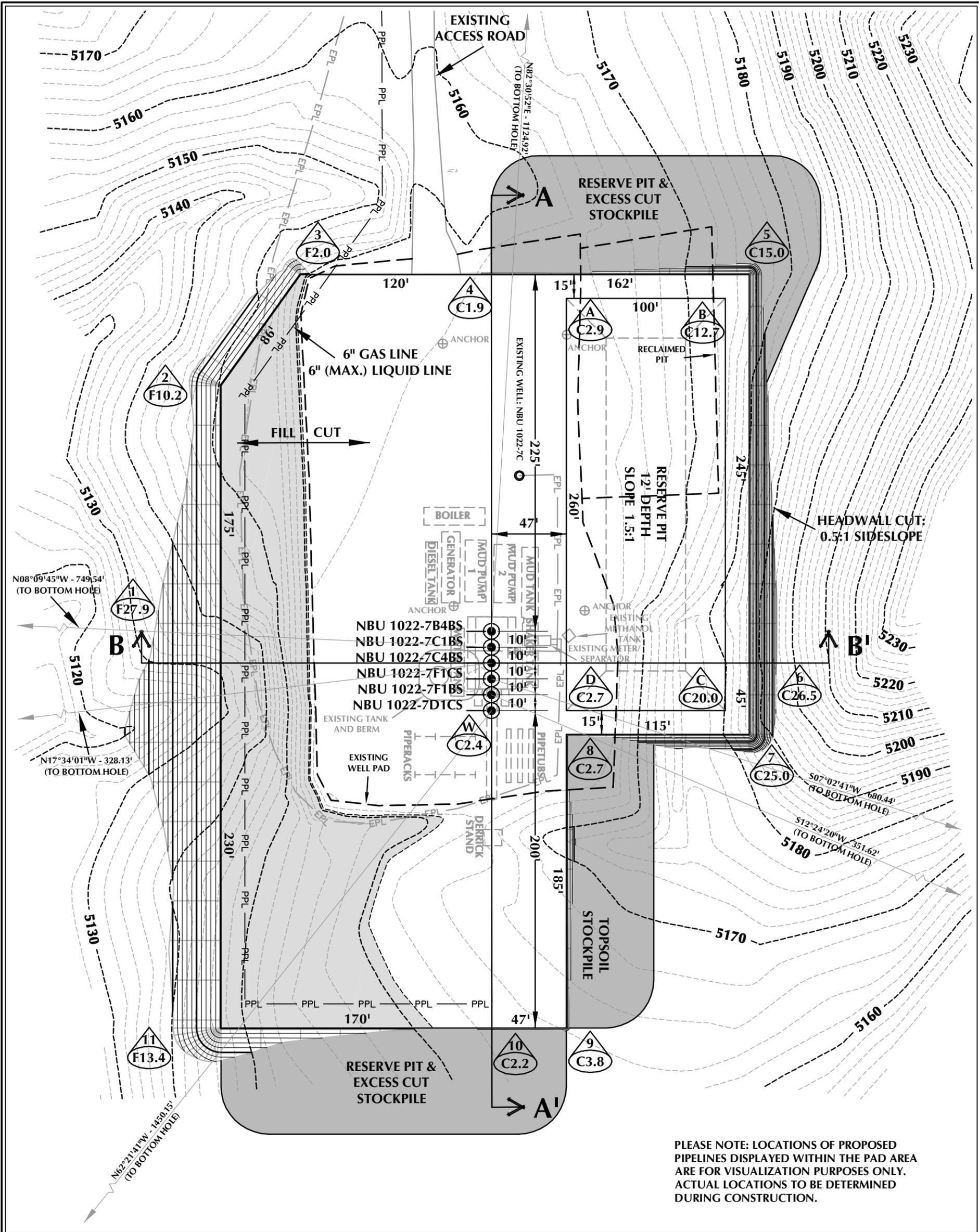
CONSULTING, LLC  
2155 North Main Street  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

TIMBERLINE

(435) 789-1365

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

DATE SURVEYED: 10-21-10	SURVEYED BY: M.S.B.	SHEET NO: <b>7</b>
DATE DRAWN: 10-27-10	DRAWN BY: B.M.	
SCALE: 1" = 60'		7 OF 18
Date Last Revised: 12-14-10 M.W.W.		



**WELL PAD - NBU 1022-7C DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 5162.7'  
 FINISHED GRADE ELEVATION = 5160.3'  
 CUT SLOPES = 0.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.63 ACRES  
 TOTAL DAMAGE AREA = 6.20 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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

**WELL PAD - NBU 1022-7C**  
 WELL PAD - LOCATION LAYOUT  
 NBU 1022-7B4BS, NBU 1022-7C1BS,  
 NBU 1022-7C4BS, NBU 1022-7F1CS,  
 NBU 1022-7F1BS & NBU 1022-7D1CS  
 LOCATED IN SECTION 7, T10S, R22E,  
 S.L.B.&M., Uintah County, Utah



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

**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 19,253 C.Y.  
 TOTAL FILL FOR WELL PAD = 17,963 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,846 C.Y.  
 EXCESS MATERIAL = 1,290 C.Y.

**RESERVE PIT QUANTITIES**

TOTAL CUT FOR RESERVE PIT  
 +/- 8,870 CY  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 33,770 BARRELS

**WELL PAD LEGEND**

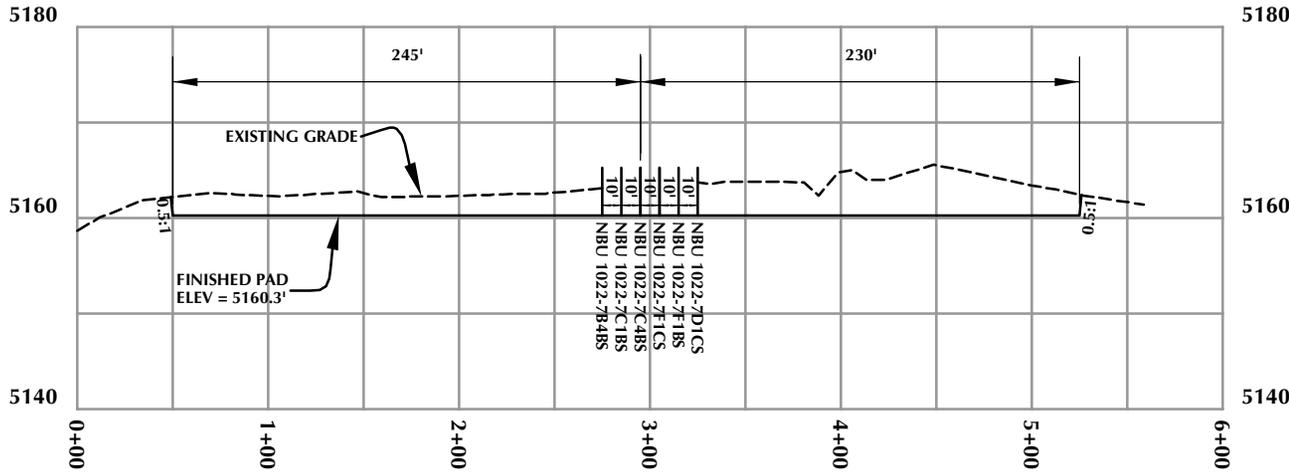
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PROPOSED PIPELINE
- EXISTING PIPELINE



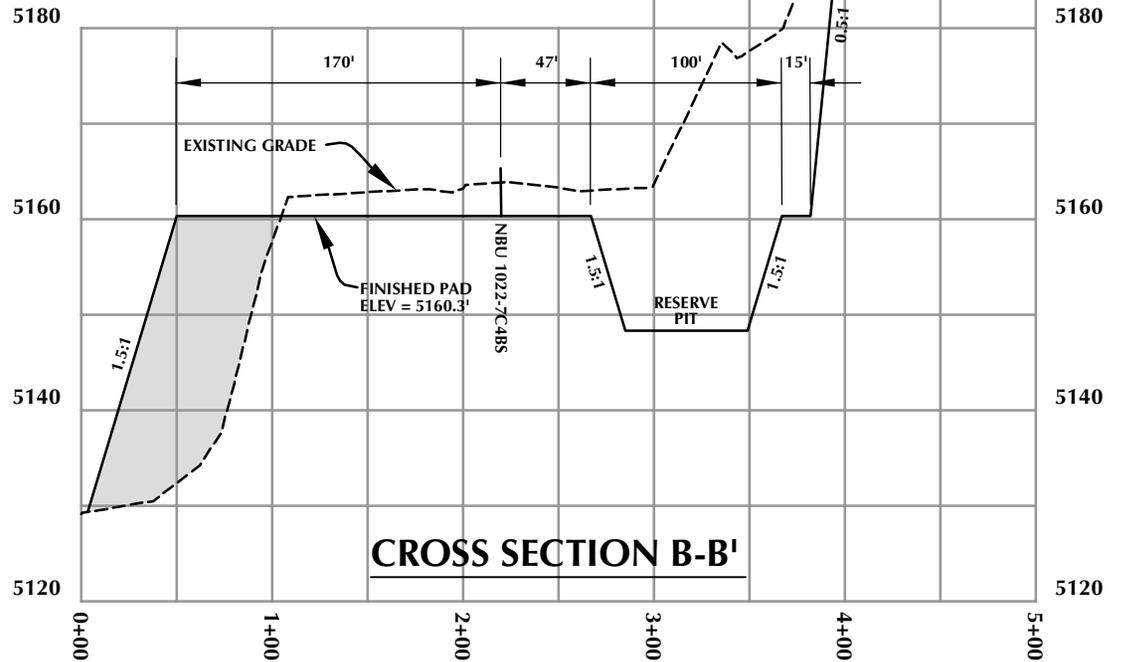
HORIZONTAL 0 30' 60' 1" = 60'  
 2' CONTOURS

Scale: 1"=60' Date: 11/5/10 SHEET NO:  
 REVISED: JFE 1/12/11 **8** 8 OF 18

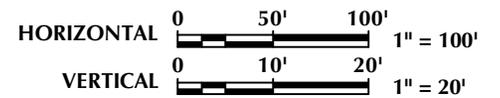
**TIMBERLINE** (435) 789-1365  
 ENGINEERING & LAND SURVEYING, INC.  
 209 NORTH 300 WEST - VERNAL, UTAH 84078



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**



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

WELL PAD - NBU 1022-7C

WELL PAD - CROSS SECTIONS  
 NBU 1022-7B4BS, NBU 1022-7C1BS,  
 NBU 1022-7C4BS, NBU 1022-7F1CS,  
 NBU 1022-7F1BS & NBU 1022-7D1CS  
 LOCATED IN SECTION 7, T10S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC  
 2155 North Main Street  
 Sheridan, WY 82801  
 Phone 307-674-0609  
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**TIMBERLINE**  
 ENGINEERING & LAND SURVEYING, INC.  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

Scale: 1"=100'

Date: 11/5/10

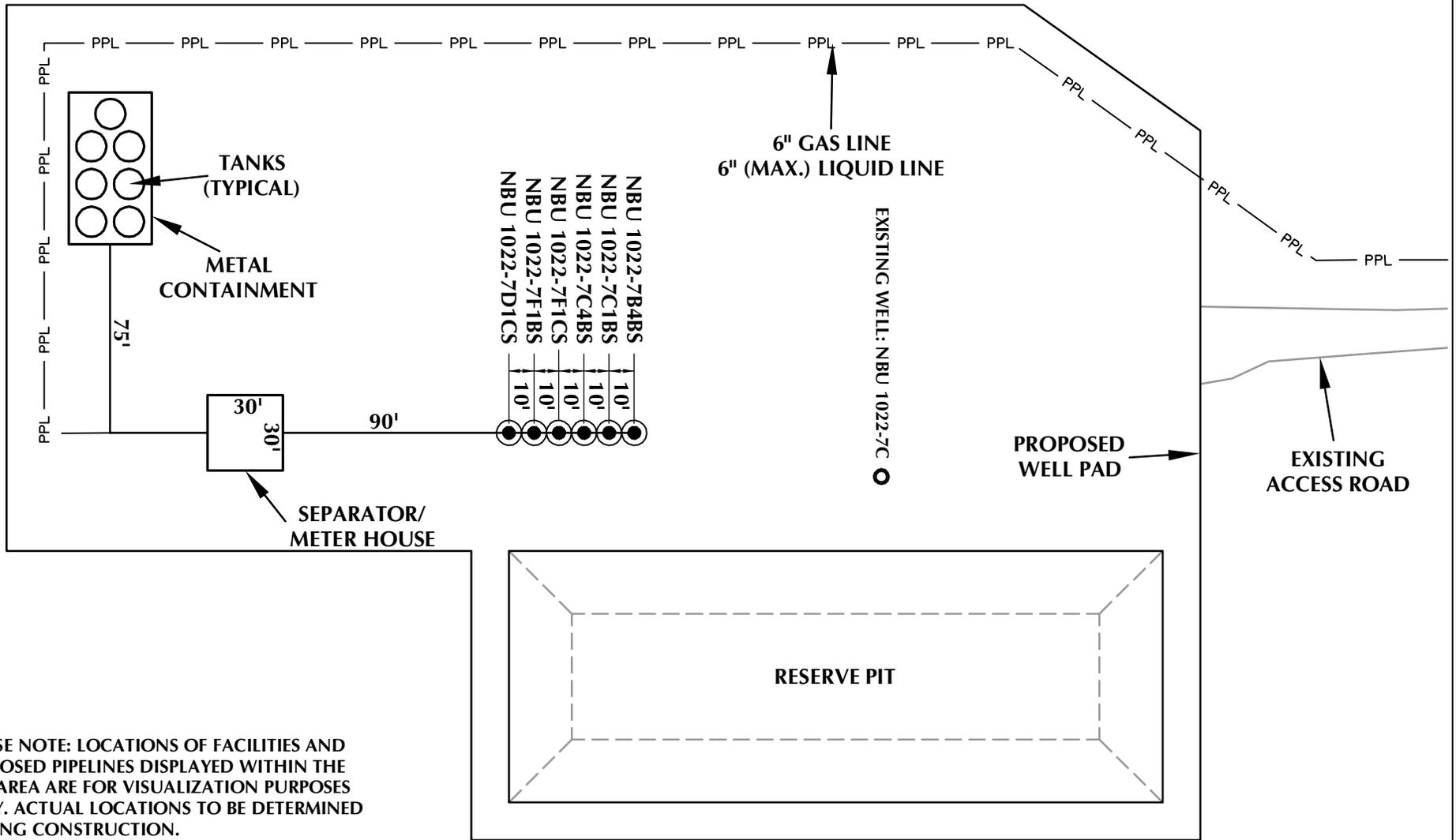
SHEET NO:

REVISED:

JFE  
 1/12/11

**9**

9 OF 18



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

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

WELL PAD - NBU 1022-7C

WELL PAD - FACILITIES DIAGRAM  
NBU 1022-7B4BS, NBU 1022-7C1BS,  
NBU 1022-7C4BS, NBU 1022-7F1CS,  
NBU 1022-7F1BS & NBU 1022-7D1CS  
LOCATED IN SECTION 7, T10S, R22E,  
S.L.B.&M., UTAH COUNTY, UTAH



CONSULTING, LLC  
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Sheridan, WY 82801  
Phone 307-674-0609  
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WELL PAD LEGEND

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



HORIZONTAL 0 30' 60' 1" = 60'

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

Scale: 1"=60' Date: 11/5/10  
REVISED:

SHEET NO:  
**10** 10 OF 18

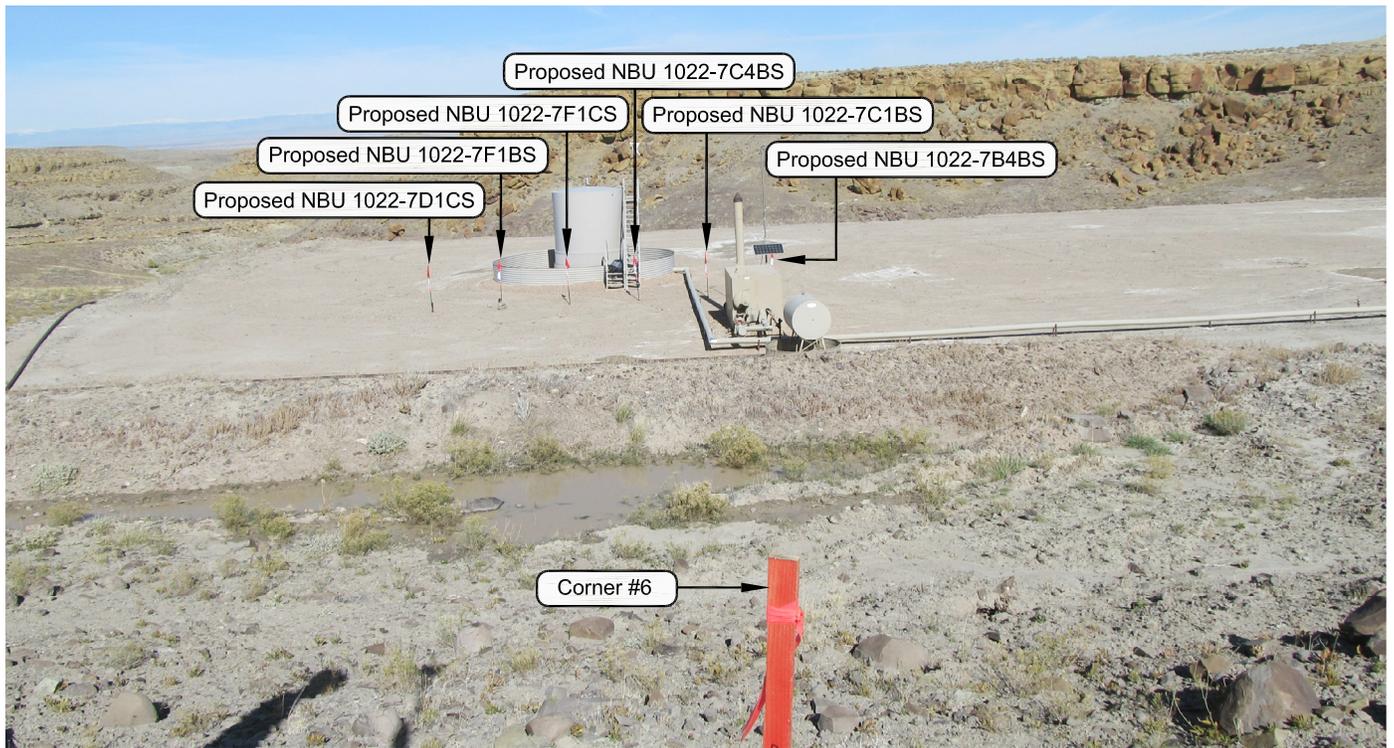


PHOTO VIEW: FROM CORNER #6 TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: SOUTHWESTERLY

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

**WELL PAD - NBU 1022-7C**

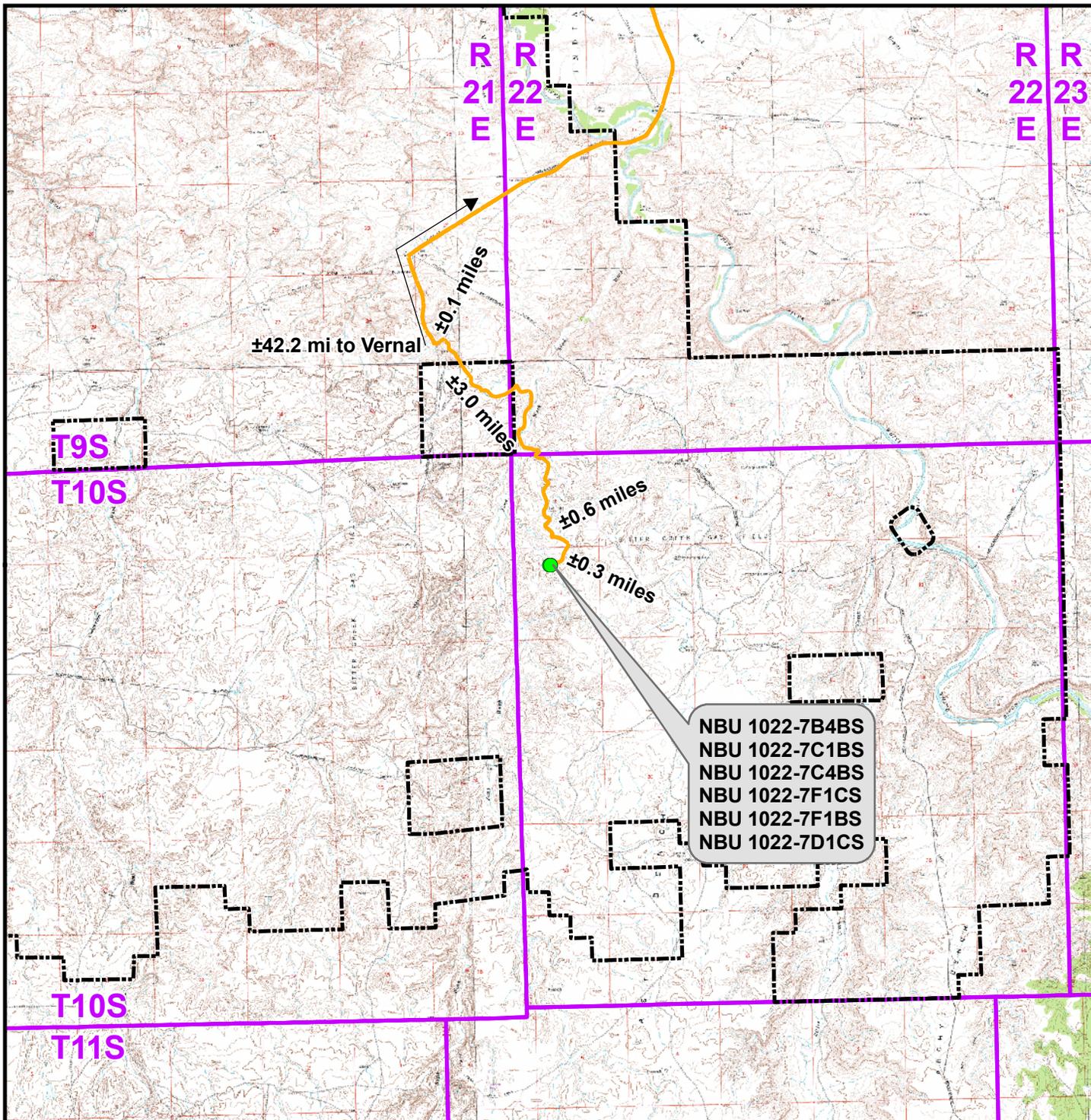
**LOCATION PHOTOS**  
 NBU 1022-7B4BS, NBU 1022-7C1BS,  
 NBU 1022-7C4BS, NBU 1022-7F1CS,  
 NBU 1022-7F1BS & NBU 1022-7D1CS  
 LOCATED IN SECTION 7, T10S, R22E,  
 S.L.B.&M., Uintah County, Utah.



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

DATE PHOTOS TAKEN: 10-21-10	PHOTOS TAKEN BY: M.S.B.	SHEET NO: <b>11</b>
DATE DRAWN: 10-27-10	DRAWN BY: B.M.	
Date Last Revised:		11 OF 18



**Legend**

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

Distance From Well Pad - NBU 1022-7C To Unit Boundary: ±6,710ft

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

**WELL PAD - NBU 1022-7C**

**TOPO A**

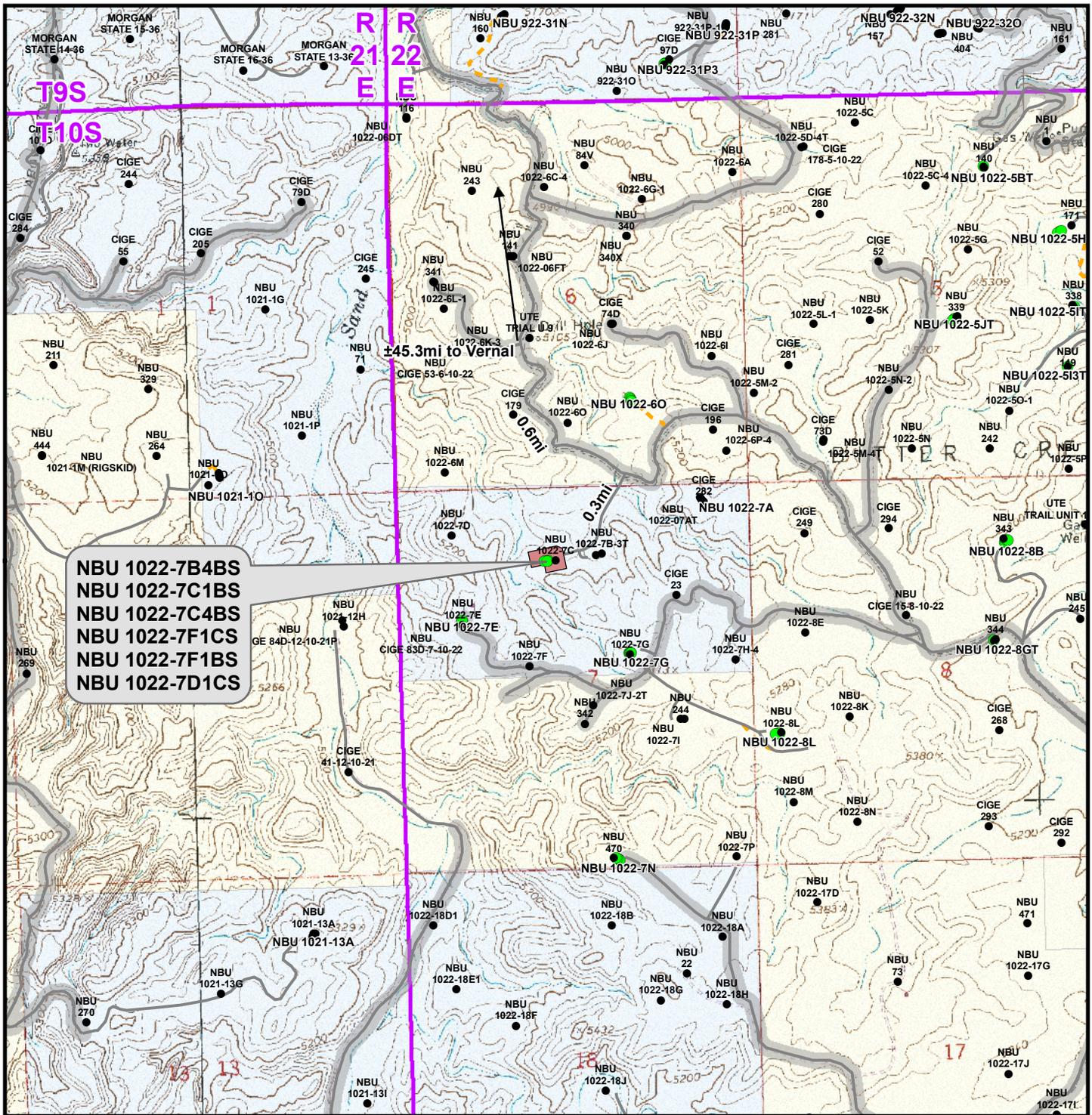
NBU 1022-7B4BS, NBU 1022-7C1BS,  
NBU 1022-7C4BS, NBU 1022-7F1CS,  
NBU 1022-7F1BS & NBU 1022-7D1CS  
LOCATED IN SECTION 7, T10S, R22E,  
S.L.B.&M., UINTAH COUNTY, UTAH



**609 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: 5 Nov 2010	<b>12</b>
Revised:	Date:	



**NBU 1022-7B4BS**  
**NBU 1022-7C1BS**  
**NBU 1022-7C4BS**  
**NBU 1022-7F1CS**  
**NBU 1022-7F1BS**  
**NBU 1022-7D1CS**

**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

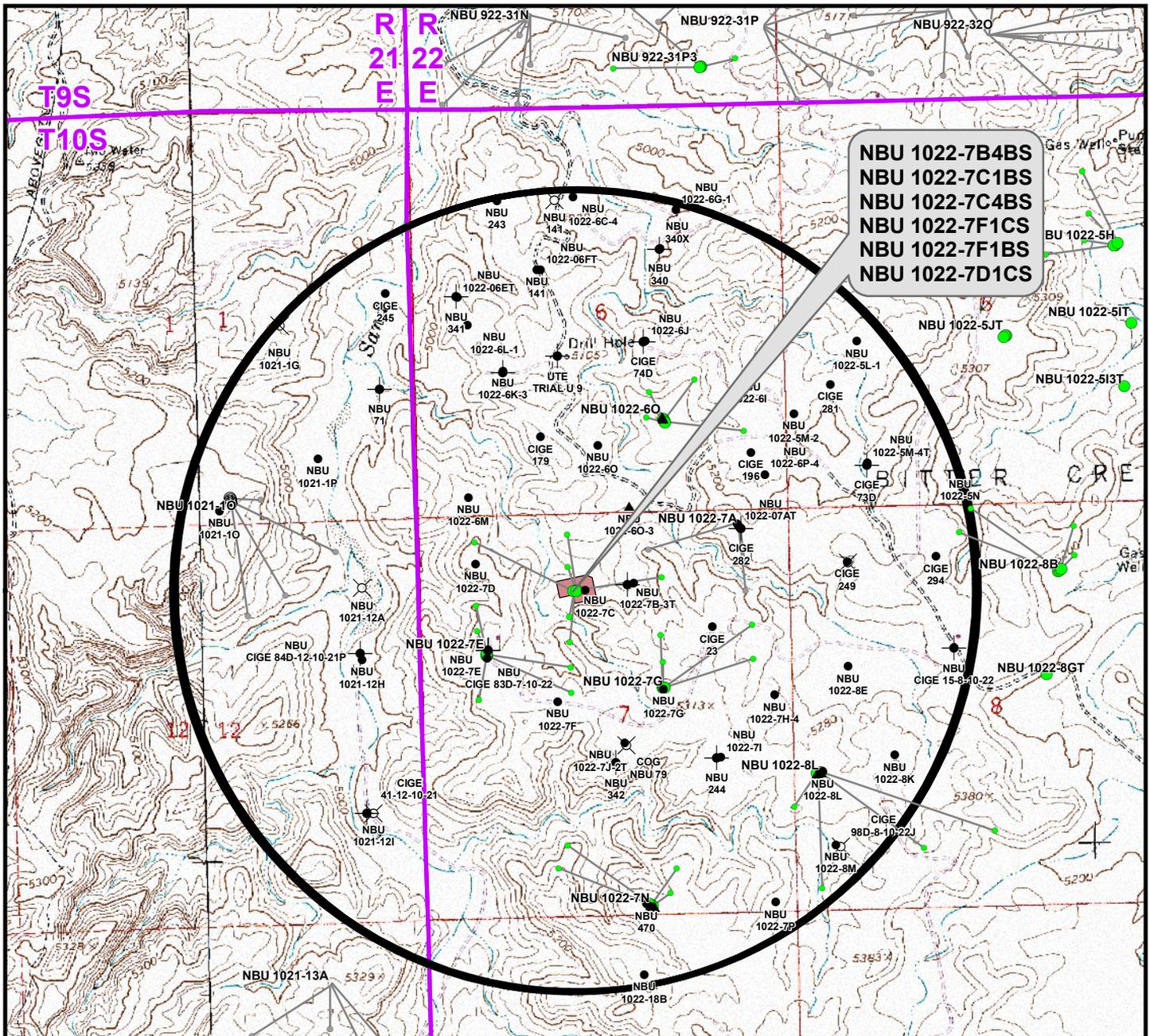
**WELL PAD - NBU 1022-7C**

**TOPO B**  
**NBU 1022-7B4BS, NBU 1022-7C1BS,**  
**NBU 1022-7C4BS, NBU 1022-7F1CS,**  
**NBU 1022-7F1BS & NBU 1022-7D1CS**  
**LOCATED IN SECTION 7, T10S, R22E,**  
**S.L.B.&M., UTAH COUNTY, UTAH**

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



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: <b>13</b> 13 of 18
Drawn: TL	Date: 5 Nov 2010	
Revised:	Date:	



NBU 1022-7B4BS  
 NBU 1022-7C1BS  
 NBU 1022-7C4BS  
 NBU 1022-7F1CS  
 NBU 1022-7F1BS  
 NBU 1022-7D1CS

Proposed Well	Nearest Well Bore	Footage
NBU 1022-7B4BS	NBU 1022-7B-3T	375ft
NBU 1022-7C1BS	NBU 1022-7C	770ft
NBU 1022-7C4BS	NBU 1022-7C	377ft

Proposed Well	Nearest Well Bore	Footage
NBU 1022-7F1CS	NBU 1022-7C	715ft
NBU 1022-7F1BS	NBU 1022-7C	413ft
NBU 1022-7D1CS	NBU 1022-7D	284ft

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 1022-7C**

**TOPO C**

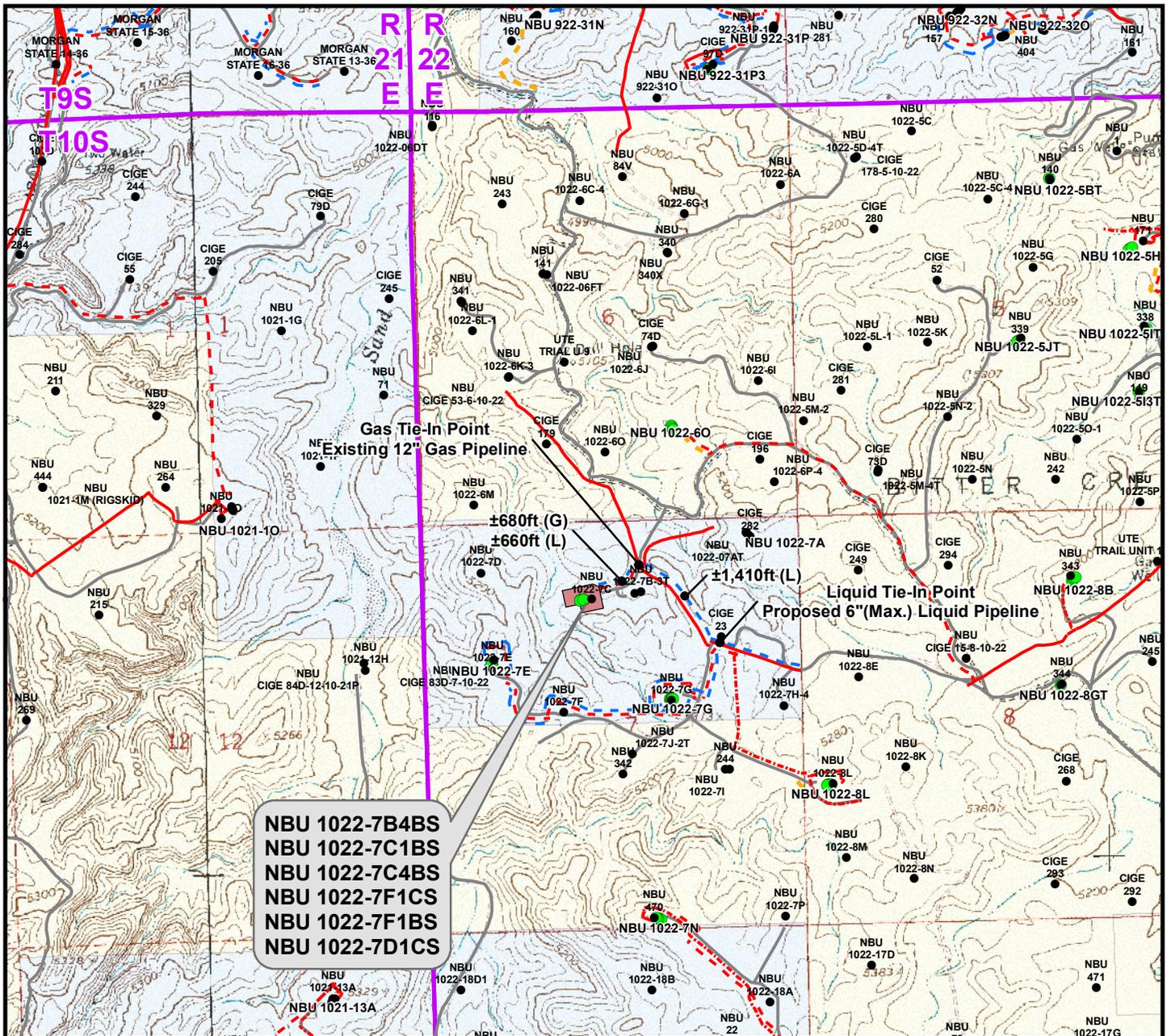
NBU 1022-7B4BS, NBU 1022-7C1BS,  
 NBU 1022-7C4BS, NBU 1022-7F1CS,  
 NBU 1022-7F1BS & NBU 1022-7D1CS  
 LOCATED IN SECTION 7, T10S, R22E,  
 S.L.B.&M., UTAH COUNTY, UTAH



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

Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: **14** of 18

Drawn: TL | Date: 5 Nov 2010  
 Revised: | Date:



NBU 1022-7B4BS  
 NBU 1022-7C1BS  
 NBU 1022-7C4BS  
 NBU 1022-7F1CS  
 NBU 1022-7F1BS  
 NBU 1022-7D1CS

Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±755ft
Proposed 6" (Max.) (Edge of Pad to 7G Intersection)	±2,070ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>	<b>±2,825ft</b>

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±755ft
Proposed 6" (Edge of Pad to Existing 12" Pipeline)	±680ft
<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±1,435ft</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

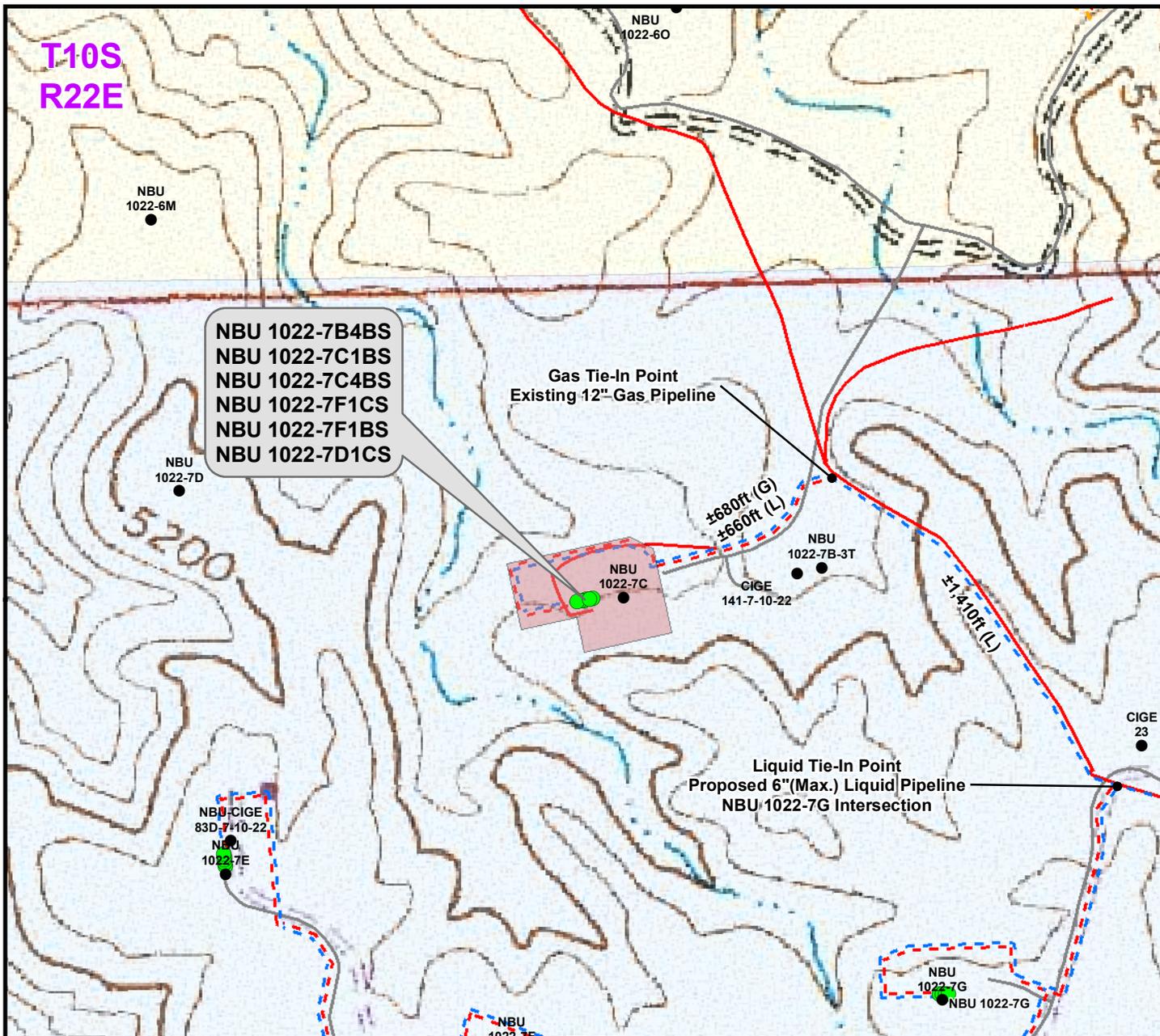
**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street, Denver, Colorado 80202

**WELL PAD - NBU 1022-7C**

**TOPO D**  
 NBU 1022-7B4BS, NBU 1022-7C1BS,  
 NBU 1022-7C4BS, NBU 1022-7F1CS,  
 NBU 1022-7F1BS & NBU 1022-7D1CS  
 LOCATED IN SECTION 7, T10S, 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

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 5 Nov 2010	15
Revised:	Date:	



NBU 1022-7B4BS  
 NBU 1022-7C1BS  
 NBU 1022-7C4BS  
 NBU 1022-7F1CS  
 NBU 1022-7F1BS  
 NBU 1022-7D1CS

Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±755ft
Proposed 6" (Max.) (Edge of Pad to 7G Intersection)	±2,070ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>	<b>±2,825ft</b>

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±755ft
Proposed 6" (Edge of Pad to Existing 12" Pipeline)	±680ft
<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±1,435ft</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

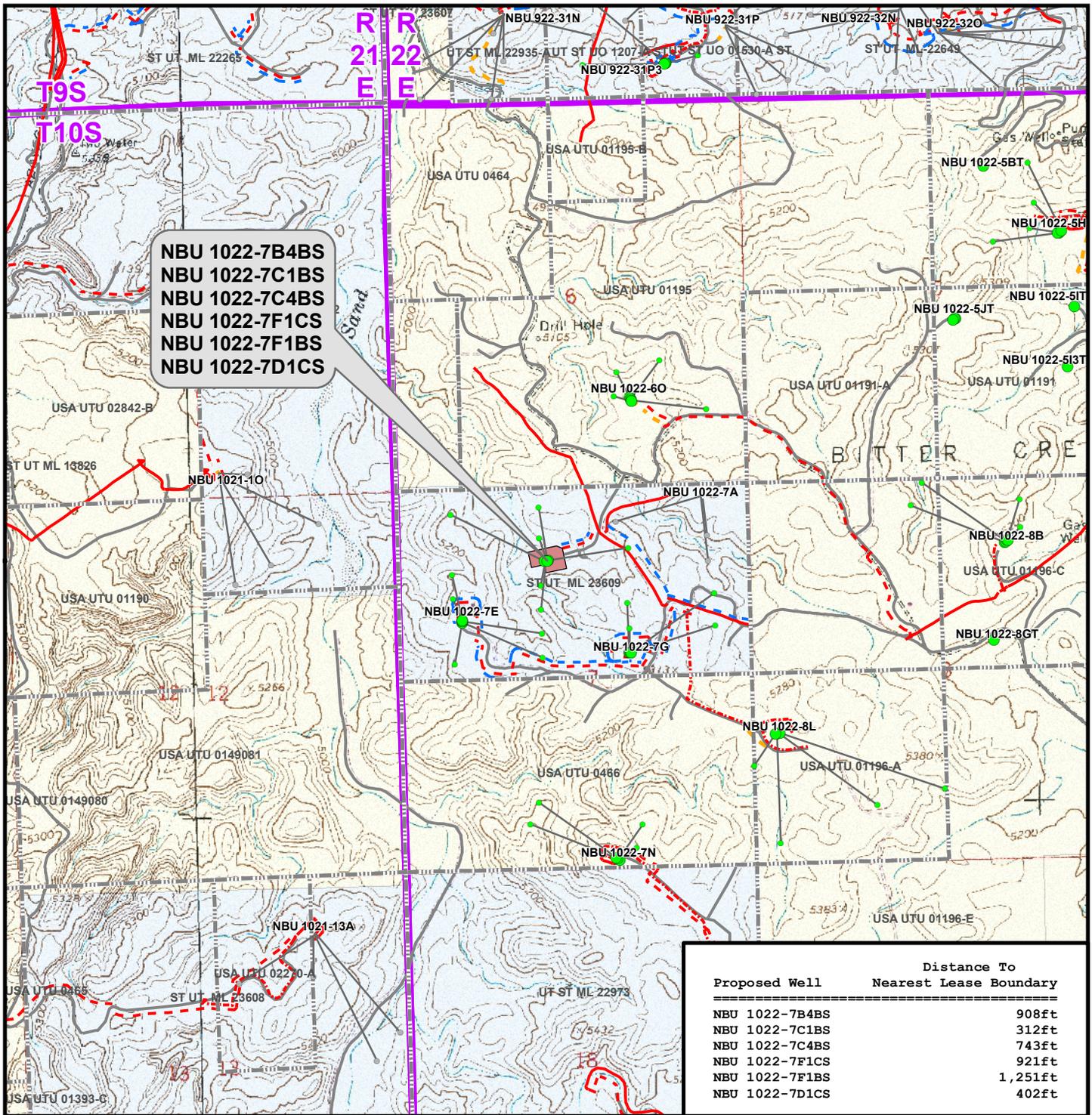
**WELL PAD - NBU 1022-7C**

TOPO D2 (PAD & PIPELINE DETAIL)  
 NBU 1022-7B4BS, NBU 1022-7C1BS,  
 NBU 1022-7C4BS, NBU 1022-7F1CS,  
 NBU 1022-7F1BS & NBU 1022-7D1CS  
 LOCATED IN SECTION 7, T10S, R22E,  
 S.L.B.&M., UTAH COUNTY, UTAH

**609**  
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 Sheridan, WY 82801  
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 Fax (307) 674-0182



Scale: 1" = 500ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 5 Nov 2010	<b>16</b>
Revised:	Date:	



**NBU 1022-7B4BS  
 NBU 1022-7C1BS  
 NBU 1022-7C4BS  
 NBU 1022-7F1CS  
 NBU 1022-7F1BS  
 NBU 1022-7D1CS**

Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-7B4BS	908ft
NBU 1022-7C1BS	312ft
NBU 1022-7C4BS	743ft
NBU 1022-7F1CS	921ft
NBU 1022-7F1BS	1,251ft
NBU 1022-7D1CS	402ft

- 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 1022-7C**

**TOPO E**  
 NBU 1022-7B4BS, NBU 1022-7C1BS,  
 NBU 1022-7C4BS, NBU 1022-7F1CS,  
 NBU 1022-7F1BS & NBU 1022-7D1CS  
 LOCATED IN SECTION 7, T10S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

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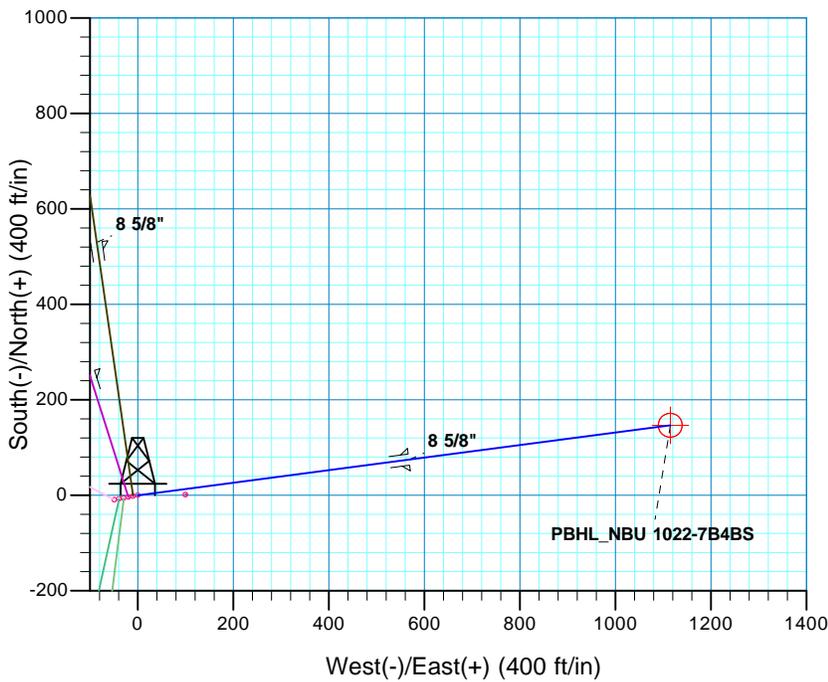
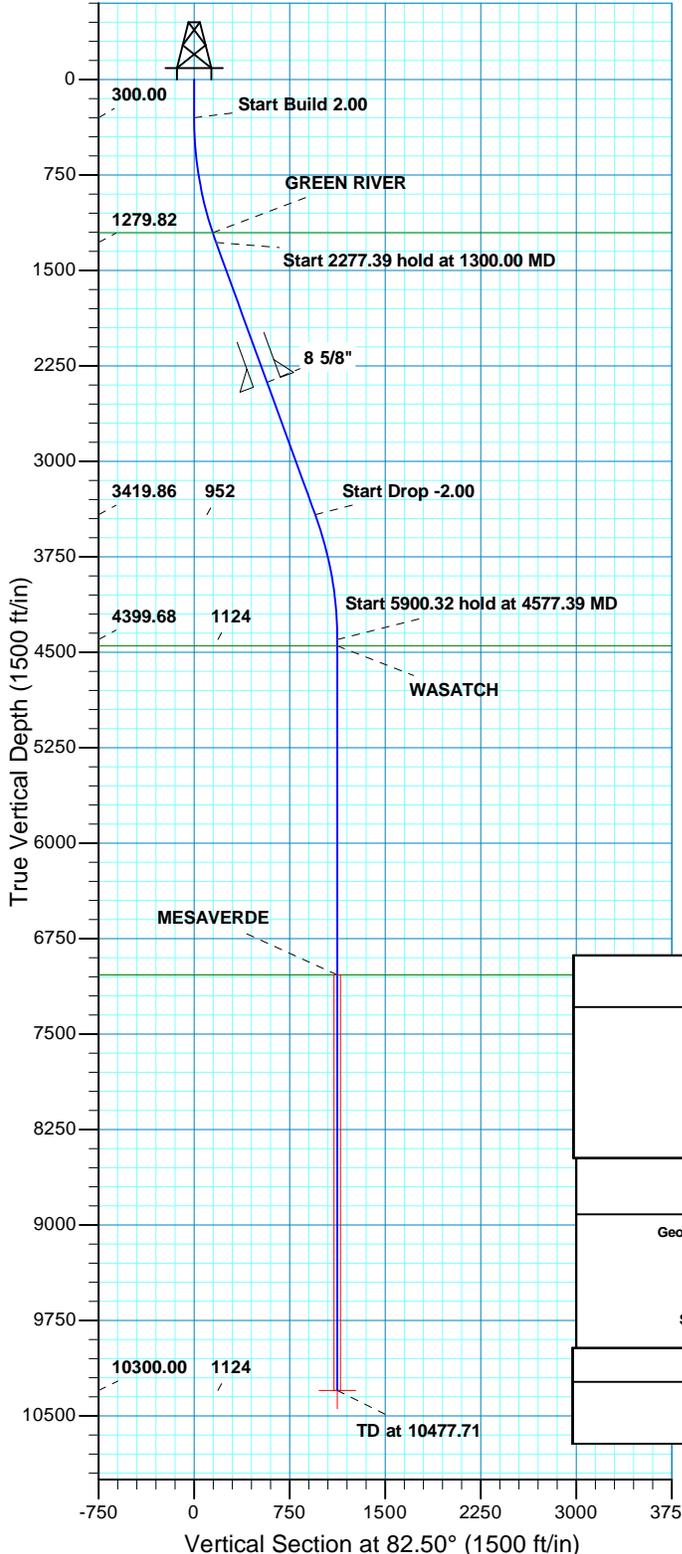
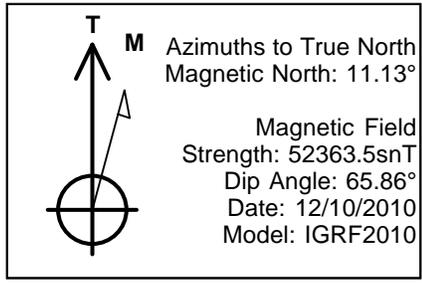
Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 5 Nov 2010	17
Revised:	Date:	

**Kerr-McGee Oil & Gas Onshore, LP  
WELL PAD - NBU 1022-7C  
WELLS – NBU 1022-7B4BS, NBU 1022-7C1BS,  
NBU 1022-7C4BS, NBU 1022-7F1CS,  
NBU 1022-7F1BS & NBU 1022-7D1CS  
Section 7, T10S, 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 then easterly then southerly direction along the second Class D County Road approximately 3.0 miles to a third Class D County Road to the southeast. Exit left and proceed in a southeasterly direction along the third Class D County Road approximately 0.6 miles to a service road to the southwest. Exit right and proceed in a southwesterly direction along the service road approximately 0.3 miles to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 46.2 miles in a southerly direction.

WELL DETAILS: P_NBU 1022-7B4BS					
GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14517953.84	2065657.11	39° 58' 4.242 N	109° 28' 56.436 W
DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL	10300.00	146.72	1114.84	14518119.51	2066769.29
- plan hits target center					
		Latitude	Longitude	Shape	
		39° 58' 5.692 N	109° 28' 42.115 W	Circle (Radius: 25.00)	



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1300.00	20.00	82.50	1279.82	22.54	171.29	2.00	82.50	172.77	
3577.39	20.00	82.50	3419.86	124.18	943.55	0.00	0.00	951.68	
4577.39	0.00	0.00	4399.68	146.72	1114.84	2.00	180.00	1124.45	
10477.71	0.00	0.00	10300.00	146.72	1114.84	0.00	0.00	1124.45	PBHL_NBU 1022-7B4BS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N					FORMATION TOP DETAILS				
Geodetic System: Universal Transverse Mercator (US Survey Feet) Datum: NAD 1927 (NADCON CONUS) Ellipsoid: Clarke 1866 Zone: Zone 12N (114 W to 108 W) Location: SECTION 7 T10S R22E System Datum: Mean Sea Level					TVDPath	MDPath	Formation		
					1203.00	1218.66	GREEN RIVER		
					4450.00	4627.71	WASATCH		
	7036.00	7213.71	MESAVERDE						
CASING DETAILS									
	TVD	MD	Name	Size					
	2379.00	2469.73	8 5/8"	8.625					

RECEIVED: Dec. 28, 2010



# **US ROCKIES REGION PLANNING**

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

**UINTAH\_NBU 1022-7C PAD**

**P\_NBU 1022-7B4BS**

**P\_NBU 1022-7B4BS**

**Plan: PLAN #1 12-9-10 RHS**

## **Standard Planning Report**

**16 December, 2010**





<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 1022-7B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Site:</b>	UINTAH_NBU 1022-7C PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 1022-7B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 1022-7B4BS		
<b>Design:</b>	PLAN #1 12-9-10 RHS		

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

<b>Site</b>	UINTAH_NBU 1022-7C PAD, SECTION 7 T10S R22E				
<b>Site Position:</b>	<b>Northing:</b>	14,517,947.68 usft	<b>Latitude:</b>	39° 58' 4.186 N	
<b>From:</b> Lat/Long	<b>Easting:</b>	2,065,627.94 usft	<b>Longitude:</b>	109° 28' 56.812 W	
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.98 °

<b>Well</b>	P_NBU 1022-7B4BS					
<b>Well Position</b>	<b>+N/-S</b>	5.67 ft	<b>Northing:</b>	14,517,953.85 usft	<b>Latitude:</b>	39° 58' 4.242 N
	<b>+E/-W</b>	29.27 ft	<b>Easting:</b>	2,065,657.10 usft	<b>Longitude:</b>	109° 28' 56.436 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,161.00 ft

<b>Wellbore</b>	P_NBU 1022-7B4BS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	12/10/2010	11.13	65.86	52,364

<b>Design</b>	PLAN #1 12-9-10 RHS			
<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	82.50

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	82.50	1,279.82	22.54	171.29	2.00	2.00	0.00	82.50	
3,577.39	20.00	82.50	3,419.86	124.18	943.55	0.00	0.00	0.00	0.00	
4,577.39	0.00	0.00	4,399.68	146.72	1,114.84	2.00	-2.00	0.00	180.00	
10,477.71	0.00	0.00	10,300.00	146.72	1,114.84	0.00	0.00	0.00	0.00	PBHL_NBU 1022-7B4



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 1022-7B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Site:</b>	UINTAH_NBU 1022-7C PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 1022-7B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 1022-7B4BS		
<b>Design:</b>	PLAN #1 12-9-10 RHS		

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	82.50	399.98	0.23	1.73	1.75	2.00	2.00	2.00	0.00
500.00	4.00	82.50	499.84	0.91	6.92	6.98	2.00	2.00	2.00	0.00
600.00	6.00	82.50	599.45	2.05	15.56	15.69	2.00	2.00	2.00	0.00
700.00	8.00	82.50	698.70	3.64	27.64	27.88	2.00	2.00	2.00	0.00
800.00	10.00	82.50	797.47	5.68	43.15	43.52	2.00	2.00	2.00	0.00
900.00	12.00	82.50	895.62	8.17	62.07	62.60	2.00	2.00	2.00	0.00
1,000.00	14.00	82.50	993.06	11.10	84.37	85.10	2.00	2.00	2.00	0.00
1,100.00	16.00	82.50	1,089.64	14.48	110.03	110.98	2.00	2.00	2.00	0.00
1,200.00	18.00	82.50	1,185.27	18.30	139.01	140.21	2.00	2.00	2.00	0.00
1,218.66	18.37	82.50	1,203.00	19.06	144.79	146.04	2.00	2.00	2.00	0.00
<b>GREEN RIVER</b>										
1,300.00	20.00	82.50	1,279.82	22.54	171.29	172.77	2.00	2.00	2.00	0.00
<b>Start 2277.39 hold at 1300.00 MD</b>										
1,400.00	20.00	82.50	1,373.78	27.01	205.20	206.97	0.00	0.00	0.00	0.00
1,500.00	20.00	82.50	1,467.75	31.47	239.11	241.17	0.00	0.00	0.00	0.00
1,600.00	20.00	82.50	1,561.72	35.93	273.02	275.37	0.00	0.00	0.00	0.00
1,700.00	20.00	82.50	1,655.69	40.39	306.93	309.58	0.00	0.00	0.00	0.00
1,800.00	20.00	82.50	1,749.66	44.86	340.84	343.78	0.00	0.00	0.00	0.00
1,900.00	20.00	82.50	1,843.63	49.32	374.75	377.98	0.00	0.00	0.00	0.00
2,000.00	20.00	82.50	1,937.60	53.78	408.66	412.18	0.00	0.00	0.00	0.00
2,100.00	20.00	82.50	2,031.57	58.24	442.57	446.38	0.00	0.00	0.00	0.00
2,200.00	20.00	82.50	2,125.54	62.71	476.48	480.59	0.00	0.00	0.00	0.00
2,300.00	20.00	82.50	2,219.51	67.17	510.39	514.79	0.00	0.00	0.00	0.00
2,400.00	20.00	82.50	2,313.48	71.63	544.30	548.99	0.00	0.00	0.00	0.00
2,469.73	20.00	82.50	2,379.00	74.74	567.94	572.84	0.00	0.00	0.00	0.00
<b>8 5/8"</b>										
2,500.00	20.00	82.50	2,407.45	76.10	578.21	583.19	0.00	0.00	0.00	0.00
2,600.00	20.00	82.50	2,501.42	80.56	612.12	617.39	0.00	0.00	0.00	0.00
2,700.00	20.00	82.50	2,595.39	85.02	646.03	651.60	0.00	0.00	0.00	0.00
2,800.00	20.00	82.50	2,689.35	89.48	679.94	685.80	0.00	0.00	0.00	0.00
2,900.00	20.00	82.50	2,783.32	93.95	713.84	720.00	0.00	0.00	0.00	0.00
3,000.00	20.00	82.50	2,877.29	98.41	747.75	754.20	0.00	0.00	0.00	0.00
3,100.00	20.00	82.50	2,971.26	102.87	781.66	788.40	0.00	0.00	0.00	0.00
3,200.00	20.00	82.50	3,065.23	107.33	815.57	822.61	0.00	0.00	0.00	0.00
3,300.00	20.00	82.50	3,159.20	111.80	849.48	856.81	0.00	0.00	0.00	0.00
3,400.00	20.00	82.50	3,253.17	116.26	883.39	891.01	0.00	0.00	0.00	0.00
3,500.00	20.00	82.50	3,347.14	120.72	917.30	925.21	0.00	0.00	0.00	0.00
3,577.39	20.00	82.50	3,419.86	124.18	943.55	951.68	0.00	0.00	0.00	0.00
<b>Start Drop -2.00</b>										
3,600.00	19.55	82.50	3,441.14	125.17	951.13	959.33	2.00	-2.00	0.00	0.00
3,700.00	17.55	82.50	3,535.94	129.32	982.67	991.14	2.00	-2.00	0.00	0.00
3,800.00	15.55	82.50	3,631.79	133.04	1,010.90	1,019.62	2.00	-2.00	0.00	0.00
3,900.00	13.55	82.50	3,728.58	136.32	1,035.80	1,044.74	2.00	-2.00	0.00	0.00
4,000.00	11.55	82.50	3,826.19	139.15	1,057.34	1,066.46	2.00	-2.00	0.00	0.00
4,100.00	9.55	82.50	3,924.49	141.54	1,075.49	1,084.77	2.00	-2.00	0.00	0.00
4,200.00	7.55	82.50	4,023.38	143.48	1,090.23	1,099.63	2.00	-2.00	0.00	0.00
4,300.00	5.55	82.50	4,122.72	144.97	1,101.53	1,111.03	2.00	-2.00	0.00	0.00
4,400.00	3.55	82.50	4,222.40	146.00	1,109.39	1,118.96	2.00	-2.00	0.00	0.00
4,500.00	1.55	82.50	4,322.30	146.58	1,113.80	1,123.40	2.00	-2.00	0.00	0.00



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 1022-7B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Site:</b>	UINTAH_NBU 1022-7C PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 1022-7B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 1022-7B4BS		
<b>Design:</b>	PLAN #1 12-9-10 RHS		

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)	
4,577.39	0.00	0.00	4,399.68	146.72	1,114.84	1,124.45	2.00	-2.00	0.00	
<b>Start 5900.32 hold at 4577.39 MD</b>										
4,600.00	0.00	0.00	4,422.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
4,627.71	0.00	0.00	4,450.00	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
<b>WASATCH</b>										
4,700.00	0.00	0.00	4,522.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,622.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,722.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,822.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
5,100.00	0.00	0.00	4,922.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,022.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,122.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,222.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,322.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,422.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,522.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,622.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,722.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,822.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,922.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,022.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,122.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,222.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,322.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,422.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,522.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,622.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,722.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,822.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,922.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,022.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
7,213.71	0.00	0.00	7,036.00	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
<b>MESAVERDE</b>										
7,300.00	0.00	0.00	7,122.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,222.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,322.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,422.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,522.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,622.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,722.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,822.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,922.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,022.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,122.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,222.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,322.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,422.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,522.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,622.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,722.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,822.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
9,100.00	0.00	0.00	8,922.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,022.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 1022-7B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Site:</b>	UINTAH_NBU 1022-7C PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 1022-7B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 1022-7B4BS		
<b>Design:</b>	PLAN #1 12-9-10 RHS		

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)
9,300.00	0.00	0.00	9,122.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
9,400.00	0.00	0.00	9,222.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
9,500.00	0.00	0.00	9,322.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
9,600.00	0.00	0.00	9,422.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
9,700.00	0.00	0.00	9,522.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
9,800.00	0.00	0.00	9,622.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
9,900.00	0.00	0.00	9,722.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
10,000.00	0.00	0.00	9,822.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
10,100.00	0.00	0.00	9,922.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
10,200.00	0.00	0.00	10,022.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
10,300.00	0.00	0.00	10,122.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
10,400.00	0.00	0.00	10,222.29	146.72	1,114.84	1,124.45	0.00	0.00	0.00
10,477.71	0.00	0.00	10,300.00	146.72	1,114.84	1,124.45	0.00	0.00	0.00
TD at 10477.71 - PBHL_NBU 1022-7B4BS									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 1022-7B4BS - hit/miss target - Shape - Circle (radius 25.00)	0.00	0.00	10,300.00	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,469.73	2,379.00	8 5/8"	8.625	11.000	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,218.66	1,203.00	GREEN RIVER				
4,627.71	4,450.00	WASATCH				
7,213.71	7,036.00	MESAVERDE				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
1,300.00	1,279.82	22.54	171.29	Start 2277.39 hold at 1300.00 MD	
3,577.39	3,419.86	124.18	943.55	Start Drop -2.00	
4,577.39	4,399.68	146.72	1,114.84	Start 5900.32 hold at 4577.39 MD	
10,477.71	10,300.00	146.72	1,114.84	TD at 10477.71	



# **US ROCKIES REGION PLANNING**

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

**UINTAH\_NBU 1022-7C PAD**

**P\_NBU 1022-7B4BS**

**P\_NBU 1022-7B4BS**

**Plan: PLAN #1 12-9-10 RHS**

## **Standard Planning Report - Geographic**

**16 December, 2010**





<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 1022-7B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Site:</b>	UINTAH_NBU 1022-7C PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 1022-7B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 1022-7B4BS		
<b>Design:</b>	PLAN #1 12-9-10 RHS		

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

<b>Site</b>	UINTAH_NBU 1022-7C PAD, SECTION 7 T10S R22E				
<b>Site Position:</b>	<b>Northing:</b>	14,517,947.68 usft	<b>Latitude:</b>	39° 58' 4.186 N	
<b>From:</b> Lat/Long	<b>Easting:</b>	2,065,627.94 usft	<b>Longitude:</b>	109° 28' 56.812 W	
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.98 °

<b>Well</b>	P_NBU 1022-7B4BS					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,517,953.85 usft	<b>Latitude:</b>	39° 58' 4.242 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,065,657.10 usft	<b>Longitude:</b>	109° 28' 56.436 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,161.00 ft

<b>Wellbore</b>	P_NBU 1022-7B4BS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	12/10/2010	11.13	65.86	52,364

<b>Design</b>	PLAN #1 12-9-10 RHS			
<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	82.50

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	82.50	1,279.82	22.54	171.29	2.00	2.00	0.00	82.50	
3,577.39	20.00	82.50	3,419.86	124.18	943.55	0.00	0.00	0.00	0.00	
4,577.39	0.00	0.00	4,399.68	146.72	1,114.84	2.00	-2.00	0.00	180.00	
10,477.71	0.00	0.00	10,300.00	146.72	1,114.84	0.00	0.00	0.00	0.00	PBHL_NBU 1022-7B4



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 1022-7B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Site:</b>	UINTAH_NBU 1022-7C PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 1022-7B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 1022-7B4BS		
<b>Design:</b>	PLAN #1 12-9-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,517,953.85	2,065,657.10	39° 58' 4.242 N	109° 28' 56.436 W	
100.00	0.00	0.00	100.00	0.00	0.00	14,517,953.85	2,065,657.10	39° 58' 4.242 N	109° 28' 56.436 W	
200.00	0.00	0.00	200.00	0.00	0.00	14,517,953.85	2,065,657.10	39° 58' 4.242 N	109° 28' 56.436 W	
300.00	0.00	0.00	300.00	0.00	0.00	14,517,953.85	2,065,657.10	39° 58' 4.242 N	109° 28' 56.436 W	
<b>Start Build 2.00</b>										
400.00	2.00	82.50	399.98	0.23	1.73	14,517,954.10	2,065,658.83	39° 58' 4.244 N	109° 28' 56.414 W	
500.00	4.00	82.50	499.84	0.91	6.92	14,517,954.87	2,065,664.01	39° 58' 4.251 N	109° 28' 56.347 W	
600.00	6.00	82.50	599.45	2.05	15.56	14,517,956.16	2,065,672.63	39° 58' 4.262 N	109° 28' 56.236 W	
700.00	8.00	82.50	698.70	3.64	27.64	14,517,957.95	2,065,684.68	39° 58' 4.278 N	109° 28' 56.081 W	
800.00	10.00	82.50	797.47	5.68	43.15	14,517,960.26	2,065,700.15	39° 58' 4.298 N	109° 28' 55.882 W	
900.00	12.00	82.50	895.62	8.17	62.07	14,517,963.07	2,065,719.02	39° 58' 4.323 N	109° 28' 55.639 W	
1,000.00	14.00	82.50	993.06	11.10	84.37	14,517,966.38	2,065,741.27	39° 58' 4.352 N	109° 28' 55.352 W	
1,100.00	16.00	82.50	1,089.64	14.48	110.03	14,517,970.20	2,065,766.87	39° 58' 4.385 N	109° 28' 55.023 W	
1,200.00	18.00	82.50	1,185.27	18.30	139.01	14,517,974.50	2,065,795.79	39° 58' 4.423 N	109° 28' 54.650 W	
1,218.66	18.37	82.50	1,203.00	19.06	144.79	14,517,975.36	2,065,801.55	39° 58' 4.430 N	109° 28' 54.576 W	
<b>GREEN RIVER</b>										
1,300.00	20.00	82.50	1,279.82	22.54	171.29	14,517,979.30	2,065,827.99	39° 58' 4.465 N	109° 28' 54.236 W	
<b>Start 2277.39 hold at 1300.00 MD</b>										
1,400.00	20.00	82.50	1,373.78	27.01	205.20	14,517,984.34	2,065,861.82	39° 58' 4.509 N	109° 28' 53.800 W	
1,500.00	20.00	82.50	1,467.75	31.47	239.11	14,517,989.38	2,065,895.64	39° 58' 4.553 N	109° 28' 53.364 W	
1,600.00	20.00	82.50	1,561.72	35.93	273.02	14,517,994.42	2,065,929.47	39° 58' 4.597 N	109° 28' 52.929 W	
1,700.00	20.00	82.50	1,655.69	40.39	306.93	14,517,999.46	2,065,963.30	39° 58' 4.641 N	109° 28' 52.493 W	
1,800.00	20.00	82.50	1,749.66	44.86	340.84	14,518,004.50	2,065,997.13	39° 58' 4.685 N	109° 28' 52.058 W	
1,900.00	20.00	82.50	1,843.63	49.32	374.75	14,518,009.54	2,066,030.96	39° 58' 4.729 N	109° 28' 51.622 W	
2,000.00	20.00	82.50	1,937.60	53.78	408.66	14,518,014.57	2,066,064.79	39° 58' 4.774 N	109° 28' 51.186 W	
2,100.00	20.00	82.50	2,031.57	58.24	442.57	14,518,019.61	2,066,098.62	39° 58' 4.818 N	109° 28' 50.751 W	
2,200.00	20.00	82.50	2,125.54	62.71	476.48	14,518,024.65	2,066,132.45	39° 58' 4.862 N	109° 28' 50.315 W	
2,300.00	20.00	82.50	2,219.51	67.17	510.39	14,518,029.69	2,066,166.27	39° 58' 4.906 N	109° 28' 49.880 W	
2,400.00	20.00	82.50	2,313.48	71.63	544.30	14,518,034.73	2,066,200.10	39° 58' 4.950 N	109° 28' 49.444 W	
2,469.73	20.00	82.50	2,379.00	74.74	567.94	14,518,038.24	2,066,223.69	39° 58' 4.981 N	109° 28' 49.140 W	
<b>8 5/8"</b>										
2,500.00	20.00	82.50	2,407.45	76.10	578.21	14,518,039.77	2,066,233.93	39° 58' 4.994 N	109° 28' 49.008 W	
2,600.00	20.00	82.50	2,501.42	80.56	612.12	14,518,044.81	2,066,267.76	39° 58' 5.038 N	109° 28' 48.573 W	
2,700.00	20.00	82.50	2,595.39	85.02	646.03	14,518,049.85	2,066,301.59	39° 58' 5.082 N	109° 28' 48.137 W	
2,800.00	20.00	82.50	2,689.35	89.48	679.94	14,518,054.89	2,066,335.42	39° 58' 5.126 N	109° 28' 47.702 W	
2,900.00	20.00	82.50	2,783.32	93.95	713.84	14,518,059.93	2,066,369.25	39° 58' 5.171 N	109° 28' 47.266 W	
3,000.00	20.00	82.50	2,877.29	98.41	747.75	14,518,064.97	2,066,403.07	39° 58' 5.215 N	109° 28' 46.830 W	
3,100.00	20.00	82.50	2,971.26	102.87	781.66	14,518,070.00	2,066,436.90	39° 58' 5.259 N	109° 28' 46.395 W	
3,200.00	20.00	82.50	3,065.23	107.33	815.57	14,518,075.04	2,066,470.73	39° 58' 5.303 N	109° 28' 45.959 W	
3,300.00	20.00	82.50	3,159.20	111.80	849.48	14,518,080.08	2,066,504.56	39° 58' 5.347 N	109° 28' 45.524 W	
3,400.00	20.00	82.50	3,253.17	116.26	883.39	14,518,085.12	2,066,538.39	39° 58' 5.391 N	109° 28' 45.088 W	
3,500.00	20.00	82.50	3,347.14	120.72	917.30	14,518,090.16	2,066,572.22	39° 58' 5.435 N	109° 28' 44.653 W	
3,577.39	20.00	82.50	3,419.86	124.18	943.55	14,518,094.06	2,066,598.40	39° 58' 5.469 N	109° 28' 44.315 W	
<b>Start Drop -2.00</b>										
3,600.00	19.55	82.50	3,441.14	125.17	951.13	14,518,095.19	2,066,605.96	39° 58' 5.479 N	109° 28' 44.218 W	
3,700.00	17.55	82.50	3,535.94	129.32	982.67	14,518,099.87	2,066,637.43	39° 58' 5.520 N	109° 28' 43.813 W	
3,800.00	15.55	82.50	3,631.79	133.04	1,010.90	14,518,104.07	2,066,665.59	39° 58' 5.557 N	109° 28' 43.450 W	
3,900.00	13.55	82.50	3,728.58	136.32	1,035.80	14,518,107.77	2,066,690.44	39° 58' 5.589 N	109° 28' 43.130 W	
4,000.00	11.55	82.50	3,826.19	139.15	1,057.34	14,518,110.97	2,066,711.92	39° 58' 5.617 N	109° 28' 42.854 W	
4,100.00	9.55	82.50	3,924.49	141.54	1,075.49	14,518,113.67	2,066,730.03	39° 58' 5.641 N	109° 28' 42.620 W	
4,200.00	7.55	82.50	4,023.38	143.48	1,090.23	14,518,115.86	2,066,744.73	39° 58' 5.660 N	109° 28' 42.431 W	
4,300.00	5.55	82.50	4,122.72	144.97	1,101.53	14,518,117.54	2,066,756.01	39° 58' 5.675 N	109° 28' 42.286 W	
4,400.00	3.55	82.50	4,222.40	146.00	1,109.39	14,518,118.71	2,066,763.85	39° 58' 5.685 N	109° 28' 42.185 W	
4,500.00	1.55	82.50	4,322.30	146.58	1,113.80	14,518,119.36	2,066,768.25	39° 58' 5.691 N	109° 28' 42.128 W	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 1022-7B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Site:</b>	UINTAH_NBU 1022-7C PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 1022-7B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 1022-7B4BS		
<b>Design:</b>	PLAN #1 12-9-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
4,577.39	0.00	0.00	4,399.68	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
<b>Start 5900.32 hold at 4577.39 MD</b>										
4,600.00	0.00	0.00	4,422.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
4,627.71	0.00	0.00	4,450.00	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
<b>WASATCH</b>										
4,700.00	0.00	0.00	4,522.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
4,800.00	0.00	0.00	4,622.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
4,900.00	0.00	0.00	4,722.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
5,000.00	0.00	0.00	4,822.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
5,100.00	0.00	0.00	4,922.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
5,200.00	0.00	0.00	5,022.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
5,300.00	0.00	0.00	5,122.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
5,400.00	0.00	0.00	5,222.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
5,500.00	0.00	0.00	5,322.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
5,600.00	0.00	0.00	5,422.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
5,700.00	0.00	0.00	5,522.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
5,800.00	0.00	0.00	5,622.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
5,900.00	0.00	0.00	5,722.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
6,000.00	0.00	0.00	5,822.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
6,100.00	0.00	0.00	5,922.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
6,200.00	0.00	0.00	6,022.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
6,300.00	0.00	0.00	6,122.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
6,400.00	0.00	0.00	6,222.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
6,500.00	0.00	0.00	6,322.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
6,600.00	0.00	0.00	6,422.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
6,700.00	0.00	0.00	6,522.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
6,800.00	0.00	0.00	6,622.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
6,900.00	0.00	0.00	6,722.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
7,000.00	0.00	0.00	6,822.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
7,100.00	0.00	0.00	6,922.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
7,200.00	0.00	0.00	7,022.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
7,213.71	0.00	0.00	7,036.00	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
<b>MESAVERDE</b>										
7,300.00	0.00	0.00	7,122.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
7,400.00	0.00	0.00	7,222.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
7,500.00	0.00	0.00	7,322.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
7,600.00	0.00	0.00	7,422.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
7,700.00	0.00	0.00	7,522.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
7,800.00	0.00	0.00	7,622.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
7,900.00	0.00	0.00	7,722.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
8,000.00	0.00	0.00	7,822.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
8,100.00	0.00	0.00	7,922.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
8,200.00	0.00	0.00	8,022.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
8,300.00	0.00	0.00	8,122.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
8,400.00	0.00	0.00	8,222.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
8,500.00	0.00	0.00	8,322.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
8,600.00	0.00	0.00	8,422.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
8,700.00	0.00	0.00	8,522.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
8,800.00	0.00	0.00	8,622.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
8,900.00	0.00	0.00	8,722.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
9,000.00	0.00	0.00	8,822.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
9,100.00	0.00	0.00	8,922.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
9,200.00	0.00	0.00	9,022.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
9,300.00	0.00	0.00	9,122.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 1022-7B4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5161' & RKB 4' @ 5165.00ft (ASSUMED)
<b>Site:</b>	UINTAH_NBU 1022-7C PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 1022-7B4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 1022-7B4BS		
<b>Design:</b>	PLAN #1 12-9-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,400.00	0.00	0.00	9,222.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
9,500.00	0.00	0.00	9,322.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
9,600.00	0.00	0.00	9,422.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
9,700.00	0.00	0.00	9,522.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
9,800.00	0.00	0.00	9,622.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
9,900.00	0.00	0.00	9,722.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
10,000.00	0.00	0.00	9,822.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
10,100.00	0.00	0.00	9,922.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
10,200.00	0.00	0.00	10,022.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
10,300.00	0.00	0.00	10,122.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
10,400.00	0.00	0.00	10,222.29	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
10,477.71	0.00	0.00	10,300.00	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	
TD at 10477.71 - PBHL_NBU 1022-7B4BS										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PBHL_NBU 1022-7B4BS - hit/miss target - Shape - plan hits target center - Circle (radius 25.00)	0.00	0.00	10,300.00	146.72	1,114.84	14,518,119.52	2,066,769.28	39° 58' 5.692 N	109° 28' 42.115 W	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,469.73	2,379.00	8 5/8"	8.625	11.000		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,218.66	1,203.00	GREEN RIVER				
4,627.71	4,450.00	WASATCH				
7,213.71	7,036.00	MESAVERDE				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
1,300.00	1,279.82	22.54	171.29	Start 2277.39 hold at 1300.00 MD	
3,577.39	3,419.86	124.18	943.55	Start Drop -2.00	
4,577.39	4,399.68	146.72	1,114.84	Start 5900.32 hold at 4577.39 MD	
10,477.71	10,300.00	146.72	1,114.84	TD at 10477.71	

**NBU 1022-7B4BS**

Surface: 1051' FNL 2093' FWL (NE/4NW/4)  
BHL: 908' FNL 1672' FEL (NW/4NE/4)

**NBU 1022-7C1BS**

Surface: 1053' FNL 2083' FWL (NE/4NW/4)  
BHL: 312' FNL 1981' FWL (NE/4NW/4)

**NBU 1022-7C4BS**

Surface: 1055' FNL 2073' FWL (NE/4NW/4)  
BHL: 743' FNL 1976' FWL (NE/4NW/4)

**NBU 1022-7D1CS**

Surface: 1061' FNL 2044' FWL (NE/4NW/4)  
BHL: 402' FNL 763' FWL (NW/4NW/4)

**NBU 1022-7F1BS**

Surface: 1059' FNL 2054' FWL (NE/4NW/4)  
BHL: 1403' FNL 1976' FWL (SE/4NW/4)

**NBU 1022-7F1CS**

Surface: 1057' FNL 2063' FWL (NE/4NW/4)  
BHL: 1733' FNL 1976' FWL (SE/4NW/4)

Pad: NBU 1022-7C Pad  
Section 7 T10S R22E  
Mineral Lease: ML 23609

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

***MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)***

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 roads and improved/unimproved lease roads. APC/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.

Where roads 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.

Turnouts; major cut and fills; culverts; bridges; gates; cattle guards; low water crossings; or modifications needed to existing infrastructure/facilities were determined at the on-site and, 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 1022-7C. The NBU 1022-7C well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of December 27, 2010.

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

Production facilities will be installed on the disturbed portion of each 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) aboveground 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.

Production tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks are not to be used for disposal of liquids from additional sources without prior approval of UDOGM.

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  $\pm 1,435'$  and the individual segments are broken up as follows:

- $\pm 755'$  (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad.
- $\pm 680'$  (0.1 miles) –New 6" buried gas pipeline from the edge of pad to the existing 12" pipeline.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 2,825'$  and the individual segments are broken up as follows:

- $\pm 755'$  (0.1 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad.
- $\pm 2,070'$  (0.4 miles) –New 6" buried liquid pipeline from the edge of pad to the NBU 1022-7G intersection.

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. Kerr-McGee 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, Kerr-McGee requests a temporary 45' construction right-of-way and 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, ownership, and 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 of 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

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface 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 released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as 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).

The reserve and/or fracture stimulation pit will be lined with a synthetic material 20-mil or thicker. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. Any additional pits necessary to subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

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, accidental release, or in excess of reportable quantities will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule, and, where State wells are participatory to a Federal agreement, according to NTL-3A.

## 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, 1983 (NAD83) 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 are not limited to: 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 APC/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

**K. Other Information:**

None

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

Andy Lytle  
Regulatory Analyst I  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6100

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.



Andy Lytle

December 13, 2010  
Date



Kerr-McGee Oil & Gas Onshore LP  
P.O. Box 173779  
Denver, CO 80217-3779

November 17, 2010

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

Re: Directional Drilling R649-3-11  
NBU 1022-7B4BS  
T10S-R22E  
Section 7: NWNE  
Surface: 1051' FNL, 2093' FWL  
Bottom Hole: 908' FNL, 1672' FEL  
Uintah County, Utah

Dear Ms. Mason:

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

- Kerr-McGee's NBU 1022-7B4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

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

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink that reads 'James C. Colligan III'.

James C. Colligan III  
Landman

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

January 3, 2011

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 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 2011 within the Natural Buttes Unit, Uintah County, Utah.

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

**NBU 1022-7C PAD**

43-047-51433	NBU 1022-7B4BS	Sec 07 T10S R22E 1051 FNL 2093 FWL
	BHL	Sec 07 T10S R22E 0908 FNL 1672 FEL

43-047-51434	NBU 1022-7C1BS	Sec 07 T10S R22E 1053 FNL 2083 FWL
	BHL	Sec 07 T10S R22E 0312 FNL 1981 FWL

43-047-51435	NBU 1022-7C4BS	Sec 07 T10S R22E 1055 FNL 2073 FWL
	BHL	Sec 07 T10S R22E 0743 FNL 1976 FWL

43-047-51436	NBU 1022-7D1CS	Sec 07 T10S R22E 1061 FNL 2044 FWL
	BHL	Sec 07 T10S R22E 0402 FNL 0763 FWL

43-047-51437	NBU 1022-7F1BS	Sec 07 T10S R22E 1059 FNL 2054 FWL
	BHL	Sec 07 T10S R22E 1403 FNL 1976 FWL

43-047-51438	NBU 1022-7F1CS	Sec 07 T10S R22E 1057 FNL 2063 FWL
	BHL	Sec 07 T10S R22E 1733 FNL 1976 FWL

**NBU 1022-7E PAD**

43-047-51439	NBU 1022-7D4CS	Sec 07 T10S R22E 1864 FNL 0877 FWL
	BHL	Sec 07 T10S R22E 1237 FNL 0758 FWL

43-047-51440	NBU 1022-7E1BS	Sec 07 T10S R22E 1874 FNL 0878 FWL
	BHL	Sec 07 T10S R22E 1567 FNL 0758 FWL

**RECEIVED: Jan. 04, 2011**

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51441	NBU 1022-7E4CS	Sec 07 T10S R22E 1904 FNL 0880 FWL BHL Sec 07 T10S R22E 2475 FNL 0760 FWL
43-047-51442	NBU 1022-7F4BS	Sec 07 T10S R22E 1884 FNL 0878 FWL BHL Sec 07 T10S R22E 2064 FNL 1977 FWL
43-047-51443	NBU 1022-7F4CS	Sec 07 T10S R22E 1894 FNL 0879 FWL BHL Sec 07 T10S R22E 2394 FNL 1977 FWL

**NBU 1022-7G PAD**

43-047-51444	NBU 1022-7G1BS	Sec 07 T10S R22E 2361 FNL 1695 FEL BHL Sec 07 T10S R22E 1666 FNL 1702 FEL
43-047-51445	NBU 1022-7G4BS	Sec 07 T10S R22E 2361 FNL 1685 FEL BHL Sec 07 T10S R22E 2019 FNL 1680 FEL
43-047-51446	NBU 1022-7H1BS	Sec 07 T10S R22E 2361 FNL 1675 FEL BHL Sec 07 T10S R22E 1563 FNL 0495 FEL
43-047-51447	NBU 1022-7H4BS	Sec 07 T10S R22E 2361 FNL 1665 FEL BHL Sec 07 T10S R22E 2013 FNL 0490 FEL

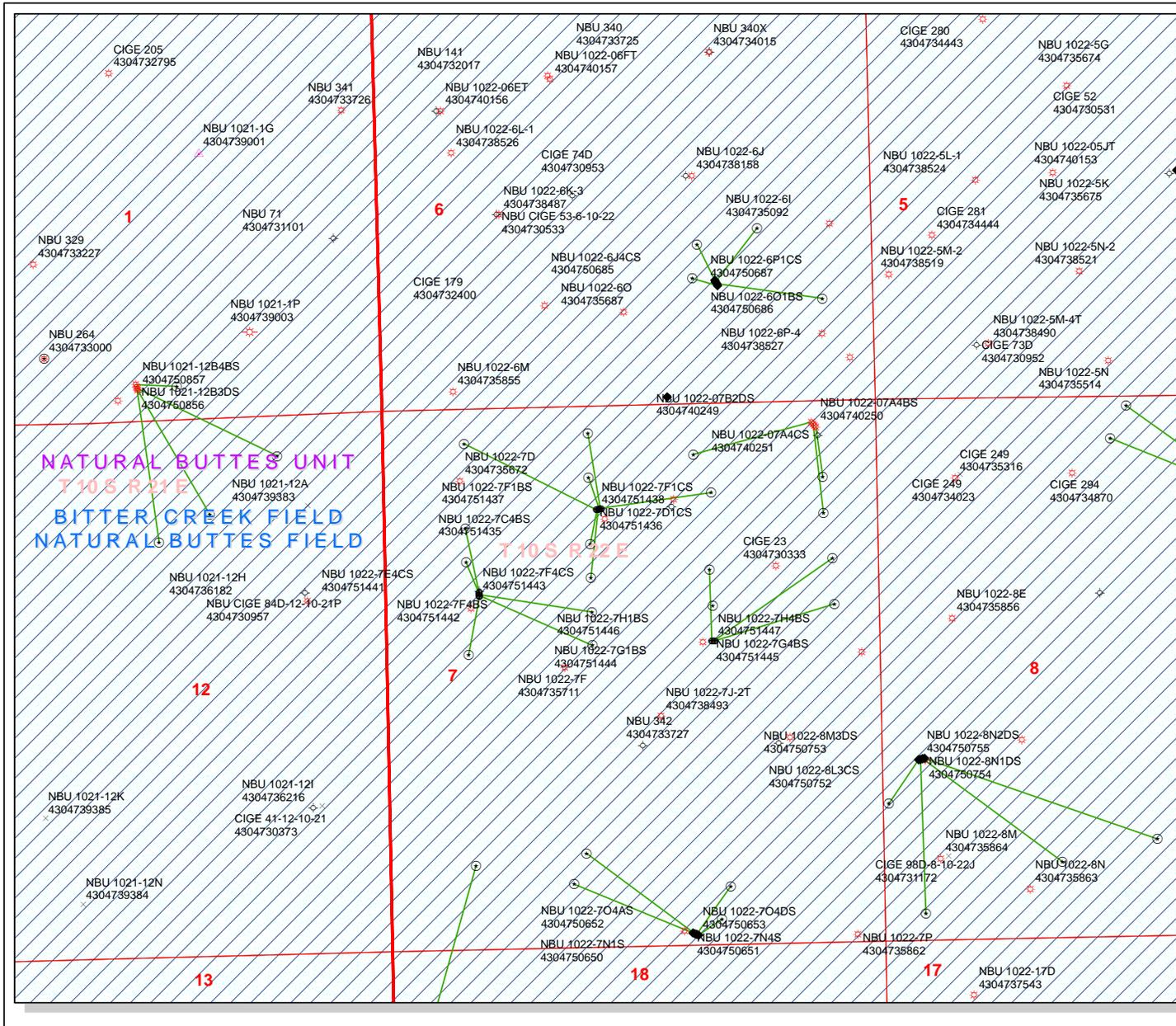
This office has no objection to permitting the wells at this time.

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: 2011.01.03 11:20:53 -0700

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

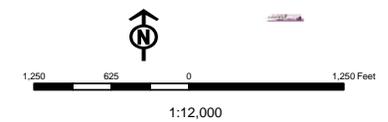
MCoulthard:mc:1-3-11



**API Number: 4304751433**  
**Well Name: NBU 1022-7B4BS**  
**Township 10.0 S Range 22.0 E Section 07**  
**Meridian: SLBM**  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason

<b>Units</b>	<b>Wells Query</b>
<b>STATUS</b>	<b>Status</b>
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 GEOTHERMAL	PA - Plugged Abandoned
PP OIL	PGW - Producing Gas Well
SECONDARY	POW - Producing Oil Well
TERMINATED	RET - Returned APD
<b>Fields</b>	SGW - Shut-in Gas Well
Unknown	SOW - Shut-in Oil Well
ABANDONED	TA - Temp. Abandoned
ACTIVE	TW - Test Well
COMBINED	WDW - Water Disposal
INACTIVE	WIW - Water Injection Well
STORAGE	WSW - Water Supply Well
TERMINATED	
Sections	
Township	



**From:** Jim Davis  
**To:** Bonner, Ed; Hill, Brad; Mason, Diana  
**CC:** Garrison, LaVonne; [andrew.lytle@anadarko.com](mailto:andrew.lytle@anadarko.com); [julie.jacobson@anadarko.com](mailto:julie.jacobson@anadarko.com)  
**Date:** 1/12/2011 12:12 PM  
**Subject:** Kerr Mc Gee approvals in 10S 22E Sec 7 (15)

The following APDs have been approved by SITLA under the following condition. Approval is granted under the condition that spot monitoring be conducted at the beginning of construction and thereafter as deemed needful by a registered paleontologist, as recommended in the paleo reports IPC #10-71 and IPC# 10-72. Arch clearance is granted without conditions.

4304751433 NBU 1022-7B4BS  
4304751434 NBU 1022-7C1BS  
4304751435 NBU 1022-7C4BS  
4304751436 NBU 1022-7D1CS  
4304751437 NBU 1022-7F1BS  
4304751438 NBU 1022-7F1CS  
4304751439 NBU 1022-7D4CS  
4304751440 NBU 1022-7E1BS  
4304751441 NBU 1022-7E4CS  
4304751442 NBU 1022-7F4BS  
4304751443 NBU 1022-7F4CS  
4304751444 NBU 1022-7G1BS  
4304751445 NBU 1022-7G4BS  
4304751446 NBU 1022-7H1BS  
4304751447 NBU 1022-7H4BS

Thanks.  
-Jim Davis

Jim Davis  
Utah Trust Lands Administration  
[jimdavis1@utah.gov](mailto:jimdavis1@utah.gov)  
Phone: (801) 538-5156

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-7B4BS			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2295	10300		
Previous Shoe Setting Depth (TVD)	40	2295		
Max Mud Weight (ppg)	8.3	13.0		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	10690		
Operators Max Anticipated Pressure (psi)	6845	12.8		

Calculations	Surf String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	991	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	716	NO <input type="checkbox"/> air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	486	YES <input type="checkbox"/> OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	495	NO <input type="checkbox"/> Reasonable depth in area
Required Casing/BOPE Test Pressure=		2295	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient

Calculations	Prod String	4.500	"
Max BHP (psi)	.052*Setting Depth*MW=	6963	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	5727	NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	4697	YES <input type="checkbox"/> OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	5202	NO <input type="checkbox"/> Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2295	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
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"/>
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
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

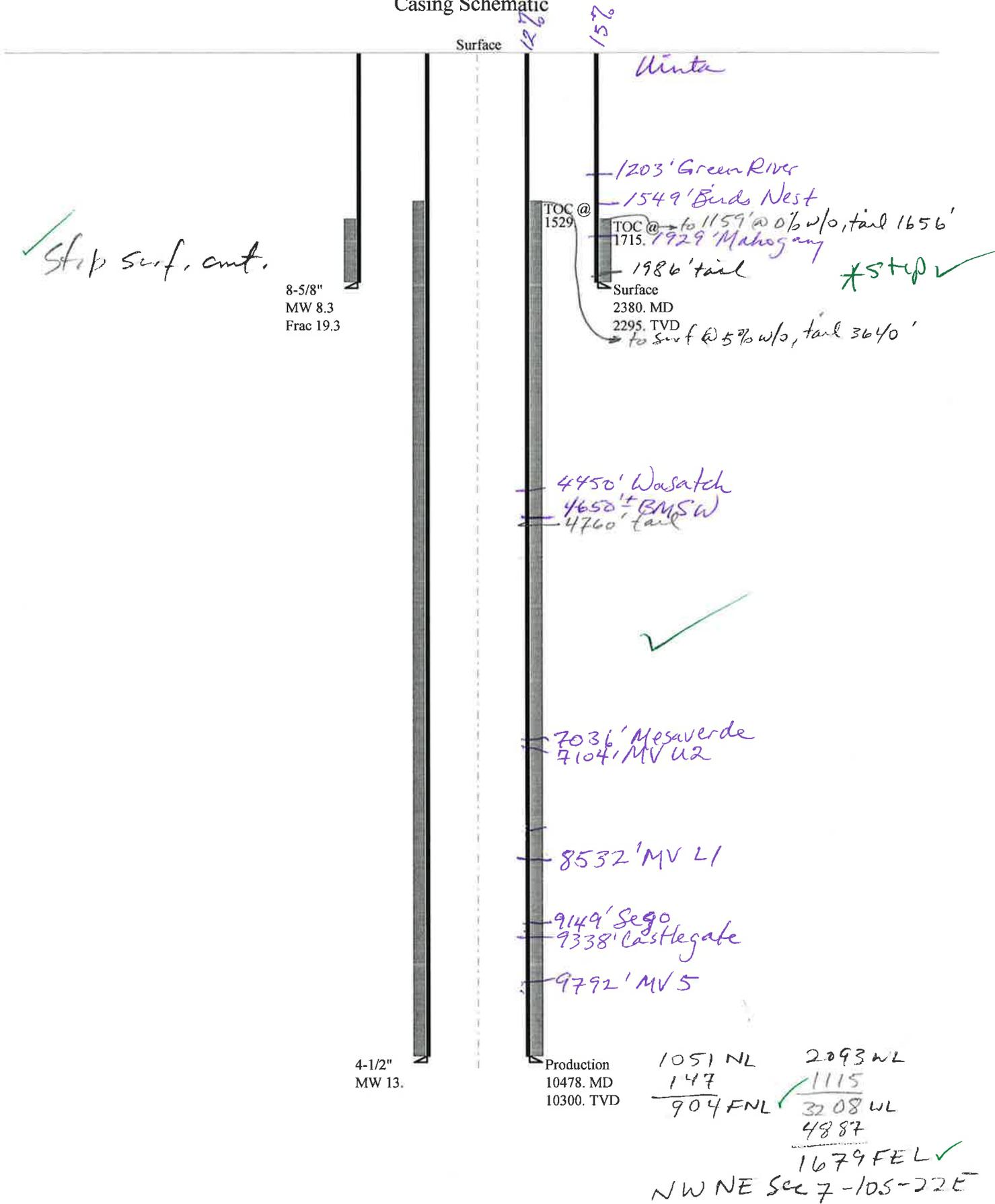
Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="checkbox"/>
			<b>*Can Full Expected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

API Well Number: 43047514330000

*Max Pressure Allowed @ Previous Casing Shoe=	<input type="text"/>	psi *Assumes 1psi/ft frac gradient
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# 43047514330000 NBU 1022-7B4BS

## Casing Schematic



Well name:	<b>43047514330000 NBU 1022-7B4BS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Surface	Project ID:	43-047-51433
Location:	UINTAH COUNTY		

**Design parameters:**

**Collapse**

Mud weight: 8.330 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: 106 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 100 ft  
 Cement top: 1,715 ft

**Burst**

Max anticipated surface pressure: 2,094 psi  
 Internal gradient: 0.120 psi/ft  
 Calculated BHP 2,370 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: 2,080 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
 Departure at shoe: 542 ft  
 Maximum dogleg: 2 °/100ft  
 Inclination at shoe: 20 °

**Re subsequent strings:**

Next setting depth: 10,300 ft  
 Next mud weight: 13.000 ppg  
 Next setting BHP: 6,956 psi  
 Fracture mud wt: 19.250 ppg  
 Fracture depth: 2,380 ft  
 Injection pressure: 2,380 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	2380	8.625	28.00	I-55	LT&C	2295	2380	7.892	94248
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	993	1880	1.893	2370	3390	1.43	64.3	348	5.42 J

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

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

Date: January 31, 2011  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2295 ft, a mud weight of 8.33 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.*

Well name:	<b>43047514330000 NBU 1022-7B4BS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Production	Project ID:	43-047-51433
Location:	UINTAH COUNTY		

**Design parameters:**

**Collapse**

Mud weight: 13.000 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: 218 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 100 ft  
 Cement top: 1,529 ft

**Burst**

Max anticipated surface pressure: 4,690 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 6,956 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: 8,476 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
 Departure at shoe: 1125 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 (\$)
1	10478	4.5	11.60	HCP-110	Buttress	10300	10478	3.875	54010
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	6956	8650	1.244	6956	10690	1.54	119.5	367.2	3.07 B

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

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

Date: January 31, 2011  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 10300 ft, a mud weight of 13 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.*

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.  
**Well Name** NBU 1022-7B4BS  
**API Number** 43047514330000      **APD No** 3341      **Field/Unit** NATURAL BUTTES  
**Location: 1/4,1/4** NENW      **Sec** 7      **Tw** 10.0S      **Rng** 22.0E      1051      **FNL** 2093      **FWL**  
**GPS Coord (UTM)** 629609 4425080      **Surface Owner**

### Participants

See Other Comments:

### Regional/Local Setting & Topography

This location is in the Natural Buttes Unit of Uintah County approximately 36 air miles and 46.2 road miles south of Vernal, Utah. It is accessed by existing State of Utah, Uintah County and oilfield development roads. No new road construction will be required.

The general area contains sub-drainages of lower Sand Wash. Sand Wash drainage enters the White River approximately 4 miles to the north of the site. The area is characterized by rolling benches to steep sided hills, which have exposed sand stone bedrock cliffs along the rims. All drainages are ephemeral. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle, sheep and antelope exists.

Six gas wells are proposed to be directionally drilled from this pad which extends the existing pad of the NBU 1022-7C producing gas well. The new wells are the NBU 1022-7B4BS, NBU 1022-7C1BS, NBU 1022-7C4BS, NBU 1022-7F1CS, NBU 1022-7F1BS and NBU 1022-7DICS. The pad is laid out in an east to west direction and the existing pad will be extended to the west and north. To obtain fill for the new pad extension, the existing pad will be lowered up to 2.7 feet. It is on the north and east side of a steep side-hill. It would not be reasonable to further excavate this hill to obtain fill. The reserve pit will be located on the moderate slope of this side-hill which has been re-contoured as part of the previous pad. The side-hill behind the new reserve pit will be left nearly vertical. Some seasonal runoff may come from this steep side slope. This probably can be contained within the 15 foot bench on the outside of the pit. A diversion in this area would be difficult to construct and maintain. A deep drainage to the north of the proposed pad is avoided. This draw, which comes from the east, parallels the pad, and then continues in a northerly direction. The selected site is the only location in the immediate area and should be suitable for drilling and operating the proposed wells.

Both the surface and minerals are owned by SITLA.

### Surface Use Plan

#### **Current Surface Use**

Grazing  
Wildlife 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> 332 <b>Length</b> 475	Onsite	UNTA

**Ancillary Facilities** N

### Waste Management Plan Adequate?

### Environmental Parameters

**Affected Floodplains and/or Wetlands** N

**Flora / Fauna**

Vegetation is a sparse salt desert shrub type. About 8 inches of snow covered the area. Principal species expected species include Indian rice grass, greasewood, cheatgrass, halogeton, pepper grass, annuals weeds and curly mesquite grass.

Antelope and small mammals and birds.

**Soil Type and Characteristics**

Soils are a shallow and rocky.

**Erosion Issues** N

**Sedimentation Issues** Y

The reserve pit will be located on the moderate slope of this side-hill which has been re-contoured as part of the previous pad. The side-hill behind the new reserve pit will be left nearly vertical.

**Site Stability Issues** N

**Drainage Diversion Required?** N

**Berm Required?** N

**Erosion Sedimentation Control Required?** N

This probably can be contained within the 15 foot bench on the outside of the pit. A diversion in this area would be difficult to construct and maintain.

**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 in the southeast corner of the location. Dimensions are 100' x 260' x 12' deep with 2' of freeboard and a 15' outer bench. Kerr McGee proposed to line the pit with a 30-mil liner and 2 layers of felt.

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

**Other Observations / Comments**

Floyd Bartlett (DOGM), Sheila Wopsock, Clay Einerson, Charles Chase, Grizz Oleen, Andy Lytle, Matt Palmer, Roger Perry, Julie Jacobson and Duane Holmes (Kerr McGee), Mitch.Batty, John Slaugh, (Timberline Engineering and Land Surveying) and Jim Davis (SITLA).

Floyd Bartlett  
**Evaluator**

1/11/2011  
**Date / Time**

# Application for Permit to Drill

## Statement of Basis

3/28/2011

Utah Division of Oil, Gas and Mining

Page 1

<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
3341	43047514330000	LOCKED	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 1022-7B4BS		<b>Unit</b>	NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>	DRILL	
<b>Location</b>	NENW 7 10S 22E S 1051 FNL 2093 FWL GPS Coord (UTM)			629627E	4425086N

### Geologic Statement of Basis

Kerr McGee proposes to set 2,380' 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 4,650'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 7. The well is owned by the BLM, has a depth of 1,850 feet, and its listed use is for stock watering. 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. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill  
APD Evaluator

1/24/2011  
Date / Time

### Surface Statement of Basis

This location is in the Natural Buttes Unit of Uintah County approximately 36 air miles and 46.2 road miles south of Vernal, Utah. It is accessed by existing State of Utah, Uintah County and oilfield development roads. No new road construction will be required.

The general area contains sub-drainages of lower Sand Wash. Sand Wash drainage enters the White River approximately 4 miles to the north of the site. The area is characterized by rolling benches to steep sided hills, which have exposed sand stone bedrock cliffs along the rims.

All drainages are ephemeral. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle, sheep and antelope exists.

Six gas wells are proposed to be directionally drilled from this pad which extends the existing pad of the NBU 1022-7C producing gas well. The new wells are the NBU 1022-7B4BS, NBU 1022-7C1BS, NBU 1022-7C4BS, NBU 1022-7F1CS, NBU 1022-7F1BS and NBU 1022-7DICS. The pad is laid out in an east to west direction and the existing pad will be extended to the west and north. To obtain fill for the new pad extension, the existing pad will be lowered up to 2.7 feet. It is on the north and east side of a steep side-hill. It would not be reasonable to further excavate this hill to obtain fill. The reserve pit will be located on the moderate slope of this side-hill which has been re-contoured as part of the previous pad. The side-hill behind the new reserve pit will be left nearly vertical. Some seasonal runoff may come from this steep side slope. This probably can be contained within the 15 foot bench on the outside of the pit. A diversion in this area would be difficult to construct and maintain. A deep drainage to the north of the proposed pad is avoided. This draw, which comes from the east, parallels the pad, and then continues in a northerly direction. The selected site is the only location in the immediate area and should be suitable for drilling and operating the proposed wells.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA attended the site evaluation and had no concerns with the proposal. Kerr McGee was told to consult with SITLA for reclamation standards including seeding mixes to be used.

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# Application for Permit to Drill Statement of Basis

3/28/2011

**Utah Division of Oil, Gas and Mining**Page 2

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Alex Hansen and Ben Williams of the Utah Division of Wildlife Resources were invited to attend. They stated they had a previously scheduled meeting for this date and neither attended.

Floyd Bartlett  
**Onsite Evaluator**

1/11/2011  
**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 double felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.
Surface	The well site shall be bermed to prevent fluids from leaving the pad.

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 12/28/2010**API NO. ASSIGNED:** 43047514330000**WELL NAME:** NBU 1022-7B4BS**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)**PHONE NUMBER:** 720 929-6100**CONTACT:** Andy Lytle**PROPOSED LOCATION:** NENW 07 100S 220E**Permit Tech Review:** **SURFACE:** 1051 FNL 2093 FWL**Engineering Review:** **BOTTOM:** 0908 FNL 1672 FEL**Geology Review:** **COUNTY:** UINTAH**LATITUDE:** 39.96788**LONGITUDE:** -109.48219**UTM SURF EASTINGS:** 629627.00**NORTHINGS:** 4425086.00**FIELD NAME:** NATURAL BUTTES**LEASE TYPE:** 3 - State**LEASE NUMBER:** ML 23609**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE**SURFACE OWNER:** 3 - State**COALBED METHANE:** NO**RECEIVED AND/OR REVIEWED:**

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

**Commingling Approved****LOCATION AND SITING:**

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

**Comments:** Presite Completed

**Stipulations:**

- 3 - Commingling - ddoucet
- 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 1022-7B4BS  
**API Well Number:** 43047514330000  
**Lease Number:** ML 23609  
**Surface Owner:** STATE  
**Approval Date:** 3/28/2011

**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:**



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>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 23609
<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 1022-7B4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047514330000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1051 FNL 2093 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 4/12/2011	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
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	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 50px;" type="text"/>

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

Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests to change the total depth (TD) in the subject well. The TD will still reside in the Blackhawk formation, which is in the Mesaverde group for this well. Please see attached for additional details. Please contact the undersigned if you have any questions and/or comments. Thank you.

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

Date: 04/18/2011

By: *Derek Duff*

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/12/2011	

Well name:	<b>43047514330000 NBU 1022-7B4BSrev.</b>		
Operator:	<b>Kerr McGee Oil &amp; Gas Onshore L.P.</b>		
String type:	Production	Project ID:	43-047-51433-0000
Location:	Uintah County, Utah		

**Design parameters:****Collapse**

Mud weight: 12.000 ppg  
Design is based on evacuated pipe.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 216 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,500 ft

**Burst:**

Design factor 1.00

Cement top: 1,764 ft

**Burst**

Max anticipated surface pressure: 4,065 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 6,281 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: 1.50 (B)

**Directional well information:**

Kick-off point 1950 ft  
Departure at shoe: 1124 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 0 °

Tension is based on buoyed weight.

Neutral point: 8,447 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft <sup>3</sup> )
1	10254	4.5	11.60	P-110	LT&C	10076	10254	3.875	894.8
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	6281	7580	1.207	6281	10690	1.70	96	279	2.91 J

Prepared by: Dustin K. Doucet  
Div of Oil, Gas & Mining

Phone: (801) 538-5281  
FAX: (801) 359-3940

Date: April 18, 2011  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 10076 ft, a mud weight of 12 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

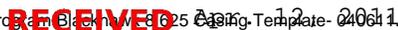
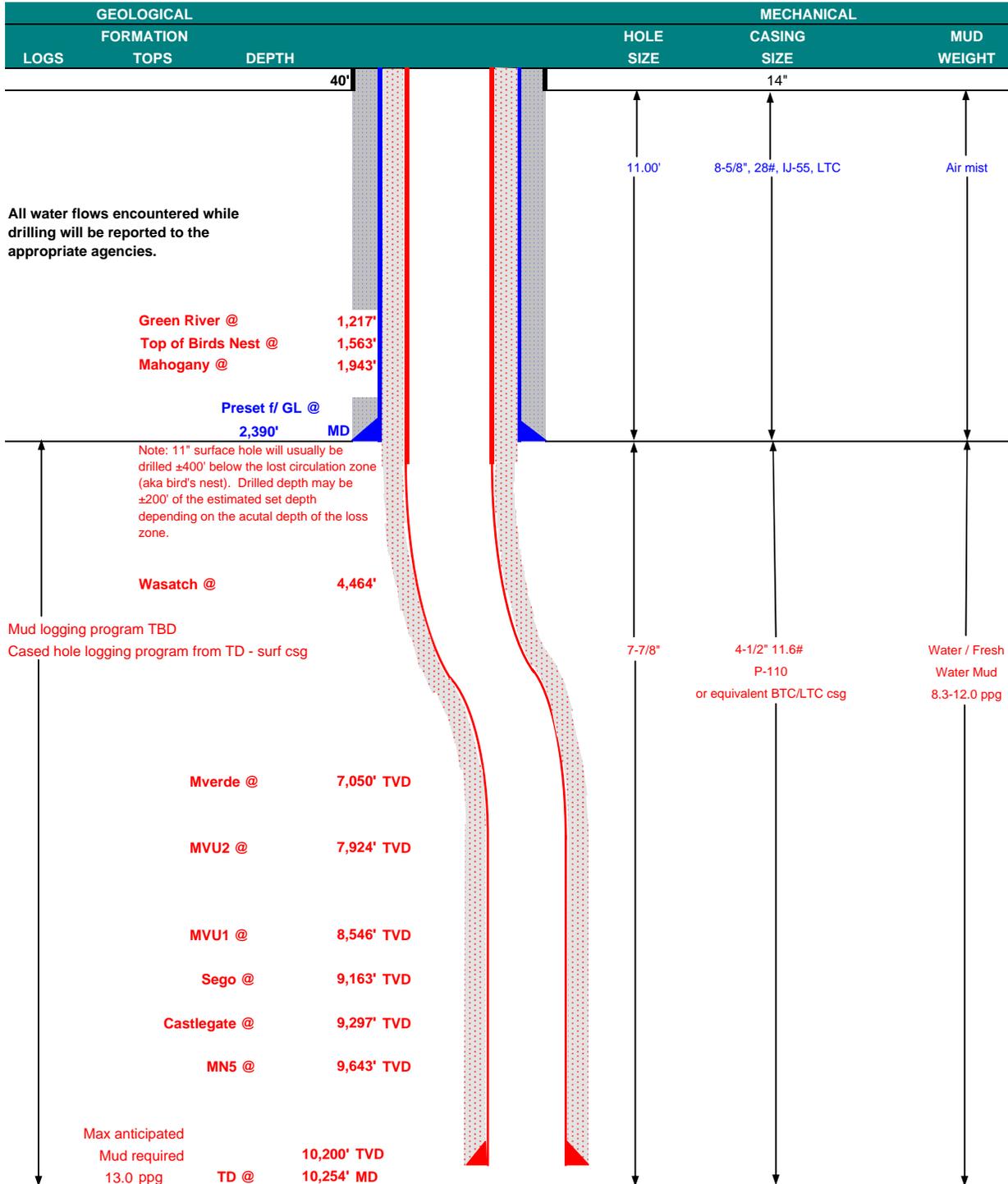
*Engineering responsibility for use of this design will be that of the purchaser.*

**RECEIVED** Apr. 12, 2011



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	April 12, 2011			
WELL NAME	<b>NBU 1022-7B4BS</b>		TD	10,200'	TVD	10,254' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	4,881'
SURFACE LOCATION	NENW	1051 FNL	2093 FWL	Sec 7	T 10S	R 22E	
	Latitude:	39.967845	Longitude:	-109.482343			NAD 27
BTM HOLE LOCATION	NWNE	908 FNL	1672 FEL	Sec 7	T 10S	R 22E	
	Latitude:	39.968248	Longitude:	-109.478365			NAD 27
OBJECTIVE ZONE(S)	Wasatch/Mesaverde						
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), SITLA (Surface), UDOGM Tri-County Health Dept.						





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	BTC
								TENSION	
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,390	28.00	IJ-55	LTC	2.26	1.68	5.94	N/A
						10,690	8,650	279,000	367,000
PRODUCTION	4-1/2"	0 to 10,254	11.60	P-110	LTC or BTC	1.19	1.25	2.93	3.85

**Surface casing:**

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

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

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

**Production casing:**

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

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

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
<b>Option 1</b>			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
<b>Option 2</b>	LEAD	1,890'	65/35 Poz + 6% Gel + 10 pps gilsonite	170	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,964'	Premium Lite II +0.25 pps	290	10%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,290'	50/50 Poz/G + 10% salt + 2% gel	1,210	10%	14.30	1.31
			+ 0.1% R-3				

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

**ADDITIONAL INFORMATION**

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

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

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

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

**DRILLING ENGINEER:**

Nick Spence / Emile Goodwin

**DATE:**

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:**



<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 23609
<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 1022-7B4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047514330000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1051 FNL 2093 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

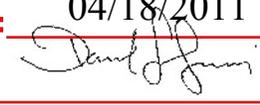
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 4/21/2011	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
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	<input type="checkbox"/> 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 checked="" type="checkbox"/> OTHER	OTHER: <input type="text" value="Pit Refurb/ACTS"/>

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

Kerr-McGee Oil & Gas Onshore, LP is requesting to refurb the existing pit on this multi-well pad for completion operations. The refurb pit will be relined per the requirements in the COA of the APD. Upon completion of the wells on this pad, Kerr-McGee is also requesting to utilize this pit as an ACTS staging pit to be utilized for other completion operations in the area. The trucks will unload water into these tanks before the water is placed into the refurbished pit. The purpose of the frac tanks is to collect any hydro-carbons that may have been associated with the other completion operations before releasing into the pit. We plan to keep this pit open for 1 year. During this time the surrounding well location completion fluids will be recycled in this pit and utilized for other frac jobs in the surrounding sections. Thank you.

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

Date: 04/18/2011

By: 

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/15/2011	



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

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices**

**Sundry Conditions of Approval Well Number 43047514330000**

**A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the pit.**

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 23609
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<b>1. TYPE OF WELL</b> Gas Well		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>8. WELL NAME and NUMBER:</b> NBU 1022-7B4BS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047514330000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1051 FNL 2093 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
		<b>COUNTY:</b> UINTAH
		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<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: 5/7/2011	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER	
	OTHER: <input style="width: 100px;" type="text"/>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>		
MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 05/07/2011 AT 0800 HRS.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 5/9/2011

## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
 Submitted By ANDY LYTLE Phone Number 720.929.6100  
 Well Name/Number NBU 1022-7B4BS  
 Qtr/Qtr NENW Section 7 Township 10S Range 22E  
 Lease Serial Number ML-23609  
 API Number 4304751433

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

Date/Time 05/06/2011 08:00 HRS AM  PM

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

- Surface Casing  
 Intermediate Casing  
 Production Casing  
 Liner  
 Other

RECEIVED

MAY 05 2011

DIV. OF OIL, GAS &amp; MINING

Date/Time 05/13/2011 00:00 HRS AM  PM

BOPE

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

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

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT

435.781.7048 OR LOVEL YOUNG AT 435.828.0986

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

FORM 6

ENTITY ACTION FORM

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

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751433	NBU 1022-7B4BS		NENW	7	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<i>B</i>	99999	<i>2900</i>	<del>5/6/2011</del>			<i>5/10/11</i>	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVA</i> SPUD WELL LOCATION ON <del>05/06/2011</del> AT 0800 HRS <i>5/7/11 per Sheila</i>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751434	NBU 1022-7C1BS		NENW	7	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<i>B</i>	99999	<i>2900</i>	<del>5/6/2011</del>			<i>5/10/11</i>	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVA</i> SPUD WELL LOCATION ON <del>05/06/2011</del> AT 1500 HRS. <i>BHL = NENW per Sheila 5/7/11</i>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751435	NBU 1022-7C4BS		NENW	7	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<i>B</i>	99999	<i>2900</i>	<del>5/6/2011</del>			<i>5/10/11</i>	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVA</i> SPUD WELL LOCATION ON <del>05/06/2011</del> AT 1300 HRS. <i>BHL = NENW 5/7/11 per Sheila</i>							

ACTION CODES:

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

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

5/9/2011

Date

(6/2000)

RECEIVED

MAY 09 2011

DIV. OF OIL, GAS & MINING

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 23609
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>1. TYPE OF WELL</b> Gas Well		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>8. WELL NAME and NUMBER:</b> NBU 1022-7B4BS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047514330000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1051 FNL 2093 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>COUNTY:</b> UINTAH
<b>STATE:</b> UTAH		
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<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"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<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"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 5/18/2011		
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU AIR RIG ON MAY 16, 2011. DRILLED SURFACE HOLE TO 2430'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 5/19/2011	

<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 23609
<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 1022-7B4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047514330000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1051 FNL 2093 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/23/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input checked="" 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: 50px;" type="text"/>

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

The operator was granted approval to deepen this well to the Blackhawk formation (resides in Mesaverde formation) on 4/18/2011. The operator plans on drilling this well as approved in the previously approved sundry notice, however, might have a deeper depth than originally planned. The operator plans on staying within the Blackhawk formation and it is anticipated that the TVD will be 10,343' and the TMD will be 10,521'. Please contact the undersigned if you have any questions and/or concerns.

**Approved by the  
 Utah Division of  
 Oil, Gas and Mining**  
  
**Date:** 08/23/2011  
**By:** *Derek Duff*

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 8/23/2011

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>																														
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<b>1. TYPE OF WELL</b> Gas Well  <b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.  <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  <b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1051 FNL 2093 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S	<b>PHONE NUMBER:</b> 720 929-6515 Ext  <b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH																															
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<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>																															
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/7/2011	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top; padding: 2px;"><input type="checkbox"/> ACIDIZE</td> <td style="width: 33%; vertical-align: top; padding: 2px;"><input type="checkbox"/> ALTER CASING</td> <td style="width: 33%; vertical-align: top; padding: 2px;"><input type="checkbox"/> CASING REPAIR</td> </tr> <tr> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> CHANGE TO PREVIOUS PLANS</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> CHANGE TUBING</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> CHANGE WELL NAME</td> </tr> <tr> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> CHANGE WELL STATUS</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> CONVERT WELL TYPE</td> </tr> <tr> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> DEEPEN</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> FRACTURE TREAT</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> NEW CONSTRUCTION</td> </tr> <tr> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> OPERATOR CHANGE</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> PLUG AND ABANDON</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> PLUG BACK</td> </tr> <tr> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> PRODUCTION START OR RESUME</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> RECLAMATION OF WELL SITE</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION</td> </tr> <tr> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> REPERFORATE CURRENT FORMATION</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> SIDETRACK TO REPAIR WELL</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> TEMPORARY ABANDON</td> </tr> <tr> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> TUBING REPAIR</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> VENT OR FLARE</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> WATER DISPOSAL</td> </tr> <tr> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> WATER SHUTOFF</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> SI TA STATUS EXTENSION</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> APD EXTENSION</td> </tr> <tr> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> WILDCAT WELL DETERMINATION</td> <td style="vertical-align: top; padding: 2px;"><input type="checkbox"/> OTHER</td> <td style="vertical-align: top; padding: 2px;">OTHER: <input style="width: 100px;" type="text"/></td> </tr> </table>		<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR																														
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU ROTARY RIG. FINISHED DRILLING FROM 2430' TO 10495' ON SEPT. 4, 2011. RAN 4-1/2" 11.6# P-110 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED ENSIGN RIG 139 ON SEPT 7, 2011 @ 06:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.																																
<b>NAME (PLEASE PRINT)</b> Andy Lytle		<b>PHONE NUMBER</b> 720 929-6100																														
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst  <b>DATE</b> 9/7/2011																														

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

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 139

Submitted By KENNY MORRIS Phone Number 435- 828-0984

Well Name/Number NBU 1022-7B4BS

Qtr/Qtr NENW Section 7 Township 10S Range 22E

Lease Serial Number ML23609

API Number 43047514330000

Casing – Time casing run starts, not cementing times.

Production Casing

Other

Date/Time 9/5/2011 06:00 AM  PM

BOPE

Initial BOPE test at surface casing point

Other

RECEIVED

SEP 07 2011

DIV. OF OIL, GAS & MINING

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

Rig Move

Location To: SKID TO NBU1022-7C1BS TUESDAY W/ BOP TEST TO FOLLOW

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

Remarks 4.5 P-110 CSG RUN ON NBU 1022-7D4CS TO 10,395 ON THURSDAY

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 23609
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>1. TYPE OF WELL</b> Gas Well		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>8. WELL NAME and NUMBER:</b> NBU 1022-7B4BS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047514330000
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1051 FNL 2093 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 07 Township: 10.0S Range: 22.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
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		<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"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input 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"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> APD EXTENSION	
<input type="checkbox"/> SPUD REPORT Date of Spud:	OTHER: <input style="width: 100px;" type="text"/>	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 12/2/2011		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 12/02/2011 AT 1700 HRS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 12/5/2011

**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**

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**ML 23609**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME  
**UTU63047A**

8. WELL NAME and NUMBER:  
**NBU 1022-7B4BS**

9. API NUMBER:  
**4304751433**

10. FIELD AND POOL, OR WILDCAT  
**NATURAL BUTTES**

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  
**NENW 7 10S 22E S**

12. COUNTY  
**UINTAH**

13. STATE  
**UTAH**

14. DATE SPUNDED: **5/7/2011**

15. DATE T.D. REACHED: **9/4/2011**

16. DATE COMPLETED: **12/2/2011**

ABANDONED  READY TO PRODUCE

17. ELEVATIONS (DF, RKB, RT, GL):  
**5160 GL**

18. TOTAL DEPTH: MD **10,495** TVD **10,361**

19. PLUG BACK T.D.: MD **10,422** TVD **10,288**

20. IF MULTIPLE COMPLETIONS, HOW MANY? \*

21. DEPTH BRIDGE MD PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)  
**CBL/GR/COLLARS-BHV-SD/DSN/ACTR**

23.  
WAS WELL CORED? NO  YES  (Submit analysis)  
WAS DST RUN? NO  YES  (Submit report)  
DIRECTIONAL SURVEY? NO  YES  (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 5/8" IJ-55	28#	0	2,318		630		0	
7 7/8"	4 1/2" P-110	11.6#	0	10,465		1,965		902	

**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 3/8"	9,816							

**26. PRODUCING INTERVALS**

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) MESAVERDE	7,537	9,997		
(B) <i>WSMVD</i>				
(C)				
(D)				

**27. PERFORATION RECORD**

INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
7,537 9,997	0.36	186	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
7537 - 9997	PUMP 13,326 BBLs SLICK H2O & 306,715 LBS 30/50 OTTAWA SAND 8 STAGES

**RECEIVED**

**JAN 24 2012**

DIV. OF OIL, GAS & MINING

**29. ENCLOSED ATTACHMENTS:**

- ELECTRICAL/MECHANICAL LOGS       GEOLOGIC REPORT       DST REPORT       DIRECTIONAL SURVEY
- SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION       CORE ANALYSIS       OTHER: \_\_\_\_\_

**30. WELL STATUS:**

**PROD**

31. INITIAL PRODUCTION

INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED: 12/2/2011		TEST DATE: 12/3/2011		HOURS TESTED: 24		TEST PRODUCTION RATES: →		OIL – BBL: 0	GAS – MCF: 2,853	WATER – BBL: 39	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 2,500	CSG. PRESS. 3,175	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 2,853	WATER – BBL: 39	INTERVAL STATUS: PROD	

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 PRODUCTION 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 PRODUCTION 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 PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:	

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

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)
				GREEN RIVER	1,234
				BIRD'S NEST	1,626
				MAHOGANY	2,014
				WASATCH	4,575
				MESAVERDE	7,162

35. ADDITIONAL REMARKS (Include plugging procedure)

The first 210' of the surface hole was drilled with a 12 1/4" bit. The remainder of surface hole was drilled with an 11" bit. 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) JAIME SCHARNOWSKE TITLE REGULATORY ANALYST  
 SIGNATURE *Jaime Scharnowske* DATE 1/19/2012

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- 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 Phone: 801-538-5340  
 1594 West North Temple, Suite 1210  
 Box 145801 Fax: 801-359-3940  
 Salt Lake City, Utah 84114-5801

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1022-7B4BS RED	Spud Conductor: 5/7/2011	Spud Date: 5/16/2011
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD	Rig Name No: ENSIGN 139/139, PROPETRO 11/11
Event: DRILLING	Start Date: 4/11/2011	End Date: 9/7/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)	UWI: NE/NW0/10/S/22/E/7/0/0/26/PM/N/1051/W/0/2093/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/16/2011	0:00 - 6:00	6.00	RDMO	01	E	P		RIG DOWN,LOAD OUT TRUCKS,PRPARE RIG F/MOVE
	6:00 - 14:30	8.50	MIRU	01	A	P		MOVE RIG IN OFF THE NBU 921-17D
	14:30 - 19:00	4.50	MIRU	01	B	P		UNLOAD TRUCKS,RIG UP,PEPARE TO SPUD 12 1/4" SURF. HOLE
	19:00 - 19:30	0.50	PRPSPD	06	A	P		PU 12-1/4" BIT (SN-7133232) & MM (SN-8059) & INSTALL RUBBER
	19:30 - 21:30	2.00	DRLSUR	02	B	P		SPUD SURFACE 05/16/2011 @ 19:30 HRS. DRILL 12.25" SURFACE HOLE F/40'-210' (170' @ 85'/HR) PSI ON/ OFF 700/500, UP/ DOWN/ ROT 27/22/25. 532 GPM, 45 RPM ON TOP DRIVE,90 RPM ON MM , 15-18K WOB
	21:30 - 22:00	0.50	DRLSUR	06	A	P		TOOH & LD 12.25" BIT
	22:00 - 23:00	1.00	DRLSUR	06	A	P		PU 11" BIT ( SN-7024523 ), WEATHERFORD DIR TOOLS, SCRIBE, & TIH T/210'
	23:00 - 0:00	1.00	DRLSUR	02	D	P		DRILL/ SLIDE 11" SURFACE HOLE F/ 210'-290' ( 80' @ 80' /HR) PSI ON/ OFF=980/720 , UP/ DOWN/ ROT=40/30/35 . 130 SPM, 532 GPM, 18-20K WOB, 48 RPM ON TOP DRIVE,MM 90 RPM, CIRCULATING RESERVE PIT// NO LOSSES
5/17/2011	0:00 - 6:30	6.50	DRLSUR	02	D	P		DRILL/ SLIDE 11" SURFACE HOLE F/ 290'-1130' ( 840' @ 129' /HR) PSI ON/ OFF=1050/850 , UP/ DOWN/ ROT=57/45/52 . 130 SPM, 532 GPM, 18-20K WOB, 48 RPM ON TOP DRIVE,MM 90 RPM, CIRCULATING RESERVE PIT// NO LOSSES
	6:30 - 17:00	10.50	DRLSUR	02	D	P		DRILL/ SLIDE 11" SURFACE HOLE F/1130'-2030' ( 900' @ 86' /HR) PSI ON/ OFF=1500/1250 , UP/ DOWN/ ROT=57/45/52 . 130 SPM, 532 GPM, 18-20K WOB, 48 RPM ON TOP DRIVE,MM 90 RPM, CIRCULATING RESERVE PIT// NO LOSSES
	17:00 - 22:30	5.50	DRLSUR	02	D	P		DRILL/ SLIDE 11" SURFACE HOLE F/2030'-2430' ( 400' @ 72' /HR) PSI ON/ OFF=1620/1400 , UP/ DOWN/ ROT=82/60/65 . 130 SPM, 532 GPM, 18-20K WOB, 48 RPM ON TOP DRIVE,MM 90 RPM, CIRCULATING RESERVE PIT// NO LOSSES(TD 11" SURF. HOLE)
	22:30 - 0:00	1.50	DRLSUR	05	C	P		CIRC & COND HOLE F/LAYDOWN & 8 5/8" 28# SURF. CSG RUN
5/18/2011	0:00 - 0:30	0.50	DRLSUR	05	C	P		CONT. T/CIRC & COND HOLE F/LAYDOWN & 8 5/8" 28#SURF. CSG RUN
	0:30 - 5:00	4.50	DRLSUR	06	D	P		L/D DRILL STRING,11" BHA & DIR TOOLS
	5:00 - 6:00	1.00	CSG	12	A	P		R/U T/RUN 8 5/8" 28# SURF. CGS
	6:00 - 9:00	3.00	CSG	12	C	P		HOLD SAFTEY MEEETING,RUN FLOAT SHOE,SHOE JNT,BAFFEL & 51 JNTS 8 5/8" 28# LT&C CSG W/THE SHOE SET @2308' & THE BAFFEL @2262'
	9:00 - 9:30	0.50	CSG	12	B	P		RUN 200' 1" PIPE DOWN ANNULUS,INSTALL CEMENT HEAD,R/U PRO PETRO CEMENTERS

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

Well: NBU 1022-7B4BS RED		Spud Conductor: 5/7/2011		Spud Date: 5/16/2011	
Project: UTAH-UINTAH		Site: NBU 1022-7C PAD		Rig Name No: ENSIGN 139/139, PROPETRO 11/11	
Event: DRILLING		Start Date: 4/11/2011		End Date: 9/7/2011	
Active Datum: RKB @5,174.00usft (above Mean Sea Level)		UWI: NE/NW0/10/S/22/E/7/0/0/26/PM/N/1051/W/0/2093/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	9:30 - 10:30	1.00	CSG	12	E	P		HOLD SAFETY MEETING. INSTALL CEMENT HEAD. PSI TEST TO 2000 PSI. PUMP 130 BBLS OF 8.3# H2O AHEAD,GAINED FULL RETURNS PUMP 20 BBLS OF 8.4# GEL WATER AHEAD. PUMP 180 SX(122.4 BBLS) 11# 3.82 YIELD LEAD CEMENT, PUMP 225 SX (46 BBLS) OF 15.8# 1.15 YIELD TAIL(2% CALC, 1/4# /SK OF FLOCELE),DROP PLUG ON FLY AND DISPLACE W/140 BBLS OF 8.3# H2O. LIFT PRESSURE WAS 400 PSI, BUMP PLUG AND HOLD 900 PSI FOR 5 MIN. FLOAT HELD,FULL CIRC THRU OUT JOB,5 BBLS LEAD CEMENT TO SURF,CEMENT FELL BACK
	10:30 - 11:00	0.50	CSG	12	F	P		TOP OUT THRU 1" PIPE W/100 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE,NO CEMENT TO SURF.
	11:00 - 12:30	1.50	CSG	13	A	P		WAIT ON CEMENT
	12:30 - 13:00	0.50	CSG	12	F	P		TOP OUT W/125 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE,CEMENT TO SURF,STAYED @ SURF.(RELEASE RIG @ 13:00 05/18/2011)
8/27/2011	16:00 - 0:00	8.00	DRLPRO	01	E	P		R/D RIG GET READY F/ MOVE TO NBU 1022-7B4BS W/ JONES TRUCKING THIS AM
8/28/2011	0:00 - 6:00	6.00	DRLPRO	01	E	P		R/D RIG GET READY FOR MOVE
	6:00 - 0:00	18.00	DRLPRO	01	A	P		HELD S/M W/ ENSIGN RIG HANDS - PTI - RW JONES TRUCKING & MOVE RIG TO NBU 1022-7B4BS - HAD 5 HAUL TRUCKS-3 BED TRUCKS - 2 FORKLIFTS & TRUCKS LEFT LOC. @ 14:00 HRS - 100% MOVED 70% RIG UP & ( WELD ON IDM BRACE BEAM ) R.U.R.T
8/29/2011	0:00 - 6:00	6.00	DRLPRO	01	B	P		NIPPLE UP B.O.P'S & FLARE LINES
	6:00 - 7:30	1.50	DRLPRO	14	A	P		TEST B.O.P'S - BLINDS-PIPE-2"-4"-HCR-CHOKE MAINFOLD 250 LOW - 5000 HIGH - ANNULAR 250 LOW - 2500 HIGH & CASING 1500 PSI
	7:30 - 11:00	3.50	DRLPRO	15	A	P		SET WEAR BUSHING
	11:00 - 11:30	0.50	DRLPRO	14	B	P		P/U MOTOR - BIT - DIR TOOLS - BHA - D.P & TAG CEMENT @ 2224
	11:30 - 17:30	6.00	DRLPRO	06	A	P		INSTALL ROTHEAD & LEVEL RIG
	17:30 - 18:00	0.50	DRLPRO	14	B	P		PRE SPUD RIG INSPECTION
	18:00 - 18:30	0.50	DRLPRO	23		P		DRILL CEMENT & F.E
	18:30 - 20:30	2.00	DRLPRO	02	F	P		DIR DRILL F/ 2440 TO 2910 = 470' AVG 134.2 FPH ,WOB 18/20,RPM 40/135,STKS 120,GPM 590,PSI 1800/2100,TORQ 5/7K,SLIDE 95' @ 20% ,CIRC RES PIT
	20:30 - 0:00	3.50	DRLPRO	02	D	P		DIR DRILL F/ 2910 TO 4343 = 1433' AVG 119.4 FPH ,WOB 18/20,RPM 40/135,STKS 120,GPM 590,PSI 1800/2100,TORQ 5/7K,SLIDE255' @ 18% ,CIRC RES PIT
8/30/2011	0:00 - 12:00	12.00	DRLPRO	02	D	P		SER RIG
	12:00 - 12:30	0.50	DRLPRO	07	A	P		DIR DRILL F/ 4343 TO 5350 = 1007' AVG 87.5 FPH ,WOB 18/20,RPM 40/135,STKS 120,GPM 590,PSI 1800/2100,TORQ 5/7K,SLIDE 220' @ 20% ,CIRC RES PIT
	12:30 - 0:00	11.50	DRLPRO	02	D	P		

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

Well: NBU 1022-7B4BS RED		Spud Conductor: 5/7/2011	Spud Date: 5/16/2011
Project: UTAH-UJINTAH		Site: NBU 1022-7C PAD	Rig Name No: ENSIGN 139/139, PROPETRO 11/11
Event: DRILLING		Start Date: 4/11/2011	End Date: 9/7/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)		UWI: NE/NW0/10/S/22/E/7/0/0/26/PM/N/1051/W/0/2093/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/31/2011	0:00 - 10:30	10.50	DRLPRO	02	D	P		DIR DRILL F/5350 TO 6287 = 937' AVG 93 FPH WOB 18/20,RPM 40/135,STKS 120,GPM 590,PSI 1800/2100,TORQ 5/8K,SLIDE 120' 13% ,CIRC RES PIT
	10:30 - 11:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	11:00 - 0:00	13.00	DRLPRO	02	D	P		DIR DRILL F/ 6287 TO 7210= 923 AVG 71 WOB 18/20,RPM 40/135,STKS 120,GPM 590,PSI 1800/2100,TORQ 6/10K,SLIDE 6% ,LT MUD UP@ 6900 F/ VIS
9/1/2011	0:00 - 11:30	11.50	DRLPRO	02	D	P		DIR DRILL F/7210 TO 7827 =617 AVG 54 WOB 20,RPM 40/110,STKS 116,GPM 570,PSI 1800/2100,TORQ 10/13K,SLIDE 10 % ,MW 9.8/38
	11:30 - 12:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	12:00 - 0:00	12.00	DRLPRO	02	D	P		DIR DRILL F/7827 TO 8450 =623 AVG 52 WOB 20,RPM 40/110,STKS 100,GPM 491,PSI 1900/2200,TORQ 10/13K,SLIDE 0 % ,MW 11.4/36
9/2/2011	0:00 - 12:30	12.50	DRLPRO	02	D	P		DIR DRILL F/ 8450 TO 8866 =416 AVG 33 WOB 20,RPM 40/110,STKS 96,GPM 470,PSI 2000/2350,TORQ 9/12K,SLIDE 7% ,MW 11.6/36
	12:30 - 13:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	13:00 - 0:00	11.00	DRLPRO	02	D	P		DIR DRILL F/8866 TO 9275 =409 AVG 37 WOB 20,RPM 40/104,STKS 96,GPM 470,PSI 2000/2350,TORQ 9/12K,SLIDE % ,MW 11.9/40 8% LCM,F/75 BBL LOSS@ 8680'
9/3/2011	0:00 - 9:30	9.50	DRLPRO	02	D	P		DIR DRILL F/9275 TO 9545 =270 AVG 28 WOB 20,RPM 40/104,STKS 96,GPM 470,PSI 2000/2350,TORQ 9/12K,SLIDE % ,MW 11.9/40 8% LCM,F/75 BBL LOSS@ 8680'
	9:30 - 10:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	10:00 - 0:00	14.00	DRLPRO	02	D	P		DIR DRILL F/9545 TO 9850 =305 AVG 22 WOB 20,RPM 40/104,STKS 90,GPM 440,PSI 2000/2350,TORQ 9/11K,SLIDE 0% ,MW 12.3/40 12% LCM,
9/4/2011	0:00 - 11:00	11.00	DRLPRO	02	D	P		DIR DRILL F/9850 TO 10134 =284 AVG 25 WOB 20,RPM 40/104,STKS 90,GPM 440,PSI 2000/2350,TORQ 10/12K,SLIDE 0% ,MW 12.3/40 12% LCM,
	11:00 - 11:30	0.50	DRLPRO	07		P		DAILY RIG SERVICE
	11:30 - 22:30	11.00	DRLPRO	02	D	P		DIR DRILL F/10134 TO TD @ 10495 =361 AVG 25 WOB 20,RPM 40/104,STKS 90,GPM 440,PSI 2000/2350,TORQ 11/13K,SLIDE 0% ,MW 12.6/45 12% LCM,
	22:30 - 23:30	1.00	DRLPRO	05	C	P		FLOW CHECK ,FINAL SURVEY@10441=2.2DEG 115 AZI=38'E 16'S OF CENTER ,CIRC BTMS UP
	23:30 - 0:00	0.50	DRLPRO	06	E	P		PUMP OUT STNDS @80K OVER,TOOH F/WIPER TRIP
9/5/2011	0:00 - 7:00	7.00	DRLPRO	06	E	P		PUMP OUT 18 STNDS 80K OVER,TIGHT SPOT,REAM OUT @9710/9615,CHECK FLOW PUMPPILL TOOH
	7:00 - 14:30	7.50	DRLPRO	06	E	P		CHECK CIRC @ SHOE ,TIH FILL@3900,7560,REAM F/9590 TO 9710,TIH & WASH LAST 90' TO BTM
	14:30 - 18:00	3.50	DRLPRO	05	C	P		CIRC & CONDITION MUD,700 UNITS BTMS UP NO FLARE
	18:00 - 0:00	6.00	DRLPRO	06	A	P		PUMP OUT 12 STNDS@80K OVER TO 9300,SHUT DOWN FOR WINDSTORM,CIRC 1 HR,CHECK FLOW/NONE,PUMP DRY PILL,TOOH F/LOGS

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 1022-7B4BS RED		Spud Conductor: 5/7/2011		Spud Date: 5/16/2011	
Project: UTAH-UINTAH		Site: NBU 1022-7C PAD		Rig Name No: ENSIGN 139/139, PROPETRO 11/11	
Event: DRILLING		Start Date: 4/11/2011		End Date: 9/7/2011	
Active Datum: RKB @5,174.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1051/W/0/2093/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/6/2011	0:00 - 5:00	5.00	EVALPR	06	A	P		TOOH F/LOGS,NO TIGHT HOLE,PULLWEARING
	5:00 - 12:00	7.00	EVALPR	11	D	P		TRIPLECOMBO LOGS TO LOGGERS DEPTH 10490',HIT BRIDGE @8650 WORK THRU
	12:00 - 21:00	9.00	CSG	12	C	P		RUN 247 JTS & 3 MARKERS TO SHOE DEPTH 10479,FC 10437,MARKERS@9760,7170,4617
	21:00 - 22:00	1.00	CSG	05	D	P		CIRC BTMS UP FOR CEMENT,NO FLARE
	22:00 - 0:00	2.00	CSG	12	E	P		SAFETY MEET W/ HALLIBURTON, PUMP 5 BBLS SPACER,20 BBL SCAV,575 SX LEAD@#12.7 1.89 YLD,1390SX TAIL@#14.3 1.31 YLD,DISPLACE 162 BBL CLAYFIX,FINAL LIFT 3000,BUMPLUG 500 OVER,FLOATS HELD,HAD 30 BBL CEMENT TO RES PIT
9/7/2011	0:00 - 1:00	1.00	CSG	12	E	P		FINISH CEMENT, 3000 FINALLIFT,BUMPLUG FLOATS HELD,30 BBLS BACK TO RES PIT
	1:00 - 2:00	1.00	RDMO	14	A	P		SET CSG SLIPS @ 100K,NDBOP,RUFFCUT CSG
	2:00 - 6:00	4.00	RDMO	01	E	P		CLEAN PITS,RDRT PREP F/SKID,RIG RELEASE@ 06:00 9/7/2011TO NBU1022-7C1BS

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-7B4BS RED	Wellbore No.	OH
Well Name	NBU 1022-7B4BS	Wellbore Name	NBU 1022-7B4BS
Report No.	1	Report Date	11/7/2011
Project	UTAH-UINTAH	Site	NBU 1022-7C PAD
Rig Name/No.		Event	COMPLETION
Start Date	11/10/2011	End Date	12/2/2011
Spud Date	5/16/2011	Active Datum	RKB @5,174.00usft (above Mean Sea Level)
UWI	NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1051/W/0/2093/0/0		

1.3 General

Contractor	CASED HOLE SOLUTIONS	Job Method	PERFORATE	Supervisor	ED GUDAC
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

1.4 Initial Conditions

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

1.5 Summary

Gross Interval	7,537.0 (usft)-9,997.0 (usft)	Start Date/Time	11/14/2011 12:00AM
No. of Intervals	32	End Date/Time	11/14/2011 12:00AM
Total Shots	0	Net Perforation Interval	62.00 (usft)
Avg Shot Density	0.00 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/14/2011 12:00AM	MESAVERDE/1			7,537.0	7,542.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/14/2011 12:00AM	MESAVERDE/			7,661.0	7,664.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			7,771.0	7,773.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			7,805.0	7,807.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			7,875.0	7,877.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			7,880.0	7,882.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			7,961.0	7,962.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			7,977.0	7,979.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,036.0	8,037.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,045.0	8,046.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,054.0	8,055.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,079.0	8,081.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,148.0	8,150.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,226.0	8,229.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,279.0	8,281.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

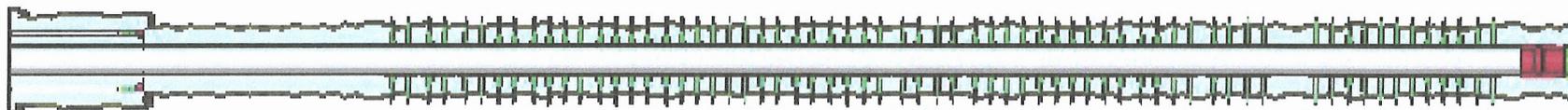
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/14/2011 12:00AM	MESAVERDE/			8,416.0	8,420.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,490.0	8,494.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,632.0	8,634.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,655.0	8,657.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,677.0	8,678.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,684.0	8,685.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,718.0	8,720.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,826.0	8,827.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			8,871.0	8,873.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			9,039.0	9,040.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			9,094.0	9,097.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			9,905.0	9,906.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			9,936.0	9,938.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/2011 12:00AM	MESAVERDE/			9,943.0	9,944.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/14/201 1 12:00AM	MESAVERDE/			9,948.0	9,949.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/201 1 12:00AM	MESAVERDE/			9,962.0	9,964.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
11/14/201 1 12:00AM	MESAVERDE/			9,996.0	9,997.0			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 1022-7B4BS RED		Spud Conductor: 5/7/2011	Spud Date: 5/16/2011
Project: UTAH-UINTAH		Site: NBU 1022-7C PAD	Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION		Start Date: 11/10/2011	End Date: 12/2/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1051/W/0/2093/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/10/2011	6:15 - 6:30	0.25	COMP	48	C	P		HELD SAFETY MEETING : HIGH PRESSURE HOSES
	6:30 - 8:00	1.50	COMP	33	C	P		
								FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 25 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 19 PSI. 1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 75 PSI. NO COMMUNICATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SWIFWE
11/11/2011	6:45 - 7:00	0.25	COMP	48		P		HELD SAFETY MEETING: RU LUBRICATORS & PRESSURE
	7:00 - 12:00	5.00	COMP	37		P		
								RU CASSED HOLE SOLUTIONS: PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. SWIFW

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

Well: NBU 1022-7B4BS RED		Spud Conductor: 5/7/2011	Spud Date: 5/16/2011
Project: UTAH-UINTAH		Site: NBU 1022-7C PAD	Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION		Start Date: 11/10/2011	End Date: 12/2/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1051/W/0/2093/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/14/2011	7:00 - 18:00	11.00	COMP	36	B	P		<p>FRAC STG 1)WHP 1930 PSI, BRK 3983PSI @ 4.7 BPM. ISIP 2817 PSI, FG .72. CALC HOLES OPEN @ 50.2 BPM @ 6331 PSI = 85% HOLES OPEN. ISIP 3502 PSI, FG .79, NPI 685 PSI. MP 7900 PSI, MR 50.6 BPM, AP 6247 PSI, AR 49.8 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 2)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXPGUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 9127' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC SERV.</p> <p>FRAC STG 2)WHP 1513 PSI, BRK 2597 PSI @ 4.1 BPM. ISIP 2043 PSI, FG .67. CALC HOLES OPEN @ 50.3 BPM @ 5740 PSI = 100% HOLES OPEN. ISIP 2561 PSI, FG .72, NPI 518 PSI. MP 6007 PSI, MR 50.8 BPM, AP 5475 PSI, AR 50.2 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP @ 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8750' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 3)WHP 1000 PSI, BRK 2370 PSI @ 4.0 BPM. ISIP 1150 PSI, FG .57. CALC HOLES OPEN @ 50.3 BPM @ 5071 PSI = 74% HOLES OPEN. ISIP 2758 PSI, FG .76, NPI 1608 PSI. MP 5919 PSI, MR 50.6 BPM, AP 4901 PSI, AR 49.1 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 4)PU 4 1/5 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8524' P/U PERF AS PER DESIGN. POOH. SWIFN. HSM. HIGH PSI LINES &amp; WIRE LINE AWAIRNESS</p>
11/15/2011	6:45 - 7:00	0.25	COMP	48		P		

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 1022-7B4BS RED		Spud Conductor: 5/7/2011	Spud Date: 5/16/2011
Project: UTAH-UINTAH		Site: NBU 1022-7C PAD	Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION		Start Date: 11/10/2011	End Date: 12/2/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1051/W/0/2093/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 18:00	11.00	COMP	36	B	P		<p>FRAC STG 4)WHP 1650 PSI, BRK 2801 PSI @ 4.3 BPM. ISIP 2083 PSI, FG .69.                      CALC HOLES OPEN @ 50.1 BPM @ 5248 PSI = 100% HOLES OPEN.                      ISIP 2634 PSI, FG .75, NPI 551 PSI.                      MP 5703 PSI, MR 52.5 BPM, AP 5099 PSI, AR 49.7 BPM                      PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 5)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8311' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 5)WHP 1225 PSI, BRK 2740 PSI @ 4.1 BPM. ISIP 1492 PSI, FG .62.                      CALC HOLES OPEN @ 49.8 BPM @ 5480 PSI = 94% HOLES OPEN.                      ISIP 2320 PSI, FG .72, NPI 828 PSI.                      MP 5784 PSI, MR 50.5 BPM, AP 5050 PSI, AR 49.7 BPM                      PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 6)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8111' P/U PERF AS DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 6)WHP 1200 PSI, BRK 3134 PSI @ 4.1 BPM. ISIP 1977 PSI, FG .69.                      CALC HOLES OPEN @ 50.2 BPM @ 5110 PSI = 100% HOLES OPEN.                      ISIP 2459 PSI, FG .75, NPI 482 PSI.                      MP 5563 PSI, MR 50.6 BPM, AP 4813 PSI, AR 49.8 BPM                      PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 7)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7912' P/U PERF AS DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 7)WHP 1700 PSI, BRK 3059 PSI @ 4.5 BPM. ISIP 2087 PSI, FG .71.                      CALC HOLES OPEN @ 44.4 BPM @ 5623 PSI = 65% HOLES OPEN.                      ISIP 2496 PSI, FG .76, NPI 409 PSI.                      MP 6295 PSI, MR 44.4 BPM, AP 5502 PSI, AR 49.8 BPM                      PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p>

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

Well: NBU 1022-7B4BS RED	Spud Conductor: 5/7/2011	Spud Date: 5/16/2011
Project: UTAH-UINTAH	Site: NBU 1022-7C PAD	Rig Name No: ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 11/10/2011	End Date: 12/2/2011
Active Datum: RKB @5,174.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/7/0/0/26/PM/N/1051/W/0/2093/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/16/2011	8:15 - 15:00	6.75	COMP	36	B	P		<p>PERF STG 8)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7688' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 8)WHP 820 PSI, BRK 3530 PSI @ 4.6 BPM. ISIP 1717 PSI, FG .66.</p> <p>CALC HOLES OPEN @ 47.8 BPM @ 5137 PSI = 73% HOLES OPEN.</p> <p>ISIP 2020 PSI, FG .70, NPI 303 PSI.</p> <p>MP 6458 PSI, MR 50.9 BPM, AP 5530 PSI, AR 49.5 BPM</p> <p>PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PU 4 1/2 8K HAL CBP. RIH SET CBP @ 7487'. POOH. SWI. DONE FRACING THIS WELL.</p> <p>TOTAL SAND = 306,715 LBS TOTAL CLFL = 13,326 BBLs HSM &amp; JSA W/ROYAL WELL SERVICE</p>
12/1/2011	13:00 - 13:15	0.25	COMP	48		P		<p>MIRU - SPOT EQUIP. SICP 0 PSI. NDWH, NU BOPs. R/U FLOOR &amp; TBG EQUIP. PREP &amp; TALLY TBG. PU 3 7/8 BIT, POBS &amp; XN NIPPLE. RIH ON 133 JTS 2 3/8 TBG. LD 4 JTS. EOT @ 4090'. SWI - SDFN.</p> <p>FREEZE PROTECT WELL HEAD &amp; SURFACE EQUIP. HSM &amp; JSA W/ROYAL WELL SERVICE</p>
	13:15 - 13:15	0.00	COMP	30	A	P		
12/2/2011	6:45 - 7:00	0.25	COMP	48		P		

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-7B4BS RED		Spud Conductor: 5/7/2011		Spud Date: 5/16/2011	
Project: UTAH-UINTAH		Site: NBU 1022-7C PAD		Rig Name No: ROYAL WELL SERVICE 2/2	
Event: COMPLETION		Start Date: 11/10/2011		End Date: 12/2/2011	
Active Datum: RKB @5,174.00usft (above Mean Sea Level)			UWI: NE/NW0/10/S/22/E/7/0/0/26/PM/N/1051/W/0/2093/0/0		

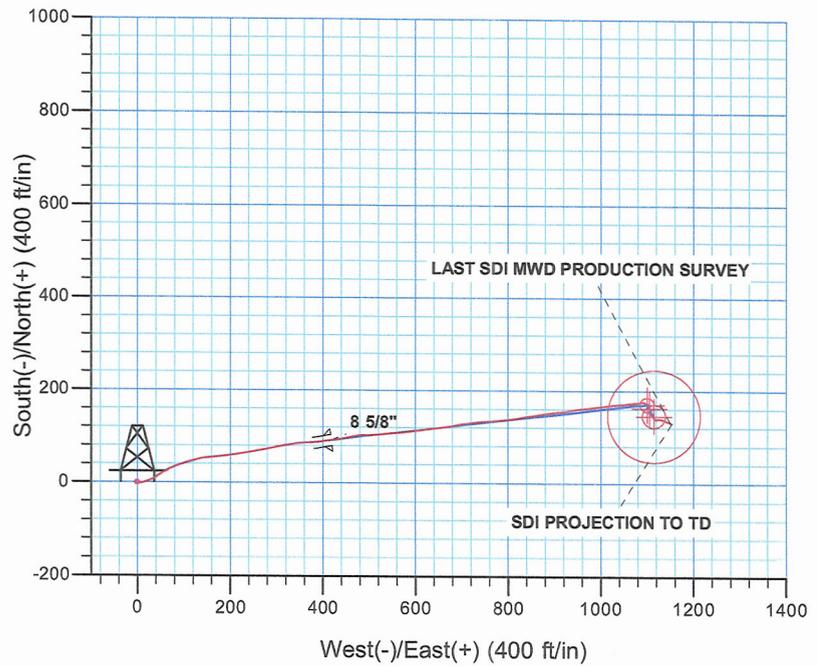
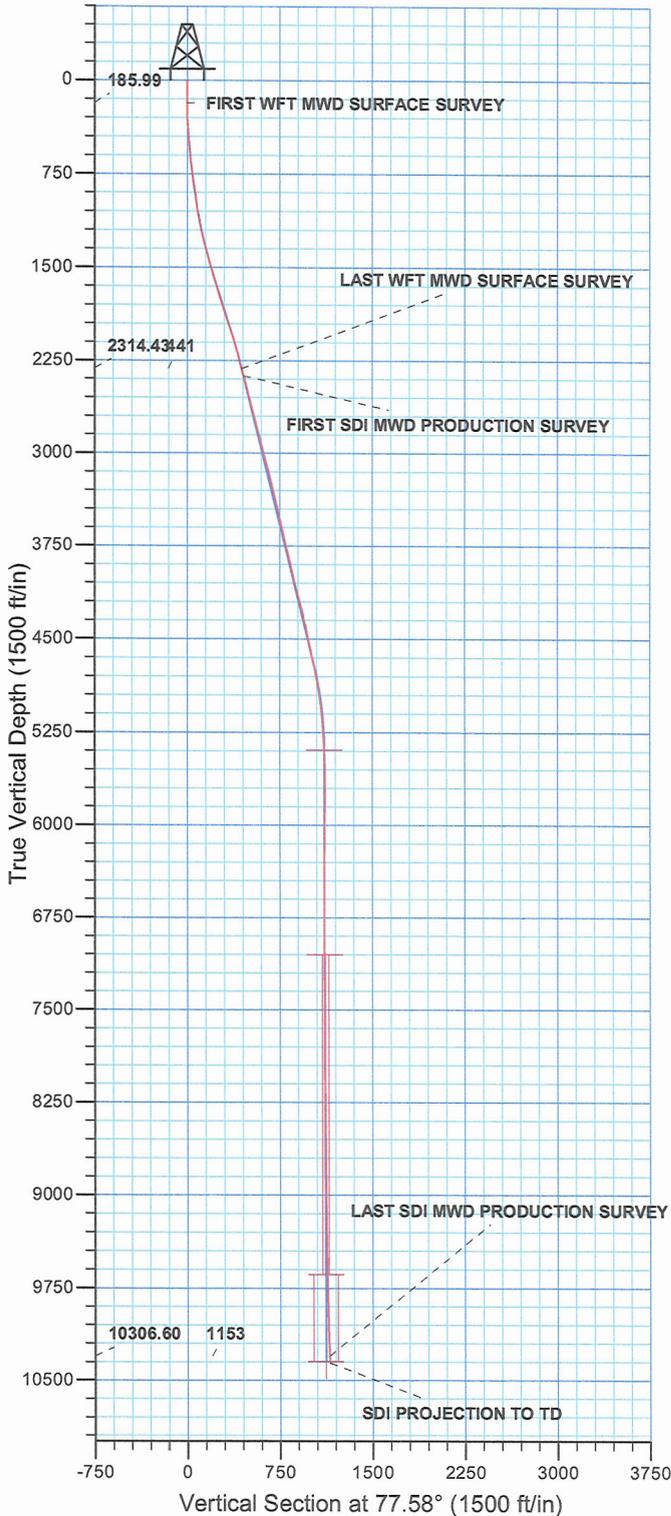
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 17:00	10.00	COMP	31	I	P		<p>SICP 0 PSI. EOT @ 4090'. CONT TO P/U TBG &amp; RIH W/BHA. TAG FILL @ 7483'. LD 1 JT. R/D TBG EQUIP. R/U PWR SWWL &amp; PMP. EST CIRC. P/T CSG &amp; BOPs TO 3000 PSI &amp; HOLD 15 MIN. (0 PSI LOSS) C/O SND &amp; D/O CBPs</p> <p>HALCO CBP @ C/O FILL D/O CBP DIFF PSI FCP</p> <p>CBP #1 @ 7487' 22 FT 05 MIN 0 PSI 50 PSI</p> <p>CBP #2 @ 7688' 32 FT 03 MIN 200 PSI 50 PSI</p> <p>CBP #3 @ 7906' 22 FT 04 MIN 500 PSI 200 PSI</p> <p>CBP #4 @ 8106' 25 FT 09 MIN 600 PSI 200 PSI</p> <p>CBP #5 @ 8311' 18 FT 08 MIN 400 PSI 550 PSI</p> <p>CBP #6 @ 8524' 28 FT 04 MIN 0 PSI 450 PSI</p> <p>CBP #7 @ 8750' 27 FT 04 MIN 0 PSI 450 PSI</p> <p>CBP #8 @ 9127' 21 FT 06 MIN 400 PSI 500 PSI</p> <p>RIH &amp; C/O TO 10,160'. (BTM PERF @ 9997' - PBTB @ 10,421'). FCP = 500 PSI. PMP 20 BBLS TMAC &amp; CIRC WELL CLEAN. R/D PWR SWWL, R/U TBG EQUIP. LD 11 JTS ON FLOAT, (25 TOTAL ON FLOAT). LND TBG ON HNGR W/309 JTS NEW 2 3/8" 4.7# L80 TBG @ 9815.91'. RD FLOOR &amp; TBG EQUIP. ND BOP, DROP BALL, NUWH. PMP OFF BIT W/6 BBLS TMAC @ 1600 PSI. WAIT 30 MIN FOR BIT TO FALL TO BTM. TURN WELL TO F.B.C.</p> <p>KB 14' HANGER 0.83' XN NIPPLE 1.33' TBG 309 JTS = 9798.70' XN NIPPLE @ 9813.53' EOT @ 9815.91' (334 JTS DLVRD - 25 JTS RTND)</p> <p>TWTR = 13,486 BBLS TWR = 1580 BBLS TWLTR = 11,906 SICP = 1750 PSI, SITP = 0 PSI.</p>
	17:00 - 17:00	0.00	PROD	50				<p>WELL TURNED TO SALES @ 1700 HR ON 12/2/11 - 2100 MCFD, 2400 BWPD, CP 2500#, FTP 2500#, CK 20/64"</p>

WELL DETAILS: NBU 1022-7B4BS					
GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14517953.84	2065657.11	39° 58' 4.242 N	109° 28' 56.436 W



Azimuths to True North  
 Magnetic North: 11.04°

Magnetic Field  
 Strength: 52293.4snT  
 Dip Angle: 65.84°  
 Date: 2011/08/24  
 Model: IGRF2010



PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	Zone 12N (114 W to 108 W)
Location:	SECTION 7 T10S R22E
System Datum:	Mean Sea Level



**Scientific Drilling**  
Rocky Mountain Operations

# **US ROCKIES REGION PLANNING**

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

**NBU 1022-7C PAD**

**NBU 1022-7B4BS**

**OH**

**Design: OH**

## **Standard Survey Report**

**15 September, 2011**

**Anadarko**   
Petroleum Corporation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-7B4BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
<b>Site:</b>	NBU 1022-7C PAD	<b>MD Reference:</b>	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
<b>Well:</b>	NBU 1022-7B4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM5000-RobertS-Local

<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 1022-7C PAD, SECTION 7 T10S R22E		
<b>Site Position:</b>		<b>Northing:</b>	14,517,947.67 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,065,627.95 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	39° 58' 4.186 N
		<b>Longitude:</b>	109° 28' 56.812 W
		<b>Grid Convergence:</b>	0.98 °

<b>Well</b>	NBU 1022-7B4BS, 1051' FNL, 2093' FWL		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 14,517,953.85 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 2,065,657.10 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	39° 58' 4.242 N
		<b>Longitude:</b>	109° 28' 56.436 W
		<b>Ground Level:</b>	5,161.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2011/08/24	11.04	65.84	52,293

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	77.58	

<b>Survey Program</b>	<b>Date</b>	2011/09/15			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
10.00	2,370.00	Survey #1 WFT MWD SURFACE (OH)	MWD	MWD - Standard	
2,432.00	10,495.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	
186.00	0.81	145.10	185.99	-1.02	0.71	0.48	0.46	0.46	0.00	
<b>FIRST WFT MWD SURFACE SURVEY</b>										
273.00	1.57	115.18	272.98	-2.03	2.14	1.66	1.10	0.87	-34.39	
360.00	3.18	82.11	359.90	-2.21	5.61	5.01	2.36	1.85	-38.01	
450.00	5.06	71.99	449.67	-0.64	11.86	11.44	2.23	2.09	-11.24	
540.00	6.25	71.98	539.23	2.11	20.29	20.27	1.32	1.32	-0.01	
630.00	6.56	65.60	628.67	5.74	29.63	30.18	0.86	0.34	-7.09	
720.00	7.00	56.73	718.04	10.88	38.90	40.33	1.26	0.49	-9.86	

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 1022-7C PAD  
**Well:** NBU 1022-7B4BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-7B4BS  
**TVD Reference:** GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)  
**MD Reference:** GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**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)
810.00	7.38	58.10	807.33	16.94	48.39	50.90	0.46	0.42	1.52
900.00	8.50	59.10	896.47	23.41	59.01	62.66	1.25	1.24	1.11
990.00	9.50	63.73	985.36	30.11	71.38	76.18	1.37	1.11	5.14
1,080.00	11.19	68.10	1,073.89	36.66	86.14	92.01	2.07	1.88	4.86
1,170.00	11.75	72.60	1,162.10	42.66	102.99	109.75	1.17	0.62	5.00
1,260.00	12.69	75.22	1,250.06	47.92	121.29	128.76	1.21	1.04	2.91
1,350.00	13.88	80.47	1,337.65	52.23	141.50	149.42	1.88	1.32	5.83
1,440.00	15.19	83.47	1,424.77	55.36	163.86	171.93	1.68	1.46	3.33
1,530.00	16.75	83.60	1,511.29	58.14	188.46	196.56	1.73	1.73	0.14
1,620.00	17.38	81.10	1,597.33	61.67	214.63	222.87	1.07	0.70	-2.78
1,710.00	17.56	80.10	1,683.18	66.08	241.29	249.85	0.39	0.20	-1.11
1,800.00	18.38	79.47	1,768.79	71.01	268.61	277.60	0.94	0.91	-0.70
1,890.00	17.94	78.60	1,854.31	76.34	296.15	305.64	0.57	-0.49	-0.97
1,980.00	17.69	78.72	1,939.99	81.76	323.15	333.17	0.28	-0.28	0.13
2,070.00	17.56	83.98	2,025.77	85.86	350.06	360.33	1.77	-0.14	5.84
2,160.00	16.25	88.10	2,111.88	87.70	376.15	386.21	1.97	-1.46	4.58
2,250.00	16.44	81.85	2,198.25	89.92	401.34	411.29	1.96	0.21	-6.94
2,340.00	13.13	80.85	2,285.26	93.35	424.05	434.20	3.69	-3.68	-1.11
2,370.00	13.88	81.08	2,314.43	94.45	430.97	441.20	2.51	2.50	0.77
<b>LAST WFT MWD SURFACE SURVEY</b>									
2,432.00	14.95	79.33	2,374.48	97.09	446.17	456.61	1.86	1.73	-2.82
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
2,522.00	15.17	80.67	2,461.39	101.14	469.20	479.98	0.46	0.24	1.49
2,613.00	14.25	85.57	2,549.41	103.94	492.12	502.96	1.70	-1.01	5.38
2,703.00	14.33	86.80	2,636.62	105.42	514.28	524.92	0.35	0.09	1.37
2,794.00	14.60	85.57	2,724.74	106.93	536.96	547.40	0.45	0.30	-1.35
2,885.00	15.52	83.26	2,812.61	109.25	560.49	570.87	1.21	1.01	-2.54
2,975.00	15.48	83.63	2,899.34	111.99	584.38	594.80	0.12	-0.04	0.41
3,066.00	14.68	83.11	2,987.21	114.72	607.90	618.35	0.89	-0.88	-0.57
3,156.00	14.77	82.58	3,074.25	117.57	630.60	641.13	0.18	0.10	-0.59
3,247.00	14.07	83.02	3,162.38	120.42	653.08	663.70	0.78	-0.77	0.48
3,337.00	13.98	80.73	3,249.70	123.50	674.67	685.44	0.62	-0.10	-2.54
3,428.00	13.28	80.38	3,338.14	127.01	695.82	706.86	0.77	-0.77	-0.38
3,518.00	13.72	83.90	3,425.65	129.88	716.63	727.79	1.04	0.49	3.91
3,609.00	12.93	82.67	3,514.20	132.32	737.45	748.66	0.92	-0.87	-1.35
3,699.00	12.45	86.14	3,602.00	134.26	757.12	768.28	1.00	-0.53	3.86
3,790.00	12.82	83.81	3,690.80	136.01	776.95	788.02	0.69	0.41	-2.56
3,880.00	13.14	83.03	3,778.50	138.33	797.03	808.13	0.41	0.36	-0.87
3,971.00	13.62	79.33	3,867.03	141.56	817.82	829.13	1.08	0.53	-4.07
4,061.00	13.89	82.23	3,954.45	144.99	838.94	850.49	0.82	0.30	3.22
4,152.00	13.93	82.11	4,042.78	147.97	860.61	872.30	0.05	0.04	-0.13
4,242.00	14.88	81.95	4,129.95	151.07	882.79	894.62	1.06	1.06	-0.18
4,333.00	14.50	81.61	4,217.98	154.37	905.63	917.64	0.43	-0.42	-0.37

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**Wellbore:** OH  
**Design:** OH

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**TVD Reference:** GL 5161' & RKB 14' @ 5175.00ft (ENSGN 139)  
**MD Reference:** GL 5161' & RKB 14' @ 5175.00ft (ENSGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

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4,423.00	13.19	82.05	4,305.36	157.44	926.94	939.11	1.46	-1.46	0.49
4,514.00	12.15	81.63	4,394.15	160.27	946.70	959.02	1.15	-1.14	-0.46
4,604.00	12.07	83.89	4,482.14	162.65	965.43	977.82	0.53	-0.09	2.51
4,695.00	12.54	82.08	4,571.05	165.02	984.67	997.12	0.67	0.52	-1.99
4,785.00	12.50	82.79	4,658.91	167.59	1,004.01	1,016.56	0.18	-0.04	0.79
4,875.00	11.69	82.66	4,746.91	169.98	1,022.72	1,035.35	0.90	-0.90	-0.14
4,966.00	9.91	86.04	4,836.30	171.69	1,039.68	1,052.28	2.08	-1.96	3.71
5,056.00	9.32	83.02	4,925.04	173.12	1,054.64	1,067.19	0.86	-0.66	-3.36
5,147.00	7.65	85.83	5,015.04	174.45	1,067.99	1,080.52	1.89	-1.84	3.09
5,237.00	5.88	83.49	5,104.41	175.41	1,078.55	1,091.04	1.99	-1.97	-2.60
5,328.00	4.63	84.29	5,195.02	176.30	1,086.83	1,099.32	1.38	-1.37	0.88
5,418.00	3.85	97.19	5,284.78	176.29	1,093.45	1,105.78	1.36	-0.87	14.33
5,509.00	2.06	113.45	5,375.65	175.25	1,097.98	1,109.98	2.15	-1.97	17.87
5,599.00	2.29	109.74	5,465.59	174.00	1,101.15	1,112.81	0.30	0.26	-4.12
5,690.00	2.29	162.38	5,556.53	171.66	1,103.42	1,114.52	2.23	0.00	57.85
5,780.00	2.46	161.33	5,646.45	168.11	1,104.58	1,114.89	0.19	0.19	-1.17
5,870.00	2.64	158.91	5,736.36	164.35	1,105.94	1,115.41	0.23	0.20	-2.69
5,961.00	2.09	189.10	5,827.29	160.75	1,106.43	1,115.12	1.47	-0.60	33.18
6,052.00	0.90	211.80	5,918.25	158.51	1,105.80	1,114.01	1.44	-1.31	24.95
6,142.00	0.44	277.26	6,008.25	157.95	1,105.08	1,113.20	0.91	-0.51	72.73
6,233.00	0.54	255.94	6,099.24	157.89	1,104.32	1,112.44	0.23	0.11	-23.43
6,323.00	0.33	185.47	6,189.24	157.53	1,103.88	1,111.93	0.59	-0.23	-78.30
6,414.00	0.54	165.14	6,280.24	156.85	1,103.97	1,111.87	0.28	0.23	-22.34
6,504.00	0.26	196.22	6,370.24	156.25	1,104.02	1,111.79	0.38	-0.31	34.53
6,595.00	0.69	175.24	6,461.23	155.50	1,104.01	1,111.62	0.50	0.47	-23.05
6,685.00	0.47	153.89	6,551.23	154.63	1,104.21	1,111.64	0.34	-0.24	-23.72
6,776.00	0.53	165.28	6,642.23	153.89	1,104.48	1,111.74	0.13	0.07	12.52
6,866.00	0.70	146.04	6,732.22	153.03	1,104.90	1,111.96	0.29	0.19	-21.38
6,957.00	0.76	148.72	6,823.21	152.05	1,105.52	1,112.36	0.08	0.07	2.95
7,047.00	0.79	109.03	6,913.21	151.34	1,106.42	1,113.08	0.59	0.03	-44.10
7,138.00	0.88	122.04	7,004.20	150.77	1,107.60	1,114.12	0.23	0.10	14.30
7,228.00	0.88	117.47	7,094.19	150.08	1,108.80	1,115.14	0.08	0.00	-5.08
7,319.00	1.23	97.87	7,185.17	149.63	1,110.39	1,116.59	0.55	0.38	-21.54
7,409.00	0.97	164.93	7,275.16	148.76	1,111.54	1,117.53	1.37	-0.29	74.51
7,500.00	1.26	167.16	7,366.14	147.04	1,111.97	1,117.58	0.32	0.32	2.45
7,590.00	0.76	133.02	7,456.13	145.67	1,112.62	1,117.92	0.85	-0.56	-37.93
7,681.00	0.78	140.20	7,547.12	144.78	1,113.46	1,118.55	0.11	0.02	7.89
7,771.00	0.45	2.74	7,637.12	144.66	1,113.87	1,118.92	1.28	-0.37	-152.73
7,862.00	0.07	212.21	7,728.12	144.97	1,113.86	1,118.98	0.56	-0.42	-165.42
7,952.00	0.09	200.97	7,818.12	144.86	1,113.80	1,118.90	0.03	0.02	-12.49
8,043.00	0.19	359.15	7,909.11	144.94	1,113.78	1,118.89	0.30	0.11	173.82
8,134.00	0.18	89.43	8,000.11	145.10	1,113.92	1,119.06	0.29	-0.01	99.21
8,224.00	0.26	131.62	8,090.11	144.96	1,114.21	1,119.32	0.19	0.09	46.88
8,315.00	0.79	149.11	8,181.11	144.29	1,114.69	1,119.64	0.60	0.58	19.22

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**Wellbore:** OH  
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**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)	
8,405.00	0.70	153.68	8,271.10	143.26	1,115.25	1,119.97	0.12	-0.10	5.08	
8,496.00	1.07	125.61	8,362.09	142.27	1,116.19	1,120.67	0.61	0.41	-30.85	
8,586.00	1.06	131.89	8,452.08	141.22	1,117.49	1,121.72	0.13	-0.01	6.98	
8,676.00	0.91	119.41	8,542.06	140.32	1,118.73	1,122.74	0.29	-0.17	-13.87	
8,767.00	0.26	94.09	8,633.06	139.95	1,119.57	1,123.47	0.75	-0.71	-27.82	
8,858.00	0.62	112.11	8,724.06	139.75	1,120.23	1,124.08	0.42	0.40	19.80	
8,948.00	0.07	333.38	8,814.05	139.61	1,120.66	1,124.46	0.75	-0.61	-154.14	
9,039.00	0.44	33.54	8,905.05	139.95	1,120.82	1,124.70	0.45	0.41	66.11	
9,129.00	0.62	59.82	8,995.05	140.49	1,121.44	1,125.41	0.33	0.20	29.20	
9,220.00	0.35	31.25	9,086.05	140.97	1,122.00	1,126.07	0.39	-0.30	-31.40	
9,310.00	0.70	98.75	9,176.04	141.12	1,122.69	1,126.78	0.72	0.39	75.00	
9,401.00	1.23	86.09	9,267.03	141.10	1,124.21	1,128.26	0.62	0.58	-13.91	
9,491.00	1.02	79.84	9,357.01	141.31	1,125.97	1,130.02	0.27	-0.23	-6.94	
9,582.00	1.41	101.76	9,447.99	141.23	1,127.86	1,131.85	0.66	0.43	24.09	
9,672.00	1.28	113.17	9,537.97	140.60	1,129.87	1,133.68	0.33	-0.14	12.68	
9,763.00	1.49	106.16	9,628.94	139.88	1,131.94	1,135.54	0.30	0.23	-7.70	
9,853.00	1.73	110.10	9,718.90	139.08	1,134.34	1,137.71	0.29	0.27	4.38	
9,944.00	1.76	113.60	9,809.86	138.05	1,136.91	1,140.00	0.12	0.03	3.85	
10,035.00	1.65	119.20	9,900.82	136.85	1,139.33	1,142.11	0.22	-0.12	6.15	
10,125.00	1.84	111.58	9,990.78	135.69	1,141.81	1,144.28	0.33	0.21	-8.47	
10,215.00	1.76	118.16	10,080.74	134.51	1,144.37	1,146.53	0.25	-0.09	7.31	
10,306.00	1.85	107.63	10,171.69	133.40	1,147.00	1,148.86	0.38	0.10	-11.57	
10,396.00	2.21	111.23	10,261.63	132.33	1,150.00	1,151.56	0.42	0.40	4.00	
10,441.00	2.20	115.36	10,306.60	131.65	1,151.59	1,152.97	0.35	-0.02	9.18	
<b>LAST SDI MWD PRODUCTION SURVEY</b>			286							
10,495.00	2.20	115.36	10,360.56	130.76	1,153.47	1,154.61	0.00	0.00	0.00	
<b>SDI PROJECTION TO TD</b>										

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
186.00	185.99	-1.02	0.71	FIRST WFT MWD SURFACE SURVEY
2,370.00	2,314.43	94.45	430.97	LAST WFT MWD SURFACE SURVEY
2,432.00	2,374.48	97.09	446.17	FIRST SDI MWD PRODUCTION SURVEY
10,441.00	10,306.60	131.65	1,151.59	LAST SDI MWD PRODUCTION SURVEY
10,495.00	10,360.56	130.76	1,153.47	SDI PROJECTION TO TD

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



**Scientific Drilling**  
Rocky Mountain Operations

# **US ROCKIES REGION PLANNING**

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

**NBU 1022-7C PAD**

**NBU 1022-7B4BS**

**OH**

**Design: OH**

## **Survey Report - Geographic**

**15 September, 2011**

**Anadarko**   
Petroleum Corporation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-7B4BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
<b>Site:</b>	NBU 1022-7C PAD	<b>MD Reference:</b>	GL 5161' & RKB 14' @ 5175.00ft (ENSIGN 139)
<b>Well:</b>	NBU 1022-7B4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Deslgn:</b>	OH	<b>Database:</b>	EDM5000-RobertS-Local

<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 1022-7C PAD, SECTION 7 T10S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,517,947.67 usft	<b>Latitude:</b>	39° 58' 4.186 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,065,627.95 usft	<b>Longitude:</b>	109° 28' 56.812 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.98 °

<b>Well</b>	NBU 1022-7B4BS, 1051' FNL, 2093' FWL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,517,953.85 usft	<b>Latitude:</b>	39° 58' 4.242 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,065,657.10 usft	<b>Longitude:</b>	109° 28' 56.436 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,161.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2011/08/24	11.04	65.84	52,293

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	77.58	

<b>Survey Program</b>	<b>Date</b>	2011/09/15			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
10.00	2,370.00	Survey #1 WFT MWD SURFACE (OH)	MWD	MWD - Standard	
2,432.00	10,495.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,517,953.85	2,065,657.10	39° 58' 4.242 N	109° 28' 56.436 W
10.00	0.00	0.00	10.00	0.00	0.00	14,517,953.85	2,065,657.10	39° 58' 4.242 N	109° 28' 56.436 W
186.00	0.81	145.10	185.99	-1.02	0.71	14,517,952.84	2,065,657.83	39° 58' 4.232 N	109° 28' 56.427 W
<b>FIRST WFT MWD SURFACE SURVEY</b>									
273.00	1.57	115.18	272.98	-2.03	2.14	14,517,951.85	2,065,659.28	39° 58' 4.222 N	109° 28' 56.408 W
360.00	3.18	82.11	359.90	-2.21	5.61	14,517,951.73	2,065,662.75	39° 58' 4.220 N	109° 28' 56.364 W
450.00	5.06	71.99	449.67	-0.64	11.86	14,517,953.41	2,065,668.97	39° 58' 4.236 N	109° 28' 56.284 W
540.00	6.25	71.98	539.23	2.11	20.29	14,517,956.30	2,065,677.36	39° 58' 4.263 N	109° 28' 56.175 W
630.00	6.56	65.60	628.67	5.74	29.63	14,517,960.09	2,065,686.64	39° 58' 4.299 N	109° 28' 56.055 W
720.00	7.00	56.73	718.04	10.88	38.90	14,517,965.38	2,065,695.81	39° 58' 4.350 N	109° 28' 55.936 W
810.00	7.38	58.10	807.33	16.94	48.39	14,517,971.61	2,065,705.20	39° 58' 4.409 N	109° 28' 55.814 W

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 1022-7C PAD  
**Well:** NBU 1022-7B4BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-7B4BS  
**TVD Reference:** GL 5161' & RKB 14' @ 5175.00ft (ENSGN 139)  
**MD Reference:** GL 5161' & RKB 14' @ 5175.00ft (ENSGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
900.00	8.50	59.10	896.47	23.41	59.01	14,517,978.26	2,065,715.71	39° 58' 4.473 N	109° 28' 55.678 W
990.00	9.50	63.73	985.36	30.11	71.38	14,517,985.17	2,065,727.96	39° 58' 4.540 N	109° 28' 55.519 W
1,080.00	11.19	68.10	1,073.89	36.66	86.14	14,517,991.97	2,065,742.61	39° 58' 4.604 N	109° 28' 55.329 W
1,170.00	11.75	72.60	1,162.10	42.66	102.99	14,517,998.25	2,065,759.35	39° 58' 4.664 N	109° 28' 55.113 W
1,260.00	12.69	75.22	1,250.06	47.92	121.29	14,518,003.82	2,065,777.56	39° 58' 4.716 N	109° 28' 54.878 W
1,350.00	13.88	80.47	1,337.65	52.23	141.50	14,518,008.47	2,065,797.69	39° 58' 4.758 N	109° 28' 54.618 W
1,440.00	15.19	83.47	1,424.77	55.36	163.86	14,518,011.98	2,065,820.00	39° 58' 4.789 N	109° 28' 54.331 W
1,530.00	16.75	83.60	1,511.29	58.14	188.46	14,518,015.19	2,065,844.55	39° 58' 4.817 N	109° 28' 54.015 W
1,620.00	17.38	81.10	1,597.33	61.67	214.63	14,518,019.16	2,065,870.66	39° 58' 4.852 N	109° 28' 53.679 W
1,710.00	17.56	80.10	1,683.18	66.08	241.29	14,518,024.03	2,065,897.23	39° 58' 4.895 N	109° 28' 53.336 W
1,800.00	18.38	79.47	1,768.79	71.01	268.61	14,518,029.42	2,065,924.47	39° 58' 4.944 N	109° 28' 52.985 W
1,890.00	17.94	78.60	1,854.31	76.34	296.15	14,518,035.22	2,065,951.91	39° 58' 4.997 N	109° 28' 52.632 W
1,980.00	17.69	78.72	1,939.99	81.76	323.15	14,518,041.09	2,065,978.81	39° 58' 5.050 N	109° 28' 52.285 W
2,070.00	17.56	83.98	2,025.77	85.86	350.06	14,518,045.65	2,066,005.65	39° 58' 5.091 N	109° 28' 51.939 W
2,160.00	16.25	88.10	2,111.88	87.70	376.15	14,518,047.93	2,066,031.71	39° 58' 5.109 N	109° 28' 51.604 W
2,250.00	16.44	81.85	2,198.25	89.92	401.34	14,518,050.58	2,066,056.86	39° 58' 5.131 N	109° 28' 51.280 W
2,340.00	13.13	80.85	2,285.26	93.35	424.05	14,518,054.40	2,066,079.50	39° 58' 5.165 N	109° 28' 50.989 W
2,370.00	13.88	81.08	2,314.43	94.45	430.97	14,518,055.62	2,066,086.40	39° 58' 5.176 N	109° 28' 50.900 W
<b>LAST WFT MWD SURFACE SURVEY</b>									
2,432.00	14.95	79.33	2,374.48	97.09	446.17	14,518,058.51	2,066,101.56	39° 58' 5.202 N	109° 28' 50.705 W
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
2,522.00	15.17	80.67	2,461.39	101.14	469.20	14,518,062.96	2,066,124.52	39° 58' 5.242 N	109° 28' 50.400 W
2,613.00	14.25	85.57	2,549.41	103.94	492.12	14,518,066.15	2,066,147.38	39° 58' 5.269 N	109° 28' 50.114 W
2,703.00	14.33	86.80	2,636.62	105.42	514.28	14,518,068.00	2,066,169.52	39° 58' 5.284 N	109° 28' 49.830 W
2,794.00	14.60	85.57	2,724.74	106.93	536.96	14,518,069.90	2,066,192.17	39° 58' 5.299 N	109° 28' 49.538 W
2,885.00	15.52	83.26	2,812.61	109.25	560.49	14,518,072.62	2,066,215.65	39° 58' 5.322 N	109° 28' 49.236 W
2,975.00	15.48	83.63	2,899.34	111.99	584.38	14,518,075.77	2,066,239.50	39° 58' 5.349 N	109° 28' 48.929 W
3,066.00	14.68	83.11	2,987.21	114.72	607.90	14,518,078.90	2,066,262.96	39° 58' 5.376 N	109° 28' 48.627 W
3,156.00	14.77	82.58	3,074.25	117.57	630.60	14,518,082.13	2,066,285.61	39° 58' 5.404 N	109° 28' 48.335 W
3,247.00	14.07	83.02	3,162.38	120.42	653.08	14,518,085.36	2,066,308.04	39° 58' 5.432 N	109° 28' 48.047 W
3,337.00	13.98	80.73	3,249.70	123.50	674.67	14,518,088.81	2,066,329.57	39° 58' 5.463 N	109° 28' 47.769 W
3,428.00	13.28	80.38	3,338.14	127.01	695.82	14,518,092.68	2,066,350.66	39° 58' 5.497 N	109° 28' 47.498 W
3,518.00	13.72	83.90	3,425.65	129.88	716.63	14,518,095.90	2,066,371.42	39° 58' 5.526 N	109° 28' 47.230 W
3,609.00	12.93	82.67	3,514.20	132.32	737.45	14,518,098.70	2,066,392.20	39° 58' 5.550 N	109° 28' 46.963 W
3,699.00	12.45	86.14	3,602.00	134.26	757.12	14,518,100.97	2,066,411.83	39° 58' 5.569 N	109° 28' 46.710 W
3,790.00	12.82	83.81	3,690.80	136.01	776.95	14,518,103.06	2,066,431.62	39° 58' 5.586 N	109° 28' 46.455 W
3,880.00	13.14	83.03	3,778.50	138.33	797.03	14,518,105.71	2,066,451.66	39° 58' 5.609 N	109° 28' 46.198 W
3,971.00	13.62	79.33	3,867.03	141.56	817.82	14,518,109.31	2,066,472.40	39° 58' 5.641 N	109° 28' 45.930 W
4,061.00	13.89	82.23	3,954.45	144.99	838.94	14,518,113.09	2,066,493.46	39° 58' 5.675 N	109° 28' 45.659 W
4,152.00	13.93	82.11	4,042.78	147.97	860.61	14,518,116.44	2,066,515.07	39° 58' 5.704 N	109° 28' 45.381 W
4,242.00	14.88	81.95	4,129.95	151.07	882.79	14,518,119.92	2,066,537.19	39° 58' 5.735 N	109° 28' 45.096 W
4,333.00	14.50	81.61	4,217.98	154.37	905.63	14,518,123.61	2,066,559.97	39° 58' 5.768 N	109° 28' 44.802 W
4,423.00	13.19	82.05	4,305.36	157.44	926.94	14,518,127.03	2,066,581.23	39° 58' 5.798 N	109° 28' 44.529 W
4,514.00	12.15	81.63	4,394.15	160.27	946.70	14,518,130.20	2,066,600.94	39° 58' 5.826 N	109° 28' 44.275 W
4,604.00	12.07	83.89	4,482.14	162.65	965.43	14,518,132.90	2,066,619.62	39° 58' 5.849 N	109° 28' 44.034 W
4,695.00	12.54	82.08	4,571.05	165.02	984.67	14,518,135.60	2,066,638.82	39° 58' 5.873 N	109° 28' 43.787 W
4,785.00	12.50	82.79	4,658.91	167.59	1,004.01	14,518,138.50	2,066,658.12	39° 58' 5.898 N	109° 28' 43.539 W
4,875.00	11.69	82.66	4,746.91	169.98	1,022.72	14,518,141.20	2,066,676.78	39° 58' 5.922 N	109° 28' 43.298 W
4,966.00	9.91	86.04	4,836.30	171.69	1,039.68	14,518,143.21	2,066,693.71	39° 58' 5.939 N	109° 28' 43.080 W
5,056.00	9.32	83.02	4,925.04	173.12	1,054.64	14,518,144.88	2,066,708.64	39° 58' 5.953 N	109° 28' 42.888 W
5,147.00	7.65	85.83	5,015.04	174.45	1,067.99	14,518,146.45	2,066,721.97	39° 58' 5.966 N	109° 28' 42.717 W
5,237.00	5.88	83.49	5,104.41	175.41	1,078.55	14,518,147.58	2,066,732.51	39° 58' 5.976 N	109° 28' 42.581 W
5,328.00	4.63	84.29	5,195.02	176.30	1,086.83	14,518,148.62	2,066,740.78	39° 58' 5.984 N	109° 28' 42.475 W
5,418.00	3.85	97.19	5,284.78	176.29	1,093.45	14,518,148.71	2,066,747.39	39° 58' 5.984 N	109° 28' 42.390 W
5,509.00	2.06	113.45	5,375.65	175.25	1,097.98	14,518,147.76	2,066,751.94	39° 58' 5.974 N	109° 28' 42.332 W

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-7B4BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 5161' & RKB 14' @ 5175.00ft (ENSGN 139)
<b>Site:</b>	NBU 1022-7C PAD	<b>MD Reference:</b>	GL 5161' & RKB 14' @ 5175.00ft (ENSGN 139)
<b>Well:</b>	NBU 1022-7B4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM5000-RobertS-Local

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,599.00	2.29	109.74	5,465.59	174.00	1,101.15	14,518,146.56	2,066,755.14	39° 58' 5.962 N	109° 28' 42.291 W	
5,690.00	2.29	162.38	5,556.53	171.66	1,103.42	14,518,144.25	2,066,757.44	39° 58' 5.938 N	109° 28' 42.262 W	
5,780.00	2.46	161.33	5,646.45	168.11	1,104.58	14,518,140.73	2,066,758.66	39° 58' 5.903 N	109° 28' 42.247 W	
5,870.00	2.64	158.91	5,736.36	164.35	1,105.94	14,518,136.99	2,066,760.09	39° 58' 5.866 N	109° 28' 42.229 W	
5,961.00	2.09	189.10	5,827.29	160.75	1,106.43	14,518,133.41	2,066,760.64	39° 58' 5.831 N	109° 28' 42.223 W	
6,052.00	0.90	211.80	5,918.25	158.51	1,105.80	14,518,131.15	2,066,760.04	39° 58' 5.809 N	109° 28' 42.231 W	
6,142.00	0.44	277.26	6,008.25	157.95	1,105.08	14,518,130.58	2,066,759.33	39° 58' 5.803 N	109° 28' 42.240 W	
6,233.00	0.54	255.94	6,099.24	157.89	1,104.32	14,518,130.51	2,066,758.57	39° 58' 5.802 N	109° 28' 42.250 W	
6,323.00	0.33	185.47	6,189.24	157.53	1,103.88	14,518,130.14	2,066,758.14	39° 58' 5.799 N	109° 28' 42.256 W	
6,414.00	0.54	165.14	6,280.24	156.85	1,103.97	14,518,129.46	2,066,758.24	39° 58' 5.792 N	109° 28' 42.255 W	
6,504.00	0.26	196.22	6,370.24	156.25	1,104.02	14,518,128.86	2,066,758.30	39° 58' 5.786 N	109° 28' 42.254 W	
6,595.00	0.69	175.24	6,461.23	155.50	1,104.01	14,518,128.11	2,066,758.30	39° 58' 5.779 N	109° 28' 42.254 W	
6,685.00	0.47	153.89	6,551.23	154.63	1,104.21	14,518,127.25	2,066,758.52	39° 58' 5.770 N	109° 28' 42.251 W	
6,776.00	0.53	165.28	6,642.23	153.89	1,104.48	14,518,126.51	2,066,758.81	39° 58' 5.763 N	109° 28' 42.248 W	
6,866.00	0.70	146.04	6,732.22	153.03	1,104.90	14,518,125.66	2,066,759.24	39° 58' 5.754 N	109° 28' 42.243 W	
6,957.00	0.76	148.72	6,823.21	152.05	1,105.52	14,518,124.69	2,066,759.88	39° 58' 5.745 N	109° 28' 42.235 W	
7,047.00	0.79	109.03	6,913.21	151.34	1,106.42	14,518,123.99	2,066,760.78	39° 58' 5.738 N	109° 28' 42.223 W	
7,138.00	0.88	122.04	7,004.20	150.77	1,107.60	14,518,123.44	2,066,761.98	39° 58' 5.732 N	109° 28' 42.208 W	
7,228.00	0.88	117.47	7,094.19	150.08	1,108.80	14,518,122.77	2,066,763.19	39° 58' 5.725 N	109° 28' 42.193 W	
7,319.00	1.23	97.87	7,185.17	149.63	1,110.39	14,518,122.35	2,066,764.79	39° 58' 5.721 N	109° 28' 42.172 W	
7,409.00	0.97	164.93	7,275.16	148.76	1,111.54	14,518,121.50	2,066,765.95	39° 58' 5.712 N	109° 28' 42.157 W	
7,500.00	1.26	167.16	7,366.14	147.04	1,111.97	14,518,119.79	2,066,766.41	39° 58' 5.695 N	109° 28' 42.152 W	
7,590.00	0.76	133.02	7,456.13	145.67	1,112.62	14,518,118.43	2,066,767.09	39° 58' 5.682 N	109° 28' 42.143 W	
7,681.00	0.78	140.20	7,547.12	144.78	1,113.46	14,518,117.55	2,066,767.94	39° 58' 5.673 N	109° 28' 42.133 W	
7,771.00	0.45	2.74	7,637.12	144.66	1,113.87	14,518,117.44	2,066,768.35	39° 58' 5.672 N	109° 28' 42.127 W	
7,862.00	0.07	212.21	7,728.12	144.97	1,113.86	14,518,117.75	2,066,768.33	39° 58' 5.675 N	109° 28' 42.128 W	
7,952.00	0.09	200.97	7,818.12	144.86	1,113.80	14,518,117.64	2,066,768.28	39° 58' 5.674 N	109° 28' 42.128 W	
8,043.00	0.19	359.15	7,909.11	144.94	1,113.78	14,518,117.72	2,066,768.25	39° 58' 5.674 N	109° 28' 42.129 W	
8,134.00	0.18	89.43	8,000.11	145.10	1,113.92	14,518,117.88	2,066,768.39	39° 58' 5.676 N	109° 28' 42.127 W	
8,224.00	0.26	131.62	8,090.11	144.96	1,114.21	14,518,117.75	2,066,768.68	39° 58' 5.675 N	109° 28' 42.123 W	
8,315.00	0.79	149.11	8,181.11	144.29	1,114.69	14,518,117.08	2,066,769.17	39° 58' 5.668 N	109° 28' 42.117 W	
8,405.00	0.70	153.68	8,271.10	143.26	1,115.25	14,518,116.06	2,066,769.75	39° 58' 5.658 N	109° 28' 42.110 W	
8,496.00	1.07	125.61	8,362.09	142.27	1,116.19	14,518,115.09	2,066,770.71	39° 58' 5.648 N	109° 28' 42.098 W	
8,586.00	1.06	131.89	8,452.08	141.22	1,117.49	14,518,114.06	2,066,772.03	39° 58' 5.638 N	109° 28' 42.081 W	
8,676.00	0.91	119.41	8,542.06	140.32	1,118.73	14,518,113.18	2,066,773.28	39° 58' 5.629 N	109° 28' 42.065 W	
8,767.00	0.26	94.09	8,633.06	139.95	1,119.57	14,518,112.82	2,066,774.13	39° 58' 5.625 N	109° 28' 42.054 W	
8,858.00	0.62	112.11	8,724.06	139.75	1,120.23	14,518,112.63	2,066,774.79	39° 58' 5.623 N	109° 28' 42.046 W	
8,948.00	0.07	333.38	8,814.05	139.61	1,120.66	14,518,112.51	2,066,775.22	39° 58' 5.622 N	109° 28' 42.040 W	
9,039.00	0.44	33.54	8,905.05	139.95	1,120.82	14,518,112.85	2,066,775.38	39° 58' 5.625 N	109° 28' 42.038 W	
9,129.00	0.62	59.82	8,995.05	140.49	1,121.44	14,518,113.39	2,066,775.98	39° 58' 5.630 N	109° 28' 42.030 W	
9,220.00	0.35	31.25	9,086.05	140.97	1,122.00	14,518,113.89	2,066,776.55	39° 58' 5.635 N	109° 28' 42.023 W	
9,310.00	0.70	98.75	9,176.04	141.12	1,122.69	14,518,114.05	2,066,777.23	39° 58' 5.637 N	109° 28' 42.014 W	
9,401.00	1.23	86.09	9,267.03	141.10	1,124.21	14,518,114.06	2,066,778.75	39° 58' 5.636 N	109° 28' 41.995 W	
9,491.00	1.02	79.84	9,357.01	141.31	1,125.97	14,518,114.30	2,066,780.50	39° 58' 5.639 N	109° 28' 41.972 W	
9,582.00	1.41	101.76	9,447.99	141.23	1,127.86	14,518,114.24	2,066,782.40	39° 58' 5.638 N	109° 28' 41.948 W	
9,672.00	1.28	113.17	9,537.97	140.60	1,129.87	14,518,113.66	2,066,784.41	39° 58' 5.632 N	109° 28' 41.922 W	
9,763.00	1.49	106.16	9,628.94	139.88	1,131.94	14,518,112.96	2,066,786.50	39° 58' 5.624 N	109° 28' 41.895 W	
9,853.00	1.73	110.10	9,718.90	139.08	1,134.34	14,518,112.21	2,066,788.91	39° 58' 5.617 N	109° 28' 41.864 W	
9,944.00	1.76	113.60	9,809.86	138.05	1,136.91	14,518,111.22	2,066,791.50	39° 58' 5.606 N	109° 28' 41.831 W	
10,035.00	1.65	119.20	9,900.82	136.85	1,139.33	14,518,110.07	2,066,793.94	39° 58' 5.594 N	109° 28' 41.800 W	
10,125.00	1.84	111.58	9,990.78	135.69	1,141.81	14,518,108.95	2,066,796.44	39° 58' 5.583 N	109° 28' 41.769 W	
10,215.00	1.76	118.16	10,080.74	134.51	1,144.37	14,518,107.81	2,066,799.02	39° 58' 5.571 N	109° 28' 41.736 W	
10,306.00	1.85	107.63	10,171.69	133.40	1,147.00	14,518,106.75	2,066,801.67	39° 58' 5.560 N	109° 28' 41.702 W	
10,396.00	2.21	111.23	10,261.63	132.33	1,150.00	14,518,105.73	2,066,804.69	39° 58' 5.550 N	109° 28' 41.663 W	