

**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 1022-12G1CS
<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> UT ST UO 01997-A ST	<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
<b>LOCATION AT SURFACE</b>	1833 FNL 1721 FEL	SWNE	12	10.0 S	22.0 E	S
<b>Top of Uppermost Producing Zone</b>	1904 FNL 1810 FEL	SWNE	12	10.0 S	22.0 E	S
<b>At Total Depth</b>	1904 FNL 1810 FEL	SWNE	12	10.0 S	22.0 E	S

<b>21. COUNTY</b> UINTAH	<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1810	<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 1674
<b>24. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 111	<b>25. PROPOSED DEPTH</b> MD: 8441 TVD: 8438	
<b>26. ELEVATION - GROUND LEVEL</b> 5180	<b>27. BOND NUMBER</b> 22013542	<b>28. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> 43-8496

Hole, Casing, and Cement Information										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
<b>Surf</b>	11	8.625	0 - 2170	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
<b>Prod</b>	7.875	4.5	0 - 8441	11.6	I-80 LT&C	12.5	Premium Lite High Strength	270	3.38	11.0
							50/50 Poz	1150	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> Gina Becker	<b>TITLE</b> Regulatory Analyst II	<b>PHONE</b> 720 929-6086
<b>SIGNATURE</b>	<b>DATE</b> 09/13/2011	<b>EMAIL</b> gina.becker@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047519630000	<b>APPROVAL</b>   Permit Manager	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 1022-12G1CS**

Surface: 1833 FNL / 1721 FEL SWNE  
 BHL: 1904 FNL / 1810 FEL SWNE

Section 12 T10S R22E

Uintah County, Utah  
 Mineral Lease: UT ST UO 01197-A ST

**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	1088	
Birds Nest	1353	Water
Mahogany	1717	Water
Wasatch	4091	Gas
Mesaverde	6264	Gas
MVU2	7228	Gas
MVL1	7789	Gas
TVD	8438	
TD	8441	

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 8438' TVD, approximately equals  
 5,400 psi 0.64 psi/ft = actual bottomhole gradient

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

Maximum anticipated surface pressure equals approximately 3,532 psi (bottom hole pressure  
 minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

*Please refer to the attached 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 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**

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'							
SURFACE	8-5/8"	0 to 2,170	28.00	IJ-55	LTC	3,390	1,880	348,000	N/A
						2.49	1.85	6.54	N/A
PRODUCTION	4-1/2"	0 to 8,441	11.60	I-80	LTC/BTC	7,780	6,350	279,000	367,000
						1.11	1.16	3.52	4.63

**Surface Casing:**

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

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

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

**Production casing:**

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

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

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD	
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15	
		Option 1						
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15	
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>								
SURFACE	LEAD	1,670'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	160	35%	11.00	3.82	
		TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
		TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,591'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	270	20%	11.00	3.38	
		TAIL	4,850'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,150	35%	14.30	1.31

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 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 / Danny Showers

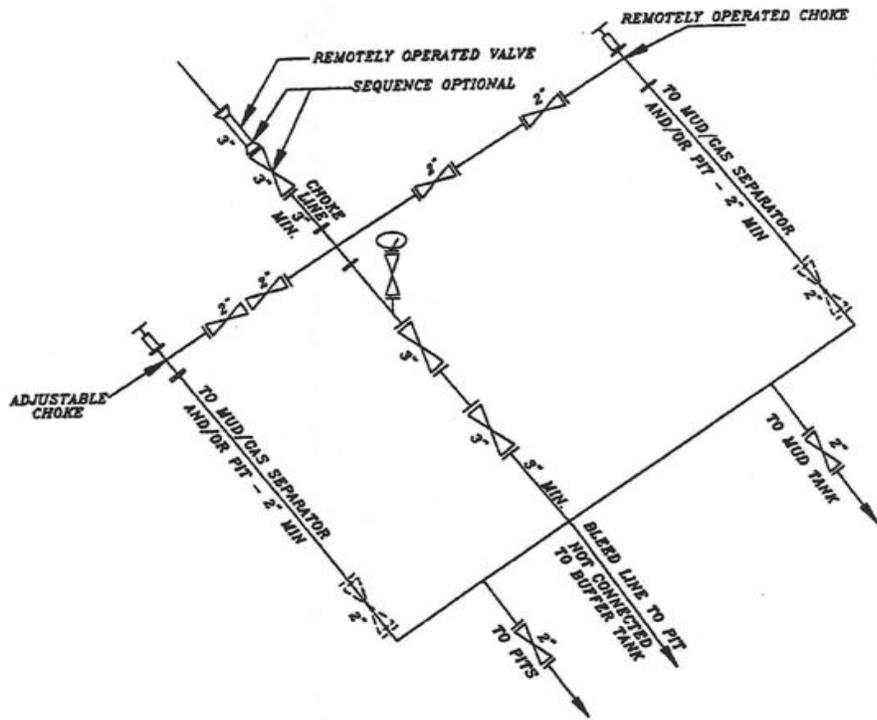
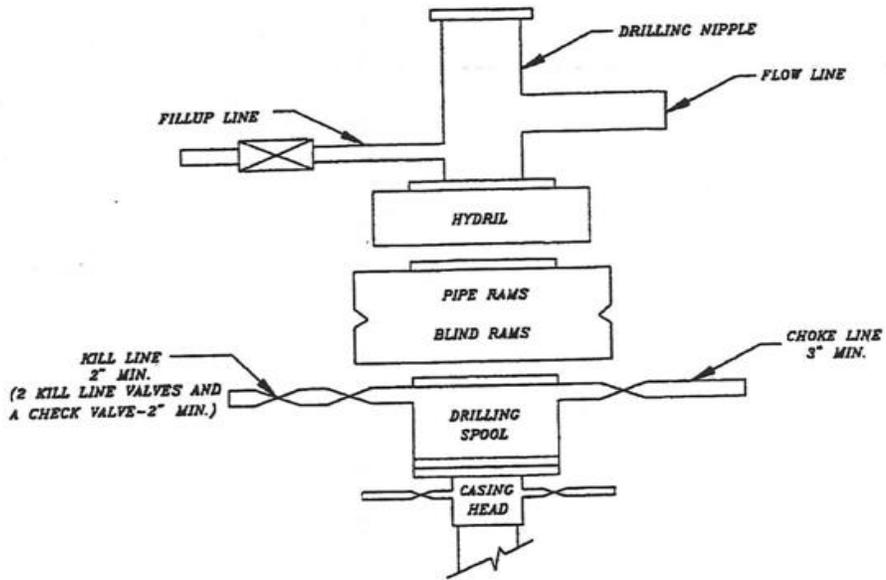
**DATE:** \_\_\_\_\_

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

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

EXHIBIT A  
NBU 1022-12G1CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

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

Found 1991 Aluminum Cap with Pile of Stones. Fence Post on SE side of Cap.

S89°59'W - 40.01 (G.L.O.)  
S89°57'13"W - 2640.76' (Meas.)

N89°39'W - 40.01 (G.L.O.)  
N89°41'22"W - 2640.46' (Meas.)

Found 1991 Aluminum Cap in Pile of Stones. Fence Post on North side of Cap.

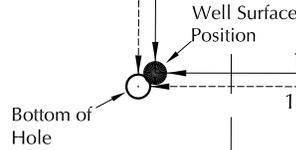
**WELL LOCATION:  
NBU 1022-12G1CS**

ELEV. UNGRADED GROUND = 5179.7'

N0°01'W (G.L.O.)  
N00°25'25"E - 5276.36' (Meas.)

Not Monumented

12



N00°03'41"E (Basis of Bearings)  
2640.93' (Measured)  
N0°07'E - 40.02 (G.L.O.)

Found 1991 Aluminum Cap with Pile of Stones. Fence Post on North side of Cap.

NBU 1022-12G1CS (Surface Position) NAD 83 LATITUDE = 39.965649° (39° 57' 56.338") LONGITUDE = 109.384990° (109° 23' 05.964") NAD 27 LATITUDE = 39.965684° (39° 57' 56.461") LONGITUDE = 109.384310° (109° 23' 03.515")	
NBU 1022-12G1CS (Bottom Hole) NAD 83 LATITUDE = 39.965457° (39° 57' 55.645") LONGITUDE = 109.385307° (109° 23' 07.106") NAD 27 LATITUDE = 39.965491° (39° 57' 55.768") LONGITUDE = 109.384627° (109° 23' 04.657")	

Not Monumented

N00°05'48"E - 2634.07' (Meas.)  
N0°09'E - 39.91 (G.L.O.)

Found Uintah County Aluminum Cap on 3/4" rebar. Pile of Stones

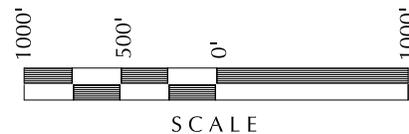
N89°52'55"W - 5312.93' (Meas.)  
S89°59'W - 80.02 (G.L.O.)

Found 1991 Aluminum Cap in Pile of Stones. Fence Post on East side of Cap.

**NOTES:**

▲ = Section Corners Located

- Well footages are measured at right angles to the Section Lines.
- G.L.O. distances are shown in feet or chains.  
1 chain = 66 feet.
- The Bottom of hole bears S51°42'07"W 113.20' from the Surface Position.
- Bearings are based on Global Positioning Satellite observations.
- Basis of elevation is Tri-Sta "Two Water" located in the NW 1/4 of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



**SURVEYOR'S CERTIFICATE**

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

John R. Slough  
 PROFESSIONAL LAND SURVEYOR  
 REGISTRATION NO. 6028691  
 STATE OF UTAH 2-10-11

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

**WELL PAD: NBU 1022-12G**

**NBU 1022-12G1CS  
 WELL PLAT**

**1904' FNL, 1810' FEL (Bottom Hole)  
 SW 1/4 NE 1/4 OF SECTION 12, 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

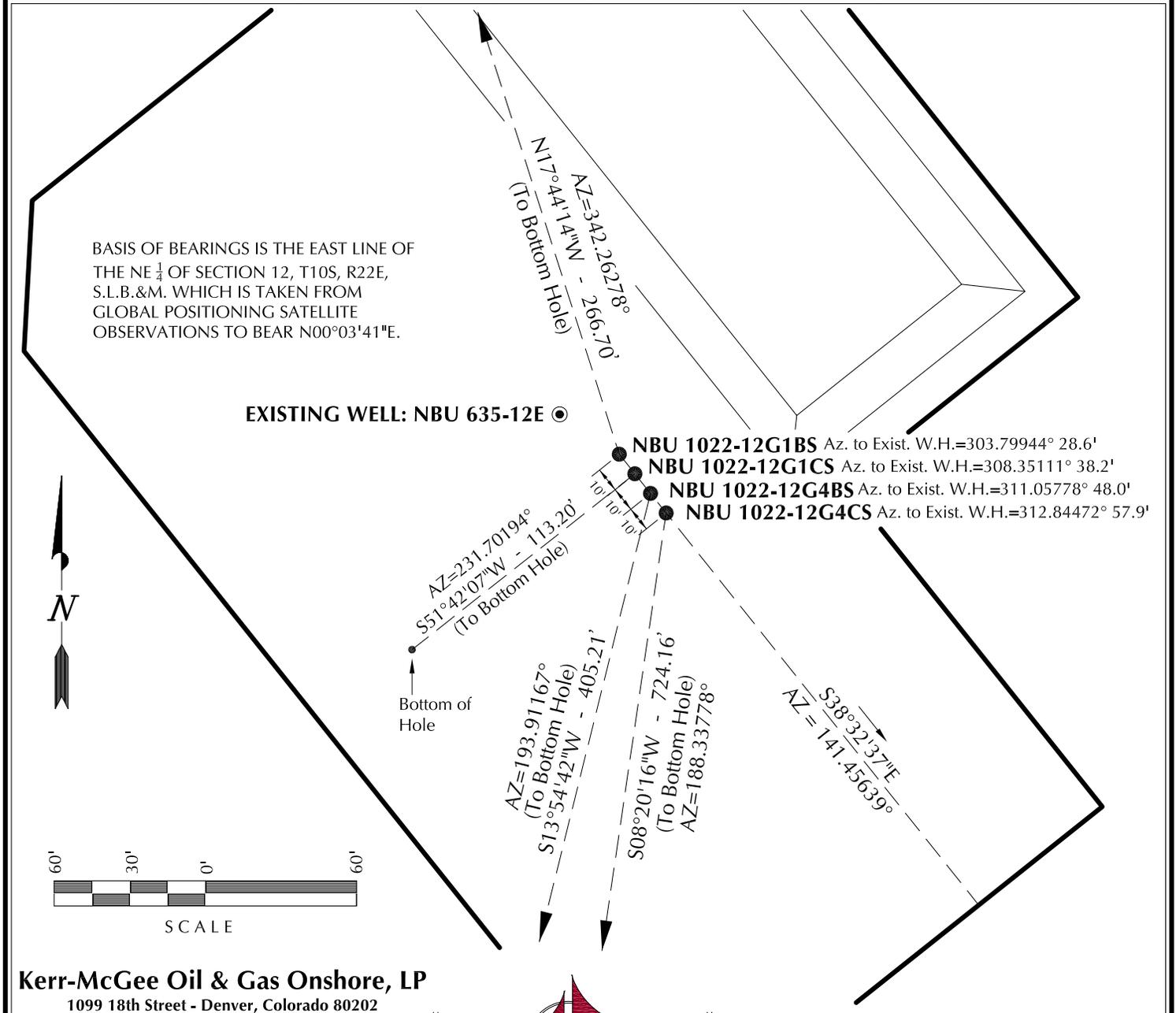
ENGINEERING & LAND SURVEYING, INC.  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 01-25-11	SURVEYED BY: R.Y.	SHEET NO: <b>2</b>
DATE DRAWN: 02-02-11	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'		2 OF 16

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 1022-12G1BS	39°57'56.415"	109°23'06.044"	39°57'56.538"	109°23'03.595"	1826' FNL 1727' FEL	39°57'58.925"	109°23'07.085"	39°57'59.048"	109°23'04.636"	1572' FNL 1809' FEL
NBU 1022-12G1CS	39°57'56.338"	109°23'05.964"	39°57'56.461"	109°23'03.515"	1833' FNL 1721' FEL	39°57'55.645"	109°23'07.106"	39°57'55.768"	109°23'04.657"	1904' FNL 1810' FEL
NBU 1022-12G4BS	39°57'56.260"	109°23'05.885"	39°57'56.383"	109°23'03.436"	1841' FNL 1715' FEL	39°57'52.375"	109°23'07.140"	39°57'52.498"	109°23'04.691"	2235' FNL 1812' FEL
NBU 1022-12G4CS	39°57'56.183"	109°23'05.805"	39°57'56.306"	109°23'03.356"	1849' FNL 1709' FEL	39°57'49.105"	109°23'07.161"	39°57'49.228"	109°23'04.712"	2566' FNL 1813' FEL
NBU 635-12E	39°57'56.572"	109°23'06.349"	39°57'56.695"	109°23'03.900"	1810' FNL 1751' FEL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1022-12G1BS	254.0'	-81.3'	NBU 1022-12G1CS	-70.2'	-88.8'	NBU 1022-12G4BS	-393.3'	-97.4'	NBU 1022-12G4CS	-716.5'	-105.0'



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

**WELL PAD - NBU 1022-12G**

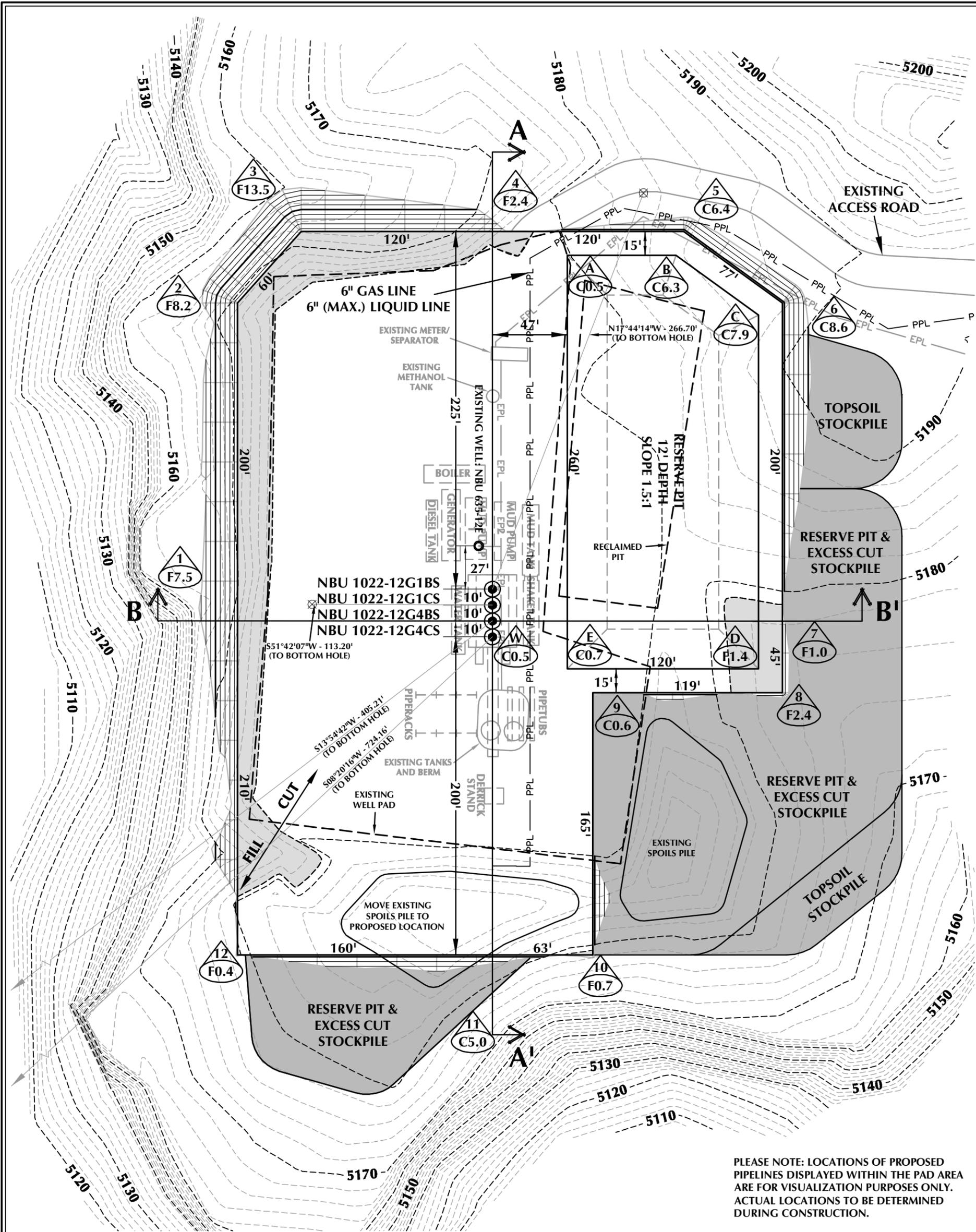
**WELL PAD INTERFERENCE PLAT**  
**WELLS - NBU 1022-12G1BS, NBU 1022-12G1CS,**  
**NBU 1022-12G4BS & NBU 1022-12G4CS**  
**LOCATED IN SECTION 12, T10S, R22E,**  
**S.L.B.&M., UINTAH COUNTY, UTAH.**

**609**

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

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

DATE SURVEYED: 01-25-11	SURVEYED BY: R.Y.	SHEET NO: <b>5</b>
DATE DRAWN: 02-02-11	DRAWN BY: M.W.W.	
SCALE: 1" = 60'		5 OF 16



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

**WELL PAD - NBU 1022-12G DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 5179.7'  
 FINISHED GRADE ELEVATION = 5179.2'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.45 ACRES  
 TOTAL DAMAGE AREA = 6.14 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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

**WELL PAD - NBU 1022-12G**

**WELL PAD - LOCATION LAYOUT**  
 NBU 1022-12G1BS, NBU 1022-12G1CS,  
 NBU 1022-12G4BS & NBU 1022-12G4CS  
 LOCATED IN SECTION 12, T10S, R22E,  
 S.L.B.&M., UTAH COUNTY, UTAH

**WELL PAD QUANTITIES**  
 TOTAL CUT FOR WELL PAD = 7,517 C.Y.  
 TOTAL FILL FOR WELL PAD = 4,660 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,483 C.Y.  
 EXCESS MATERIAL = 2,857 C.Y.

**RESERVE PIT QUANTITIES**  
 TOTAL CUT FOR RESERVE PIT  
 +/- 10,680 C.Y.  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 40,990 BARRELS

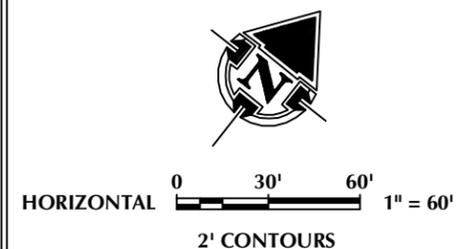


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 Phone 307-674-0609  
 Fax 307-674-0182

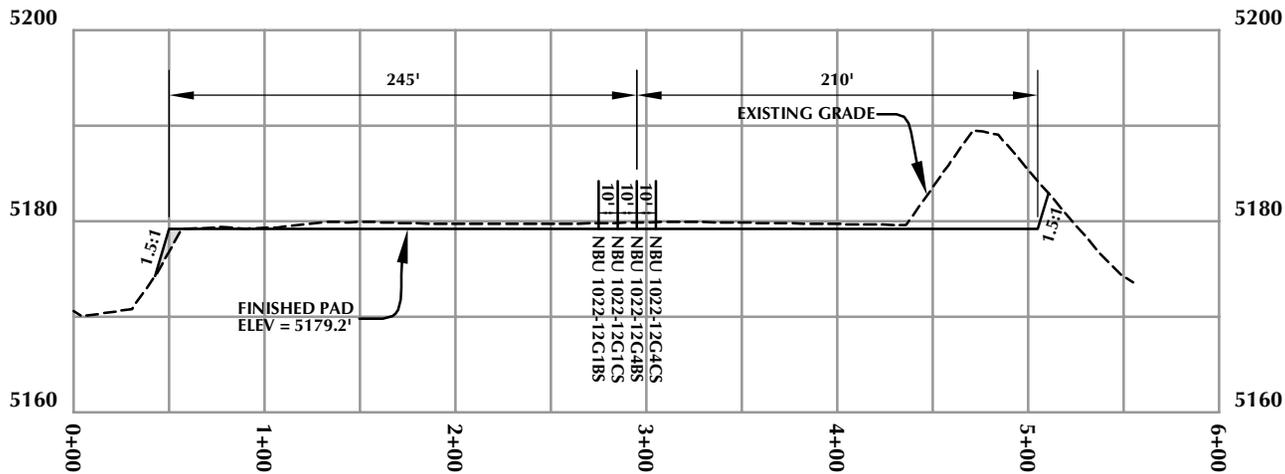
**TIMBERLINE** (435) 789-1365  
 ENGINEERING & LAND SURVEYING, INC.  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

**WELL PAD LEGEND**

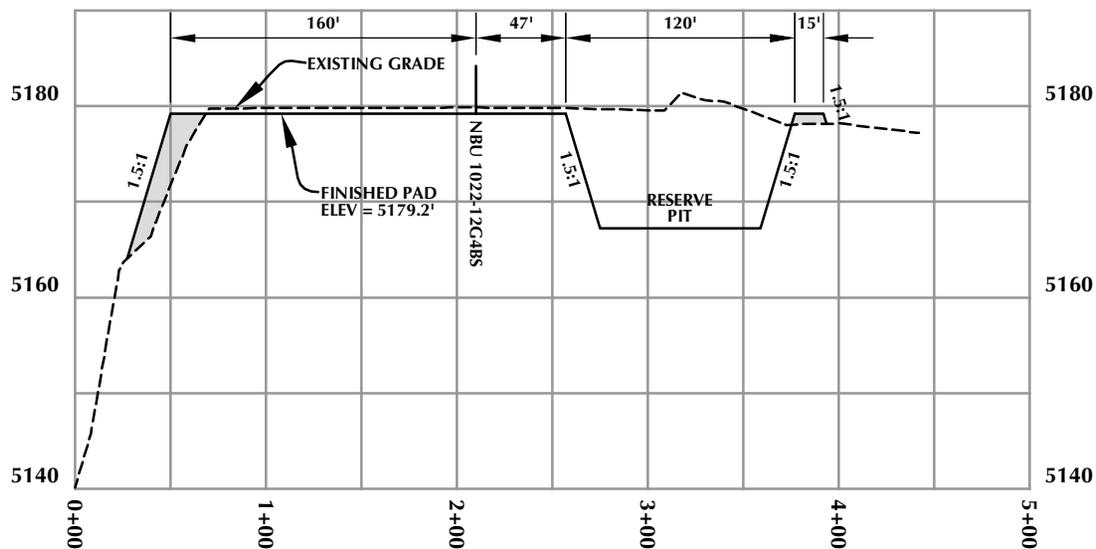
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PROPOSED PIPELINE
- EXISTING PIPELINE



SCALE: 1"=60' DATE: 3/8/11 SHEET NO:  
 REVISED: TAR 4/15/11 **6** 6 OF 16



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

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

**WELL PAD - NBU 1022-12G**

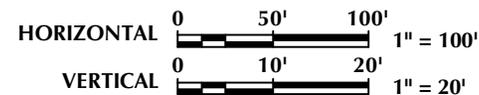
**WELL PAD - CROSS SECTIONS**  
NBU 1022-12G1BS, NBU 1022-12G1CS,  
NBU 1022-12G4BS & NBU 1022-12G4CS  
LOCATED IN SECTION 12, T10S, R22E,  
S.L.B.&M., Uintah County, Utah



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

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

(435) 789-1365



Scale: 1"=100'

Date: 3/8/11

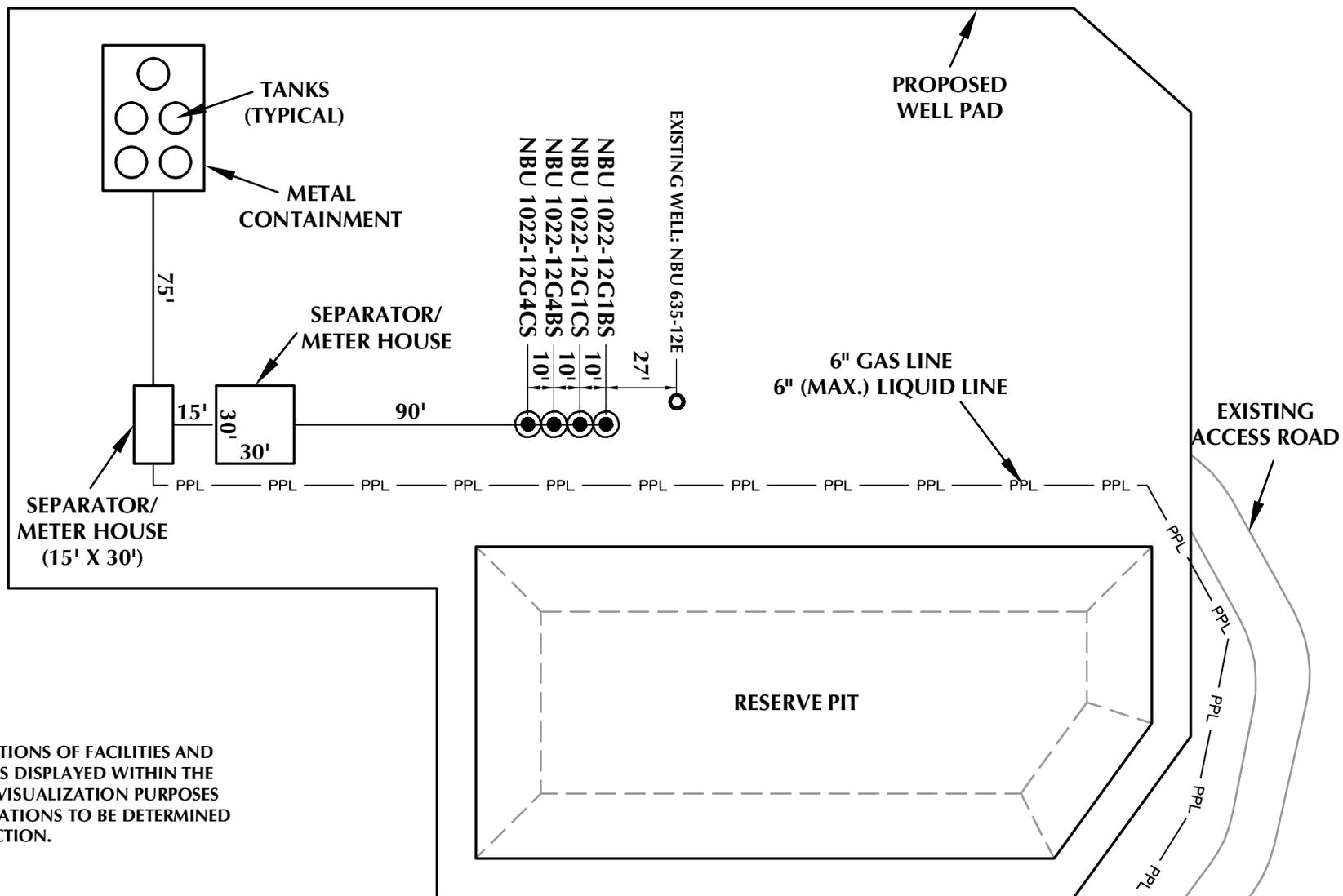
SHEET NO:

REVISED:

**7**

7 OF 16

**RECEIVED: September 13, 2011**



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 1022-12G

WELL PAD - FACILITIES DIAGRAM  
NBU 1022-12G1BS, NBU 1022-12G1CS,  
NBU 1022-12G4BS & NBU 1022-12G4CS  
LOCATED IN SECTION 12, T10S, R22E,  
S.L.B.&M., Uintah County, UTAH



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

**WELL PAD LEGEND**

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



HORIZONTAL 1" = 60'

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

Scale: 1"=60'

Date: 3/8/11

SHEET NO:

REVISED:

**8**

8 OF 16

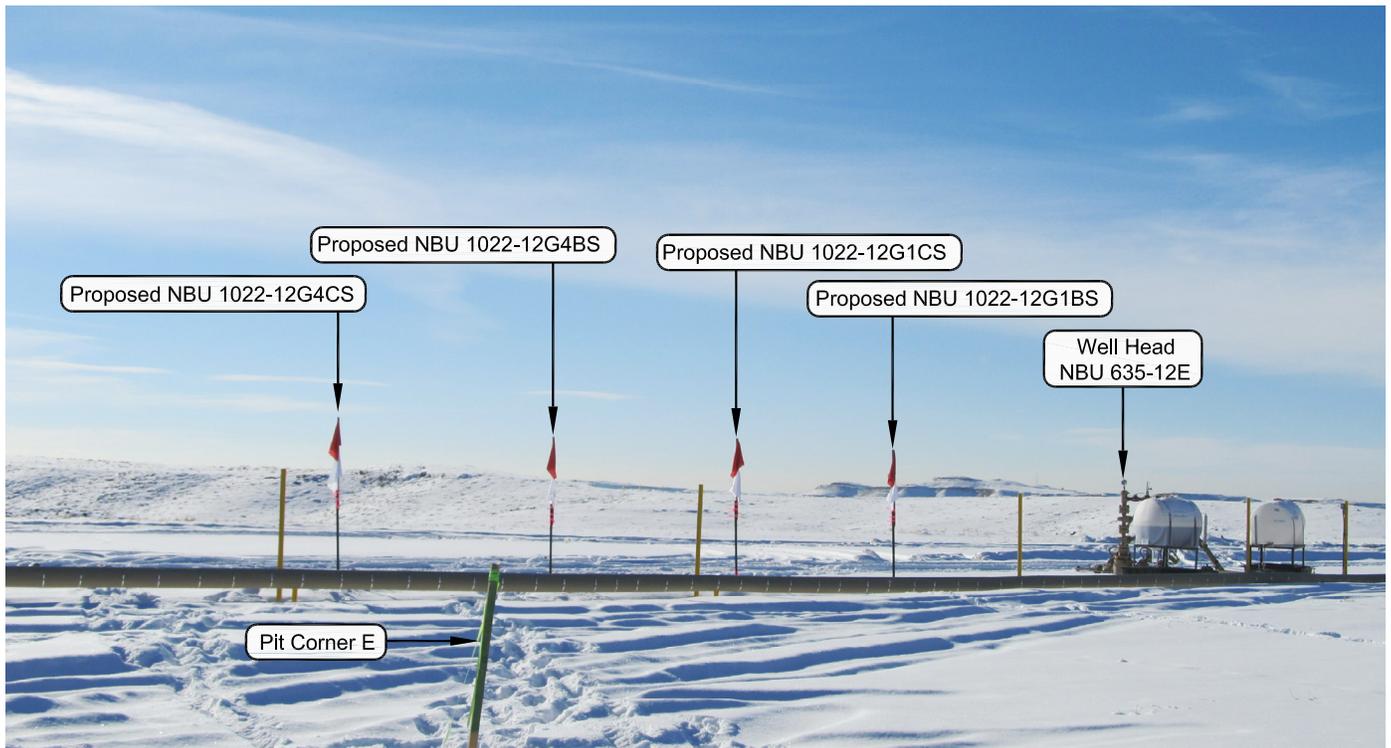


PHOTO VIEW: FROM PIT CORNER E TO LOCATION STAKE

CAMERA ANGLE: WESTERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: SOUTHWESTERLY

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

**WELL PAD - NBU 1022-12G**

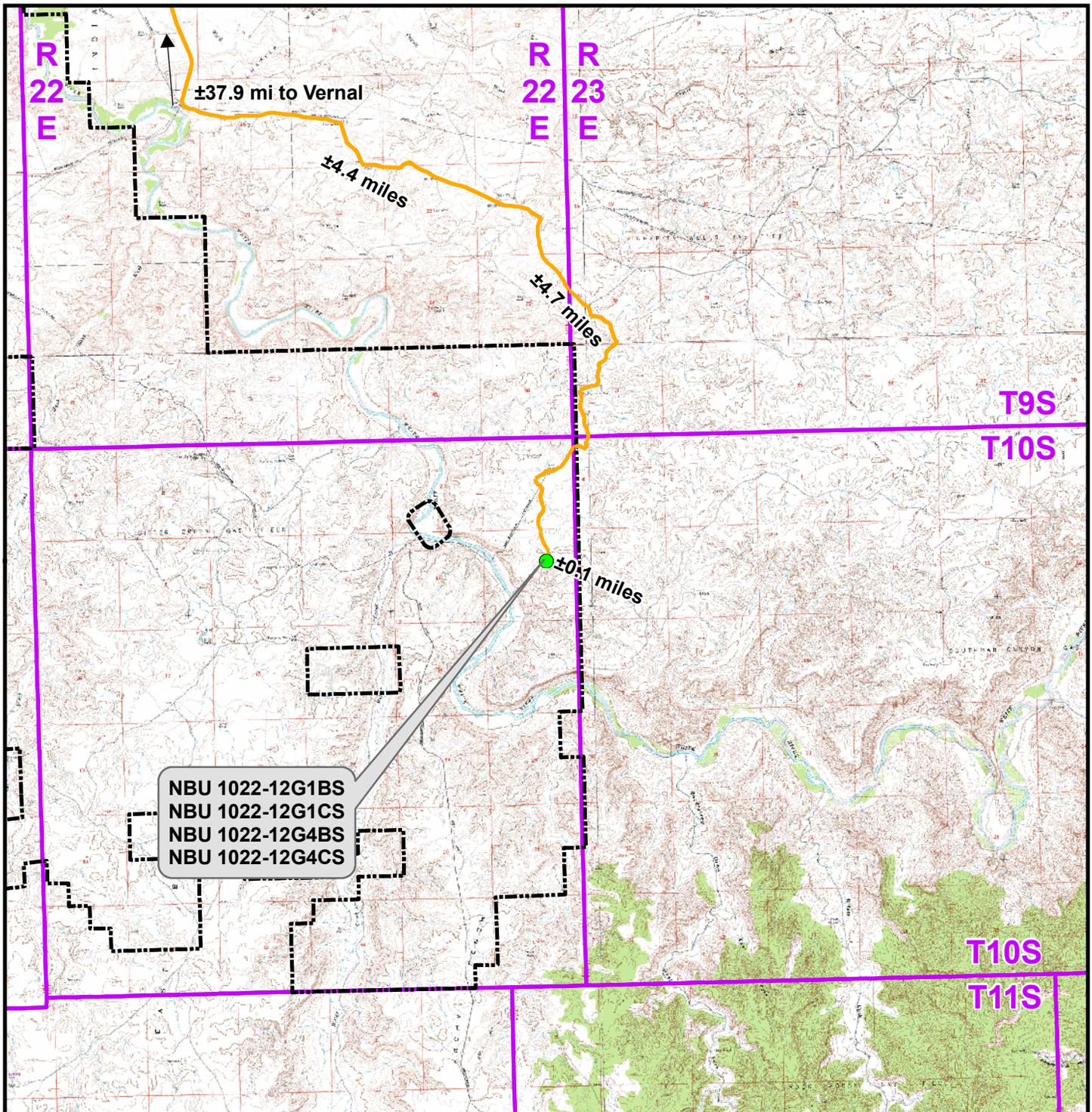
**LOCATION PHOTOS**  
 NBU 1022-12G1BS, NBU 1022-12G1CS,  
 NBU 1022-12G4BS & NBU 1022-12G4CS  
 LOCATED IN SECTION 12, T10S, R22E,  
 S.L.B.&M., Uintah County, Utah.



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

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

DATE PHOTOS TAKEN: 01-25-11	PHOTOS TAKEN BY: R.Y.	SHEET NO: <b>9</b>
DATE DRAWN: 02-02-11	DRAWN BY: M.W.W.	
Date Last Revised:		9 OF 16



**Legend**

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

Distance From Well Pad - NBU 1022-12G To Unit Boundary: ±1,709ft

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

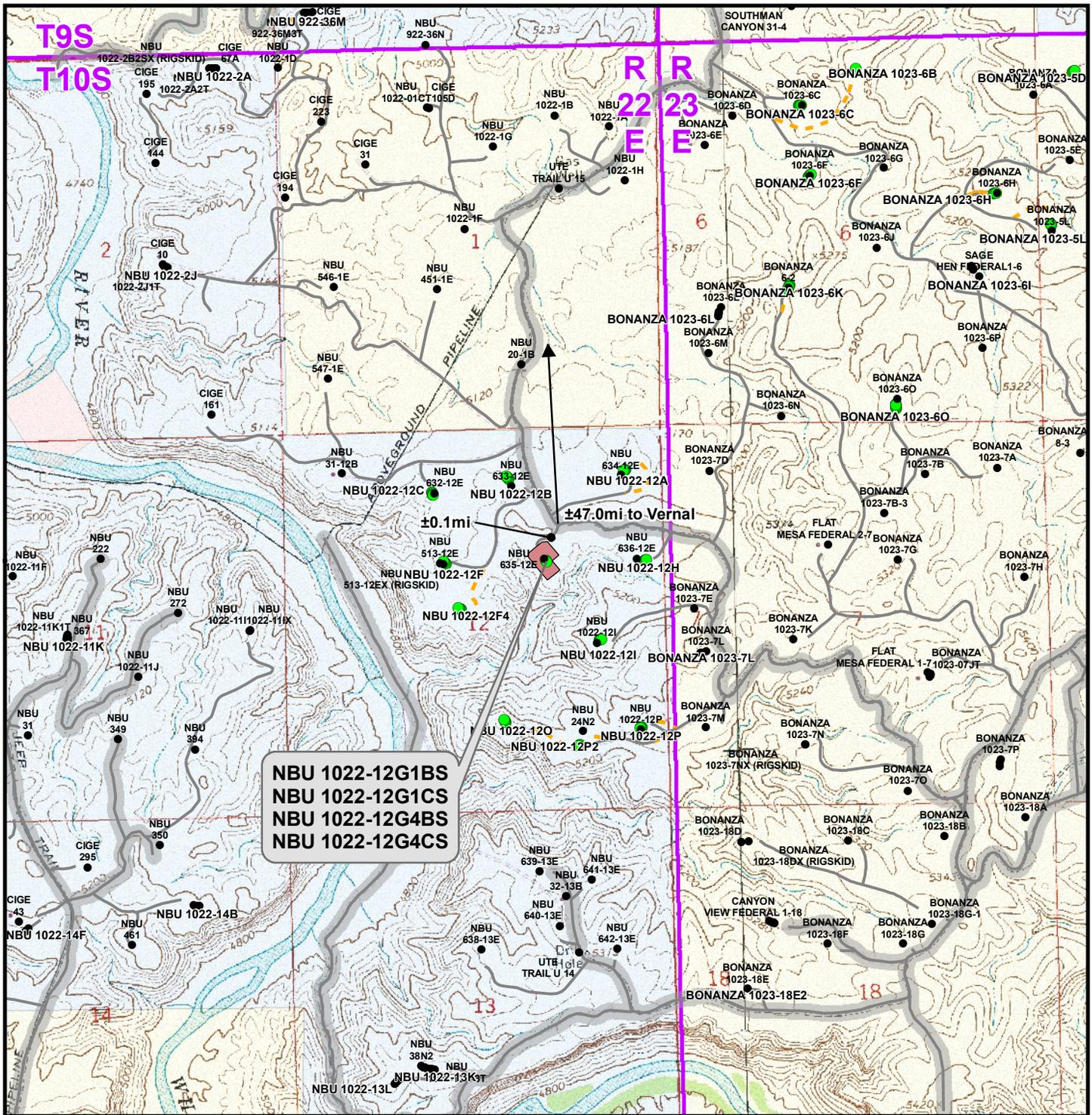
**WELL PAD - NBU 1022-12G**

**TOPO A**  
NBU 1022-12G1BS, NBU 1022-12G1CS,  
NBU 1022-12G4BS & NBU 1022-12G4CS  
LOCATED IN SECTION 12, 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: 8 Mar 2011	10
Revised:	Date:	



**NBU 1022-12G1BS  
NBU 1022-12G1CS  
NBU 1022-12G4BS  
NBU 1022-12G4CS**

**Legend**

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

Total Proposed Road Length: ±0ft

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

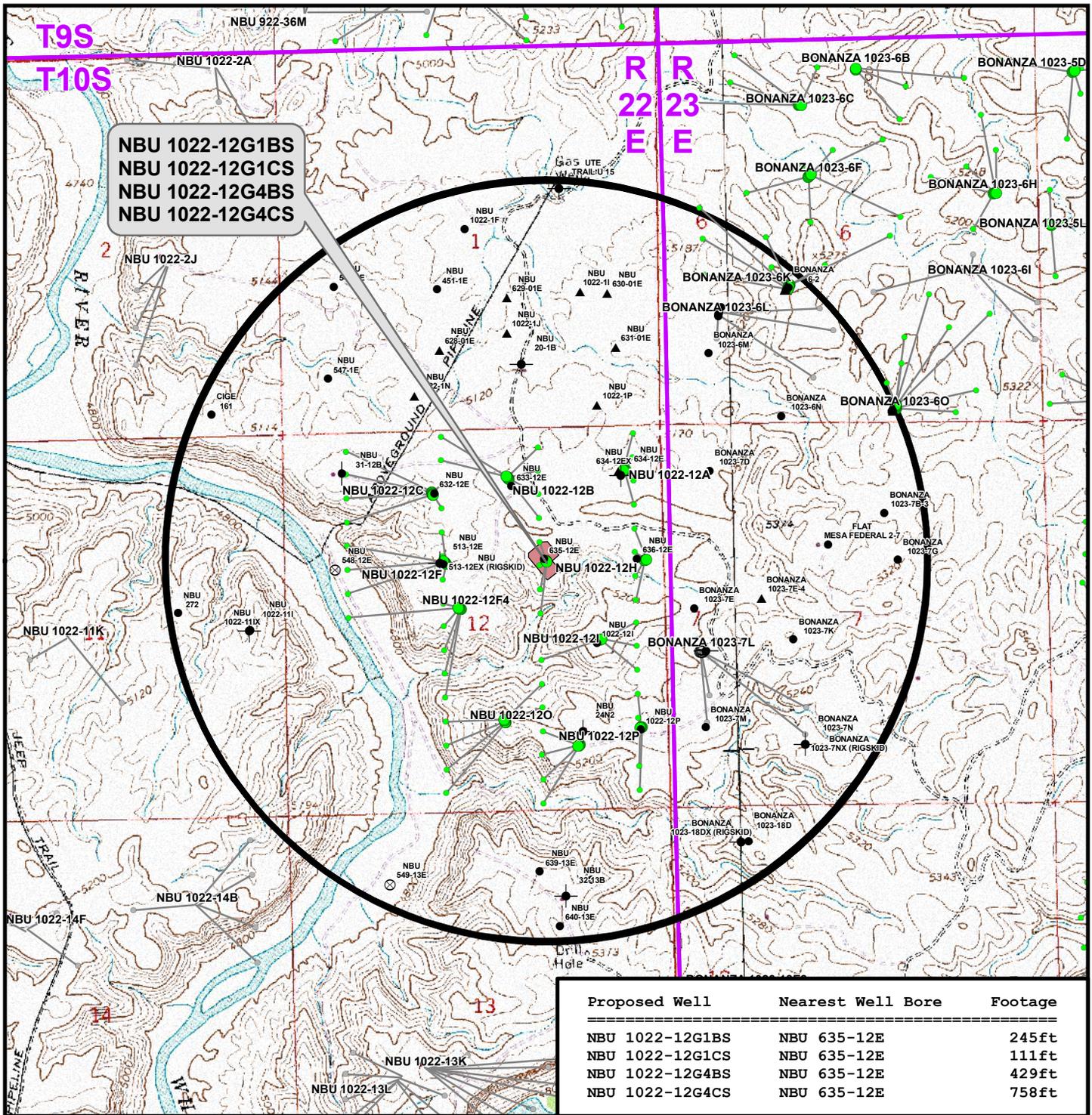
**WELL PAD - NBU 1022-12G**

**TOPO B**  
**NBU 1022-12G1BS, NBU 1022-12G1CS,**  
**NBU 1022-12G4BS & NBU 1022-12G4CS**  
**LOCATED IN SECTION 12, 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: <b>11</b> 11 of 16
Drawn: TL	Date: 8 Mar 2011	
Revised:	Date:	



Proposed Well	Nearest Well Bore	Footage
NBU 1022-12G1BS	NBU 635-12E	245ft
NBU 1022-12G1CS	NBU 635-12E	111ft
NBU 1022-12G4BS	NBU 635-12E	429ft
NBU 1022-12G4CS	NBU 635-12E	758ft

**Legend**

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Well - 1 Mile Radius
- Producing
- Temporarily-Abandoned
- Active
- Shut-In
- Spudded (Drilling commenced; Not yet completed)
- Approved permit (APD); not yet spudded
- Plugged and Abandoned
- New Permit (Not yet approved or drilled)
- Location Abandoned
- Inactive
- Dry hole marker, buried
- Drilling Operations Suspended
- Returned APD (Unapproved)

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

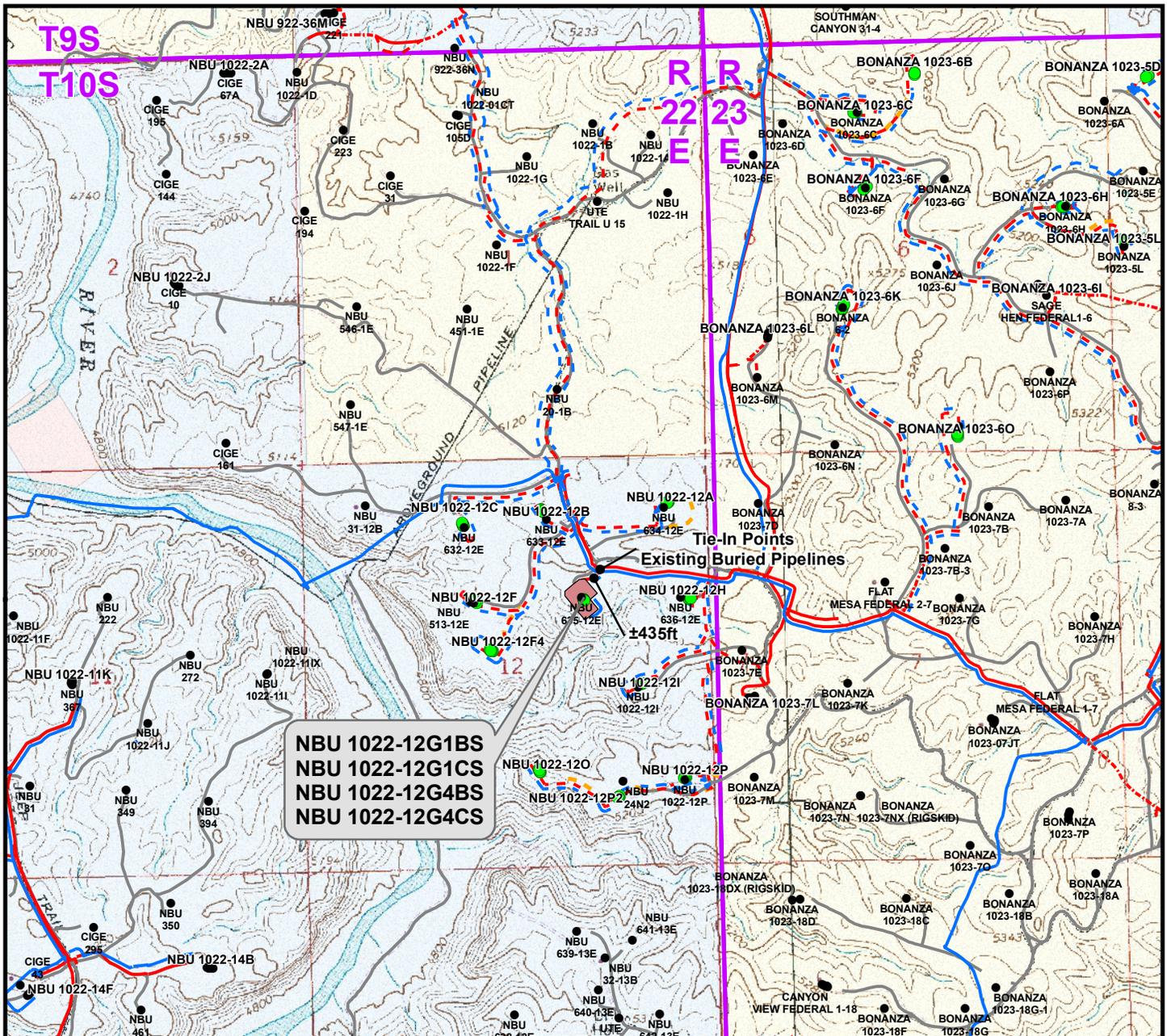
**WELL PAD - NBU 1022-12G**

**TOPO C**  
 NBU 1022-12G1BS, NBU 1022-12G1CS,  
 NBU 1022-12G4BS & NBU 1022-12G4CS  
 LOCATED IN SECTION 12, 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:
Drawn: TL	Date: 8 Mar 2011	12
Revised:	Date:	



NBU 1022-12G1BS  
 NBU 1022-12G1CS  
 NBU 1022-12G4BS  
 NBU 1022-12G4CS

Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±440ft
Proposed 6" (Max.) (Edge of Pad to Existing Buried Liquid Pipeline)	±435ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>	<b>±875ft</b>

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±440ft
Proposed 6" (Edge of Pad to Existing Buried 16" Gas Pipeline)	±435ft
<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±875ft</b>

**Legend**

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

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

**WELL PAD - NBU 1022-12G**

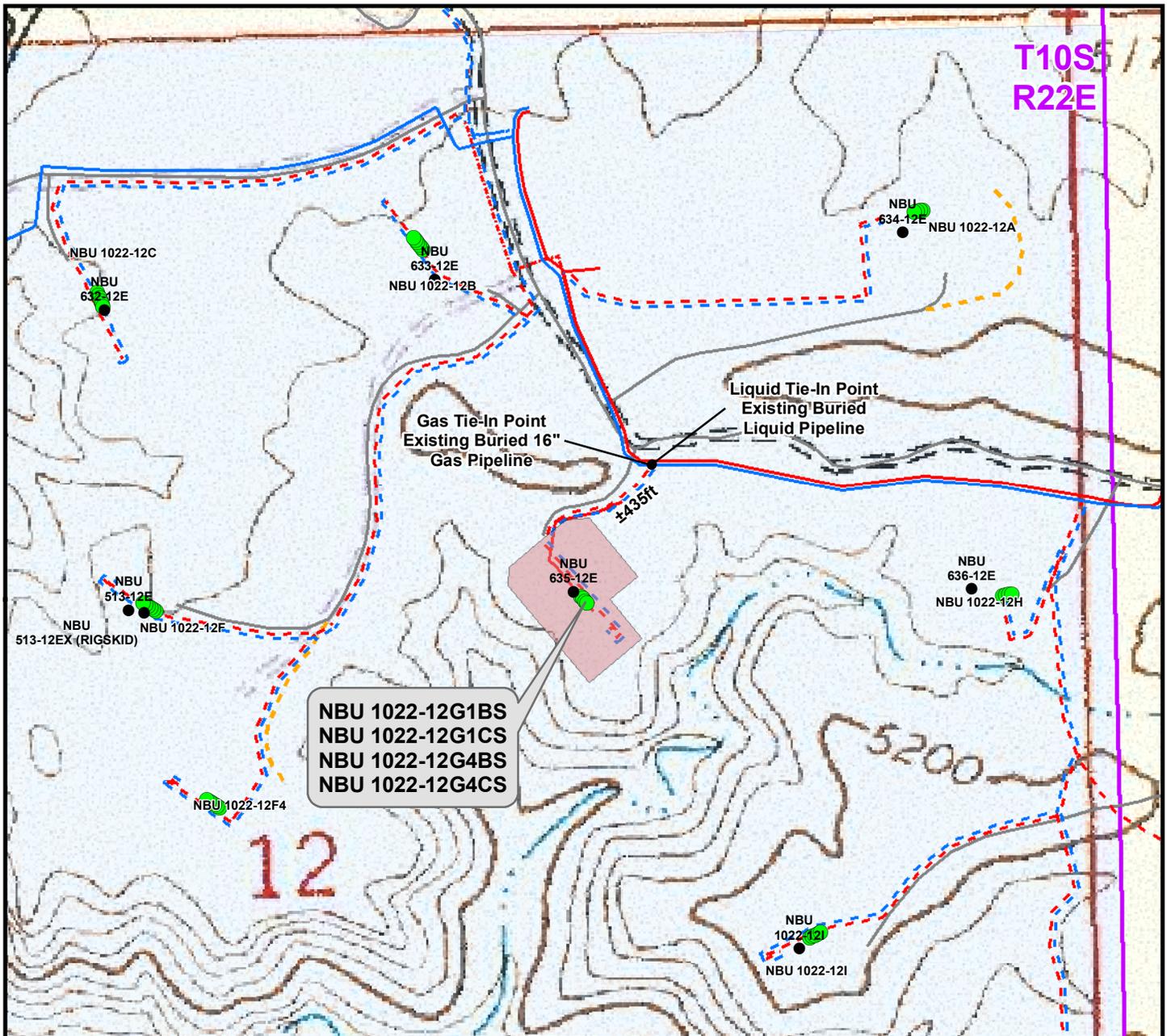
**TOPO D**  
 NBU 1022-12G1BS, NBU 1022-12G1CS,  
 NBU 1022-12G4BS & NBU 1022-12G4CS  
 LOCATED IN SECTION 12, T10S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**609**

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



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: JFE	Date: 8 Mar 2011	<b>13</b>
Revised: TL	Date: 19 Apr 2011	



Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±440ft	Proposed 6" (Meter House to Edge of Pad)	±440ft
Proposed 6" (Max.) (Edge of Pad to Existing Buried Liquid Pipeline)	±435ft	Proposed 6" (Edge of Pad to Existing Buried 16" Gas Pipeline)	±435ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>	<b>±875ft</b>	<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±875ft</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 - Existing
- - - Road - Existing
- Indian Reservation
- - - Gas Pipeline - Existing
- State
- Private

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

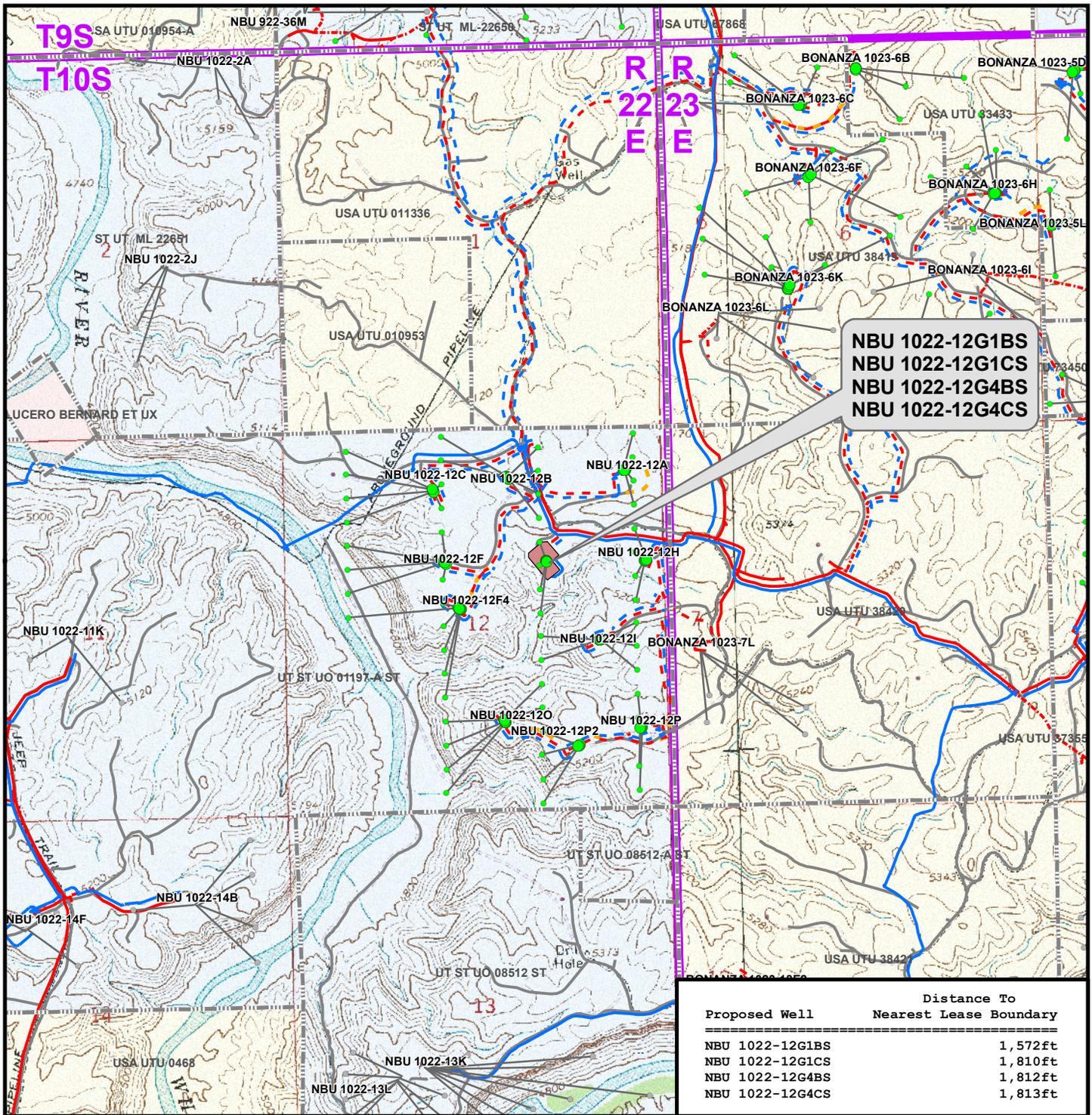
**WELL PAD - NBU 1022-12G**

**TOPO D2 (PAD & PIPELINE DETAIL)**  
 NBU 1022-12G1BS, NBU 1022-12G1CS,  
 NBU 1022-12G4BS & NBU 1022-12G4CS  
 LOCATED IN SECTION 12, 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" = 500ft	NAD83 USP Central	Sheet No:
Drawn: JFE	Date: 8 Mar 2011	<b>14</b> 14 of 16
Revised: TL	Date: 19 Apr 2011	



**NBU 1022-12G1BS  
NBU 1022-12G1CS  
NBU 1022-12G4BS  
NBU 1022-12G4CS**

Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-12G1BS	1,572ft
NBU 1022-12G1CS	1,810ft
NBU 1022-12G4BS	1,812ft
NBU 1022-12G4CS	1,813ft

**Legend**

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

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

**WELL PAD - NBU 1022-12G**

**TOPO E**  
NBU 1022-12G1BS, NBU 1022-12G1CS,  
NBU 1022-12G4BS & NBU 1022-12G4CS  
LOCATED IN SECTION 12, 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:
Drawn: TL	Date: 8 Mar 2011	<b>15</b> 15 of 16
Revised: TL	Date: 19 Apr 2011	

**Kerr-McGee Oil & Gas Onshore, LP  
WELL PAD – NBU 1022-12G  
WELLS – NBU 1022-12G1BS, NBU 1022-12G1CS,  
NBU 1022-12G4BS & NBU 1022-12G4CS  
Section 12, 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 14.4 miles to the intersection of the Fidlar Road (County B Road 3410) which road intersection is approximately 400 feet northeast of the Mountain Fuel Bridge at the White River. Exit left and proceed in a southeasterly direction along the Fidlar Road approximately 4.4 miles to the intersection of the Seven Sisters Road (County B Road 3420). Exit right and proceed in a southeasterly, then southerly direction along the Seven Sisters Road approximately 4.7 miles to a service road to the southwest. Exit right and proceed in a southwesterly direction along the service road approximately 0.1 miles to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 47.1 miles in a southerly direction.

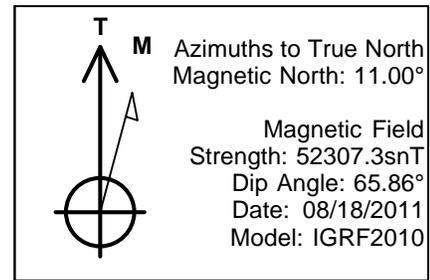
API Well Number: 43047519630000  
 Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: NBU 1022-12G PAD

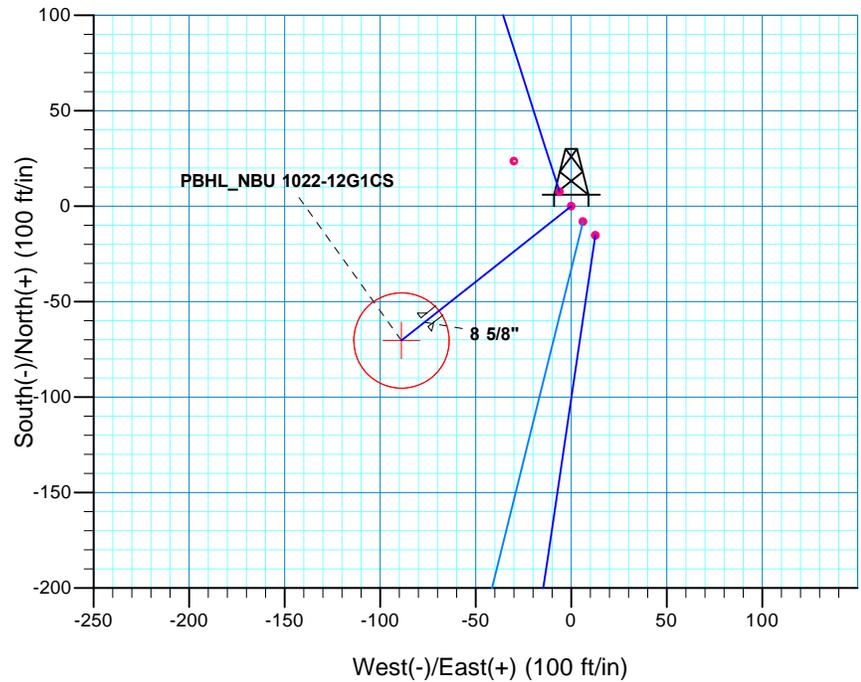
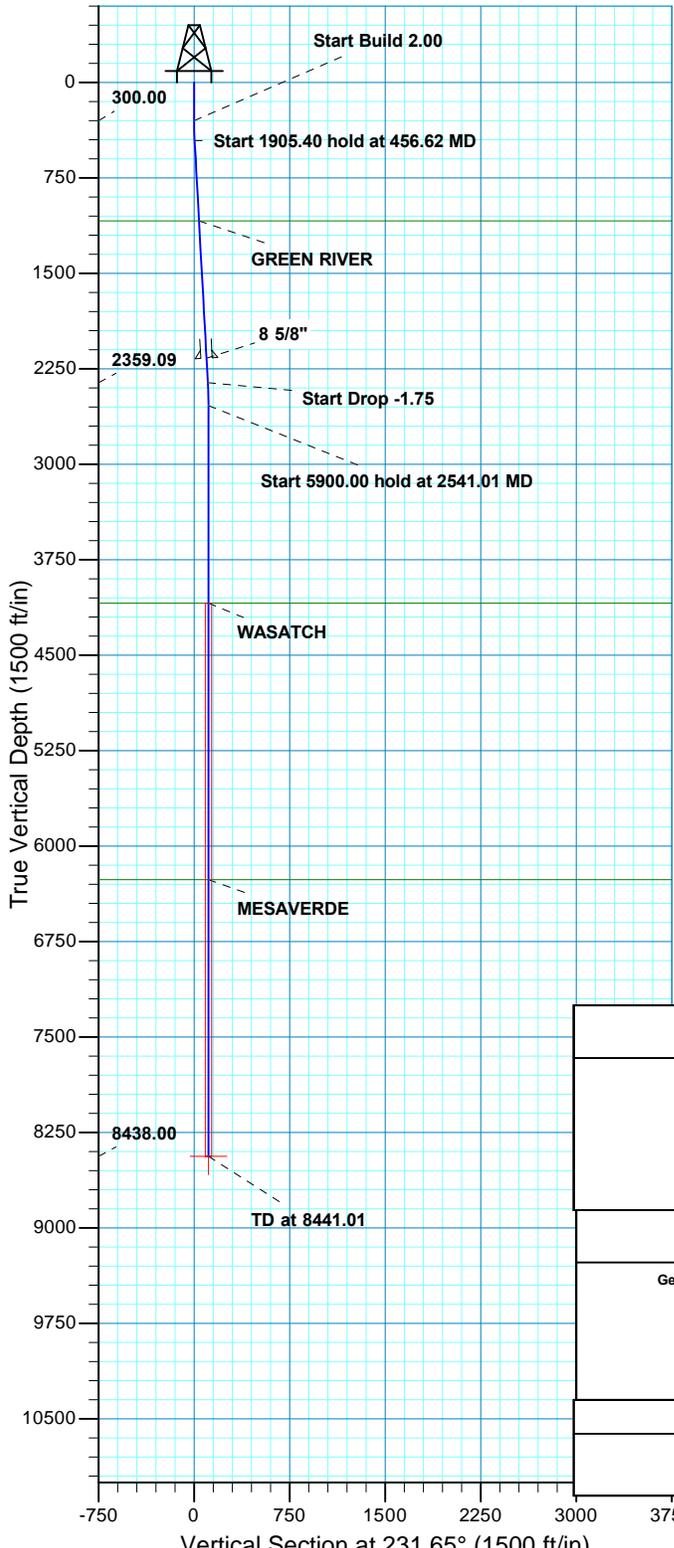
Well: NBU 1022-12G1CS

Wellbore: OH

Design: PLAN #1 PRELIMINARY



WELL DETAILS: NBU 1022-12G1CS								
GL 5179 & KB 4 @ 5183.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14517649.51	2093141.11	39° 57' 56.462 N	109° 23' 3.516 W			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8438.00	-70.29	-88.84	14517577.62	2093053.55	39° 57' 55.768 N	109° 23' 4.657 W	Circle (Radius: 25.00)
- plan hits target center								



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
456.62	3.13	231.65	456.54	-2.66	-3.36	2.00	231.65	4.28	
2362.02	3.13	231.65	2359.09	-67.26	-85.01	0.00	0.00	108.40	
2541.01	0.00	0.00	2538.00	-70.29	-88.84	1.75	180.00	113.29	
8441.01	0.00	0.00	8438.00	-70.29	-88.84	0.00	0.00	113.29	PBHL_NBU 1022-12G1CS

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 12 T10S R22E		
System Datum: Mean Sea Level		

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1088.00	1089.02	GREEN RIVER
4091.00	4094.01	WASATCH
6264.00	6267.01	MESAVERDE

CASING DETAILS			
TVD	MD	Name	Size
2167.00	2169.64	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-12G1CS/OH)  
 Created By: RobertScott Date: 13:10, August 18 2011

**RECEIVED**



# **US ROCKIES REGION PLANNING**

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

**NBU 1022-12G PAD**

**NBU 1022-12G1CS**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**18 August, 2011**





SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-12G1CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5179 & KB 4 @ 5183.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5179 & KB 4 @ 5183.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-12G PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-12G1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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

<b>Site</b>	NBU 1022-12G PAD, SECTION 12 T10S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,517,657.05 usft	<b>Latitude:</b>	39° 57' 56.538 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,093,134.80 usft	<b>Longitude:</b>	109° 23' 3.595 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.04 °

<b>Well</b>	NBU 1022-12G1CS, 1833 FNL 1721 FEL					
<b>Well Position</b>	<b>+N/-S</b>	-7.65 ft	<b>Northing:</b>	14,517,649.51 usft	<b>Latitude:</b>	39° 57' 56.462 N
	<b>+E/-W</b>	6.17 ft	<b>Easting:</b>	2,093,141.10 usft	<b>Longitude:</b>	109° 23' 3.516 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,179.00 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	08/18/11	11.00	65.86	52,307

<b>Design</b>	PLAN #1 PRELIMINARY			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	231.65

Plan Sections										
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	
456.62	3.13	231.65	456.54	-2.66	-3.36	2.00	2.00	0.00	231.65	
2,362.02	3.13	231.65	2,359.09	-67.26	-85.01	0.00	0.00	0.00	0.00	
2,541.01	0.00	0.00	2,538.00	-70.29	-88.84	1.75	-1.75	0.00	180.00	
8,441.01	0.00	0.00	8,438.00	-70.29	-88.84	0.00	0.00	0.00	0.00	PBHL_NBU 1022-12C



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-12G1CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5179 & KB 4 @ 5183.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5179 & KB 4 @ 5183.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-12G PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-12G1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Start Build 2.00</b>										
400.00	2.00	231.65	399.98	-1.08	-1.37	1.75	2.00	2.00	0.00	
456.62	3.13	231.65	456.54	-2.66	-3.36	4.28	2.00	2.00	0.00	
<b>Start 1905.40 hold at 456.62 MD</b>										
500.00	3.13	231.65	499.86	-4.13	-5.22	6.65	0.00	0.00	0.00	
600.00	3.13	231.65	599.71	-7.52	-9.50	12.11	0.00	0.00	0.00	
700.00	3.13	231.65	699.56	-10.91	-13.79	17.58	0.00	0.00	0.00	
800.00	3.13	231.65	799.41	-14.30	-18.07	23.04	0.00	0.00	0.00	
900.00	3.13	231.65	899.26	-17.69	-22.36	28.51	0.00	0.00	0.00	
1,000.00	3.13	231.65	999.11	-21.08	-26.64	33.97	0.00	0.00	0.00	
1,089.02	3.13	231.65	1,088.00	-24.10	-30.46	38.84	0.00	0.00	0.00	
<b>GREEN RIVER</b>										
1,100.00	3.13	231.65	1,098.96	-24.47	-30.93	39.44	0.00	0.00	0.00	
1,200.00	3.13	231.65	1,198.81	-27.86	-35.21	44.90	0.00	0.00	0.00	
1,300.00	3.13	231.65	1,298.66	-31.25	-39.50	50.37	0.00	0.00	0.00	
1,400.00	3.13	231.65	1,398.51	-34.64	-43.78	55.83	0.00	0.00	0.00	
1,500.00	3.13	231.65	1,498.36	-38.03	-48.07	61.29	0.00	0.00	0.00	
1,600.00	3.13	231.65	1,598.21	-41.42	-52.35	66.76	0.00	0.00	0.00	
1,700.00	3.13	231.65	1,698.06	-44.81	-56.64	72.22	0.00	0.00	0.00	
1,800.00	3.13	231.65	1,797.91	-48.20	-60.92	77.69	0.00	0.00	0.00	
1,900.00	3.13	231.65	1,897.77	-51.59	-65.21	83.15	0.00	0.00	0.00	
2,000.00	3.13	231.65	1,997.62	-54.98	-69.49	88.62	0.00	0.00	0.00	
2,100.00	3.13	231.65	2,097.47	-58.37	-73.78	94.08	0.00	0.00	0.00	
2,169.64	3.13	231.65	2,167.00	-60.74	-76.76	97.89	0.00	0.00	0.00	
<b>8 5/8"</b>										
2,200.00	3.13	231.65	2,197.32	-61.77	-78.07	99.54	0.00	0.00	0.00	
2,300.00	3.13	231.65	2,297.17	-65.16	-82.35	105.01	0.00	0.00	0.00	
2,362.02	3.13	231.65	2,359.09	-67.26	-85.01	108.40	0.00	0.00	0.00	
<b>Start Drop -1.75</b>										
2,400.00	2.47	231.65	2,397.03	-68.41	-86.46	110.25	1.75	-1.75	0.00	
2,500.00	0.72	231.65	2,496.99	-70.13	-88.64	113.03	1.75	-1.75	0.00	
2,541.01	0.00	0.00	2,538.00	-70.29	-88.84	113.29	1.75	-1.75	0.00	
<b>Start 5900.00 hold at 2541.01 MD</b>										
2,600.00	0.00	0.00	2,596.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,696.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,796.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,896.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
3,000.00	0.00	0.00	2,996.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,096.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,196.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,296.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,396.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,496.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,596.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,696.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,796.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,896.99	-70.29	-88.84	113.29	0.00	0.00	0.00	



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-12G1CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5179 & KB 4 @ 5183.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5179 & KB 4 @ 5183.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-12G PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-12G1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,000.00	0.00	0.00	3,996.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
4,094.01	0.00	0.00	4,091.00	-70.29	-88.84	113.29	0.00	0.00	0.00	
<b>WASATCH</b>										
4,100.00	0.00	0.00	4,096.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,196.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,296.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,396.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,496.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,596.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,696.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,796.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,896.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,996.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,096.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,196.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,296.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,396.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,496.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,596.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,696.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,796.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,896.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,996.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,096.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,196.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
6,267.01	0.00	0.00	6,264.00	-70.29	-88.84	113.29	0.00	0.00	0.00	
<b>MESAVERDE</b>										
6,300.00	0.00	0.00	6,296.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,396.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,496.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,596.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,696.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,796.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,896.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,996.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,096.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,196.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,296.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,396.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,496.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,596.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,696.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,796.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,896.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,996.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,096.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,196.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,296.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,396.99	-70.29	-88.84	113.29	0.00	0.00	0.00	
8,441.01	0.00	0.00	8,438.00	-70.29	-88.84	113.29	0.00	0.00	0.00	
<b>PBHL_NBU 1022-12G1CS</b>										



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-12G1CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5179 & KB 4 @ 5183.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5179 & KB 4 @ 5183.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-12G PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-12G1CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
PBHL_NBU 1022-12G1C - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,438.00	-70.29	-88.84	14,517,577.62	2,093,053.55	39° 57' 55.768 N	109° 23' 4.657 W

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(ft)	(ft)		(in)	(in)	
2,169.64	2,167.00	8 5/8"	8.625	11.000	

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
1,089.02	1,088.00	GREEN RIVER			
4,094.01	4,091.00	WASATCH			
6,267.01	6,264.00	MESAVERDE			

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
456.62	456.54	-2.66	-3.36	Start 1905.40 hold at 456.62 MD	
2,362.02	2,359.09	-67.26	-85.01	Start Drop -1.75	
2,541.01	2,538.00	-70.29	-88.84	Start 5900.00 hold at 2541.01 MD	
8,441.01	8,438.00	-70.29	-88.84	TD at 8441.01	

<b>NBU 1022-12G1BS</b>			
Surface:	1826 FNL / 1727 FEL	SWNE	Lot
BHL:	1572 FNL / 1809 FEL	SWNE	Lot
<b>NBU 1022-12G1CS</b>			
Surface:	1833 FNL / 1721 FEL	SWNE	Lot
BHL:	1904 FNL / 1810 FEL	SWNE	Lot
<b>NBU 1022-12G4BS</b>			
Surface:	1841 FNL / 1715 FEL	SWNE	Lot
BHL:	2235 FNL / 1812 FEL	SWNE	Lot
<b>NBU 1022-12G4CS</b>			
Surface:	1849 FNL / 1709 FEL	SWNE	Lot
BHL:	2566 FNL / 1813 FEL	SWNE	Lot

**Pad: NBU 1022-12G PAD**

Section 12 T10S R22E

Mineral Lease: UT ST UO 01197-A ST

Uintah County, Utah

Operator: Kerr-McGee Oil &amp; Gas Onshore LP

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

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

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

**A. Existing Roads:**

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

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

**B. Planned Access Roads:**

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

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

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

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

This pad will expand the existing pad for the NBU 635-12E. The NBU 635-12E well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of September 8, 2011.

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

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

**Gathering Facilities:**

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

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 875'$  and the individual segments are broken up as follows:

- $\pm 440'$  (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- $\pm 435'$  (0.1 miles) –New 6" buried gas pipeline from edge of the pad to the tie-in at the existing 16" buried gas gathering pipeline. Please refer to Topo D & D2>

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 875'$  and the individual segments are broken up as follows:

- $\pm 440'$  (0.1 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- $\pm 435'$  (0.1 miles) –New 6" buried liquid pipeline from the edge of the pad to the tie-in at the existing 16" buried liquid gathering pipeline. Please refer to Topo D & D2.

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

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

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

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

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

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

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

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

No water well is to be drilled on this lease.

**E. Source of Construction Materials:**

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

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

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

RNI in Sec. 5 T9S R22E  
Ace Oilfield in Sec. 2 T6S R20E  
MC&MC in Sec. 12 T6S R19E  
Pipeline Facility in Sec. 36 T9S R20E  
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E  
Bonanza Evaporation Pond in Sec. 2 T10S R23E  
Ouray #1 SWD in Sec. 1 T9S R21E  
NBU 159 SWD in Sec. 35 T9S R21E  
CIGE 112D SWD in Sec. 19 T9S R21E  
CIGE 114 SWD in Sec. 34 T9S R21E  
NBU 921-34K SWD in Sec. 34 T9S R21E  
NBU 921-33F SWD in Sec. 33 T9S R21E  
NBU 921-34L SWD in Sec. 34 T9S R21E

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 for subsequent operations, such as temporary

flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

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

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

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

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

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

### **Materials Management**

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

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

### **G. Ancillary Facilities:**

None are anticipated.

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

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

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

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

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

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

**Interim Reclamation**

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

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

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

**Final Reclamation**

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at

non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

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

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

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

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

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

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

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

SITLA  
675 East 500 South, Suite 500  
Salt Lake City, UT 84102

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

None

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

Gina T. Becker  
Regulatory Analyst II  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6086

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

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

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

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

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

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



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Gina T. Becker

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September 8, 2011

Date



Joseph D. Johnson  
1099 18TH STREET STE. 1800 • DENVER, CO  
80202  
720-929-6708 • FAX 720-929-7708  
E-MAIL: JOE.JOHNSON@ANADARKO.COM

September 7, 2011

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

Re: Directional Drilling R649-3-11  
NBU 1022-12G1CS  
10S-22E-Sec. 12  
SWNE/SWNE  
Surface: 1833' FNL, 1721' FEL  
Bottom Hole: 1904' FNL, 1810' 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 1022-12G1CS 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.

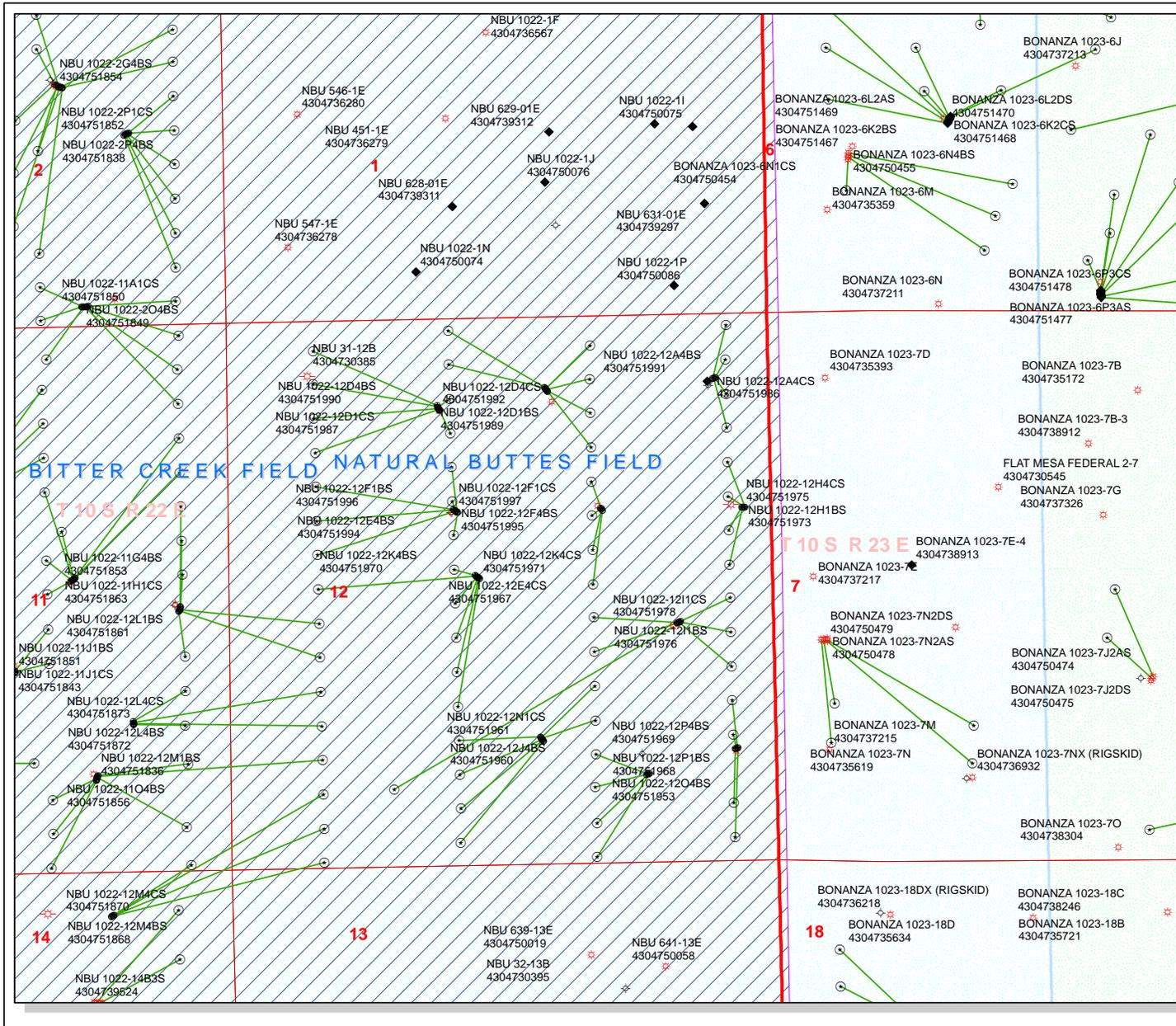
Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink, appearing to read 'Joe D. Johnson', with a horizontal line underneath.

Joseph D. Johnson  
Landman



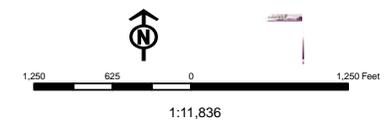
**API Number: 4304751963**  
**Well Name: NBU 1022-12G1CS**  
**Township T1.0 Range R2.2 Section 12**  
**Meridian: SLBM**  
**Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.**

Map Prepared:  
 Map Produced by Diana Mason

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

Fields Status	
Unknown	Unknown
ABANDONED	ABANDONED
ACTIVE	ACTIVE
COMBINED	COMBINED
INACTIVE	INACTIVE
STORAGE	STORAGE
TERMINATED	TERMINATED
Sections	Sections
Township	Township



# 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)

September 19, 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 1022-12H PAD**

43-047-51941	NBU 1022-12H4BS	Sec 12 T10S R22E 1846 FNL 0361 FEL
	BHL	Sec 12 T10S R22E 2071 FNL 0491 FEL

43-047-51942	NBU 1022-12H1CS	Sec 12 T10S R22E 1843 FNL 0341 FEL
	BHL	Sec 12 T10S R22E 1740 FNL 0491 FEL

43-047-51973	NBU 1022-12H1BS	Sec 12 T10S R22E 1842 FNL 0331 FEL
	BHL	Sec 12 T10S R22E 1408 FNL 0491 FEL

43-047-51975	NBU 1022-12H4CS	Sec 12 T10S R22E 1845 FNL 0351 FEL
	BHL	Sec 12 T10S R22E 2402 FNL 0492 FEL

**NBU 1022-12O PAD**

43-047-51943	NBU 1022-12N4BS	Sec 12 T10S R22E 1224 FSL 2329 FEL
	BHL	Sec 12 T10S R22E 0580 FSL 2150 FWL

43-047-51945	NBU 1022-12N4CS	Sec 12 T10S R22E 1216 FSL 2323 FEL
	BHL	Sec 12 T10S R22E 0251 FSL 2141 FWL

43-047-51956	NBU 1022-12J4CS	Sec 12 T10S R22E 1240 FSL 2341 FEL
	BHL	Sec 12 T10S R22E 1409 FSL 1817 FEL

43-047-51959	NBU 1022-12N1BS	Sec 12 T10S R22E 1257 FSL 2352 FEL
	BHL	Sec 12 T10S R22E 1242 FSL 2147 FWL

43-047-51960	NBU 1022-12J4BS	Sec 12 T10S R22E 1249 FSL 2346 FEL
	BHL	Sec 12 T10S R22E 1740 FSL 1816 FEL

**RECEIVED: September 20, 2011**

API #	WELL NAME			LOCATION						
(Proposed PZ WASATCH-MESA VERDE)										
43-047-51961	NBU 1022-12N1CS	Sec	12	T10S	R22E	1232	FSL	2335	FEL	
	BHL	Sec	12	T10S	R22E	0911	FSL	2149	FWL	
<b>NBU 1022-12B PAD</b>										
43-047-51944	NBU 1022-12B1BS	Sec	12	T10S	R22E	0668	FNL	2232	FEL	
	BHL	Sec	12	T10S	R22E	0259	FNL	1797	FEL	
43-047-51979	NBU 1022-12C1BS	Sec	12	T10S	R22E	0651	FNL	2244	FEL	
	BHL	Sec	12	T10S	R22E	0089	FNL	2138	FWL	
43-047-51980	NBU 1022-12B1CS	Sec	12	T10S	R22E	0676	FNL	2227	FEL	
	BHL	Sec	12	T10S	R22E	0579	FNL	1806	FEL	
43-047-51981	NBU 1022-12C1CS	Sec	12	T10S	R22E	0660	FNL	2238	FEL	
	BHL	Sec	12	T10S	R22E	0414	FNL	2133	FWL	
43-047-51982	NBU 1022-12B4BS	Sec	12	T10S	R22E	0684	FNL	2221	FEL	
	BHL	Sec	12	T10S	R22E	0910	FNL	1807	FEL	
43-047-51983	NBU 1022-12B4CS	Sec	12	T10S	R22E	0692	FNL	2215	FEL	
	BHL	Sec	12	T10S	R22E	1241	FNL	1808	FEL	
<b>NBU 1022-12P PAD</b>										
43-047-51947	NBU 1022-12P4CS	Sec	12	T10S	R22E	1115	FSL	0442	FEL	
	BHL	Sec	12	T10S	R22E	0246	FSL	0491	FEL	
43-047-51962	NBU 1022-12I4CS	Sec	12	T10S	R22E	1112	FSL	0451	FEL	
	BHL	Sec	12	T10S	R22E	1574	FSL	0493	FEL	
43-047-51968	NBU 1022-12P1BS	Sec	12	T10S	R22E	1109	FSL	0461	FEL	
	BHL	Sec	12	T10S	R22E	1240	FSL	0489	FEL	
43-047-51969	NBU 1022-12P4BS	Sec	12	T10S	R22E	1105	FSL	0470	FEL	
	BHL	Sec	12	T10S	R22E	0580	FSL	0494	FEL	
<b>NBU 1022-12P2 PAD</b>										
43-047-51949	NBU 1022-12O1BS	Sec	12	T10S	R22E	0877	FSL	1322	FEL	
	BHL	Sec	12	T10S	R22E	1077	FSL	1818	FEL	
43-047-51950	NBU 1022-12O1CS	Sec	12	T10S	R22E	0873	FSL	1331	FEL	
	BHL	Sec	12	T10S	R22E	0761	FSL	1834	FEL	
43-047-51953	NBU 1022-12O4BS	Sec	12	T10S	R22E	0881	FSL	1313	FEL	
	BHL	Sec	12	T10S	R22E	0415	FSL	1820	FEL	
43-047-51954	NBU 1022-12O4CS	Sec	12	T10S	R22E	0885	FSL	1304	FEL	
	BHL	Sec	12	T10S	R22E	0082	FSL	1828	FEL	
<b>NBU 1022-12A PAD</b>										
43-047-51951	NBU 1022-12A1BS	Sec	12	T10S	R22E	0598	FNL	0621	FEL	
	BHL	Sec	12	T10S	R22E	0081	FNL	0481	FEL	
43-047-51952	NBU 1022-12A1CS	Sec	12	T10S	R22E	0591	FNL	0592	FEL	
	BHL	Sec	12	T10S	R22E	0414	FNL	0490	FEL	

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51986	NBU 1022-12A4CS	Sec 12 T10S R22E 0596 FNL 0611 FEL BHL Sec 12 T10S R22E 1077 FNL 0491 FEL
43-047-51991	NBU 1022-12A4BS	Sec 12 T10S R22E 0593 FNL 0601 FEL BHL Sec 12 T10S R22E 0746 FNL 0490 FEL
<b>NBU 1022-12I PAD</b>		
43-047-51955	NBU 1022-12J1CS	Sec 12 T10S R22E 2333 FSL 1011 FEL BHL Sec 12 T10S R22E 2071 FSL 1815 FEL
43-047-51957	NBU 1022-12J1BS	Sec 12 T10S R22E 2337 FSL 1002 FEL BHL Sec 12 T10S R22E 2402 FSL 1814 FEL
43-047-51958	NBU 1022-12I4BS	Sec 12 T10S R22E 2341 FSL 0993 FEL BHL Sec 12 T10S R22E 1905 FSL 0493 FEL
43-047-51976	NBU 1022-12I1BS	Sec 12 T10S R22E 2350 FSL 0974 FEL BHL Sec 12 T10S R22E 2568 FSL 0492 FEL
43-047-51978	NBU 1022-12I1CS	Sec 12 T10S R22E 2345 FSL 0984 FEL BHL Sec 12 T10S R22E 2237 FSL 0492 FEL
<b>NBU 1022-12G PAD</b>		
43-047-51963	NBU 1022-12G1CS	Sec 12 T10S R22E 1833 FNL 1721 FEL BHL Sec 12 T10S R22E 1904 FNL 1810 FEL
43-047-51972	NBU 1022-12G4BS	Sec 12 T10S R22E 1841 FNL 1715 FEL BHL Sec 12 T10S R22E 2235 FNL 1812 FEL
43-047-51974	NBU 1022-12G1BS	Sec 12 T10S R22E 1826 FNL 1727 FEL BHL Sec 12 T10S R22E 1572 FNL 1809 FEL
43-047-51977	NBU 1022-12G4CS	Sec 12 T10S R22E 1849 FNL 1709 FEL BHL Sec 12 T10S R22E 2566 FNL 1813 FEL
<b>NBU 1022-12F4 PAD</b>		
43-047-51964	NBU 1022-12F4CS	Sec 12 T10S R22E 2462 FNL 2342 FWL BHL Sec 12 T10S R22E 2401 FNL 2141 FWL
43-047-51965	NBU 1022-12K1BS	Sec 12 T10S R22E 2473 FNL 2359 FWL BHL Sec 12 T10S R22E 2567 FSL 2142 FWL
43-047-51966	NBU 1022-12K1CS	Sec 12 T10S R22E 2479 FNL 2367 FWL BHL Sec 12 T10S R22E 2236 FSL 2144 FWL
43-047-51967	NBU 1022-12E4CS	Sec 12 T10S R22E 2467 FNL 2350 FWL BHL Sec 12 T10S R22E 2565 FNL 0822 FWL
43-047-51970	NBU 1022-12K4BS	Sec 12 T10S R22E 2484 FNL 2375 FWL BHL Sec 12 T10S R22E 1904 FSL 2145 FWL
43-047-51971	NBU 1022-12K4CS	Sec 12 T10S R22E 2490 FNL 2384 FWL BHL Sec 12 T10S R22E 1573 FSL 2146 FWL

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

**NBU 1022-12CPAD**

43-047-51984	NBU 1022-12C4BS	Sec 12 T10S R22E 0827 FNL 2020 FWL
	BHL	Sec 12 T10S R22E 0745 FNL 2134 FWL

43-047-51985	NBU 1022-12C4CS	Sec 12 T10S R22E 0855 FNL 2031 FWL
	BHL	Sec 12 T10S R22E 1076 FNL 2135 FWL

43-047-51987	NBU 1022-12D1CS	Sec 12 T10S R22E 0818 FNL 2016 FWL
	BHL	Sec 12 T10S R22E 0579 FNL 0819 FWL

43-047-51989	NBU 1022-12D1BS	Sec 12 T10S R22E 0809 FNL 2013 FWL
	BHL	Sec 12 T10S R22E 0260 FNL 0823 FWL

43-047-51990	NBU 1022-12D4BS	Sec 12 T10S R22E 0837 FNL 2024 FWL
	BHL	Sec 12 T10S R22E 0910 FNL 0819 FWL

43-047-51992	NBU 1022-12D4CS	Sec 12 T10S R22E 0846 FNL 2027 FWL
	BHL	Sec 12 T10S R22E 1241 FNL 0820 FWL

**NBU 1022-12FPAD**

43-047-51988	NBU 1022-12E1BS	Sec 12 T10S R22E 1818 FNL 2146 FWL
	BHL	Sec 12 T10S R22E 1572 FNL 0820 FWL

43-047-51993	NBU 1022-12E1CS	Sec 12 T10S R22E 1824 FNL 2154 FWL
	BHL	Sec 12 T10S R22E 1903 FNL 0821 FWL

43-047-51994	NBU 1022-12E4BS	Sec 12 T10S R22E 1835 FNL 2170 FWL
	BHL	Sec 12 T10S R22E 2234 FNL 0821 FWL

43-047-51995	NBU 1022-12F4BS	Sec 12 T10S R22E 1847 FNL 2187 FWL
	BHL	Sec 12 T10S R22E 2070 FNL 2140 FWL

43-047-51996	NBU 1022-12F1BS	Sec 12 T10S R22E 1841 FNL 2179 FWL
	BHL	Sec 12 T10S R22E 1407 FNL 2137 FWL

43-047-51997	NBU 1022-12F1CS	Sec 12 T10S R22E 1830 FNL 2162 FWL
	BHL	Sec 12 T10S R22E 1739 FNL 2138 FWL

Michael L. Coulthard

Digitally signed by Michael L. Coulthard  
 DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals,  
 email=Michael\_Coulthard@blm.gov, c=US  
 Date: 2011.09.19 14:47:24 -0600

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

MCoulthard:mc:9-19-11

**RECEIVED: September 20, 2011**

**From:** Diana Mason  
**To:**  
**Subject:** Fwd: Kerr McGee APD approvals

The following APDs have been approved by SITLA including arch and paleo clearance.

NBU 1022-12A1BS ( 4304751951)  
NBU 1022-12A1CS ( 4304751952)  
NBU 1022-12A4CS ( 4304751986)  
)NBU 1022-12A4BS ( 4304751991)  
NBU 1022-12J1CS ( 4304751955)  
NBU 1022-12J1BS ( 4304751957)  
NBU 1022-12I4BS ( 4304751958)  
NBU 1022-12I1BS ( 4304751976)  
NBU 1022-12I1CS ( 4304751978)  
NBU 1022-12B1BS ( 4304751944)  
)NBU 1022-12C1BS ( 4304751979)  
NBU 1022-12B1CS ( 4304751980)  
)NBU 1022-12C1CS ( 4304751981)  
NBU 1022-12B4BS ( 4304751982)  
NBU 1022-12B4CS ( 4304751983)  
)NBU 1022-12H4BS ( 4304751941)  
NBU 1022-12H1CS ( 4304751942)  
NBU 1022-12H1BS ( 4304751973)  
NBU 1022-12H4CS ( 4304751975)  
NBU 1022-12F4CS ( 4304751964)  
NBU 1022-12K1BS ( 4304751965)  
NBU 1022-12K1CS ( 4304751966)  
NBU 1022-12E4CS ( 4304751967)  
NBU 1022-12K4BS ( 4304751970)  
NBU 1022-12K4CS ( 4304751971)  
NBU 1022-12O1BS ( 4304751949)  
NBU 1022-12O1CS ( 4304751950)  
NBU 1022-12O4BS ( 4304751953)  
NBU 1022-12O4CS ( 4304751954)  
NBU 1022-12P4CS ( 4304751947)  
NBU 1022-12I4CS ( 4304751962)  
NBU 1022-12P1BS ( 4304751968)  
NBU 1022-12P4BS ( 4304751969)  
NBU 1022-12G1CS ( 4304751963)  
NBU 1022-12G4BS ( 4304751972)  
NBU 1022-12G1BS ( 4304751974)  
NBU 1022-12G4CS ( 4304751977)  
NBU 1022-12N4BS ( 4304751943)  
NBU 1022-12N4CS ( 4304751945)  
NBU 1022-12J4CS ( 4304751956)  
NBU 1022-12N1BS ( 4304751959)  
NBU 1022-12J4BS ( 4304751960)  
NBU 1022-12N1CS ( 4304751961)

-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 1022-12G1CS			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2167	8438		
Previous Shoe Setting Depth (TVD)	40	2167		
Max Mud Weight (ppg)	8.3	12.5		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5400	12.3		

Calculations	Surf String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	935	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	675	NO <input type="checkbox"/> air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	458	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)=	467	NO <input type="checkbox"/> Reasonable for area
Required Casing/BOPE Test Pressure=		2167	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=	5485	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4472	YES <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3629	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)=	4105	NO <input type="checkbox"/> Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2167	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

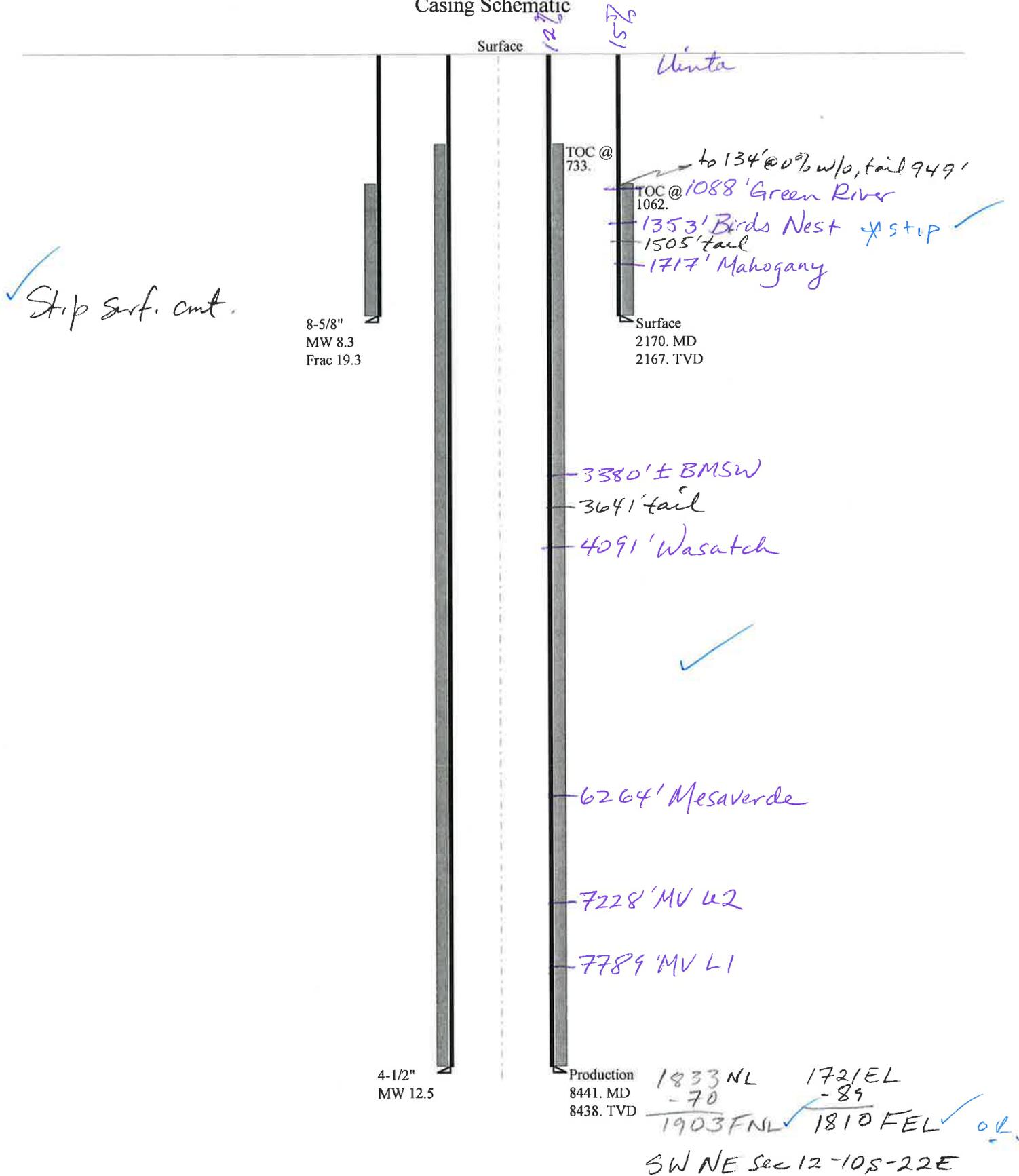
API Well Number: 43047519630000

\*Max Pressure Allowed @ Previous Casing Shoe=

psi \*Assumes 1psi/ft frac gradient

# 43047519630000 NBU 1022-12G1CS

## Casing Schematic



✓ Stip surf. cont.

8-5/8"  
MW 8.3  
Frac 19.3

4-1/2"  
MW 12.5

Surface  
2170. MD  
2167. TVD

1833 NL 1721 EL  
-70 -89  
1903 FNL 1810 FEL

SW NE Sec 12-10S-22E

Well name:	<b>43047519630000 NBU 1022-12G1CS</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Surface	Project ID: 43-047-51963
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: 104 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft  
Cement top: 1,062 ft

**Burst**

Max anticipated surface pressure: 1,910 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,170 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: 1,903 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
Departure at shoe: 98 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 3.13 °

**Re subsequent strings:**

Next setting depth: 8,441 ft  
Next mud weight: 12.500 ppg  
Next setting BHP: 5,481 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,170 ft  
Injection pressure: 2,170 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	2170	8.625	28.00	I-55	LT&C	2167	2170	7.892	85932
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	938	1880	2.005	2170	3390	1.56	60.7	348	5.73 J

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

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

Date: November 21, 2011  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2167 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

Well name:	<b>43047519630000 NBU 1022-12G1CS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Production	Project ID:	43-047-51963
Location:	UINTAH COUNTY		

**Design parameters:**

**Collapse**

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

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
 Surface temperature: 74 °F  
 Bottom hole temperature: 192 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 100 ft  
 Cement top: 733 ft

**Burst**

Max anticipated surface pressure: 3,623 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 5,479 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: 6,864 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
 Departure at shoe: 113 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	8441	4.5	11.60	I-80	LT&C	8438	8441	3.875	111421
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	5479	6360	1.161	5479	7780	1.42	97.9	212	2.17 J

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

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

Date: November 21, 2011  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 8438 ft, a mud weight of 12.5 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.  
**Well Name** NBU 1022-12G1CS  
**API Number** 43047519630000      **APD No** 4599      **Field/Unit** NATURAL BUTTES  
**Location: 1/4,1/4** SWNE      **Sec** 12      **Tw** 10.0S      **Rng** 22.0E      1833      **FNL** 1721      **FEL**  
**GPS Coord (UTM)** 637993 4424988      **Surface Owner**

### Participants

Andy Lytle, Sheila Wopsock, Charles Chase, Grizz Oleen, Jaime Scharnowski, Doyle Holmes, (Kerr McGee). John Slaugh, Mitch Batty, (Timberline). Jim Davis (SITLA). Ben Williams (DWR). David Hackford, (DOGM).

### Regional/Local Setting & Topography

The general area is in the southeast portion of the Natural Buttes Unit. Within this area is the White River and rugged drainages that drain into it. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River is 2800'. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 47.1 miles to the northwest. Access from Vernal is by following Utah State, Uintah County and oilfield development roads. Three wells, in addition to this one will be directionally drilled from this pad. (For a total of four new wells). There is one existing well on this pad. (The NBU 635-12E). At this time, the decision rather to PA or TA this well has not been made. This proposed location takes in an existing location, and very little new construction will be necessary except for digging the reserve pit. The existing access road will be adequate. The location runs in a southeast-northwest direction along the top of a flat topped ridge. This ridge breaks off sharply into rugged secondary canyons on the south and west sides. New construction will consist of approx. 50 feet on all sides of the existing pad, and an additional 50 feet on the east corner for reserve pit and excess cut stockpile. No drainage concerns exist, and no diversions will be needed. The pad as modified should be stable and should be a suitable location for five wells, and is on the best site available in the immediate area.

### 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> 342 <b>Length</b> 425	Onsite	UNTA

**Ancillary Facilities** N

**Waste Management Plan Adequate?** Y

### Environmental Parameters

**Affected Floodplains and/or Wetlands** N

**Flora / Fauna**

Prickly pear, wild onion, shadscale, mat saltbrush, Indian ricegrass, halogeton, pepper grass, annuals and curly Vegetation is a salt desert shrub type. Principal species present are cheatgrass, black sagebrush, stipa, mesquite grass.

Sheep, antelope, coyote, raptors, small mammals and birds.

**Soil Type and Characteristics**

Rocky sandy clay loam.

**Erosion Issues** N

**Sedimentation Issues** N

**Site Stability Issues** N

**Drainage Diverson Required?** N

**Berm Required?** N

**Erosion Sedimentation Control Required?** N

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

**Reserve Pit**

**Site-Specific Factors**

**Site Ranking**

<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>	High permeability	20	
<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>	50	1 Sensitivity Level

**Characteristics / Requirements**

The reserve pit is planned in an area of cut (except for the east corner of pit which will be in 1.4 feet of fill) on the northeast side of the location. Dimensions are 120' x 220' x 12' deep with 2' of freeboard. Kerr McGee agreed to line this pit with a 16 mil synthetic liner and a layer of felt sub-liner.

**Closed Loop Mud Required?** N **Liner Required?** Y **Liner Thickness** 16 **Pit Underlayment Required?** Y

**Other Observations / Comments**

David Hackford  
**Evaluator**

10/12/2011  
**Date / Time**

# Application for Permit to Drill Statement of Basis

12/12/2011

## 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>
4599	43047519630000	SITLA	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 1022-12G1CS		<b>Unit</b>	NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>	DRILL	
<b>Location</b>	SWNE 12 10S 22E S 1833 FNL 1721 FEL GPS Coord (UTM) 637922E 4425196N				

### Geologic Statement of Basis

Kerr McGee proposes to set 2,170' 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 3,380'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 12. 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**

11/2/2011  
**Date / Time**

### Surface Statement of Basis

The general area is in the southeast portion of the Natural Buttes Unit. Within this area is the White River and rugged drainages that drain into it. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River is 2800'. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 47 miles to the northwest. Access from Vernal is by following Utah State, Uintah County and oilfield development roads. The existing access road will be adequate.

Four wells will be directionally drilled from this location. They are the NBU 1022-12G1BS, NBU 1022-12G1CS, NBU 1022-12G4BS and the NBU 1022-12G4CS. The existing location has one well. This well is the NBU 635-12E, and at this time the decision rather to PA or TA this well has not been made. The location is on a flat topped ridge that runs in a north-south direction. This ridge breaks off sharply into rugged secondary canyons on the south and west sides. No drainage concerns exist, and no diversions will be needed. The pad as modified should be stable and sufficient for five wells, and is the best site for a location in the immediate area.

New construction will consist of approx. 50 feet on all sides of the existing pad, and an additional 50 feet on the east corner for reserve pit and excess cut stockpile.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA and Ben Williams with DWR were invited by email to the pre-site evaluation. Both were present. Kerr McGee personnel were told to consult with SITLA for reclamation standards including seeding mixes to be used.

David Hackford  
**Onsite Evaluator**

10/12/2011  
**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 16 mils with a felt subliner shall be properly installed and maintained in the reserve pit.

**RECEIVED: December 12, 2011**

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**Application for Permit to Drill  
Statement of Basis**

12/12/2011

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

Page 2

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Pits	The reserve pit should be located on the northeast side of the location.
Surface	The well site shall be bermed to prevent fluids from leaving the pad.

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 9/13/2011**API NO. ASSIGNED:** 43047519630000**WELL NAME:** NBU 1022-12G1CS**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)**PHONE NUMBER:** 720 929-6086**CONTACT:** Gina Becker**PROPOSED LOCATION:** SWNE 12 100S 220E**Permit Tech Review:** **SURFACE:** 1833 FNL 1721 FEL**Engineering Review:** **BOTTOM:** 1904 FNL 1810 FEL**Geology Review:** **COUNTY:** Uintah**LATITUDE:** 39.96567**LONGITUDE:** -109.38507**UTM SURF EASTINGS:** 637922.00**NORTHINGS:** 4425196.00**FIELD NAME:** NATURAL BUTTES**LEASE TYPE:** 3 - State**LEASE NUMBER:** UT ST UO 01997-A ST**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:** 43-8496
- RDCC Review:**
- Fee Surface Agreement**
- Intent to Commingle**

**Commingle Approved****LOCATION AND SITING:**

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

**Comments:** Presite Completed

**Stipulations:**

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



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 1022-12G1CS  
**API Well Number:** 43047519630000  
**Lease Number:** UT ST UO 01997-A ST  
**Surface Owner:** STATE  
**Approval Date:** 12/12/2011

**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

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By JAIME SCHARNOWSKE Phone Number 720.929.6304  
Well Name/Number NBU 1022-12G1CS  
Qtr/Qtr SWNE Section 12 Township 10S Range 22E  
Lease Serial Number UO-01997-A ST  
API Number 4304751963

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

Date/Time 03/22/2012 09:00 HRS AM  PM

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

- Surface Casing
- Intermediate Casing
- Production Casing
- Liner
- Other

Date/Time 04/05/2012 08:00 HRS AM  PM

BOPE

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

**RECEIVED**  
**MAR 21 2012**  
DIV. OF OIL, GAS & MINING

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

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT

435.828.0986 OR LOVEL YOUNG AT 435.781.7051

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UT ST UO 01997-
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 1022-12G1CS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047519630000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1833 FNL 1721 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 12 Township: 10.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH	
	<b>STATE:</b> UTAH	
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 3/22/2012  <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input style="width: 100px;" type="text"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
<p>MIRU TRIPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.            RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CEMENT WITH 28            SACKS READY MIX. SPUD WELL LOCATION ON MARCH 22, 2012 AT            16:00 HRS.</p>		
		<p><b>Accepted by the Utah Division of Oil, Gas and Mining</b></p> <p><b>FOR RECORD ONLY</b></p> <p>March 28, 2012</p>
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/27/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UT ST UO 01997-	
<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.	
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<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	
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<b>9. API NUMBER:</b> 43047519630000	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	
<b>PHONE NUMBER:</b> 720 929-6511	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1833 FNL 1721 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 12 Township: 10.0S Range: 22.0E Meridian: S	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 3/22/2012	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

MIRU TRIPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.  
 RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CEMENT WITH 28  
 SACKS READY MIX. SPUD WELL LOCATION ON MARCH 22, 2012 AT  
 16:00 HRS.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 March 28, 2012

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/27/2012	

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

FORM 6

**ENTITY ACTION FORM**

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

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751974	NBU 1022-12G1BS		SWNE	12	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	3/22/2012			3/30/2012	
Comments: MIRU TRIPLE A BUCKET RIG. <span style="float: right;">WSMVD</span> SPUD WELL LOCATION ON 3/22/2012 AT 10:30 HRS. <span style="float: right;">BHL: Swne</span>							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751963	NBU 1022-12G1CS		SWNE	12	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	3/22/2012			3/30/2012	
Comments: MIRU TRIPLE A BUCKET RIG. <span style="float: right;">WSMVD</span> SPUD WELL LOCATION ON 3/22/2012 AT 16:00 HRS. <span style="float: right;">BHL: Swne</span>							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751972	NBU 1022-12G4BS		SWNE	12	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	3/23/2012			3/30/2012	
Comments: MIRU TRIPLE A BUCKET RIG. <span style="float: right;">WSMVD</span> SPUD WELL LOCATION ON 3/23/2013 AT 09:00 HRS. <span style="float: right;">BHL: Swne</span>							

**ACTION CODES:**

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

JAIME SCHARNOWSKE

Name (Please Print)

Signature

REGULATORY ANALYST

Title

3/27/2012

Date

RECEIVED

MAR 27 2012

Oil, Gas & Mining

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UT ST UO 01997-	
		<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 1022-12G1CS	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047519630000	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1833 FNL 1721 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 12 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 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: 3/30/2012	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input style="width: 100px;" type="text"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.			
<p>MIRU AIR RIG ON MARCH 28, 2012. DRILLED SURFACE HOLE TO 2,290'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.</p>			
<p><b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY April 04, 2012</b></p>			
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 4/2/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UT ST UO 01997-
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11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 4/11/2012  <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 checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	
	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
<p>The operator requests approval for changes in the drilling plan. Specifically, the Operator requests approval for a FIT waiver, closed loop drilling option, and a production casing change. All other aspects of the previously approved drilling plan will not change. These proposals do not deviate from previously submitted and approved plans. Please see attachments. Thank you.</p>		<p><b>Approved by the Utah Division of Oil, Gas and Mining</b></p> <p><b>Date:</b> <u>April 24, 2012</u></p> <p><b>By:</b> <u><i>D. K. Quist</i></u></p>
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/11/2012	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 1022-12G1CS**

Surface: 1833 FNL / 1721 FEL SWNE  
 BHL: 1904 FNL / 1810 FEL SWNE

Section 12 T10S R22E

Uintah County, Utah  
 Mineral Lease: UT ST UO 01197-A ST

**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	1,088'	
Birds Nest	1,353'	Water
Mahogany	1,717'	Water
Wasatch	4,091'	Gas
Mesaverde	6,264'	Gas
Sego	8,438'	Gas
TVD	8,438'	
TD	8,441'	

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 8438' TVD, approximately equals  
5,400 psi 0.64 psi/ft = actual bottomhole gradient

---

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

Maximum anticipated surface pressure equals approximately 3,532 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

Please refer to the attached Drilling Program.  
Onshore Order #2 – Air Drilling Variance

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

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

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

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

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

**Background**

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

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

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

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

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

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

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

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

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

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

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

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

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

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

**Variance for FIT Requirements**

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

**Conclusion**

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

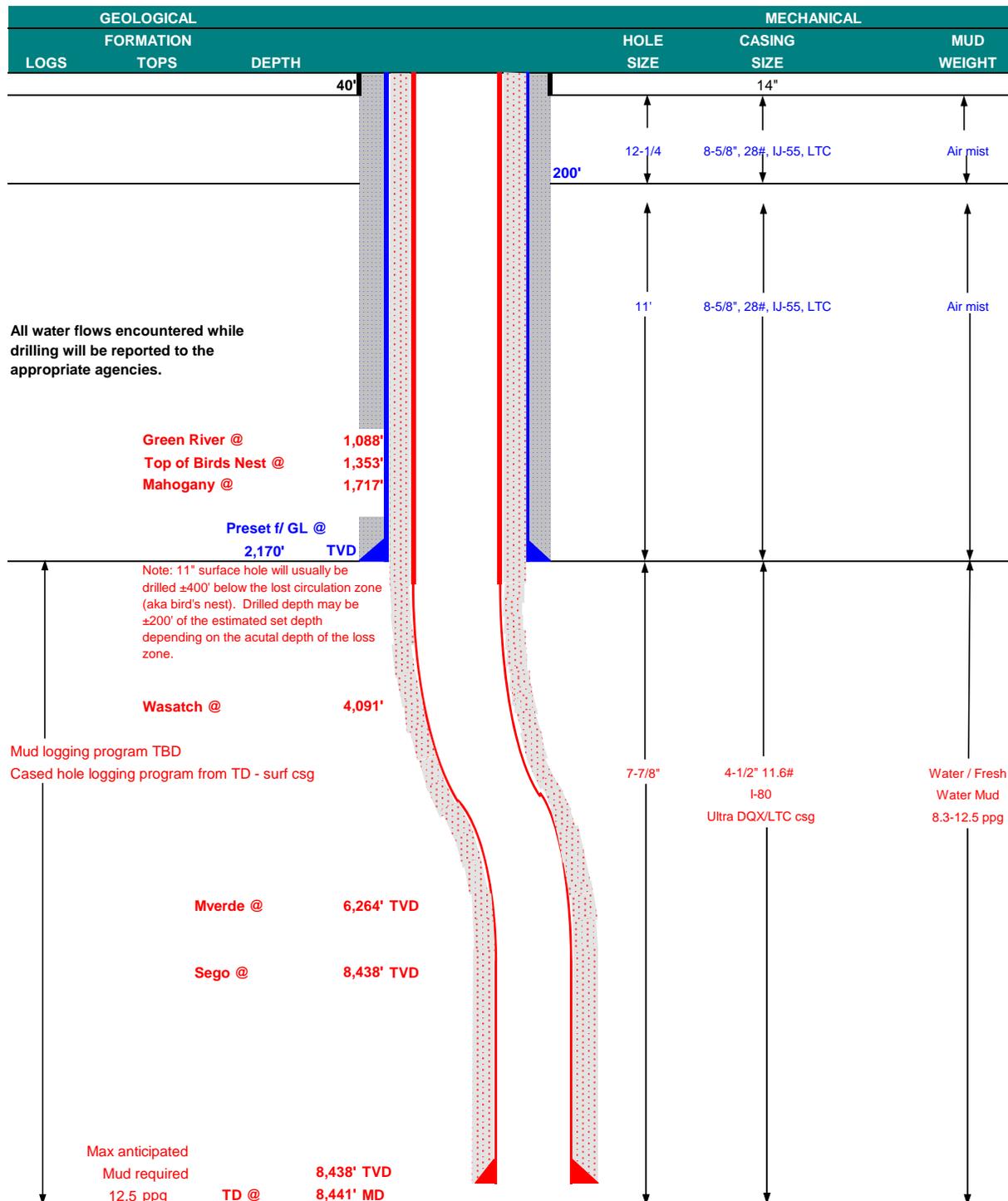
10. **Other Information:**

Please refer to the attached Drilling Program.



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	April 11, 2012	
WELL NAME	NBU 1022-12G1CS		TD	8,438'	TVD 8,441' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
SURFACE LOCATION	SWNE 1833 FNL	1721 FEL	Sec 12 T 10S R 22E	FINISHED ELEVATION 5,180'	
	Latitude: 39.965684		Longitude: -109.384310		NAD 27
BTM HOLE LOCATION	SWNE 1904 FNL	1810 FEL	Sec 12 T 10S R 22E		
	Latitude: 39.965491		Longitude: -109.384627		NAD 27
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.				





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	LTC		DQX TENSION
							COLLAPSE		
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,170	28.00	IJ-55	LTC	2.49	1.85	6.54	N/A
						7,780	6,350	223,000	267,035
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	1.11	1.16		3.37
						7,780	6,350	223,000	267,035
	4-1/2"	5,000 to 8,441'	11.60	I-80	LTC	1.11	1.16	6.91	

**Surface casing:**

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe  
Fracture at surface shoe with 0.1 psi/ft gas gradient above  
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient  
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE Option 1	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE Option 2	LEAD	1,670'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	160	35%	11.00	3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,591'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	280	35%	12.00	3.38
	TAIL	4,850'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,150	35%	14.30	1.31

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

**FLOAT EQUIPMENT & CENTRALIZERS**

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

**ADDITIONAL INFORMATION**

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

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

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

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

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

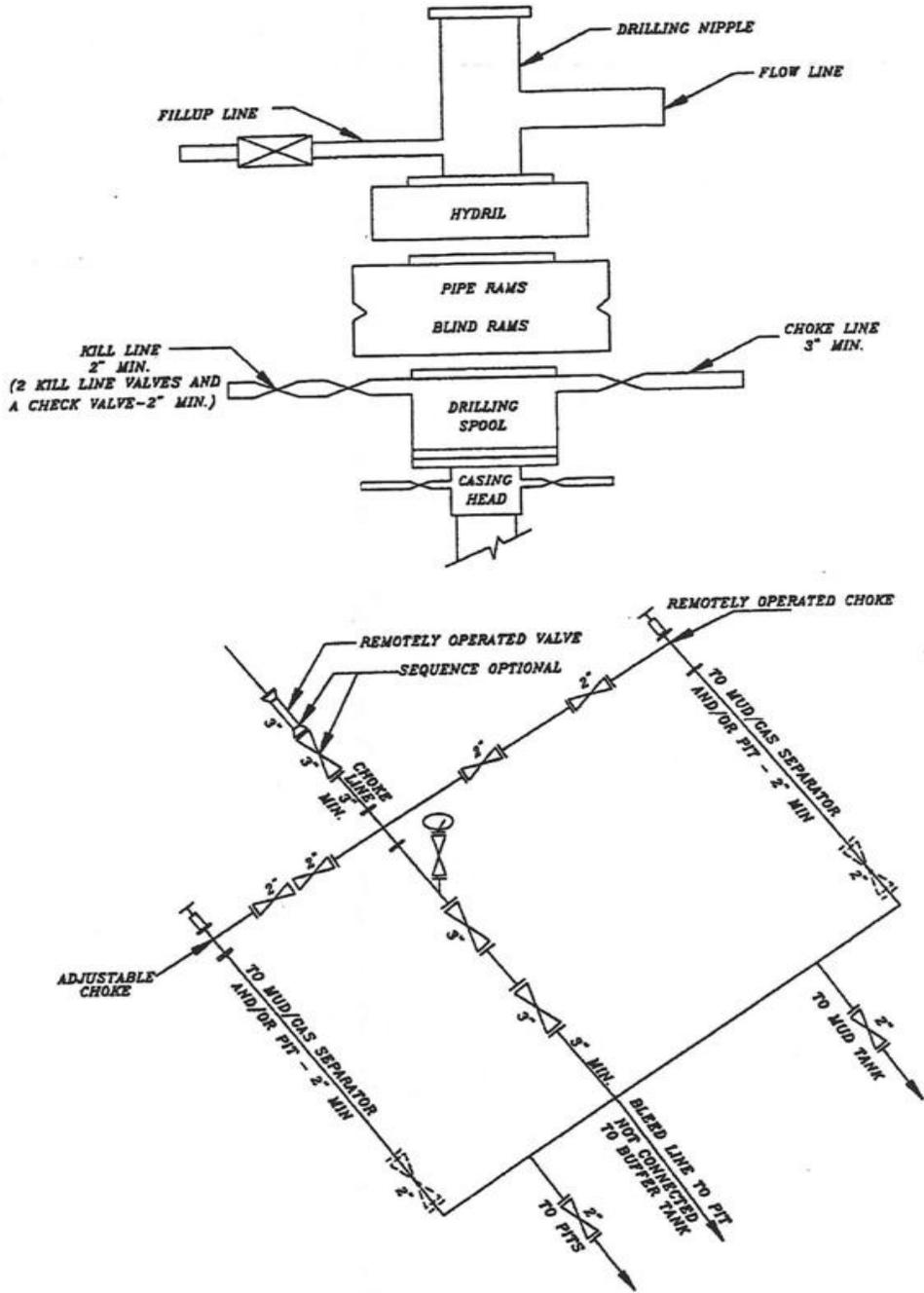
**DATE:**

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:**

### EXHIBIT A NBU 1022-12G1CS



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

Requested Drilling Options:

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

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

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

FORM 9

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**UT ST UO 01197-A ST**

**SUNDRY NOTICES AND REPORTS ON WELLS**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

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.

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

1. TYPE OF WELL      OIL WELL       GAS WELL       OTHER \_\_\_\_\_

8. WELL NAME and NUMBER:  
**Multiple Well Locations**

2. NAME OF OPERATOR:  
**Kerr-McGee Oil & Gas Onshore, L.P.**

9. API NUMBER:

3. ADDRESS OF OPERATOR:  
P.O. Box 173779      Denver      CO      80217

PHONE NUMBER:  
**(720) 929-6086**

10. FIELD AND POOL, OR W/LDCAT  
**Natural Buttes**

4. LOCATION OF WELL  
FOOTAGES AT SURFACE: **Various Locations in T10S-R22E, Section 12**      COUNTY: **Uintah**  
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:      **12 10S 22E 6**      STATE: **UTAH**

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>4/23/2012</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>Lease Number</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<u>Correction</u>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
**Kerr-McGee is requesting approval to correct the lease number from UT ST UO 01997-A ST to UT ST UO 01197-A ST for various well locations. Please see attached well list.**

Thank you!

NAME (PLEASE PRINT) Gina T Becker      TITLE Senior Regulatory Analyst  
SIGNATURE       DATE 4/23/2012

(This space for State use only)

**RECEIVED**

**APR 24 2012**

Div. of Oil, Gas & Mining

	API UWI NO	WELL NAME	SL STATE	SL SECTION	SL TOWNSHIP	SL RANGE	SL COUNTY NAME	GOV LEASE NO	FEDERAL LEASE NO
1	4304751951	NBU 1022-12A1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
2	4304751952	NBU 1022-12A1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
3	4304751991	NBU 1022-12A4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
4	4304751986	NBU 1022-12A4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
5	4304751944	NBU 1022-12B1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
6	4304751980	NBU 1022-12B1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
7	4304751982	NBU 1022-12B4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
8	4304751983	NBU 1022-12B4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
9	4304751979	NBU 1022-12C1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
10	4304751981	NBU 1022-12C1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
11	4304751984	NBU 1022-12C4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
12	4304751985	NBU 1022-12C4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
13	4304751989	NBU 1022-12D1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
14	4304751987	NBU 1022-12D1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
15	4304751990	NBU 1022-12D4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
16	4304751992	NBU 1022-12D4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
17	4304751988	NBU 1022-12E1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
18	4304751993	NBU 1022-12E1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
19	4304751994	NBU 1022-12E4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
20	4304751996	NBU 1022-12F1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
21	4304751997	NBU 1022-12F1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
22	4304751995	NBU 1022-12F4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
23	4304751967	NBU 1022-12E4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
24	4304751964	NBU 1022-12F4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
25	4304751965	NBU 1022-12K1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
26	4304751966	NBU 1022-12K1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
27	4304751970	NBU 1022-12K4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
28	4304751971	NBU 1022-12K4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
29	4304751974	NBU 1022-12G1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
30	4304751963	NBU 1022-12G1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
31	4304751972	NBU 1022-12G4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
32	4304751977	NBU 1022-12G4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
33	4304751973	NBU 1022-12H1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
34	4304751942	NBU 1022-12H1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
35	4304751941	NBU 1022-12H4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
36	4304751975	NBU 1022-12H4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
37	4304751976	NBU 1022-12I1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
38	4304751978	NBU 1022-12I1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
39	4304751958	NBU 1022-12I4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
40	4304751957	NBU 1022-12J1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
41	4304751955	NBU 1022-12J1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
42	4304751960	NBU 1022-12J4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
43	4304751956	NBU 1022-12J4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
44	4304751959	NBU 1022-12N1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
45	4304751961	NBU 1022-12N1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
46	4304751943	NBU 1022-12N4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
47	4304751945	NBU 1022-12N4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
48	4304751962	NBU 1022-12I4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
49	4304751968	NBU 1022-12P1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A

	API UWI NO	WELL NAME	SL STATE	SL SECTION	SL TOWNSHIP	SL RANGE	SL COUNTY NAME	GOV LEASE NO	FEDERAL LEASE NO
50	4304751969	NBU 1022-12P4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
51	4304751947	NBU 1022-12P4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
52	4304751949	NBU 1022-12O1BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
53	4304751950	NBU 1022-12O1CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
54	4304751953	NBU 1022-12O4BS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A
55	4304751954	NBU 1022-12O4CS	UT	12	10	22	UINTAH	UT ST UO 01197-A ST	UTU63047A

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UT ST UO 01197-
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 1022-12G1CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047519630000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6514	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1833 FNL 1721 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 12 Township: 10.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH	
	<b>STATE:</b> UTAH	
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 5/16/2012	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input style="width: 100px;" type="text"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
MIRU ROTARY RIG. FINISHED DRILLING FROM 2290' TO 8445' ON 5/14/2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED H&P 318 RIG ON 5/16/2012 @ 22:30 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.		<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY May 18, 2012</b>
<b>NAME (PLEASE PRINT)</b> Cara Mahler	<b>PHONE NUMBER</b> 720 929-6029	<b>TITLE</b> Regulatory Analyst I
<b>SIGNATURE</b> N/A	<b>DATE</b> 5/18/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UT ST UO 01197-	
<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>8. WELL NAME and NUMBER:</b> NBU 1022-12G1CS	
<b>9. API NUMBER:</b> 43047519630000	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<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 <span style="float: right;"><b>PHONE NUMBER:</b> 720 929-6511</span>	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1833 FNL 1721 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 12 Township: 10.0S Range: 22.0E Meridian: S	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 7/6/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

No activity for the month of June 2012. Well TD at 8,445'.

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

**FOR RECORD ONLY**

July 10, 2012

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/6/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UT ST UO 01197-
<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 1022-12G1CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047519630000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6514  <b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1833 FNL 1721 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 12 Township: 10.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 8/3/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

No activity for the month of July 2012. Well TD at 8,445'.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 August 06, 2012

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/3/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9  <b>5.LEASE DESIGNATION AND SERIAL NUMBER:</b> UT ST UO 01197-
<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 1022-12G1CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047519630000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6514  <b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1833 FNL 1721 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 12 Township: 10.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 8/21/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width:100px;" type="text"/>

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

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 08/21/2012. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

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

**FOR RECORD ONLY**

August 27, 2012

<b>NAME (PLEASE PRINT)</b> Cara Mahler	<b>PHONE NUMBER</b> 720 929-6029	<b>TITLE</b> Regulatory Analyst I
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/24/2012	

**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:  
**UT ST UO 01997-A ST**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

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

8. WELL NAME and NUMBER:  
**NBU 1022-12G1CS**

9. API NUMBER:  
**4304751963**

10. FIELD AND POOL, OR WLD/CAT  
**NATURAL BUTTES**

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  
**SWNE 12 10S 22E S**

12. COUNTY  
**UINTAH**

13. STATE  
**UTAH**

14. DATE SPUDDED: **3/22/2012**

15. DATE T.D. REACHED: **5/14/2012**

16. DATE COMPLETED: **8/21/2012** ABANDONED  READY TO PRODUCE

17. ELEVATIONS (DF, RKB, RT, GL):  
**5179 GL**

18. TOTAL DEPTH: MD **8,445** TVD **8,441**

19. PLUG BACK T.D.: MD **8,396** TVD **8,392**

20. IF MULTIPLE COMPLETIONS, HOW MANY? \*

21. DEPTH BRIDGE MD PLUG SET: TVD

4. LOCATION OF WELL (FOOTAGES)  
AT SURFACE: **SWNE 1833 FNL 1721 FEL S12,T10S,R22E**  
AT TOP PRODUCING INTERVAL REPORTED BELOW: **SWNE 1888 FNL 1819 FEL S12,T10S,R22E**  
AT TOTAL DEPTH: **SWNE 1916 FNL 1809 FEL S12,T10S,R22E** *BHL by HSM*

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)  
**CBL/GR/CCL/TEMP**

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	2,287		575		0	
7 7/8"	4 1/2" I-80	11.6#	0	8,443		1,305		1500	

**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"	7,775							

**26. PRODUCING INTERVALS**

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) MESAVERDE	6,506	8,357			6,506 8,357	0.36	162	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

**27. PERFORATION RECORD**

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6506-8357	PUMP 7987 BBLs SLICK H2O & 161,656 LBS 30/50 OTTAWA SAND
	7 STAGES

**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: 8/17/2012	TEST DATE: 8/23/2012	HOURS TESTED: 24	TEST PRODUCTION RATES: →	OIL - BBL: 0	GAS - MCF: 3,619	WATER - BBL: 240	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 1,738	CSG. PRESS. 2,374	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	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: →	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: →	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: →	INTERVAL STATUS:

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

SOLD

33. SUMMARY OF POROUS ZONES (Include Aquifers):

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

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER	1,088
				BIRD'S NEST	1,358
				MAHOGANY	1,720
				WASATCH	4,122
				MESAVERDE	6,262

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. DQX csg was run from surface to 5067'; LTC csg was run from 5067' to 8443'. 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) CARA MAHLER TITLE REGULATORY ANALYST  
 SIGNATURE  DATE 9/6/2012

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  
 1594 West North Temple, Suite 1210  
 Box 145801  
 Salt Lake City, Utah 84114-5801  
 Phone: 801-538-5340  
 Fax: 801-359-3940

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1022-12G1CS BLUE

Spud Date: 3/28/2012

Project: UTAH-UINTAH

Site: NBU 1022-12G PAD

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

Event: DRILLING

Start Date: 3/15/2012

End Date: 5/16/2012

Active Datum: RKB @5,203.00usft (above Mean Sea Level)

UWI: SW/NE/0/10/S/22/E/12/0/0/26/PM/N/1833/E/0/1721/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/28/2012	14:00 - 18:00	4.00	DRLSUR	01	B	P		RIG UP / INSTALL DIVERTER HEAD, SPOT IN RIG, CATWALK AND PIPE RACKS. RIG UP PIT PUMP. RIG UP HOLE PUMP AND ASSOCIATED CONTROLS. INSPECT RIG. PERFORM SAFETY INSPECTION. HELD PRE JOB SAFETY MEETING. PICK UP 8" 1.83 BEND .17 RPG MUD MOTOR (2 nd RUN) (SN 775-77195). M/U QD507 12.25" BIT (26 th RUN) (SN7137066). TRIP IN CONDUCTOR TO SPUD.
	18:00 - 19:00	1.00	DRLSUR	02	D	P		SPUD 03/28/2012 18:00 hrs. DRILL 12.25" HOLE 44 ft TO 210 ft (166 FT, 111 FPH). WOB 5-15 Kips. GPM 491. PSI ON/OFF 600/400. SURFACE RPM 55, MOTOR 83, TOTAL RPM 138. UP/DOWN/ ROT 20/20/20 K. DRAG 0 Kips . CIRCULATE CLOSED LOOP SYSTEM W/8.5 ppg WATER. DRILL DOWN TO 210 ft W/6 in COLLARS. CIRC 15 min. AND TRIP OUT TO CHANGE ASSEMBLY.
	19:00 - 19:15	0.25	DRLSUR	05	C	P		PRE JOB SAFETY MEETING, LAY DOWN 6 in DRILL COLLARS, 12 1/4 in BIT.
	19:15 - 21:00	1.75	DRLSUR	06	A	P		MAKE UP Q506F 11in BIT (6 th RUN) (SN 7030058) PICK UP 8 in DIRECTIONAL ASSEMBLY. INSTALL EM TOOL. TRIP IN HOLE.
	21:00 - 0:00	3.00	DRLSUR	02	D	P		DRILL 11 in. SURFACE HOLE 210 ft TO 760 ft, (550 ft, 160 FPH). WOB 15-25 Kips. GPM 491. PSI ON/OFF 1160/890. SURFACE RPM 55, MOTOR 83, TOTAL RPM 138. UP/DOWN/ ROT 54/52/53 K. DRAG 2 Kips. CIRCULATE CLOSED LOOP SYSTEM W/8.5 ppg WATER. NO HOLE ISSUES.
3/29/2012	0:00 - 6:00	6.00	DRLSUR	02	D	P		DRILL 11 in. SURFACE HOLE 760 ft TO 1480 ft, (720 ft, 120 FPH). WOB 15-25 Kips. GPM 491. PSI ON/OFF 1230/1035. SURFACE RPM 55, MOTOR 83, TOTAL RPM 138. UP/DOWN/ ROT 62/52/58 K. DRAG 4 Kips. CIRCULATE CLOSED LOOP PITS WITH 8.5 ppg WATER. NO HOLE ISSUES.
	6:00 - 6:30	0.50	DRLSUR	07	A	P		SAFETY MEETING AND RIG SERVICE
	6:30 - 15:30	9.00	DRLSUR	02	D	P		DRILL 11in. SURFACE HOLE 1480 ft. TO TD AT 2290 ft., (810 ft. , 90 FPH). MOVE IN AND RIG UP BOOSTER BEFORE LOSING RETURNS AT 1520 ft. MD. WOB 15-25 Kips. GPM 491. PSI ON/OFF 1260/1043. SURFACE RPM 55, MOTOR 83, TOTAL RPM 138. UP/DOWN/ ROT 76/65/70 K. DRAG 6 Kips. CIRCULATE CLOSED LOOP PITS WITH 8.7 ppg WATER. NO HOLE ISSUES.

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1022-12G1CS BLUE

Spud Date: 3/28/2012

Project: UTAH-UINTAH

Site: NBU 1022-12G PAD

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

Event: DRILLING

Start Date: 3/15/2012

End Date: 5/16/2012

Active Datum: RKB @5,203.00usft (above Mean Sea Level)

UWI: SW/NE/0/10/S/22/E/12/0/0/26/PM/N/1833/E/0/1721/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	15:30 - 17:30	2.00	CSGSUR	05	C	P		CIRCULATE ON AIR TO FILL RESERVE TANKS, THEN LOAD HOLE WITH WATER AND CONDITION WELLBORE FOR CASING RUN
	17:30 - 22:00	4.50	CSGSUR	06	D	P		TRIP OUT OF HOLE, LAY DOWN BOTTOM HOLE ASSEMBLY, DIRECTIONAL TOOLS, MOTOR AND BIT. LAY DOWN DIRECTIONAL TOOLS. CLEAR TOOL AREA.
	22:00 - 23:30	1.50	CSGSUR	01	B	P		PRE JOB SAFETY MEETING MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN SURFACE CASING.
	23:30 - 0:00	0.50	CSGSUR	12	C	P		BEGIN RUNNING CASING, RUN IN TO 294 ft. MD BY CLOSE OF REPORT TIME.
3/30/2012	5:30 - 10:30	5.00	CSGSUR	12	C	P		RUN 51 JOINTS OF 8-5/8 in. 28# J-55 LTC CASING. LAND FLOAT SHOE @ 2263 ft. KB. LAND BAFFLE PLATE @ 2218 ft. KB. RAN 5 TOTAL CENTRALIZERS. LAND CASING WHILE RIGGING UP CEMENTERS. RAN 120 ft OF 1 lin. PIPE DOWN BACK-SIDE OF CASING.
	10:30 - 11:30	1.00	CSGSUR	12	E	P		PJSM, PRESSURE TEST LINES TO 1000 PSI. PUMP 140 BBLS OF WATER AHEAD. MIX AND PUMP 20 BBLS OF 8.5# GEL WATER AHEAD. MIX AND PUMP (300 sx) 61.4 BBLS OF 15.8.8# 1.15 YIELD. DROP PLUG ON FLY. DISPLACE W/ 137.5 BBLS OF H2O. NO RETURNS THROUGH OUT JOB. FINAL LIFT OF 200 PSI AT 3 BBL/MIN. BUMP PLUG AT DISPLACEMENT VOLUME. LAND THE PLUG WITH 500 PSI. SHUT DOWN HELD 600 PSI FOR 5 MIN. TESTED FLOAT AND FLOAT HELD.
	11:30 - 12:00	0.50	CSGSUR	12	E	P		CEMENT DOWN ONE INCH TREMMIE W/ 150 sx (30.7 bbls.)SAME CEMENT WITHOUT RETURNS TO SURFACE.
	12:00 - 14:00	2.00	CSGSUR	12	E	P		WAIT 1.5 HOURS ON CEMENT, CEMENT DOWN BACKSIDE W/ 125 sx (46 bbls.) SAME CEMENT WITHOUT RETURNS TO SURFACE, ATTEMPT TOP OUT WELL #1 WITH EXCESS. RIG DOWN CEMENTERS. (CEMENT JOB FINISHED AT 05:00 3/30/2012) RELEASE RIG AT 0530 hrs. 3-30-2012
5/11/2012	20:00 - 22:00	2.00	DRLPRO	01	C	P		RIG DOWN PREP FOR SKID
	22:00 - 22:30	0.50	DRLPRO	01	B	P		SKID RIG & CENTER OVER WELL
	22:30 - 0:00	1.50	DRLPRO	14	A	P		NIPPLE UP BOP, CHANGE OUT DOUBLE STUDS, 5" DSA FOR A 9" DSA
5/12/2012	0:00 - 1:30	1.50	DRLPRO	14	A	P		FINISH NIPPLE UP
	1:30 - 7:00	5.50	DRLPRO	15	A	P		TEST BOP RAMS, CHOKE, HCR, KILLINE TO 250 LOW, 5000 HIGH, ANN 250 LOW/2500 HIGH, ORBIT VALVE & BACK PRESSURE MANIFOLD 1000 PSI FOR 10 MIN, CASING 1500 PSI FOR 30 MIN
	7:00 - 9:30	2.50	DRLPRO	06	A	P		P/U NEW MUD MOTOR & BIT, SCRIBE & INSTALL MWD TOOL, P/U BHA & TRIP IN HOLE, TAG CMT @ 2187 FT.
	9:30 - 11:00	1.50	DRLPRO	02	F	P		DRILL CEMENT, FLOAT & SHOE

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1022-12G1CS BLUE

Spud Date: 3/28/2012

Project: UTAH-UINTAH

Site: NBU 1022-12G PAD

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

Event: DRILLING

Start Date: 3/15/2012

End Date: 5/16/2012

Active Datum: RKB @5,203.00usft (above Mean Sea Level)

UWI: SW/NE/010/S/22/E/12/0/0/26/PM/N/1833/E/0/1721/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	11:00 - 16:00	5.00	DRLPRO	02	D	P		DRILL & SLIDE F/ 2310 TO 3016 - 706 FT. 141 FT. PER/HR MW 8.5 VIS 27 WOB 26 RPM 45 MMRPM 114 GPM 495 SPM 110 PSI ON/OFF BTM. 1550/1150 TQ. ON/OFF BTM. 7K/3K P/U 108K - S/O 93K - ROT. 99K NOV - DEWATERING SWACO - OFFLINE SLIDE 70 FT. 2 HRS.
	16:00 - 16:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	16:30 - 0:00	7.50	DRLPRO	02	D	P		DRILL & SLIDE F/ 3016 TO 4054 - 1038 FT. 138 FT. PER/HR MW 8.5 VIS 27 WOB 26 RPM 45 MMRPM 114 GPM 495 SPM 110 PSI ON/OFF BTM. 1775/1245 TQ. ON/OFF BTM. 7K/3K P/U 130K - S/O 108K - ROT. 116K NOV - DEWATERING SWACO - OFFLINE SLIDE 31 FT. 35 MIN. 15.95 W 15 N OF CENTER TARGET
5/13/2012	0:00 - 16:30	16.50	DRLPRO	02	D	P		DRILL & SLIDE F/ 4054 TO 5858 - 1804 FT. 109 FT. PER/HR MW. 8.5 VIS 27 WOB 26 RPM 40 MMRPM 114 GPM 495 SPM 110 PSI ON/OFF BTM. 1750/1350 TQ. ON/OFF BTM. 7K/4K P/U 164K S/O 134K ROT. 147K NOV - DEWATERING / CONVENTIONAL SWACO - OFFLINE
	16:30 - 17:00	0.50	DRLPRO	07	A	P		RIG SERVICE

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

Well: NBU 1022-12G1CS BLUE

Spud Date: 3/28/2012

Project: UTAH-UINTAH

Site: NBU 1022-12G PAD

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

Event: DRILLING

Start Date: 3/15/2012

End Date: 5/16/2012

Active Datum: RKB @5,203.00usft (above Mean Sea Level)

UWI: SW/NE/0/10/S/22/E/12/0/0/26/PM/N/1833/E/0/1721/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:00 - 0:00	7.00	DRLPRO	02	D	P		DRILL & SLIDE F/ 5858 TO 6649 - 791 FT. 113 FT. PER/HR. MW 8.7 VIS 35 WOB 26 RPM 45 MMRPM 114 GPM 495 SPM 110 PSI ON/OFF BTM. 1775/1425 TQ. ON/OFF BTM. 7K/4K P/U 179K S/O 137K ROT. 157K SLIDE 81 FT. 2.25 HRS. 5.28 FT. WEST & 14.27 FT. NORTH OF CENTER TARGET NOV - DEWATERING / CONVENTIONAL SWACO - OFFLINE 175 BBLs. LOST TO SEEPING
5/14/2012	0:00 - 16:00	16.00	DRLPRO	02	D	P		DRILL & SLIDE F/ 6649 TO 8022 - 1373 FT. 86 FT. PER/HR MW 8.7 VIS 35 WOB 26 RPM 45 MMRPM 114 GPM 495 SPM 110 PSI ON/OFF BTM. 1900/1650 TQ. ON/OFF BTM. 8K/7K P/U 209K S/O 157K ROT. 177K SLIDE 17 FT. 35 MIN NOV - DEWATERING/CONVENTIONAL SWACO - OFFLINE
	16:00 - 16:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	16:30 - 22:30	6.00	DRLPRO	02	D	P		DRILL F/ 8022 TO 8445 - TD - 423 FT. 71 FT. PER/HR MW. 10.4 VIS 40 WOB 26 RPM 45 MMRPM 114 GPM 495 SPM 110 PSI ON/OFF BTM. 2560/2025 TQ. ON/OFF BTM. 10K/7K P/U 215K S/O 160K ROT. 182K NOV - BYPASSED SWACO - OFFLINE 1.07 WEST 12.83 SOUTH OF CENTER TARGET
	22:30 - 0:00	1.50	DRLPRO	05	C	P		CIRC. 2 BTMS. UP
5/15/2012	0:00 - 0:30	0.50	DRLPRO	05	C	P		FINISH CIRC. 2 BTMS. UP - FLOW CHECK - NO FLOW
	0:30 - 1:30	1.00	DRLPRO	06	D	P		TRIP OUT TO RUN 4 12/ PRODUCTION CASING, 15 STDS. OUT WELL STARTED FLOWING APPROX. 4 GALS PER/MIN
	1:30 - 2:30	1.00	DRLPRO	06	K	X		TRIP BACK IN TO RAISE MUD WEIGHT & KILL WELL
	2:30 - 8:00	5.50	DRLPRO	05	B	P		CIRC. GAS FROM WELL, 40 FT. FLARE, 17 BBL. GAIN, RAISE MUD WEIGHT TO 11.4#

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1022-12G1CS BLUE

Spud Date: 3/28/2012

Project: UTAH-UINTAH

Site: NBU 1022-12G PAD

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

Event: DRILLING

Start Date: 3/15/2012

End Date: 5/16/2012

Active Datum: RKB @5,203.00usft (above Mean Sea Level)

UWI: SW/NE/0/10/S/22/E/12/0/0/26/PM/N/1833/E/0/1721/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 13:00	5.00	DRLPRO	06	D	P		FLOW CHECK - NO FLOW - TRIP OUT OF THE HOLE TO RUN 4 1/2 PRDUCTION CASING, LAY DOWN MWD TOOL, MOTOR & BIT
	13:00 - 14:00	1.00	DRLPRO	06	J	P		RETRIEVE WEAR BUSHING, & REMOVE ROTATING HEAD BEARING ASSEMBLY, REINSTALL BEARING PACKAGE
	14:00 - 21:30	7.50	DRLPRO	12	C	P		HELD SAFETY MEETING W/ FRANKS WESTATES CASING, RIG UP & RAN 77 JTS. 4 1/2 11.6# I-80 LT&C, 1 CROSSOVER, 115 JTS. 4 1/2 11.6# I-80 DQX CASING, TOTAL 193 JTS. SHOE LANDED @ 8442 FT, FLOAT @ 8397 FT, MESAVERDE MKR JT. @ 6273 FT. X/O @ 5066 FT.
	21:30 - 23:30	2.00	DRLPRO	05	D	P		CIRC. THROUGH CASING, HAD 40 FT. FLARE @ BTMS. UP, 15 BBL. GAIN
	23:30 - 0:00	0.50	DRLPRO	12	E	P		INSTALL CEMENT HEAD, PRESSURE TEST LINES TO 5000 PSI. PUMPED 20 BBL. SPACER, BEGIN PUMPING LEAD CEMENT
5/16/2012	0:00 - 2:00	2.00	DRLPRO	12	E	P		FINISH PUMPING LEAD WITH BAKER HUGHES OF 385 SKS. 154 BBLs. 12# 2.26 YIELD, TAIL W/ 920 SKS. 215 BBLs. 14.3# 1.32 YIELD, DISPLACED W/ 131 BBLs. WATER, BUMPED PLUG, FLOATS HELD, 3 BBLs. CEMENT BACK TO SURFACE, 1 1/2 BBLs. WATER BACK TO TRUCK, FINAL LIFT PSI. 2181, BUMPED @ 2833 PSI.
	2:00 - 4:00	2.00	DRLPRO	14	A	P		FLUSH BOP, NIPPLE DOWN, SET C-22 SLIPS @ 110K, CUT OFF CASING, TRANSFER MUD TO UPRIGHTS, RELEASE RIG @ 04:00 HRS. 5/16/2012

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-12G1CS BLUE	Wellbore No.	OH
Well Name	NBU 1022-12G1CS	Wellbore Name	NBU 1022-12G1CS
Report No.	1	Report Date	8/10/2012
Project	UTAH-UINTAH	Site	NBU 1022-12G PAD
Rig Name/No.		Event	COMPLETION
Start Date	8/10/2012	End Date	8/21/2012
Spud Date	3/28/2012	Active Datum	RKB @5,203.00usft (above Mean Sea Level)
UWI	SW/NE/0/10/S/22/E/12/0/0/26/PM/N/1833/E/0/1721/0/0		

1.3 General

Contractor		Job Method		Supervisor	
Perforated Assembly		Conveyed Method			

1.4 Initial Conditions

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

1.5 Summary

Gross Interval	6,506.0 (usft)-8,357.0 (usft)	Start Date/Time	3/23/2012 12:00AM
No. of Intervals	35	End Date/Time	3/23/2012 12:00AM
Total Shots	162	Net Perforation Interval	52.00 (usft)
Avg Shot Density	3.12 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
3/23/2012 12:00AM	MESAVERDE/			6,506.0	6,507.0	3.00		0.360	EXP/	3.375	120.00			23.00 PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
3/23/2012 12:00AM	MESAVERDE/			6,560.0	6,562.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,591.0	6,593.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,616.0	6,617.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,637.0	6,638.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,654.0	6,655.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,687.0	6,688.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,714.0	6,715.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,752.0	6,753.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,789.0	6,790.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,822.0	6,824.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,850.0	6,851.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			6,965.0	6,966.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,038.0	7,040.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,069.0	7,070.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,094.0	7,096.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,249.0	7,251.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,290.0	7,292.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,350.0	7,352.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,442.0	7,444.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,558.0	7,559.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,680.0	7,682.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
3/23/2012 12:00AM	MESAVERDE/			7,714.0	7,716.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,760.0	7,761.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,769.0	7,770.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,798.0	7,799.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,820.0	7,822.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,854.0	7,855.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,939.0	7,941.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			7,977.0	7,979.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			8,179.0	8,180.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			8,210.0	8,212.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			8,260.0	8,261.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			8,312.0	8,314.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/23/2012 12:00AM	MESAVERDE/			8,355.0	8,357.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 3 Plots

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1022-12G1CS BLUE

Spud Date: 3/28/2012

Project: UTAH-UINTAH

Site: NBU 1022-12G PAD

Rig Name No: MILES-GRAY 1/1

Event: COMPLETION

Start Date: 8/10/2012

End Date: 8/21/2012

Active Datum: RKB @5,203.00usft (above Mean Sea Level)

UWI: SW/NE/0/10/S/22/E/12/0/0/26/PM/N/1833/E/0/1721/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/28/2012	-							
3/29/2012	-							
8/10/2012	10:30 - 12:00	1.50	COMP	33	C	P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 15 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 38 PSI. 1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 96 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SMIFW

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1022-12G1CS BLUE

Spud Date: 3/28/2012

Project: UTAH-UINTAH

Site: NBU 1022-12G PAD

Rig Name No: MILES-GRAY 1/1

Event: COMPLETION

Start Date: 8/10/2012

End Date: 8/21/2012

Active Datum: RKB @5,203.00usft (above Mean Sea Level)

UWI: SW/NE/0/10/S/22/E/12/0/0/26/PM/N/1833/E/0/1721/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/13/2012	7:00 - 18:00	11.00	FRAC	36	B	P		<p>PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH PERF AS PER DESIGN. POOH, XO T/ FRAC.</p> <p>FRAC STG 1)WHP 630 PSI, BRK 5224 PSI @ 4.8 BPM. ISIP 2370 PSI, FG .73. CALC PERFS OPEN @ 50.7 BPM @ 4889 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2527 PSI, FG .74, NPI 157 PSI. MP 6141 PSI, MR 51 BPM, AP 4966 PSI, AR 50.3 BPM, PUMPED 30/50 OWATTA SAND. SWI, XO T/ WL.</p> <p>PERF STG 2)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8009' P/U PERF AS PER DESIGN. POOH, XO T/ FRAC.</p> <p>FRAC STG 2)WHP 2120 PSI, BRK 3282 PSI @ 4.2 BPM. ISIP 2257 PSI, FG .72. CALC PERFS OPEN @ 51.1 BPM @ 4655 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2644 PSI, FG .77, NPI 387 PSI. MP 5123 PSI, MR 51.1 BPM, AP 4700 PSI, AR 50.8 BPM, PUMPED 30/50 OWATTA SAND. SWI, XO T/ WL.</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7788' P/U PERF AS PER DESIGN. POOH, XO T/ FRAC.</p> <p>FRAC STG 3)WHP 2288 PSI, BRK 3193 PSI @ 4.4 BPM. ISIP 2539 PSI, FG .77. CALC PERFS OPEN @ 50.6 BPM @ 5757 PSI = 91% HOLES OPEN. (19/21 HOLES OPEN) ISIP 2671 PSI, FG .79, NPI 132 PSI. MP 5901 PSI, MR 51.5 BPM, AP 5329 PSI, AR 50.6 BPM, PUMPED 30/50 OWATTA SAND. SWI, XO T/ WL.</p> <p>PERF STG 4)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7474' P/U PERF AS PER DESIGN. POOH, XO T/ FRAC.</p> <p>FRAC STG 4)WHP 1645 PSI, BRK 2836 PSI @ 4.7 BPM. ISIP 1898 PSI, FG .70. CALC PERFS OPEN @ 50.9 BPM @ 4286 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2252 PSI, FG .75, NPI 354 PSI. MP 5197 PSI, MR 51.3 BPM, AP 4201 PSI, AR 50.9 BPM, PUMPED 30/50 OWATTA SAND. SWI, XO T/ WL.</p> <p>PERF STG 5)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN,</p>

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1022-12G1CS BLUE

Spud Date: 3/28/2012

Project: UTAH-UINTAH

Site: NBU 1022-12G PAD

Rig Name No: MILES-GRAY 1/1

Event: COMPLETION

Start Date: 8/10/2012

End Date: 8/21/2012

Active Datum: RKB @5,203.00usft (above Mean Sea Level)

UWI: SW/NE/0/10/S/22/E/12/0/0/26/PM/N/1833/E/0/1721/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/14/2012	7:00 - 18:00	11.00	FRAC	36	B	P		<p>23 GM, .36 HOLE SIZE. 90 DEG PHSG. RIH SET CBP @ 7126' P/U PERF AS PER DESIGN. POOH, SWFN. FRAC STG 5)WHP 1200 PSI, BRK 3104 PSI @ 6.3 BPM. ISIP 1920 PSI, FG .71. CALC PERFS OPEN @ 46.5 BPM @ 4760 PSI = 75% HOLES OPEN. (18/24 HOLES OPEN) ISIP 2437 PSI, FG .79, NPI 517 PSI. MP 5319 PSI, MR 50.9 BPM, AP 4907 PSI, AR 50.9 BPM, PUMPED 30/50 OWATTA SAND. SWI, XO T/ WL.</p> <p>PERF STG 6)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SZIE, 120 DEG PHSG. RIH SET CBP @ 6881' P/U PERF AS PER DESIGN. POOH, XO T/ FRAC.</p> <p>FRAC STG 6)WHP 1260 PSI, BRK 2873 PSI @ 3.8 BPM. ISIP 1624 PSI, FG .68. CALC PERFS OPEN @ 51.3 BPM @ 4703 PSI = 91% HOLES OPEN. (19/21 HOLES OPEN) ISIP 2343 PSI, FG .78, NPI 719 PSI. MP 5038 PSI, MR 51.6 BPM, AP 4663 PSI, AR 51.2 BPM, PUMPED 30/50 OWATTA SAND. SWI, XO T/ WL.</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 PHSG. RIH SET CBP @ 6677' P/U PERF AS PER DESIGN. POOH, XO T/ FRAC.</p> <p>FRAC STG 7)WHP 1270 PSI, BRK 1759 PSI @ 5.8 BPM. ISIP 1414 PSI, FG .65. CALC PERFS OPEN @ 50.7 BPM @ 3942 PSI = 92% HOLES OPEN. (22/24 HOLES OPEN) ISIP 2249 PSI, FG .78, NPI 835 PSI. MP 4690 PSI, MR 50.9 BPM, AP 4256 PSI, AR 50.7 BPM, PUMPED 30/50 OWATTA SAND. SWI, XO T/ WL.</p> <p>PU 4 1/2 8K HAL CBP. RIH SET KILL PLUG @ 6456'. POOH. DONE FRACING THIS WELL.</p> <p>TOTAL SAND = 161,656 LBS TOTAL CLFL = 7987 BBL</p>
8/20/2012	7:00 - 8:00	1.00	COMP	30	G	P		RD F/ NBU1022-12G1BS TO THE NBU 1022-12G1CS
	8:00 - 8:30	0.50	COMP	48		P		HSM, RU & PU TBG F/ TRAILER
	8:30 - 10:00	1.50	COMP	30	A	P		SOPT RIG, MIRU.
	10:00 - 11:00	1.00	COMP	30	F	P		ND WH, INSTALL ALL BOLTS & SPOOL ON NEW BOP'S, NU BOP'S, RU FLOOR & TBG EQUIPMENT.
	11:00 - 15:00	4.00	COMP	31	I	P		PU 1.875 XN POBS, TALLY & RIH 204 JTS. 2-3/8 L-80 TBG F/ TRAILER, TAG CBP 6472', LD 2 JTS. EOT@ 6436' W/ 202 JTS. SWI, SDFN.
8/21/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, REVIEW D/O CBP'S

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

Well: NBU 1022-12G1CS BLUE

Spud Date: 3/28/2012

Project: UTAH-UINTAH

Site: NBU 1022-12G PAD

Rig Name No: MILES-GRAY 1/1

Event: COMPLETION

Start Date: 8/10/2012

End Date: 8/21/2012

Active Datum: RKB @5,203.00usft (above Mean Sea Level)

UWI: SW/NE/0/10/S/22/E/12/0/0/26/PM/N/1833/E/0/1721/0/0

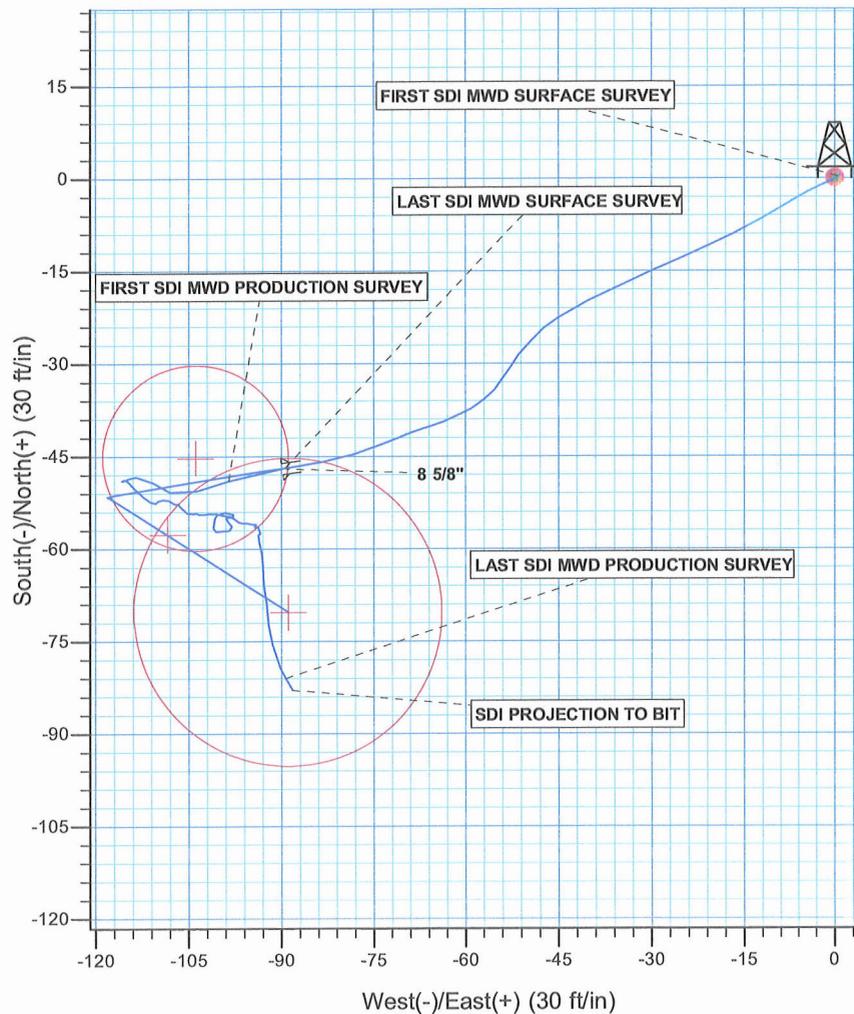
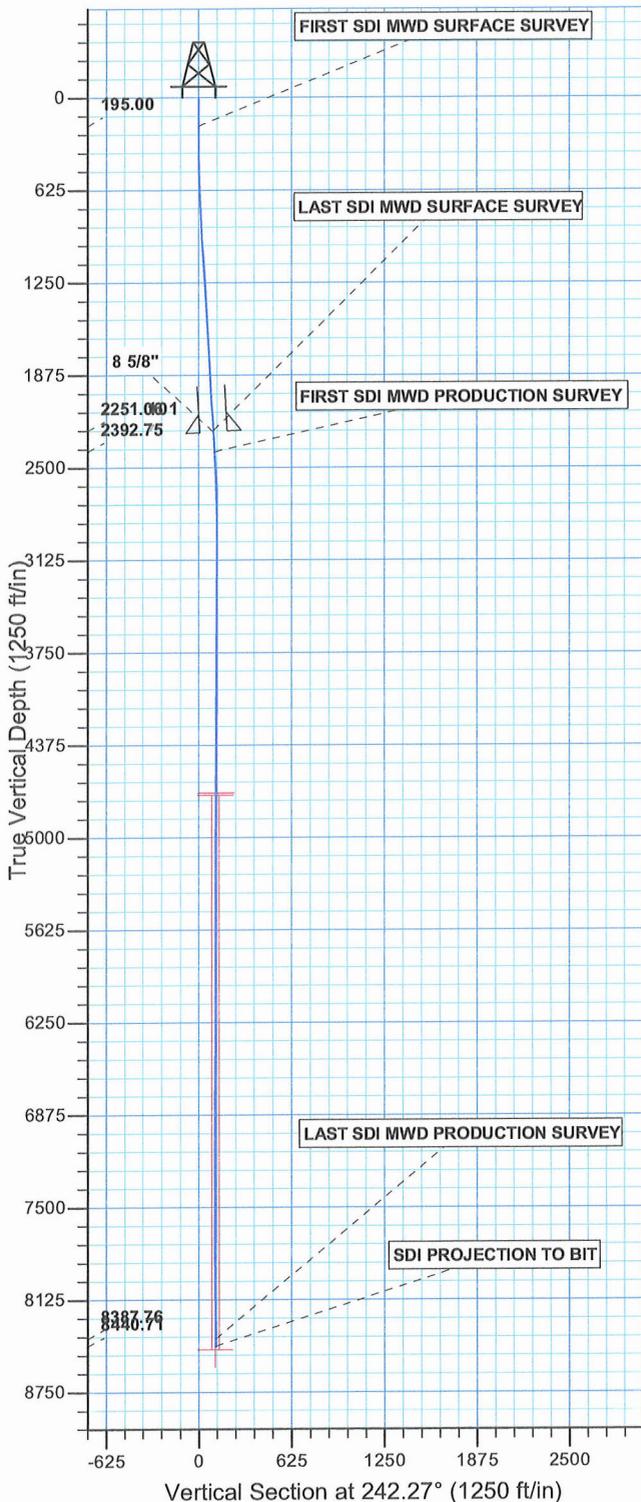
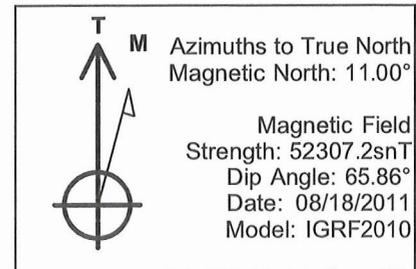
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:30 - 8:00	0.50	COMP	47	A	P		NU PWR SWWL, P.T. BOP'S TO 3000 PSI. HELD, PU 2 JTS.
	8:00 - 12:00	4.00	COMP	44	C	P		PLUG # 1 C/O 5' SAND, TAG CBP @ 6472' D/O IN 15 MINS. HAD 0 PSI. INCREASE. PLUG # 2 C/O 30' SAND, TAG CBP @ 6677' D/O IN 20 MINS. HAD 100 PSI. INCREASE. PLUG # 3 C/O 30' SAND, TAG CBP @ 6880' D/O IN 18 MINS. HAD 300 PSI. INCREASE. PLUG # 4 C/O 30' SAND, TAG CBP @ 7126' D/O IN 22 MINS. HAD 400 PSI. INCREASE. PLUG # 5 C/O 30' SAND, TAG CBP @ 7474' D/O IN 15 MINS. HAD 200 PSI. INCREASE. PLUG # 6 C/O 30' SAND, TAG CBP @ 7788' D/O IN 11 MINS. HAD 200 PSI. INCREASE. PLUG # 7 C/O 30' SAND, TAG CBP @ 8009' D/O IN 20 MINS. HAD 300 PSI. INCREASE. RIH TBG, C/O TO 8396' (PBD) CIRC HOLE CLEAN, ND PWR SWWL.
	12:00 - 15:00	3.00	COMP	31	I	P		POOH & LD 20 JTS. 2-3/8 L-80 TBG ON TRAILER, LUB TBG HANGER, LAND TBG W/ 244 JTS. 2-3/8 L-80 TBG, RD FOOR & TBG EQUIPMENT, ND BOP'S, DROP BALL, NU WH, P.T. HALL 9000 LINES TO 3000 PSI. HELD, PUMP BIT-OFF W/ 1850 PSI. TURN WELL OVER TO FLOW-BACK CREW,CLEAN LOCATION, RDMO. MOVE TO NBU 1022-12G4BS.

TBG DETAIL:

KB-----  
 --- 24'  
 CAMERON HANGER-----  
 --.83  
 244 JTS. 2-3/8 L-80 TBG-----  
 -7748.04'  
 1.875 XN POBS-----  
 --2.20'  
 EOT@-----  
 -7775.07'  
 WLTR. 6,067 BBLs.  
 TOP PERF@ 6506'  
 BTM PERF @ 8357'  
 PBD@ 8396'  
 API# 4304751963  
 LAT: 39.965649 LONG: 109.384990  
 SW NE SW NE SEC: 12- 10S -22E

DELIVERED 283 JTS. 2-3/8 L-80 TBG  
 USED 244 JTS. 2-3/8 L-80 TBG  
 RETURNED 39 JTS. 2-3.8 L-80 TBG

WELL DETAILS: NBU 1022-12G1CS						
GL 5179 & KB 24 @ 5203.00ft (HP 318)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	14517649.51	2093141.11	39.965684	-109.384310	



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 12 T10S R22E
System Datum: Mean Sea Level

Design: OH (NBU 1022-12G1CS/OH)
Created By: Gabe Kendall Date: 14:19, June 19 2012



**Scientific Drilling**

## **US ROCKIES REGION PLANNING**

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

**NBU 1022-12G PAD**

**NBU 1022-12G1CS**

**OH**

**Design: OH**

## **Standard Survey Report**

**19 June, 2012**

**Anadarko**   
Petroleum Corporation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-12G1CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 5179 & KB 24 @ 5203.00ft (HP 318)
<b>Site:</b>	NBU 1022-12G PAD	<b>MD Reference:</b>	GL 5179 & KB 24 @ 5203.00ft (HP 318)
<b>Well:</b>	NBU 1022-12G1CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

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

<b>Site</b>	NBU 1022-12G PAD, SECTION 12 T10S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,517,657.05 usft	<b>Latitude:</b>	39.965705
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,093,134.80 usft	<b>Longitude:</b>	-109.384332
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.04 °

<b>Well</b>	NBU 1022-12G1CS, 1833 FNL 1721 FEL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,517,649.51 usft	<b>Latitude:</b>	39.965684
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,093,141.10 usft	<b>Longitude:</b>	-109.384310
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,179.00 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	08/18/11	11.00	65.86	52,307

<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	242.27	

<b>Survey Program</b>	<b>Date</b>	06/19/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
20.00	2,254.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,396.00	8,445.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	
195.00	0.44	60.76	195.00	0.33	0.59	-0.67	0.25	0.25	0.00	
<b>FIRST SDI MWD SURFACE SURVEY</b>										
281.00	0.09	259.30	281.00	0.48	0.81	-0.94	0.61	-0.41	-187.74	
364.00	0.53	218.26	364.00	0.16	0.51	-0.52	0.56	0.53	-49.45	
454.00	1.67	249.02	453.98	-0.63	-0.98	1.16	1.38	1.27	34.18	
544.00	2.81	241.02	543.91	-2.17	-4.13	4.67	1.31	1.27	-8.89	
634.00	3.17	240.58	633.79	-4.46	-8.23	9.36	0.40	0.40	-0.49	
724.00	3.08	243.13	723.65	-6.78	-12.55	14.26	0.18	-0.10	2.83	

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 1022-12G PAD  
**Well:** NBU 1022-12G1CS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-12G1CS  
**TVD Reference:** GL 5179 & KB 24 @ 5203.00ft (HP 318)  
**MD Reference:** GL 5179 & KB 24 @ 5203.00ft (HP 318)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
814.00	2.70	241.65	813.54	-8.88	-16.57	18.80	0.43	-0.42	-1.64	
904.00	2.99	245.33	903.43	-10.86	-20.57	23.27	0.38	0.32	4.09	
994.00	3.45	245.27	993.28	-12.98	-25.17	28.31	0.51	0.51	-0.07	
1,084.00	3.43	247.35	1,083.12	-15.15	-30.11	33.70	0.14	-0.02	2.31	
1,264.00	3.47	242.35	1,262.80	-19.75	-39.90	44.51	0.17	0.02	-2.78	
1,354.00	3.96	237.86	1,352.61	-22.66	-44.95	50.33	0.63	0.54	-4.99	
1,444.00	3.78	222.83	1,442.40	-26.49	-49.60	56.23	1.14	-0.20	-16.70	
1,534.00	2.81	209.03	1,532.26	-30.60	-52.68	60.87	1.38	-1.08	-15.33	
1,624.00	2.99	220.54	1,622.14	-34.31	-55.28	64.90	0.68	0.20	12.79	
1,714.00	3.08	240.14	1,712.02	-37.30	-58.90	69.49	1.15	0.10	21.78	
1,804.00	3.52	250.60	1,801.87	-39.42	-63.61	74.64	0.83	0.49	11.62	
1,894.00	3.34	251.57	1,891.71	-41.17	-68.70	79.97	0.21	-0.20	1.08	
1,984.00	3.25	246.03	1,981.56	-43.03	-73.52	85.10	0.37	-0.10	-6.16	
2,074.00	3.17	254.20	2,071.42	-44.75	-78.24	90.08	0.52	-0.09	9.08	
2,164.00	3.65	258.76	2,161.26	-45.98	-83.45	95.26	0.61	0.53	5.07	
2,254.00	3.96	262.03	2,251.06	-46.97	-89.34	100.93	0.42	0.34	3.63	
<b>LAST SDI MWD SURFACE SURVEY</b>										
2,396.00	3.62	251.67	2,392.75	-49.06	-98.45	109.97	0.54	-0.24	-7.30	
<b>FIRST SDI MWD PRODUCTION SURVEY</b>										
2,491.00	3.00	255.05	2,487.59	-50.65	-103.70	115.35	0.68	-0.65	3.56	
2,585.00	2.31	282.70	2,581.49	-50.86	-107.92	119.19	1.53	-0.73	29.41	
2,680.00	1.94	316.13	2,676.43	-49.28	-110.90	121.10	1.34	-0.39	35.19	
2,774.00	1.78	262.63	2,770.39	-48.32	-113.45	122.91	1.79	-0.17	-56.91	
2,869.00	0.72	224.70	2,865.37	-48.94	-115.34	124.86	1.36	-1.12	-39.93	
2,963.00	0.39	4.59	2,959.37	-49.04	-115.73	125.25	1.12	-0.35	148.82	
3,058.00	0.44	105.62	3,054.36	-48.81	-115.35	124.81	0.68	0.05	106.35	
3,152.00	0.44	127.58	3,148.36	-49.13	-114.72	124.40	0.18	0.00	23.36	
3,246.00	0.44	147.48	3,242.36	-49.66	-114.24	124.22	0.16	0.00	21.17	
3,341.00	0.63	128.74	3,337.35	-50.29	-113.63	123.98	0.27	0.20	-19.73	
3,435.00	0.53	142.36	3,431.35	-50.96	-112.96	123.70	0.18	-0.11	14.49	
3,530.00	0.62	125.51	3,526.34	-51.60	-112.28	123.39	0.20	0.09	-17.74	
3,624.00	1.06	127.87	3,620.33	-52.43	-111.18	122.81	0.47	0.47	2.51	
3,719.00	0.44	35.16	3,715.33	-52.67	-110.27	122.12	1.23	-0.65	-97.59	
3,813.00	0.35	56.43	3,809.33	-52.22	-109.83	121.51	0.18	-0.10	22.63	
3,908.00	0.62	85.70	3,904.32	-52.02	-109.07	120.75	0.38	0.28	30.81	
4,002.00	0.44	113.56	3,998.32	-52.13	-108.23	120.06	0.33	-0.19	29.64	
4,096.00	0.70	124.99	4,092.31	-52.60	-107.43	119.57	0.30	0.28	12.16	
4,191.00	0.23	41.57	4,187.31	-52.79	-106.83	119.12	0.75	-0.49	-87.81	
4,286.00	0.09	129.38	4,282.31	-52.70	-106.65	118.92	0.26	-0.15	92.43	
4,380.00	0.79	144.76	4,376.31	-53.27	-106.22	118.80	0.75	0.74	16.36	
4,475.00	0.97	123.40	4,471.30	-54.25	-105.17	118.33	0.39	0.19	-22.48	
4,569.00	0.53	45.27	4,565.29	-54.38	-104.19	117.53	1.07	-0.47	-83.12	
4,663.00	0.26	138.43	4,659.29	-54.24	-103.74	117.06	0.64	-0.29	99.11	

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 1022-12G PAD  
**Well:** NBU 1022-12G1CS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-12G1CS  
**TVD Reference:** GL 5179 & KB 24 @ 5203.00ft (HP 318)  
**MD Reference:** GL 5179 & KB 24 @ 5203.00ft (HP 318)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,758.00	0.35	93.96	4,754.29	-54.42	-103.31	116.77	0.26	0.09	-46.81
4,852.00	0.55	92.43	4,848.28	-54.46	-102.57	116.13	0.21	0.21	-1.63
4,947.00	0.62	77.88	4,943.28	-54.37	-101.61	115.24	0.17	0.07	-15.32
5,042.00	0.79	97.12	5,038.27	-54.34	-100.46	114.21	0.30	0.18	20.25
5,136.00	0.89	107.58	5,132.26	-54.64	-99.12	113.16	0.19	0.11	11.13
5,230.00	0.79	85.17	5,226.25	-54.81	-97.78	112.05	0.36	-0.11	-23.84
5,325.00	0.88	299.45	5,321.25	-54.39	-97.76	111.85	1.68	0.09	-153.39
5,419.00	0.79	260.25	5,415.24	-54.15	-99.03	112.85	0.60	-0.10	-41.70
5,514.00	0.26	245.22	5,510.24	-54.35	-99.87	113.69	0.57	-0.56	-15.82
5,608.00	0.35	246.71	5,604.23	-54.55	-100.33	114.19	0.10	0.10	1.59
5,703.00	0.70	192.30	5,699.23	-55.23	-100.72	114.85	0.60	0.37	-57.27
5,797.00	0.99	186.90	5,793.22	-56.60	-100.94	115.68	0.32	0.31	-5.74
5,891.00	0.67	73.10	5,887.21	-57.25	-100.51	115.61	1.49	-0.34	-121.06
5,986.00	0.59	91.66	5,982.21	-57.10	-99.49	114.63	0.23	-0.08	19.54
6,081.00	0.79	79.28	6,077.20	-56.99	-98.36	113.58	0.26	0.21	-13.03
6,175.00	0.62	328.01	6,171.20	-56.44	-97.99	113.00	1.24	-0.18	-118.37
6,269.00	0.62	325.90	6,265.19	-55.59	-98.55	113.09	0.02	0.00	-2.24
6,364.00	0.09	316.24	6,360.19	-55.11	-98.89	113.17	0.56	-0.56	-10.17
6,458.00	0.35	57.13	6,454.19	-54.90	-98.70	112.91	0.40	0.28	107.33
6,552.00	0.62	116.81	6,548.19	-54.97	-98.00	112.33	0.57	0.29	63.49
6,647.00	0.88	124.90	6,643.18	-55.62	-96.94	111.69	0.29	0.27	8.52
6,741.00	0.26	35.60	6,737.17	-55.86	-96.23	111.17	0.97	-0.66	-95.00
6,836.00	0.62	102.22	6,832.17	-55.80	-95.60	110.58	0.60	0.38	70.13
6,931.00	0.70	103.01	6,927.17	-56.04	-94.53	109.75	0.08	0.08	0.83
7,025.00	0.21	335.41	7,021.16	-56.01	-94.04	109.30	0.90	-0.52	-135.74
7,120.00	0.71	192.32	7,116.16	-56.42	-94.24	109.67	0.93	0.53	-150.62
7,214.00	0.53	30.15	7,210.16	-56.62	-94.15	109.68	1.30	-0.19	-172.52
7,308.00	0.26	142.48	7,304.16	-56.41	-93.80	109.28	0.72	-0.29	119.50
7,403.00	0.79	155.83	7,399.15	-57.18	-93.40	109.28	0.57	0.56	14.05
7,497.00	0.37	309.56	7,493.15	-57.58	-93.37	109.44	1.21	-0.45	163.54
7,592.00	0.53	191.08	7,588.15	-57.81	-93.69	109.83	0.82	0.17	-124.72
7,686.00	0.88	163.54	7,682.14	-58.93	-93.57	110.24	0.51	0.37	-29.30
7,780.00	1.37	168.59	7,776.12	-60.73	-93.14	110.70	0.53	0.52	5.37
7,875.00	1.49	183.43	7,871.09	-63.07	-92.99	111.66	0.41	0.13	15.62
7,969.00	1.72	170.18	7,965.06	-65.68	-92.82	112.73	0.46	0.24	-14.10
8,064.00	2.25	173.98	8,060.00	-68.94	-92.39	113.86	0.57	0.56	4.00
8,159.00	1.96	174.63	8,154.94	-72.41	-92.04	115.16	0.31	-0.31	0.68
8,253.00	2.20	164.05	8,248.88	-75.75	-91.39	116.14	0.48	0.26	-11.26
8,348.00	2.46	157.50	8,343.80	-79.39	-90.11	116.70	0.39	0.27	-6.89
8,392.00	2.37	149.86	8,387.76	-81.04	-89.29	116.75	0.76	-0.20	-17.36
<b>LAST SDI MWD PRODUCTION SURVEY</b>									
8,445.00	2.37	149.86	8,440.71	-82.94	-88.19	116.66	0.00	0.00	0.00
<b>SDI PROJECTION TO BIT</b>									

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-12G1CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL 5179 & KB 24 @ 5203.00ft (HP 318)
<b>Site:</b>	NBU 1022-12G PAD	<b>MD Reference:</b>	GL 5179 & KB 24 @ 5203.00ft (HP 318)
<b>Well:</b>	NBU 1022-12G1CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
195.00	195.00	0.33	0.59	FIRST SDI MWD SURFACE SURVEY
2,254.00	2,251.06	-46.97	-89.34	LAST SDI MWD SURFACE SURVEY
2,396.00	2,392.75	-49.06	-98.45	FIRST SDI MWD PRODUCTION SURVEY
8,392.00	8,387.76	-81.04	-89.29	LAST SDI MWD PRODUCTION SURVEY
8,445.00	8,440.71	-82.94	-88.19	SDI PROJECTION TO BIT

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