API Well Number: 43047519880000

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

FORM 3

AMENDED REPORT ☐

APPLICATION FOR PERMIT TO DRILL

1. WELL NAME and NUMBER
NBU 1022-12E1BS

2. TYPE OF WORK
DRILL NEW WELL ■ REENTER P&A WELL ☐ DEEPEN WELL ☐

3. FIELD OR WILDCAT
NATURAL BUTTES

4. TYPE OF WELL
Gas Well Coalbed Methane Well: NO

5. UNIT or COMMUNITIZATION AGREEMENT NAME
NATURAL BUTTES

6. NAME OF OPERATOR
KERR-MCGEE OIL & GAS ONSHORE, L.P.

7. OPERATOR PHONE
720 929-6515

8. ADDRESS OF OPERATOR
P.O. Box 173779, Denver, CO, 80217

9. OPERATOR E-MAIL
julie.jacobson@anadarko.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
UT ST UO 01997-A ST

11. MINERAL OWNERSHIP
FEDERAL ☐ INDIAN ☐ STATE ■ FEE ☐

12. SURFACE OWNERSHIP
FEDERAL ☐ INDIAN ☐ STATE ■ FEE ☐

13. NAME OF SURFACE OWNER (if box 12 = 'fee')

14. SURFACE OWNER PHONE (if box 12 = 'fee')

15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')

16. SURFACE OWNER E-MAIL (if box 12 = 'fee')

17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')

18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS
YES ■ (Submit Commingling Application) NO ☐

19. SLANT
VERTICAL ☐ DIRECTIONAL ■ HORIZONTAL ☐

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1818 FNL 2146 FWL	SENW	12	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	1572 FNL 820 FWL	SWNW	12	10.0 S	22.0 E	S
At Total Depth	1572 FNL 820 FWL	SWNW	12	10.0 S	22.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
1572

23. NUMBER OF ACRES IN DRILLING UNIT
1674

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
1330

26. PROPOSED DEPTH
MD: 8715 TVD: 8498

27. ELEVATION - GROUND LEVEL
5165

28. BOND NUMBER
22013542

29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE
43-8496

Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2170	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 8715	11.6	I-80 LT&C	12.5	Premium Lite High Strength	270	3.38	11.0
							50/50 Poz	1210	1.31	14.3

ATTACHMENTS

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

- ✔ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ✔ COMPLETE DRILLING PLAN
- ☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
- ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
- ✔ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
- ✔ TOPOGRAPHICAL MAP

NAME Gina Becker **TITLE** Regulatory Analyst II **PHONE** 720 929-6086

SIGNATURE **DATE** 09/12/2011 **EMAIL** gina.becker@anadarko.com

API NUMBER ASSIGNED
43047519880000

APPROVAL
Permit Manager

RECEIVED: December 29, 2011

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

NBU 1022-12E1BS

Surface: 1818 FNL / 2146 FWL SENW
BHL: 1572 FNL / 820 FWL SWNW

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:

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1073	
Birds Nest	1353	Water
Mahogany	1724	Water
Wasatch	4123	Gas
Mesaverde	6314	Gas
MVU2	7273	Gas
MVL1	7824	Gas
TVD	8498	
TD	8715	

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

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7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 8498' TVD, approximately equals 5,439 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,557 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.

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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

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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.

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API Well Number: 43047519880000

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	September 7, 2011
WELL NAME	**NBU 1022-12E1BS**	TD	8,498' TVD 8,715' MD
FIELD	Natural Buttes	COUNTY Uintah STATE Utah	FINISHED ELEVATION 5164.7
SURFACE LOCATION	SENW 1818 FNL 2146 FWL Sec 12 T 10S R 22E		
	Latitude: 39.965740 Longitude: -109.389395		NAD 27
BTM HOLE LOCATION	SWNW 1572 FNL 820 FWL Sec 12 T 10S R 22E		
	Latitude: 39.966417 Longitude: -109.394115		NAD 27
OBJECTIVE ZONE(S)	Wasatch/Mesaverde		
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.		

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			12-1/4	8-5/8", 28#, IJ-55, LTC	Air mist
		200'			
			11'	8-5/8", 28#, IJ-55, LTC	Air mist
All water flows encountered while drilling will be reported to the appropriate agencies.					
	Green River @	**1,073'**			
	Top of Birds Nest @	**1,353'**			
	Mahogany @	**1,724'**			
	Preset f/ GL @ 2,170' TVD				
	Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.				
	Wasatch @	**4,123'**			
Mud logging program TBD Cased hole logging program from TD - surf csg			7-7/8"	4-1/2" 11.6# I-80 or equivalent BTC/LTC csg	Water / Fresh Water Mud 8.3-12.5 ppg
	Mverde @	**6,314' TVD**			
	MVU2 @	**7,273' TVD**			
	MVU1 @	**7,824' TVD**			
Max anticipated Mud required 12.5 ppg	**TD @**	**8,498' TVD** **8,715' MD**			

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KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	COLLAPSE LTC	TENSION BTC
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	279,000	367,000
PRODUCTION	4-1/2"	0	to	8,715	11.60	I-80	LTC/BTC	1.11	1.15	3.41	4.49

Surface Casing:

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

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

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

Production casing:

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

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

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT		YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80		1.15
Option 1			+ 0.25 pps flocele					
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80		1.15
			+ 2% CaCl + 0.25 pps flocele					
SURFACE			**NOTE: If well will circulate water to surface, option 2 will be utilized**					
Option 2	LEAD	1,670'	65/35 Poz + 6% Gel + 10 pps gilsonite	160	35%	11.00		3.82
			+ 0.25 pps Flocele + 3% salt BWOW					
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15
			+ 0.25 pps flocele					
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION	LEAD	3,615'	Premium Lite II +0.25 pps	270	20%	11.00		3.38
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	5,100'	50/50 Poz/G + 10% salt + 2% gel	1,210	35%	14.30		1.31
			+ 0.1% R-3					

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

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

FLOAT EQUIPMENT & CENTRALIZERS

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: _____ **DATE:** _____

Nick Spence / Danny Showers

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Kenny Gathings / Lovel Young

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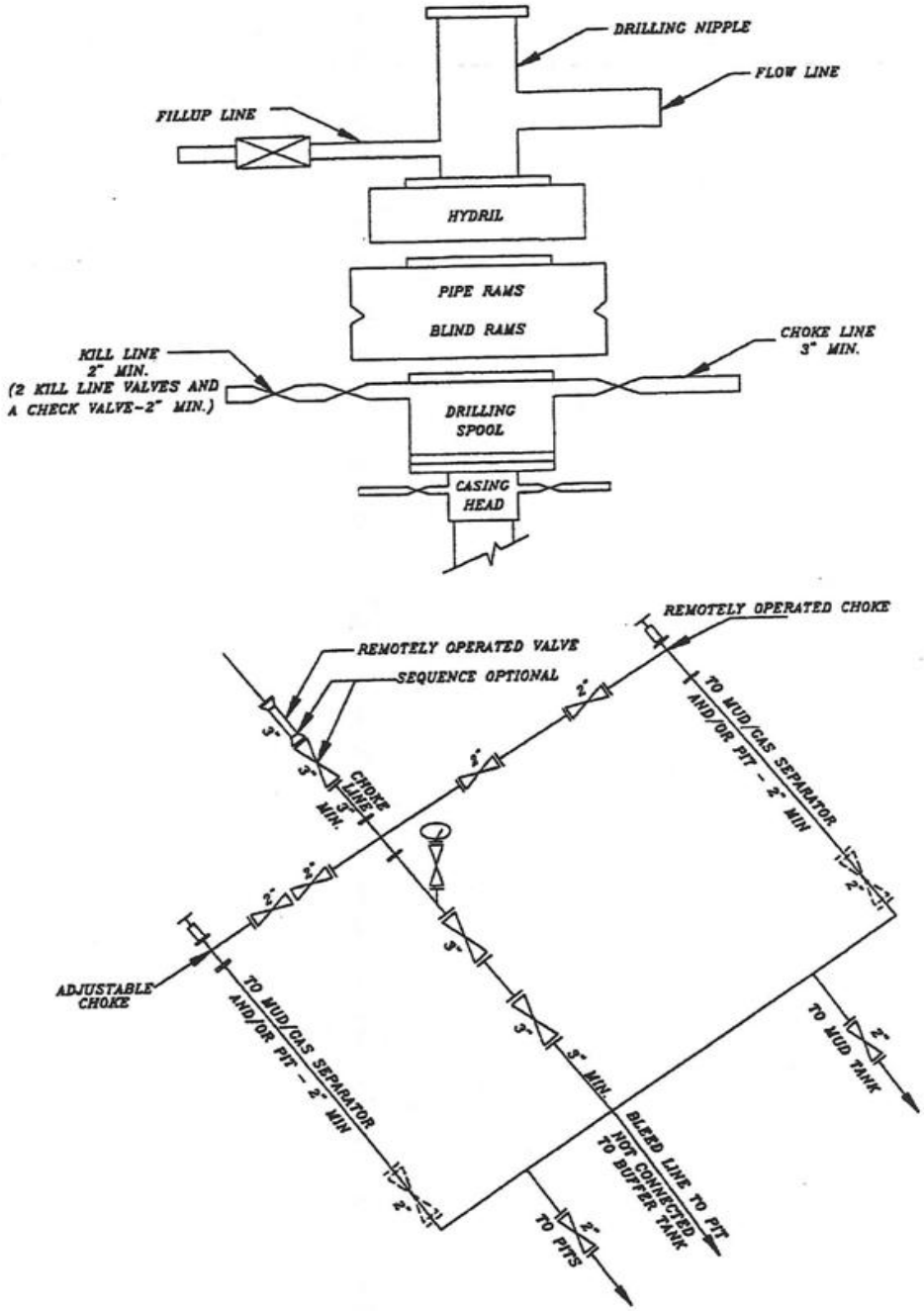
EXHIBIT A
NBU 1022-12E1BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

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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.)
2640.76' (Measured)
S89°57'13"W (Basis of Bearings)

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.

Found 1991 Aluminum Cap in Pile of Stones.

1572'

1818'

820'

Bottom of Hole

2146'

Well Surface Position

WELL LOCATION:
NBU 1022-12E1BS

ELEV. UNGRADED GROUND = 5164.7'

N00°03'41"E - 2640.93' (Meas.)
N0°07'E - 40.02 (G.L.O.)

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

Not Monumented

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

12

NBU 1022-12E1BS (Surface Position)
NAD 83 LATITUDE = 39.965706° (39° 57' 56.542")
LONGITUDE = 109.390075° (109° 23' 24.272")
NAD 27 LATITUDE = 39.965740° (39° 57' 56.665")
LONGITUDE = 109.389395° (109° 23' 21.822")

NBU 1022-12E1BS (Bottom Hole)
NAD 83 LATITUDE = 39.966383° (39° 57' 58.977")
LONGITUDE = 109.394796° (109° 23' 41.266")
NAD 27 LATITUDE = 39.966417° (39° 57' 59.100")
LONGITUDE = 109.394115° (109° 23' 38.816")

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

Not Monumented

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

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

1000' 500' 0' 1000'
SCALE

N

NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears N79°29'49"W 1346.34' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW $\frac{1}{4}$ 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.

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

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH 2-11-11

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

WELL PAD: NBU 1022-12F

NBU 1022-12E1BS
WELL PLAT
1572' FNL, 820' FWL (Bottom Hole)
SW $\frac{1}{4}$ NW $\frac{1}{4}$ OF 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

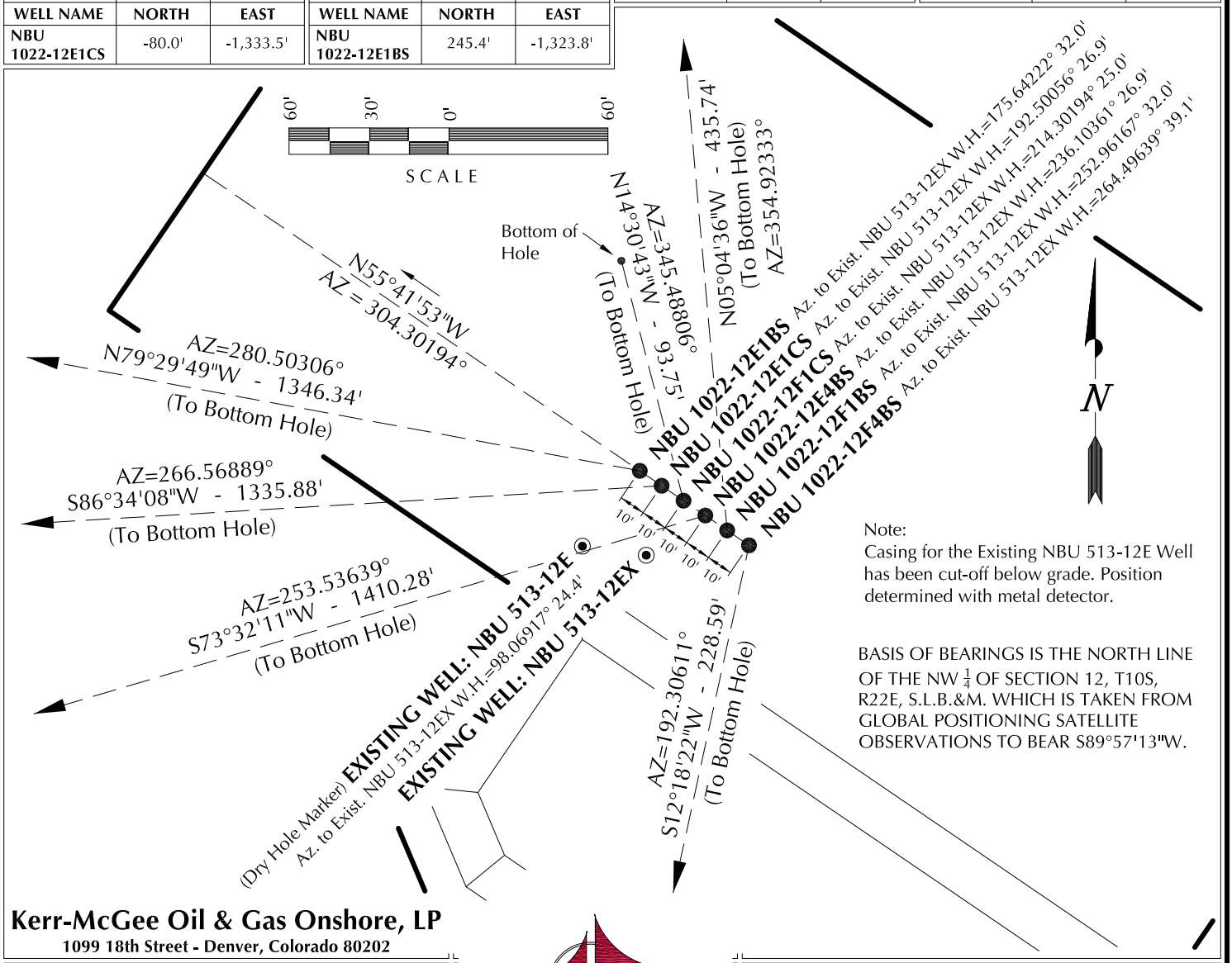
DATE SURVEYED: 01-26-11	SURVEYED BY: R.Y.	SHEET NO:
DATE DRAWN: 02-10-11	DRAWN BY: E.M.S.	6
SCALE: 1" = 1000'	Date Last Revised:	6 OF 18

RECEIVED: September 12, 2011

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
NBU 1022-12F4BS	39°57'56.263" 39.965629°	109°23'23.742" 109.389928°	39°57'56.386" 39.965663°	109°23'21.292" 109.389248°	1847' FNL 2187' FWL	39°57'54.057" 39.965016°	109°23'24.369" 109.390103°	39°57'54.180" 39.965050°	109°23'21.920" 109.389422°	2070' FNL 2140' FWL
NBU 1022-12F1BS	39°57'56.319" 39.965644°	109°23'23.848" 109.389958°	39°57'56.442" 39.965678°	109°23'21.398" 109.389277°	1841' FNL 2179' FWL	39°58'00.607" 39.966835°	109°23'24.338" 109.390094°	39°58'00.731" 39.966870°	109°23'21.888" 109.389413°	1407' FNL 2137' FWL
NBU 1022-12E4BS	39°57'56.375" 39.965660°	109°23'23.954" 109.389987°	39°57'56.498" 39.965694°	109°23'21.504" 109.389307°	1835' FNL 2170' FWL	39°57'52.437" 39.964566°	109°23'41.323" 109.394812°	39°57'52.560" 39.964600°	109°23'38.872" 109.394131°	2234' FNL 821' FWL
NBU 1022-12F1CS	39°57'56.430" 39.965675°	109°23'24.060" 109.390017°	39°57'56.554" 39.965709°	109°23'21.610" 109.389336°	1830' FNL 2162' FWL	39°57'57.327" 39.965924°	109°23'24.360" 109.390100°	39°57'57.450" 39.965958°	109°23'21.910" 109.389420°	1739' FNL 2138' FWL
NBU 1022-12E1CS	39°57'56.486" 39.965691°	109°23'24.166" 109.390046°	39°57'56.609" 39.965725°	109°23'21.716" 109.389365°	1824' FNL 2154' FWL	39°57'55.707" 39.965474°	109°23'41.288" 109.394802°	39°57'55.830" 39.965508°	109°23'38.838" 109.394122°	1903' FNL 821' FWL
NBU 1022-12E1BS	39°57'56.542" 39.965706°	109°23'24.272" 109.390075°	39°57'56.665" 39.965740°	109°23'21.822" 109.389395°	1818' FNL 2146' FWL	39°57'58.977" 39.966383°	109°23'41.266" 109.394796°	39°57'59.100" 39.966417°	109°23'38.816" 109.394115°	1572' FNL 820' FWL
NBU 513-12EX	39°57'56.226" 39.965618°	109°23'24.241" 109.390067°	39°57'56.350" 39.965653°	109°23'21.791" 109.389386°	1850' FNL 2148' FWL					
NBU 513-12E	39°57'56.260" 39.965628°	109°23'24.551" 109.390153°	39°57'56.384" 39.965662°	109°23'22.101" 109.389472°	1847' FNL 2124' FWL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1022-12F4BS	-223.3'	-48.7'	NBU 1022-12F1BS	434.0'	-38.6'	NBU 1022-12E4BS	-399.7'	-1,352.5'	NBU 1022-12F1CS	90.8'	-23.5'
NBU 1022-12E1CS	-80.0'	-1,333.5'	NBU 1022-12E1BS	245.4'	-1,323.8'						



Note:
Casing for the Existing NBU 513-12E Well has been cut-off below grade. Position determined with metal detector.

BASIS OF BEARINGS IS THE NORTH LINE OF THE NW $\frac{1}{4}$ OF SECTION 12, T10S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR S89°57'13"W.

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

WELL PAD - NBU 1022-12F

WELL PAD INTERFERENCE PLAT
WELLS - NBU 1022-12F4BS, NBU 1022-12F1BS, NBU 1022-12E4BS, NBU 1022-12F1CS, NBU 1022-12E1CS & NBU 1022-12E1BS
LOCATED IN SECTION 12, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

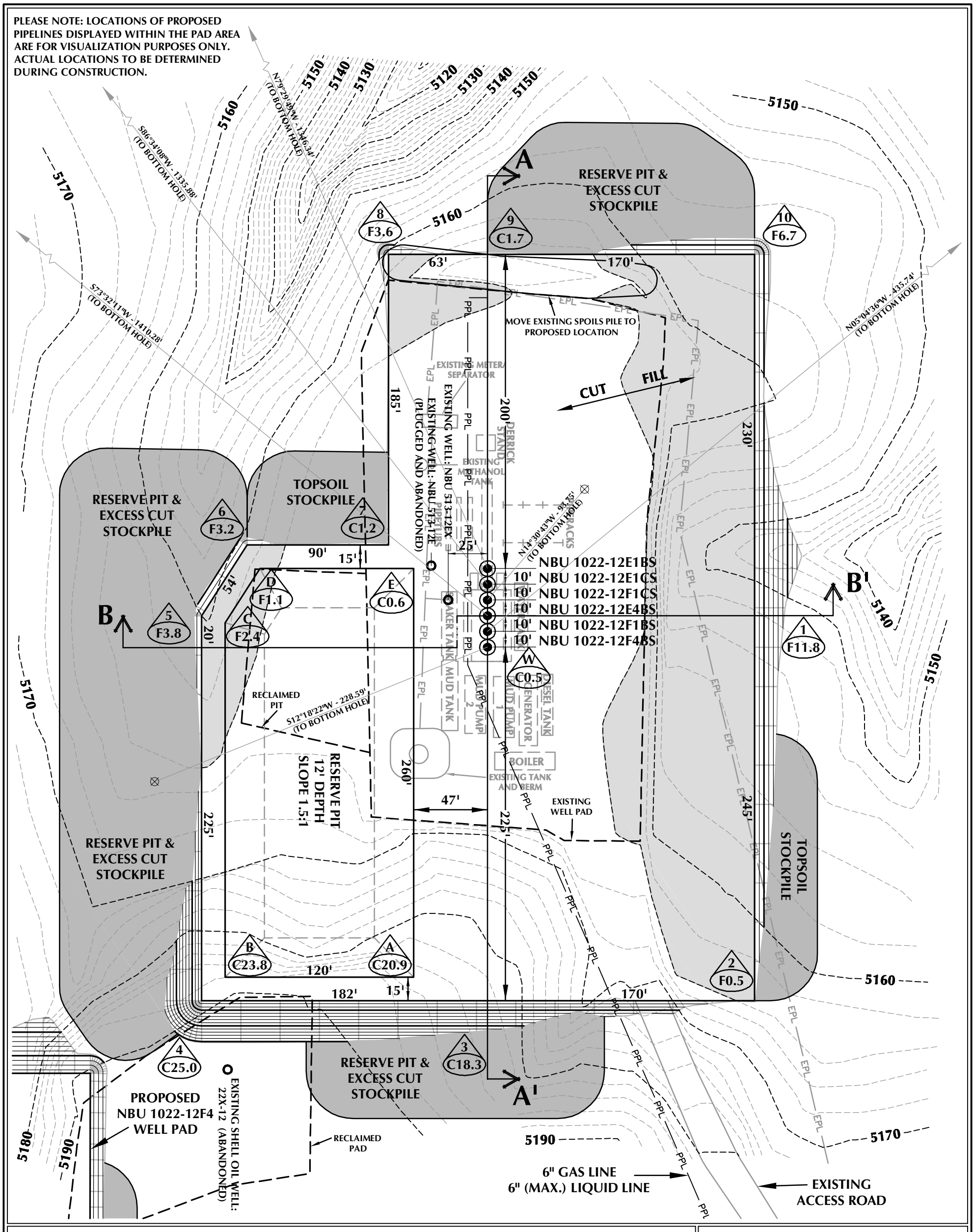
609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

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

DATE SURVEYED: 01-26-11	SURVEYED BY: R.Y.	SHEET NO: 7
DATE DRAWN: 02-10-11	DRAWN BY: E.M.S.	
SCALE: 1" = 60'	Date Last Revised:	7 OF 18

RECEIVED: September 12, 2011

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 1022-12F DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5164.5'
FINISHED GRADE ELEVATION = 5164.0'
CUT SLOPES = 1:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.68 ACRES
TOTAL DAMAGE AREA = 6.49 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 17,410 C.Y.
TOTAL FILL FOR WELL PAD = 10,082 C.Y.
TOPSOIL @ 6" DEPTH = 1,878 C.Y.
EXCESS MATERIAL = 7,328 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
+/- 10,910 C.Y.
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 41,860 BARRELS

WELL PAD LEGEND

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

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

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

WELL PAD - NBU 1022-12F

WELL PAD - LOCATION LAYOUT
NBU 1022-12F4BS, NBU 1022-12F1BS,
NBU 1022-12E4BS, NBU 1022-12F1CS,
NBU 1022-12E1CS & NBU 1022-12E1BS
LOCATED IN SECTION 12, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

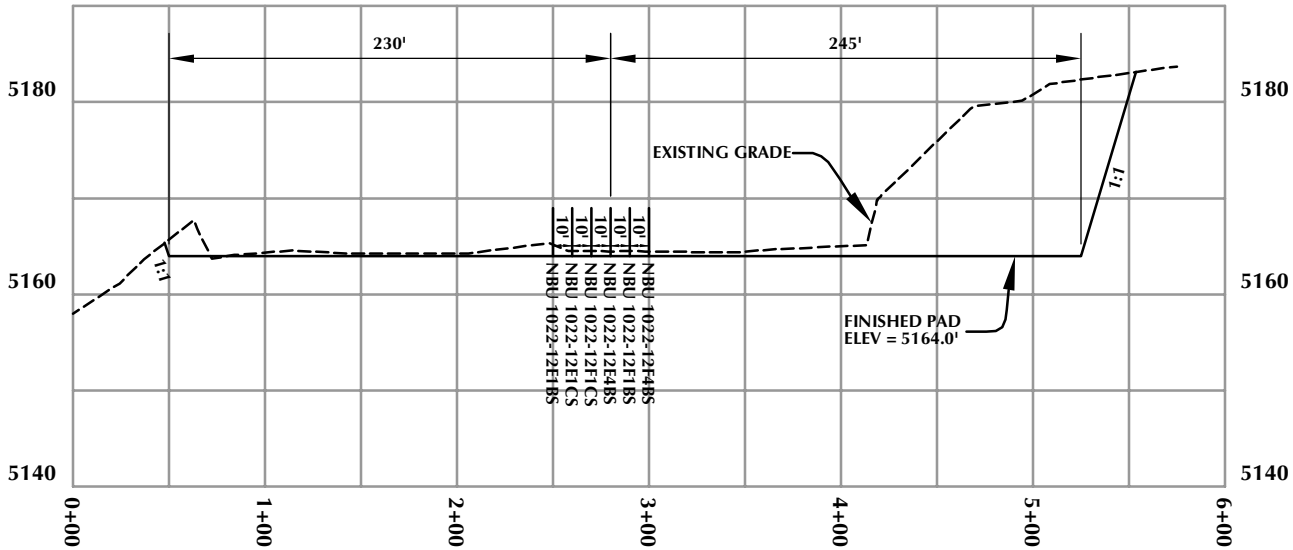
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

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

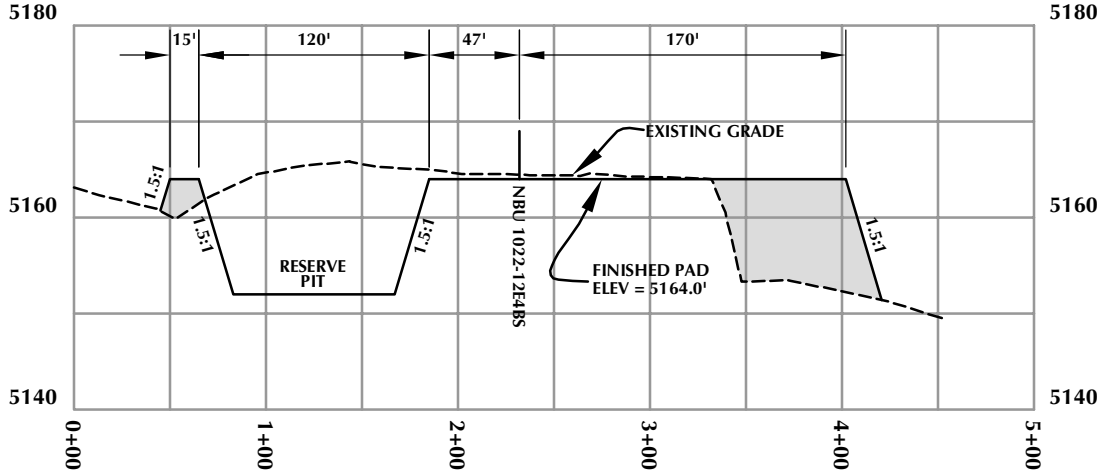
SCALE: 1"=60'	DATE: 3/8/11	SHEET NO: 8
REVISED:	TAR 4/15/11	8 OF 18

C:\ANADARKO\2010\2010_64_NBU_FOCUS_1022-12\DWG\NBU_1022-12F\NBU_1022_12F_PAD_20110201.dwg, 4/12/2011 11:25:10 AM

RECEIVED: September 12, 2011



CROSS SECTION A-A'



CROSS SECTION B-B'

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

WELL PAD - NBU 1022-12F

WELL PAD - CROSS SECTIONS
NBU 1022-12F4BS, NBU 1022-12F1BS,
NBU 1022-12E4BS, NBU 1022-12F1CS,
NBU 1022-12E1CS & NBU 1022-12E1BS
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

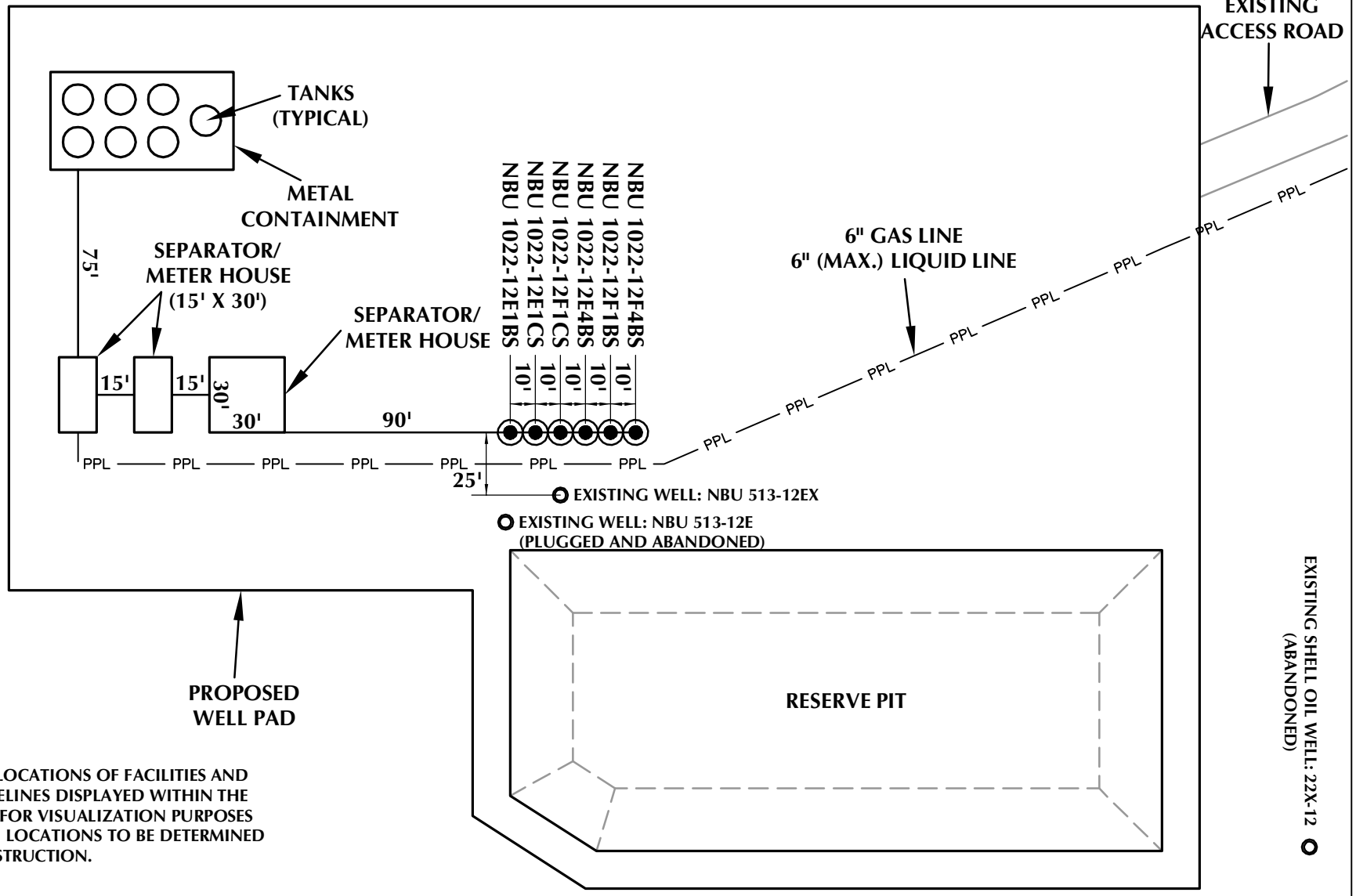
HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'

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

Scale: 1"=100' | Date: 3/8/11 | SHEET NO: 9
REVISED:
9 OF 18

K:\ANADARKO\2010_64_NBU_FOCUS_1022-12\DWG\NBU_1022-12F\NBU_1022_12F_PAD_20110201.dwg, 3/3/2011 6:14:12 PM

RECEIVED: September 12, 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 1022-12F

WELL PAD - FACILITIES DIAGRAM
NBU 1022-12F4BS, NBU 1022-12F1BS, NBU 1022-12E4BS, NBU 1022-12F1CS, NBU 1022-12E1CS & NBU 1022-12E1BS
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

WELL PAD LEGEND

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

HORIZONTAL 0 30' 60' 1" = 60'

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

Scale: 1"=60'	Date: 3/8/11	SHEET NO:
REVISED:	TAR 4/15/11	10 10 OF 18

K:\ANADARKO\2010\2010_64_NBU_FOCUS_1022-12\DWG\NBU_1022-12F\NBU_1022_12F_PAD_20110201.dwg, 4/12/2011 10:59:25 AM

RECEIVED: September 12, 2011

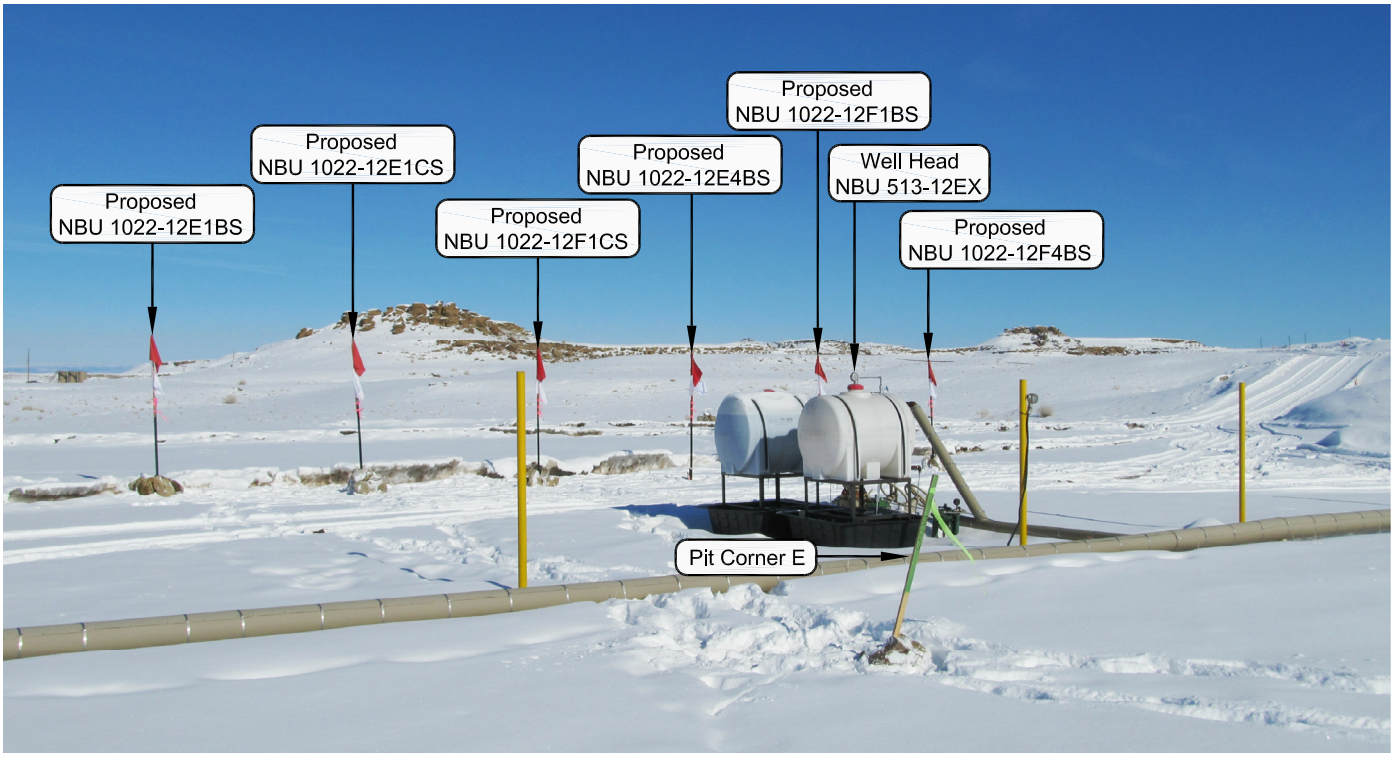


PHOTO VIEW: FROM PIT CORNER E TO LOCATION STAKE **CAMERA ANGLE: NORTHEASTERLY**

PHOTO VIEW: FROM EXISTING ACCESS ROAD **CAMERA ANGLE: WESTERLY**

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

WELL PAD - NBU 1022-12F

LOCATION PHOTOS
NBU 1022-12F4BS, NBU 1022-12F1BS, NBU 1022-12E4BS, NBU 1022-12F1CS, NBU 1022-12E1CS & NBU 1022-12E1BS LOCATED IN SECTION 12, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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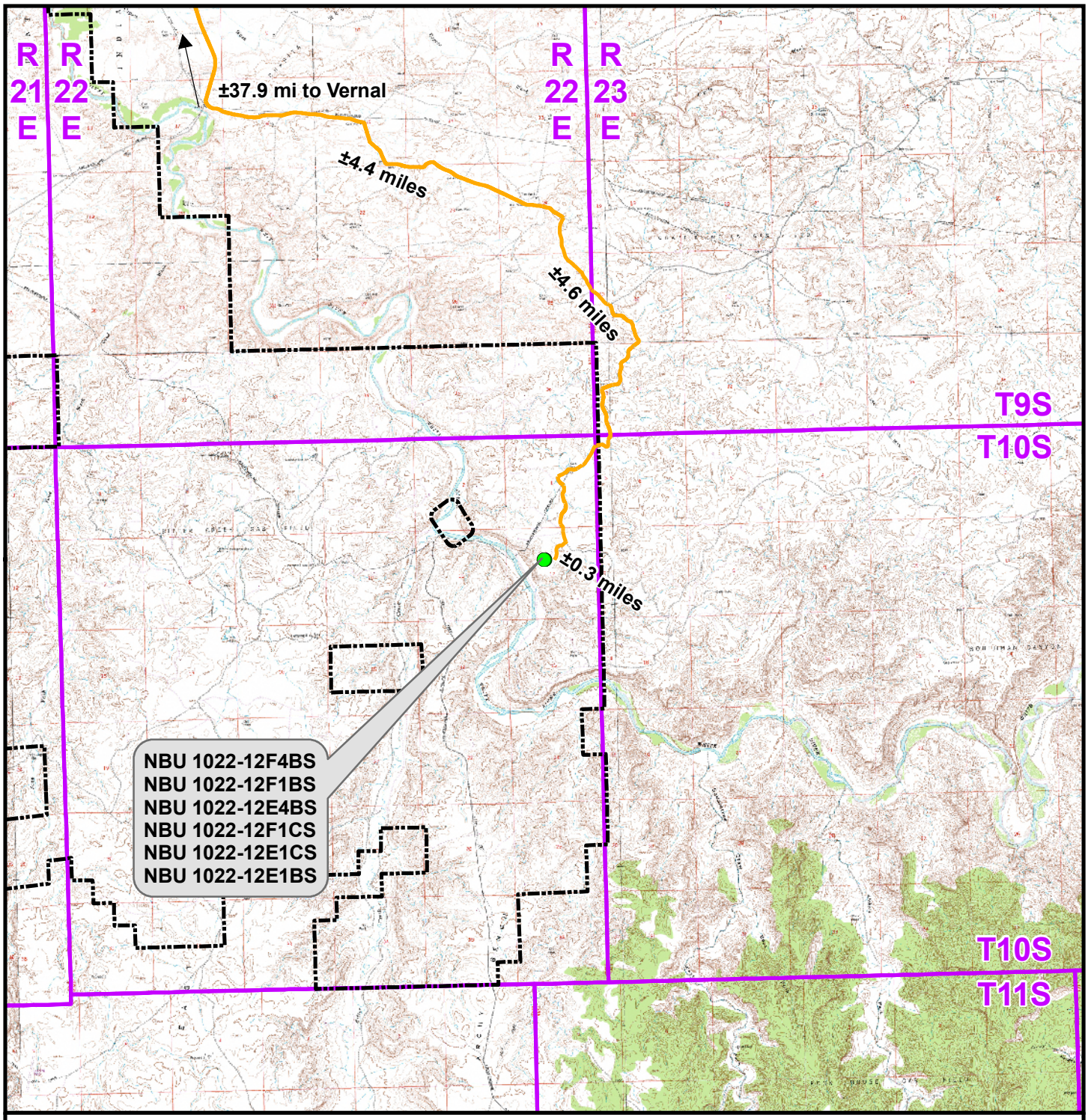
Fax 307-674-0182

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

DATE PHOTOS TAKEN: 02-10-11	PHOTOS TAKEN BY: R.Y.	SHEET NO:
DATE DRAWN: 02-10-11	DRAWN BY: E.M.S.	11
Date Last Revised:		11 OF 18

RECEIVED: September 12, 2011



Legend

Distance From Well Pad - NBU 1022-12F To Unit Boundary: ±3,105ft

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

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

WELL PAD - NBU 1022-12F

TOPO A
NBU 1022-12F4BS, NBU 1022-12F1BS,
NBU 1022-12E4BS, NBU 1022-12F1CS,
NBU 1022-12E1CS & NBU 1022-12E1BS
LOCATED IN SECTION 12, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

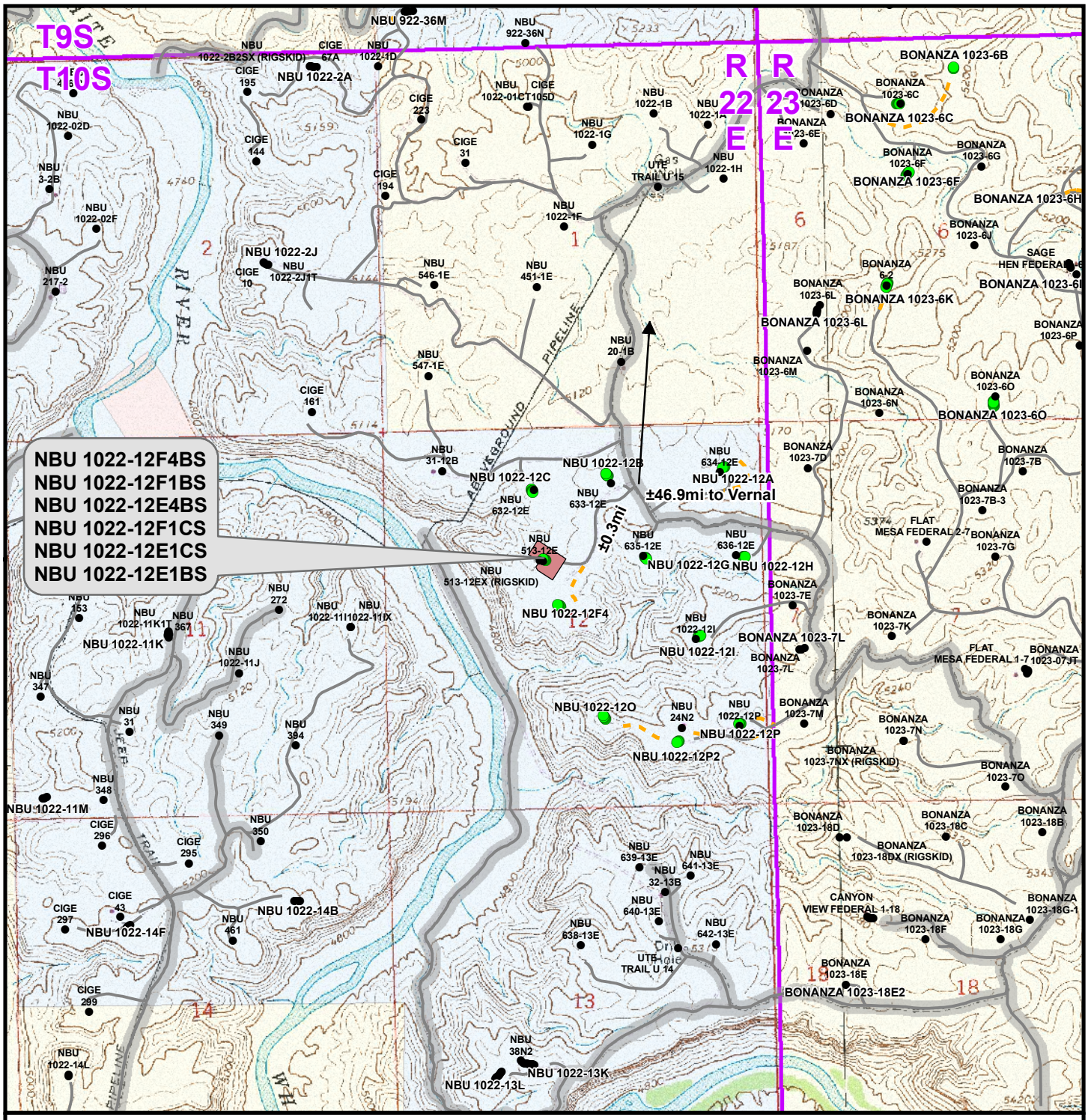
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1:100,000	NAD83 USP Central	Sheet No: 12 12 of 18
Drawn: TL	Date: 8 Mar 2011	
Revised:	Date:	

RECEIVED: September 12, 2011

API Well Number: 43047519880000



Legend

Total Proposed Road Length: ±0ft

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

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

WELL PAD - NBU 1022-12F

TOPO B
NBU 1022-12F4BS, NBU 1022-12F1BS,
NBU 1022-12E4BS, NBU 1022-12F1CS,
NBU 1022-12E1CS & NBU 1022-12E1BS
LOCATED IN SECTION 12, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

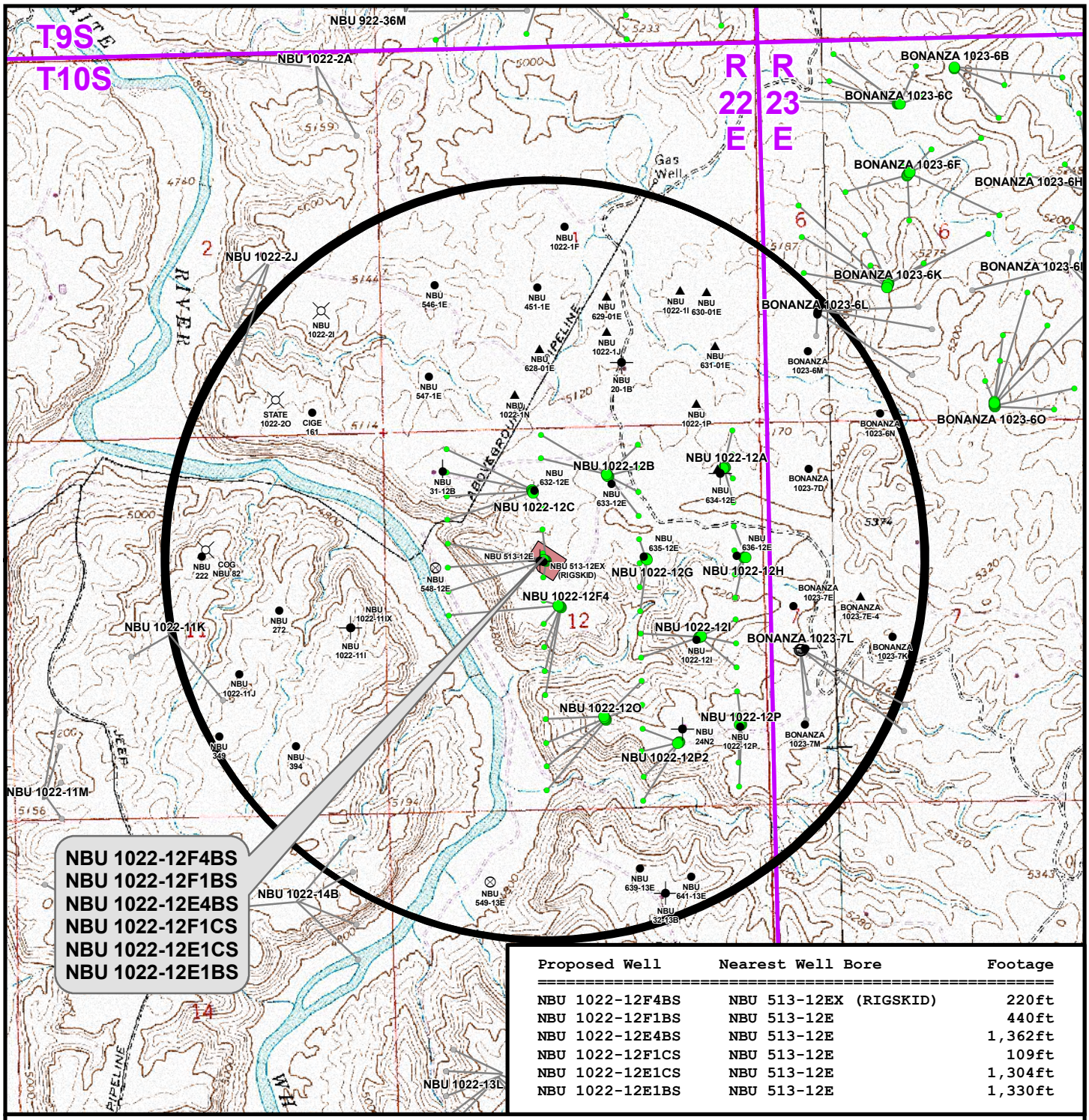
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 13
Drawn: TL	Date: 8 Mar 2011	13 of 18
Revised:	Date:	

RECEIVED: September 12, 2011

API Well Number: 43047519880000



Proposed Well	Nearest Well Bore	Footage
NBU 1022-12F4BS	NBU 513-12EX (RIGSKID)	220ft
NBU 1022-12F1BS	NBU 513-12E	440ft
NBU 1022-12E4BS	NBU 513-12E	1,362ft
NBU 1022-12F1CS	NBU 513-12E	109ft
NBU 1022-12E1CS	NBU 513-12E	1,304ft
NBU 1022-12E1BS	NBU 513-12E	1,330ft

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

Legend

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

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

WELL PAD - NBU 1022-12F

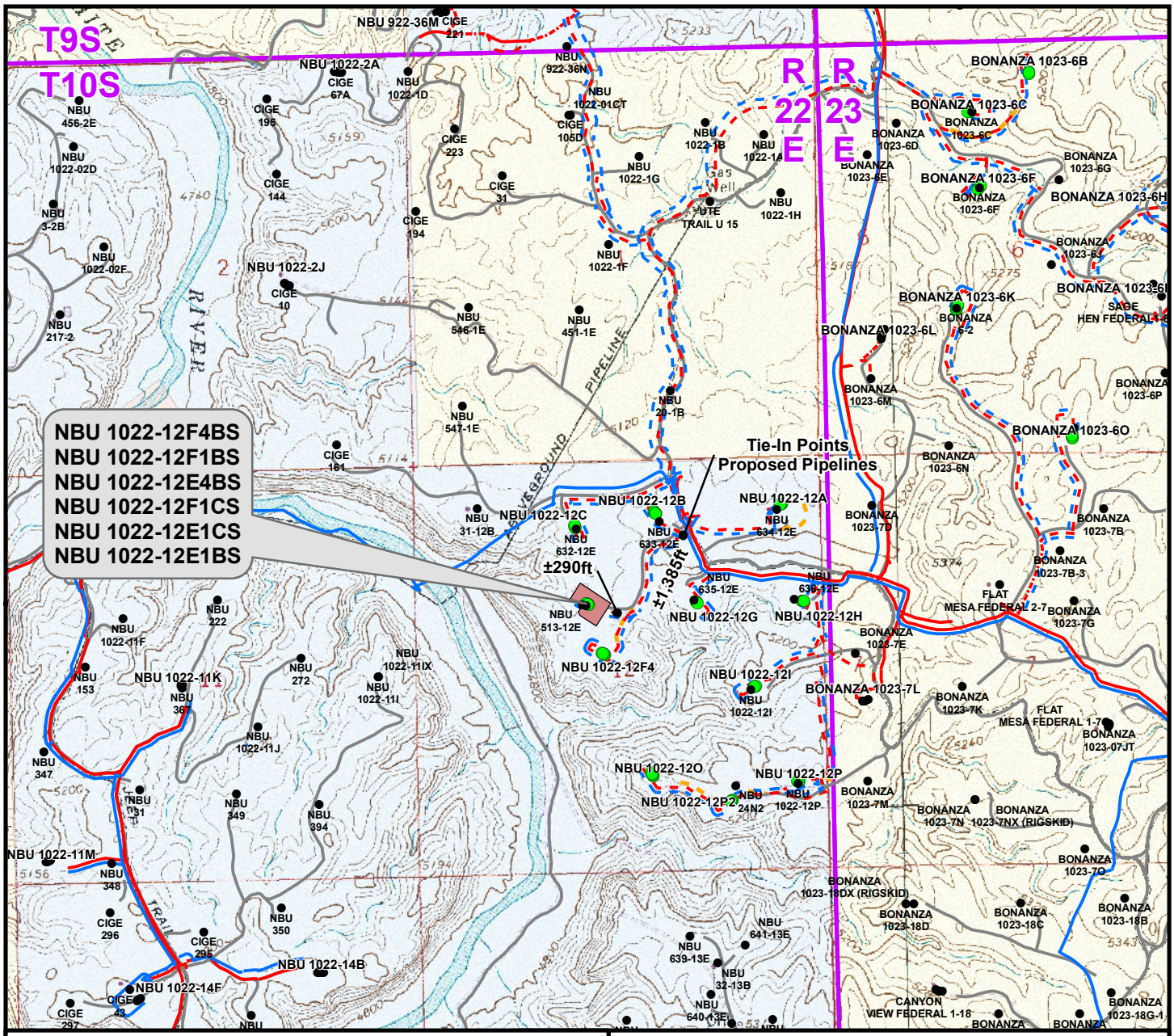
TOPO C
NBU 1022-12F4BS, NBU 1022-12F1BS, NBU 1022-12E4BS, NBU 1022-12F1CS, NBU 1022-12E1CS & NBU 1022-12E1BS
LOCATED IN SECTION 12, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

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

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 14
Drawn: TL	Date: 8 Mar 2011	14 of 18
Revised:	Date:	

RECEIVED: September 12, 2011



Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±495ft
Proposed 6" (Max.) (Edge of Pad to 12F4 Intersection)	±290ft
Proposed 6" (Max.) (12F4 Intersection to 12B Intersection)	±1,385ft
TOTAL PROPOSED LIQUID PIPELINE =	±2,170ft

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±495ft
Proposed 6" (Edge of Pad to 12F4 Intersection)	±290ft
Proposed 8" (12F4 Intersection to 12B Intersection	±1,385ft
TOTAL PROPOSED GAS PIPELINE =	±2,170ft

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 1022-12F

TOPO D
NBU 1022-12F4BS, NBU 1022-12F1BS, NBU 1022-12E4BS, NBU 1022-12F1CS, NBU 1022-12E1CS & NBU 1022-12E1BS
LOCATED IN SECTION 12, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
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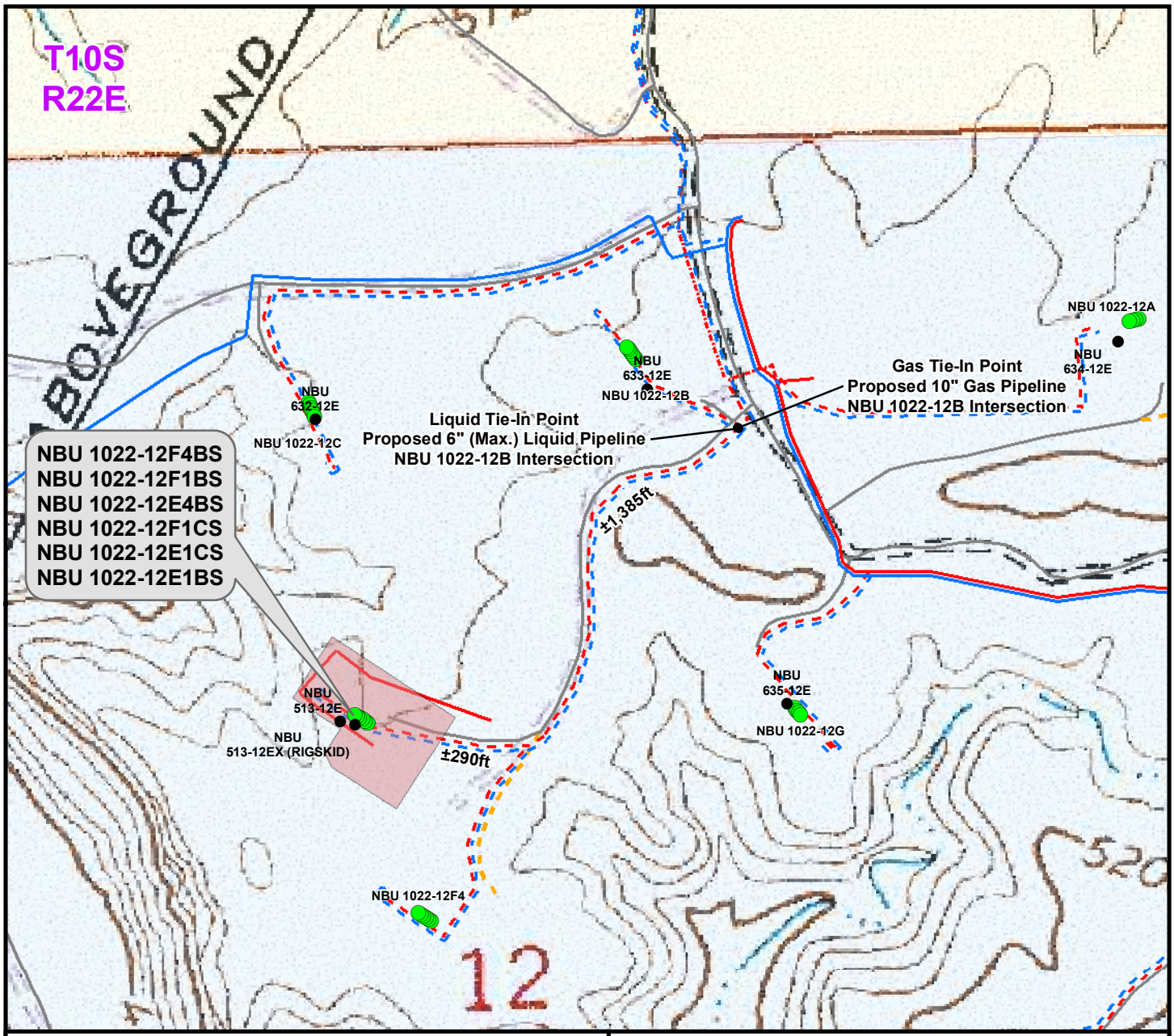
Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: JFE	Date: 8 Mar 2011	15
Revised: TL	Date: 19 Apr 2011	15 of 18

RECEIVED: September 12, 2011



Proposed Liquid Pipeline	Length
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Proposed 8" (12F4 Intersection to 12B Intersection	±1,385ft
TOTAL PROPOSED GAS PIPELINE =	±2,170ft

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 1022-12F

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 1022-12F4BS, NBU 1022-12F1BS,
NBU 1022-12E4BS, NBU 1022-12F1CS,
NBU 1022-12E1CS & NBU 1022-12E1BS
LOCATED IN SECTION 12, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

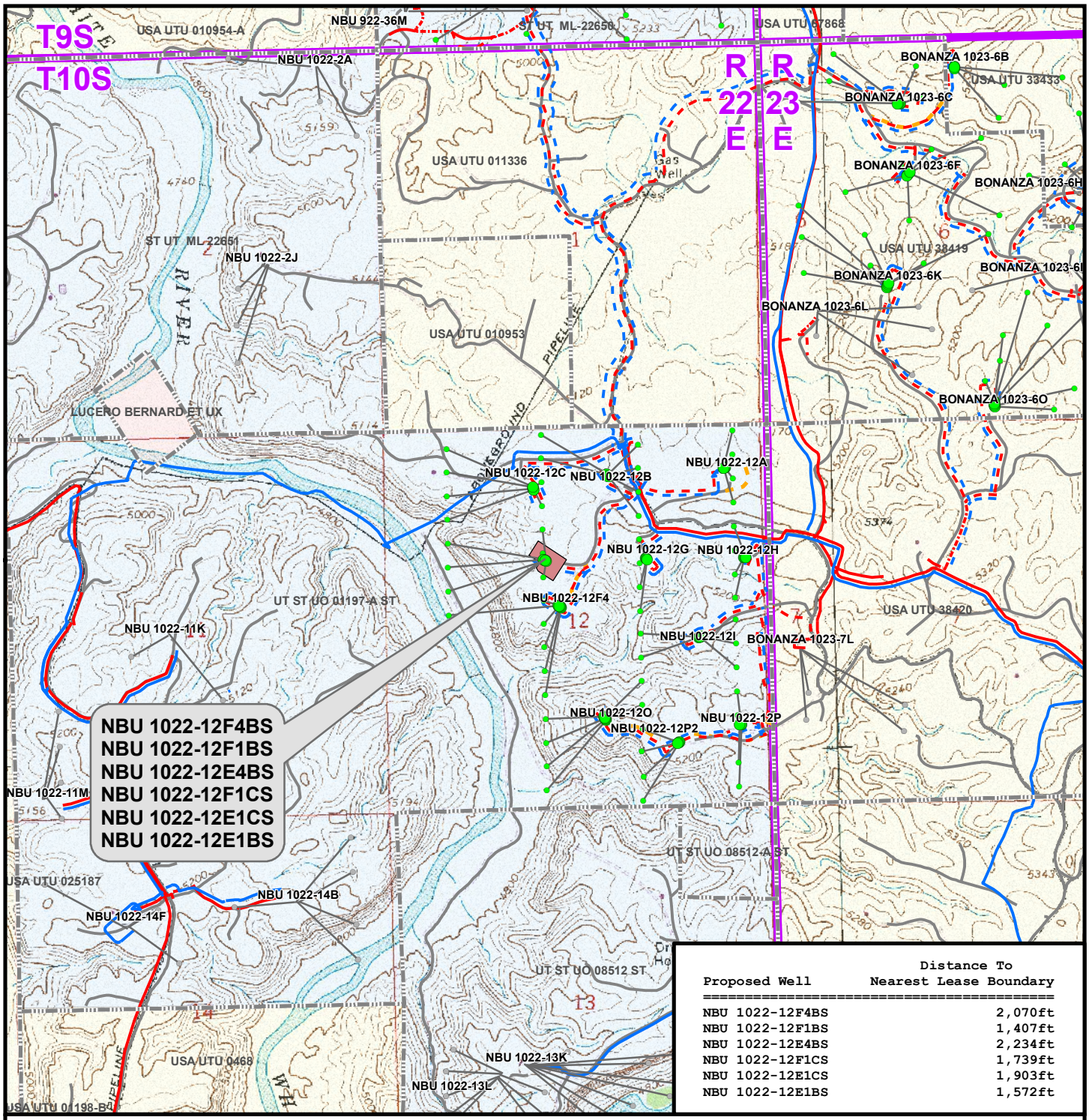
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 500ft	NAD83 USP Central	Sheet No:
Drawn: JFE	Date: 8 Mar 2011	16
Revised: TL	Date: 19 Apr 2011	16 of 18

RECEIVED: September 12, 2011

API Well Number: 43047519880000



Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-12F4BS	2,070ft
NBU 1022-12F1BS	1,407ft
NBU 1022-12E4BS	2,234ft
NBU 1022-12F1CS	1,739ft
NBU 1022-12E1CS	1,903ft
NBU 1022-12E1BS	1,572ft

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 1022-12F

TOPO E
NBU 1022-12F4BS, NBU 1022-12F1BS, NBU 1022-12E4BS, NBU 1022-12F1CS, NBU 1022-12E1CS & NBU 1022-12E1BS
LOCATED IN SECTION 12, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

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Sheridan, WY 82801
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Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 17	
Drawn: TL	Date: 8 Mar 2011		17 of 18
Revised: TL	Date: 19 Apr 2011		

RECEIVED: September 12, 2011

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – NBU 1022-12F
WELLS – NBU 1022-12F4BS, NBU 1022-12F1BS, NBU 1022-12E4BS, NBU 1022-12F1CS, NBU 1022-12E1CS & NBU 1022-12E1BS
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 4.6 miles to a service road to the southwest. Exit right and proceed in a southwesterly direction along the service road approximately 0.3 miles to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 47.2 miles in a southerly direction.

RECEIVED: September 12, 2011

API Well Number: 43047519880000

Scientific Drilling
Rocky Mountain Operations

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-12F PAD
Well: NBU 1022-12E1BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 11.00°

Magnetic Field
Strength: 52304.6snT
Dip Angle: 65.86°
Date: 08/26/2011
Model: IGRF2010

WELL DETAILS: NBU 1022-12E1BS

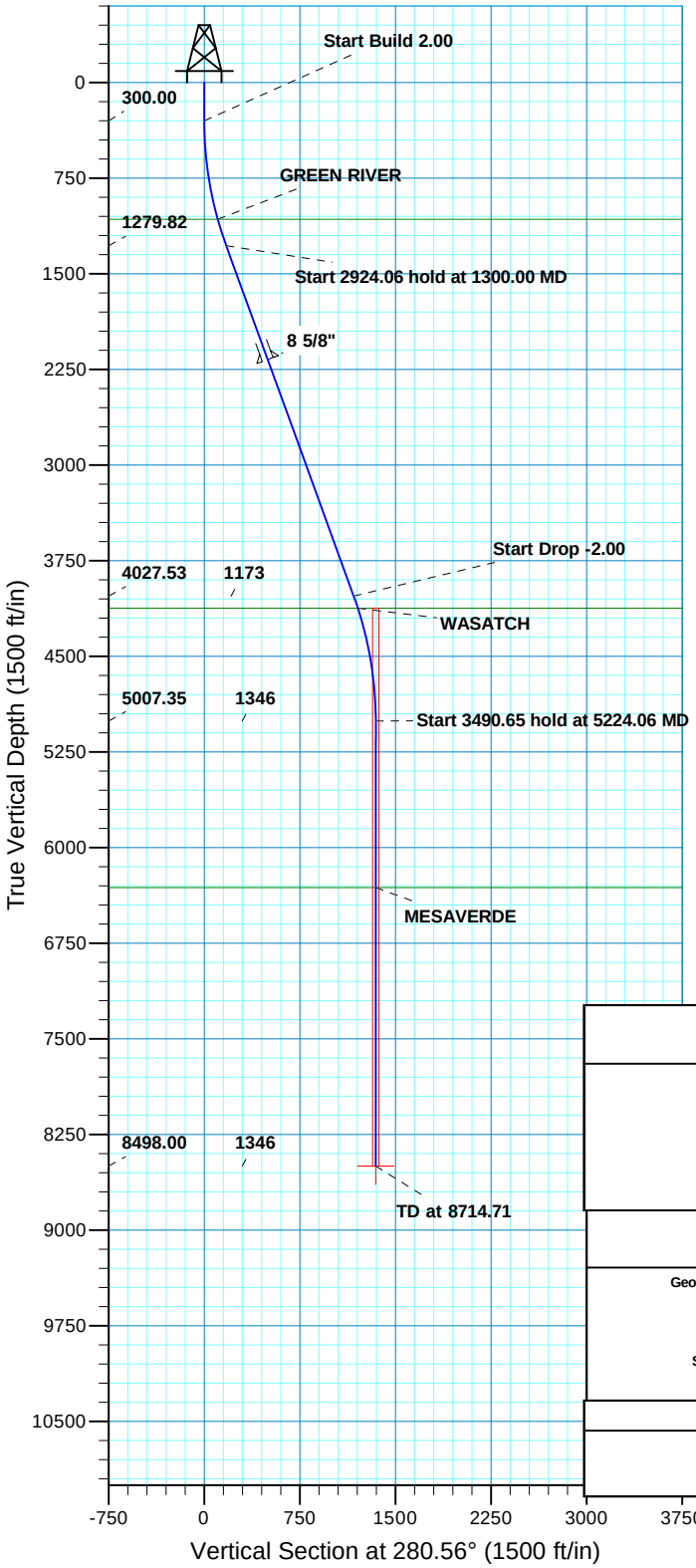
GL 5164 & KB 4
@ 5168.00ft (ASSUMED)

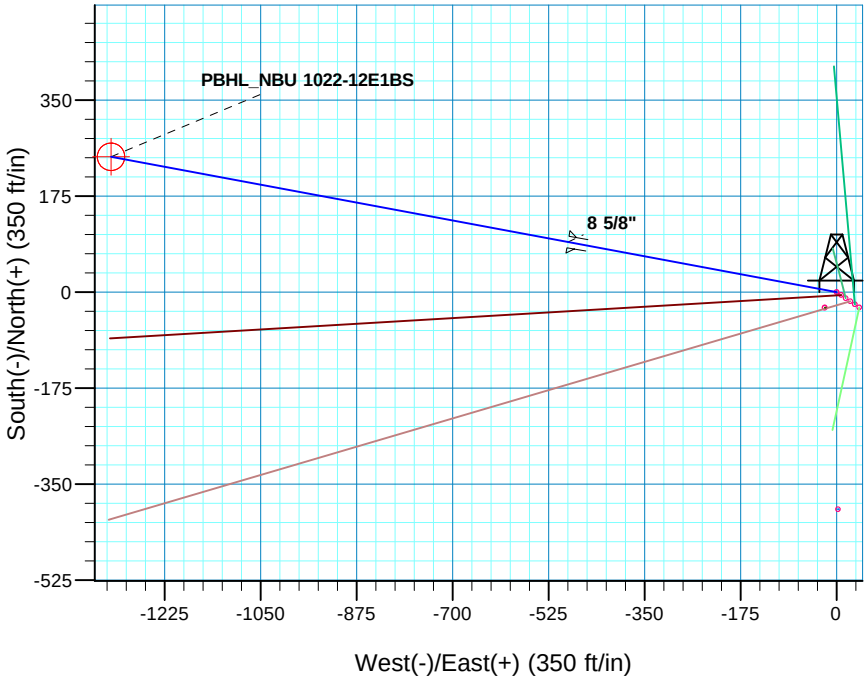
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14517644.12	2091715.83	39° 57' 56.664 N	109° 23' 21.822 W

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8498.00	246.61	-1322.83	14517866.81	2090388.76	39° 57' 59.101 N	109° 23' 38.814 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	
1300.00	20.00	280.56	1279.82	31.66	-169.84	2.00	280.56	172.77	
4224.06	20.00	280.56	4027.53	214.95	-1152.99	0.00	0.00	1172.86	
5224.06	0.00	0.00	5007.35	246.61	-1322.83	2.00	180.00	1345.62	
8714.71	0.00	0.00	8498.00	246.61	-1322.83	0.00	0.00	1345.62	PBHL_NBU 1022-12E1BS

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
1073.00	1082.70	GREEN RIVER
4123.00	4325.03	WASATCH
6314.00	6530.71	MESAVERDE

CASING DETAILS

TVD	MD	Name	Size
2174.00	2251.57	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-12E1BS/OH)

Created By: RobertScott Date: 13:48, August 26 2011

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US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022-12F PAD
NBU 1022-12E1BS

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

26 August, 2011

Anadarko
Petroleum Corporation

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Rocky Mountain Operations

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-12E1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5164 & KB 4 @ 5168.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5164 & KB 4 @ 5168.00ft (ASSUMED)
Site:	NBU 1022-12F PAD	**North Reference:**	True
Well:	NBU 1022-12E1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

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

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site NBU 1022-12F PAD, SECTION 12 T10S R22E

Site Position:		**Northing:**	14,517,644.13 usft	**Latitude:**	39° 57' 56.664 N
From:	Lat/Long	**Easting:**	2,091,715.83 usft	**Longitude:**	109° 23' 21.822 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.03 °

Well NBU 1022-12E1BS, 1818 FNL 2146 FWL

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,517,644.13 usft	**Latitude:**	39° 57' 56.664 N
	+E/-W	0.00 ft	**Easting:**	2,091,715.83 usft	**Longitude:**	109° 23' 21.822 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,164.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/26/11	11.00	65.86	52,305

Design PLAN #1 PRELIMINARY

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	280.56

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	
1,300.00	20.00	280.56	1,279.82	31.66	-169.84	2.00	2.00	0.00	280.56	
4,224.06	20.00	280.56	4,027.53	214.95	-1,152.99	0.00	0.00	0.00	0.00	
5,224.06	0.00	0.00	5,007.35	246.61	-1,322.83	2.00	-2.00	0.00	180.00	
8,714.71	0.00	0.00	8,498.00	246.61	-1,322.83	0.00	0.00	0.00	0.00	PBHL_NBU 1022-12E

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Rocky Mountain Operations

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-12E1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5164 & KB 4 @ 5168.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5164 & KB 4 @ 5168.00ft (ASSUMED)
Site:	NBU 1022-12F PAD	**North Reference:**	True
Well:	NBU 1022-12E1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	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
Start Build 2.00									
400.00	2.00	280.56	399.98	0.32	-1.72	1.75	2.00	2.00	0.00
500.00	4.00	280.56	499.84	1.28	-6.86	6.98	2.00	2.00	0.00
600.00	6.00	280.56	599.45	2.88	-15.43	15.69	2.00	2.00	0.00
700.00	8.00	280.56	698.70	5.11	-27.41	27.88	2.00	2.00	0.00
800.00	10.00	280.56	797.47	7.98	-42.79	43.52	2.00	2.00	0.00
900.00	12.00	280.56	895.62	11.47	-61.54	62.60	2.00	2.00	0.00
1,000.00	14.00	280.56	993.06	15.60	-83.66	85.10	2.00	2.00	0.00
1,082.70	15.65	280.56	1,073.00	19.47	-104.46	106.26	2.00	2.00	0.00
GREEN RIVER									
1,100.00	16.00	280.56	1,089.64	20.34	-109.10	110.98	2.00	2.00	0.00
1,200.00	18.00	280.56	1,185.27	25.70	-137.84	140.21	2.00	2.00	0.00
1,300.00	20.00	280.56	1,279.82	31.66	-169.84	172.77	2.00	2.00	0.00
Start 2924.06 hold at 1300.00 MD									
1,400.00	20.00	280.56	1,373.78	37.93	-203.46	206.97	0.00	0.00	0.00
1,500.00	20.00	280.56	1,467.75	44.20	-237.09	241.17	0.00	0.00	0.00
1,600.00	20.00	280.56	1,561.72	50.47	-270.71	275.37	0.00	0.00	0.00
1,700.00	20.00	280.56	1,655.69	56.74	-304.33	309.58	0.00	0.00	0.00
1,800.00	20.00	280.56	1,749.66	63.00	-337.96	343.78	0.00	0.00	0.00
1,900.00	20.00	280.56	1,843.63	69.27	-371.58	377.98	0.00	0.00	0.00
2,000.00	20.00	280.56	1,937.60	75.54	-405.20	412.18	0.00	0.00	0.00
2,100.00	20.00	280.56	2,031.57	81.81	-438.82	446.38	0.00	0.00	0.00
2,200.00	20.00	280.56	2,125.54	88.08	-472.45	480.59	0.00	0.00	0.00
2,251.57	20.00	280.56	2,174.00	91.31	-489.79	498.22	0.00	0.00	0.00
8 5/8"									
2,300.00	20.00	280.56	2,219.51	94.34	-506.07	514.79	0.00	0.00	0.00
2,400.00	20.00	280.56	2,313.48	100.61	-539.69	548.99	0.00	0.00	0.00
2,500.00	20.00	280.56	2,407.45	106.88	-573.31	583.19	0.00	0.00	0.00
2,600.00	20.00	280.56	2,501.42	113.15	-606.94	617.39	0.00	0.00	0.00
2,700.00	20.00	280.56	2,595.39	119.42	-640.56	651.60	0.00	0.00	0.00
2,800.00	20.00	280.56	2,689.35	125.69	-674.18	685.80	0.00	0.00	0.00
2,900.00	20.00	280.56	2,783.32	131.95	-707.81	720.00	0.00	0.00	0.00
3,000.00	20.00	280.56	2,877.29	138.22	-741.43	754.20	0.00	0.00	0.00
3,100.00	20.00	280.56	2,971.26	144.49	-775.05	788.40	0.00	0.00	0.00
3,200.00	20.00	280.56	3,065.23	150.76	-808.67	822.61	0.00	0.00	0.00
3,300.00	20.00	280.56	3,159.20	157.03	-842.30	856.81	0.00	0.00	0.00
3,400.00	20.00	280.56	3,253.17	163.29	-875.92	891.01	0.00	0.00	0.00
3,500.00	20.00	280.56	3,347.14	169.56	-909.54	925.21	0.00	0.00	0.00
3,600.00	20.00	280.56	3,441.11	175.83	-943.16	959.41	0.00	0.00	0.00
3,700.00	20.00	280.56	3,535.08	182.10	-976.79	993.62	0.00	0.00	0.00
3,800.00	20.00	280.56	3,629.05	188.37	-1,010.41	1,027.82	0.00	0.00	0.00
3,900.00	20.00	280.56	3,723.02	194.64	-1,044.03	1,062.02	0.00	0.00	0.00
4,000.00	20.00	280.56	3,816.99	200.90	-1,077.66	1,096.22	0.00	0.00	0.00
4,100.00	20.00	280.56	3,910.95	207.17	-1,111.28	1,130.42	0.00	0.00	0.00
4,200.00	20.00	280.56	4,004.92	213.44	-1,144.90	1,164.63	0.00	0.00	0.00
4,224.06	20.00	280.56	4,027.53	214.95	-1,152.99	1,172.86	0.00	0.00	0.00
Start Drop -2.00									

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Rocky Mountain Operations

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-12E1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5164 & KB 4 @ 5168.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5164 & KB 4 @ 5168.00ft (ASSUMED)
Site:	NBU 1022-12F PAD	**North Reference:**	True
Well:	NBU 1022-12E1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	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)
4,300.00	18.48	280.56	4,099.23	219.53	-1,177.59	1,197.88	2.00	-2.00	0.00
4,325.03	17.98	280.56	4,123.00	220.97	-1,185.29	1,205.71	2.00	-2.00	0.00
WASATCH									
4,400.00	16.48	280.56	4,194.61	225.04	-1,207.12	1,227.92	2.00	-2.00	0.00
4,500.00	14.48	280.56	4,290.97	229.93	-1,233.36	1,254.61	2.00	-2.00	0.00
4,600.00	12.48	280.56	4,388.21	234.20	-1,256.28	1,277.92	2.00	-2.00	0.00
4,700.00	10.48	280.56	4,486.21	237.85	-1,275.84	1,297.82	2.00	-2.00	0.00
4,800.00	8.48	280.56	4,584.84	240.87	-1,292.03	1,314.29	2.00	-2.00	0.00
4,900.00	6.48	280.56	4,683.98	243.26	-1,304.83	1,327.31	2.00	-2.00	0.00
5,000.00	4.48	280.56	4,783.52	245.01	-1,314.22	1,336.87	2.00	-2.00	0.00
5,100.00	2.48	280.56	4,883.33	246.12	-1,320.19	1,342.94	2.00	-2.00	0.00
5,200.00	0.48	280.56	4,983.29	246.59	-1,322.73	1,345.52	2.00	-2.00	0.00
5,224.06	0.00	0.00	5,007.35	246.61	-1,322.83	1,345.62	2.00	-2.00	0.00
Start 3490.65 hold at 5224.06 MD									
5,300.00	0.00	0.00	5,083.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
5,400.00	0.00	0.00	5,183.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
5,500.00	0.00	0.00	5,283.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
5,600.00	0.00	0.00	5,383.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
5,700.00	0.00	0.00	5,483.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
5,800.00	0.00	0.00	5,583.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
5,900.00	0.00	0.00	5,683.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
6,000.00	0.00	0.00	5,783.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
6,100.00	0.00	0.00	5,883.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
6,200.00	0.00	0.00	5,983.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
6,300.00	0.00	0.00	6,083.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
6,400.00	0.00	0.00	6,183.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
6,500.00	0.00	0.00	6,283.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
6,530.71	0.00	0.00	6,314.00	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
MESAVERDE									
6,600.00	0.00	0.00	6,383.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
6,700.00	0.00	0.00	6,483.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
6,800.00	0.00	0.00	6,583.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
6,900.00	0.00	0.00	6,683.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
7,000.00	0.00	0.00	6,783.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
7,100.00	0.00	0.00	6,883.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
7,200.00	0.00	0.00	6,983.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
7,300.00	0.00	0.00	7,083.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
7,400.00	0.00	0.00	7,183.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
7,500.00	0.00	0.00	7,283.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
7,600.00	0.00	0.00	7,383.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
7,700.00	0.00	0.00	7,483.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
7,800.00	0.00	0.00	7,583.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
7,900.00	0.00	0.00	7,683.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
8,000.00	0.00	0.00	7,783.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
8,100.00	0.00	0.00	7,883.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
8,200.00	0.00	0.00	7,983.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
8,300.00	0.00	0.00	8,083.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
8,400.00	0.00	0.00	8,183.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
8,500.00	0.00	0.00	8,283.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
8,600.00	0.00	0.00	8,383.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
8,700.00	0.00	0.00	8,483.29	246.61	-1,322.83	1,345.62	0.00	0.00	0.00
8,714.71	0.00	0.00	8,498.00	246.61	-1,322.83	1,345.62	0.00	0.00	0.00

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Rocky Mountain Operations

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-12E1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5164 & KB 4 @ 5168.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5164 & KB 4 @ 5168.00ft (ASSUMED)
Site:	NBU 1022-12F PAD	**North Reference:**	True
Well:	NBU 1022-12E1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	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)
PBHL_NBU 1022-12E1BS									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 1022-12E1E - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,498.00	246.61	-1,322.83	14,517,866.81	2,090,388.76	39° 57' 59.101 N	109° 23' 38.814 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,251.57	2,174.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,082.70	1,073.00	GREEN RIVER			
4,325.03	4,123.00	WASATCH			
6,530.71	6,314.00	MESAVERDE			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	31.66	-169.84	Start 2924.06 hold at 1300.00 MD
4,224.06	4,027.53	214.95	-1,152.99	Start Drop -2.00
5,224.06	5,007.35	246.61	-1,322.83	Start 3490.65 hold at 5224.06 MD
8,714.71	8,498.00	246.61	-1,322.83	TD at 8714.71

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NBU 1022-12E1BS

Surface:	1818 FNL / 2146 FWL	SENW	Lot
BHL:	1572 FNL / 820 FWL	SWNW	Lot

NBU 1022-12E1CS

Surface:	1824 FNL / 2154 FWL	SENW	Lot
BHL:	1903 FNL / 821 FWL	SWNW	Lot

NBU 1022-12E4BS

Surface:	1835 FNL / 2170 FWL	SENW	Lot
BHL:	2234 FNL / 821 FWL	SWNW	Lot

NBU 1022-12F1BS

Surface:	1841 FNL / 2179 FWL	SENW	Lot
BHL:	1407 FNL / 2137 FWL	SENW	Lot

NBU 1022-12F1CS

Surface:	1830 FNL / 2162 FWL	SENW	Lot
BHL:	1739 FNL / 2138 FWL	SENW	Lot

NBU 1022-12F4BS

Surface:	1847 FNL / 2187 FWL	SENW	Lot
BHL:	2070 FNL / 2140 FWL	SENW	Lot

Pad: NBU 1022-12F PAD

Section 12 T10S R22E

Mineral Lease: UT ST UO 01197-A ST

Uintah County, Utah

Operator: Kerr-McGee Oil & Gas Onshore LP

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

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

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

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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 513-12E and NBU 513-12EX. The NBU 513-12E was plugged and abandoned on April 27, 2010. The NBU 513-12EX well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of September 7, 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):

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The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is ±2,170' and the individual segments are broken up as follows:

±495' (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.

±290' (0.1 miles) –New 6" buried gas pipeline from the edge of pad to the tie-in at the proposed 1022-12F4 Intersection 8" gas pipeline. Please refer to Topo D & D2.

±1,385' (0.3 miles) –New 8" buried gas pipeline from the proposed 1022-12F4 Intersection 8" gas pipeline to the tie-in at the proposed 1022-12B Intersection 10" gas pipeline. Please refer to Topo D & D2.

The total liquid gathering pipeline distance from the separator to the tie in point is ±2,170'and the individual segments are broken up as follows:

±495' (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.

±290' (0.1 miles) –New 6" buried liquid pipeline from the edge of pad to the tie-in at the proposed 1022-12F4 Intersection 6" liquid pipeline. Please refer to Topo D & D2.

±1,385' (0.3 miles) –New 6" buried liquid pipeline from the tie-in at the proposed 1022-12F4 Intersection 6" liquid pipeline to the tie-in at the proposed 1022-12B Intersection 6" liquid 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.

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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.

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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 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

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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

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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.

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J. Surface/Mineral Ownership:

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

L. Other Information:

None

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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.

Gina T. Becker

Gina T.Becker

September 7, 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 1022-12E1BS
10S-22E-Sec. 12
SENW/SWNW
Surface: 1818' FNL, 2146' FWL
Bottom Hole: 1572' FNL, 820' FWL
Uintah County, Utah

Dear Ms. Mason:

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

- Kerr-McGee's NBU 1022-12E1BS 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

Joseph D. Johnson
Landman

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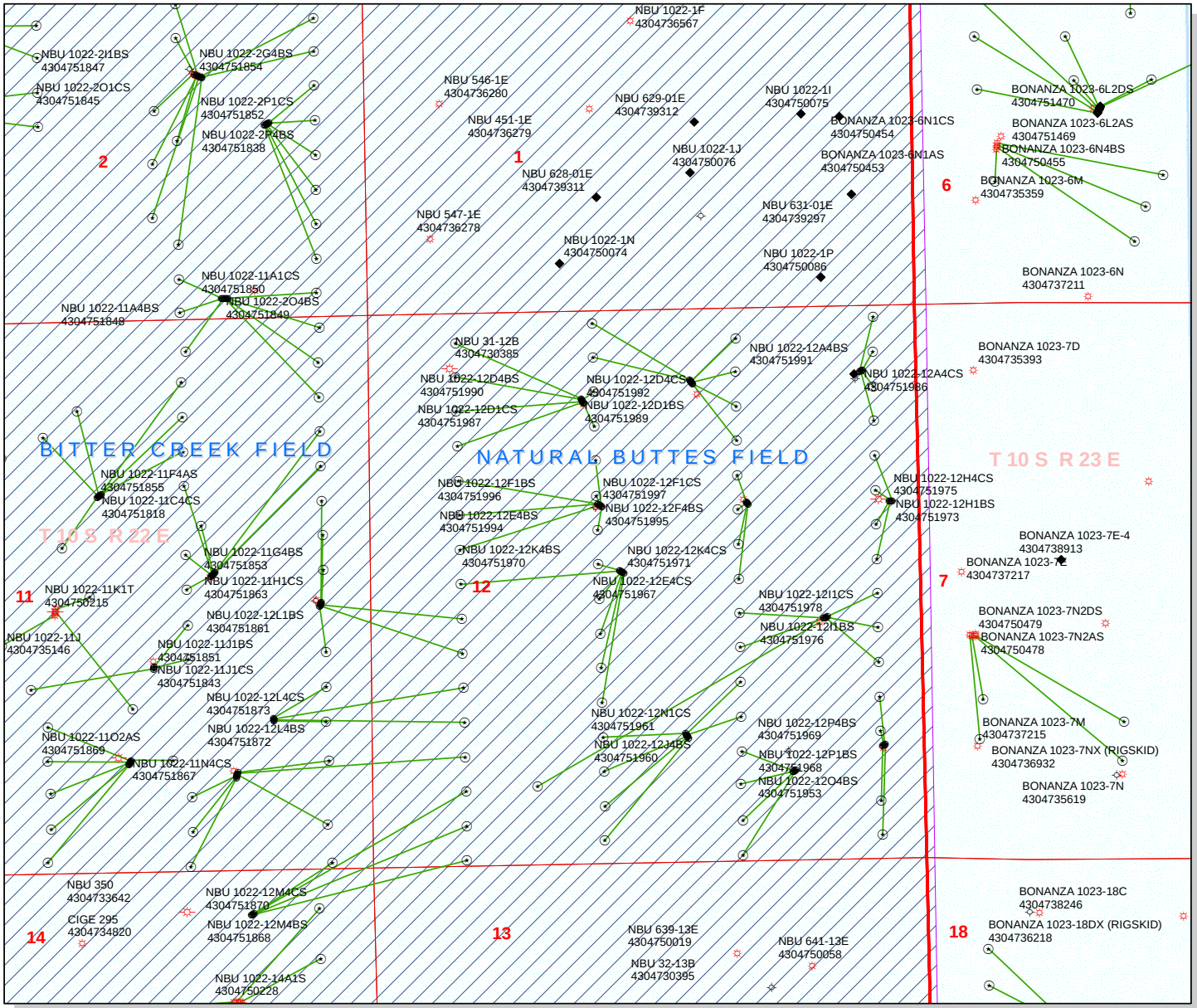
API Well Number: 43047519880000



API Number: 4304751988

Well Name: NBU 1022-12E1BS

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
STATUS
- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields
STATUS
- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED
- Sections
- Township

Wells Query
Status
- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LA - Location Abandoned
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- RET - Returned APD
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

1,250 625 0 1,250 Feet

1:11,836

RECEIVED: September 15, 2011

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
(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

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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

NBU 1022-12B PAD

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

NBU 1022-12P PAD

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

NBU 1022-12P2 PAD

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

NBU 1022-12A PAD

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

RECEIVED: September 20, 2011

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

NBU 1022-12I PAD

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

NBU 1022-12G PAD

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

NBU 1022-12F4 PAD

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

RECEIVED: September 20, 2011

API # WELL NAME LOCATION

(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 -06'00'

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: Jim Davis
To: Hill, Brad; Mason, Diana
CC: Bonner, Ed; Garrison, LaVonne; Julie Jacobsen
Date: 11/28/2011 3:44 PM
Subject: APD approvals (Kerr McGee in 10S 22E Sec12)

The following APD have been approved by SITLA including arch clearance. Construction of these locations will need to be monitored by a paleontologist as recommended in the paleo survey reports. Kerr McGee, please acknowledge this stipulation with an email response. Thanks.

4304751984	NBU 1022-12C4BS
4304751985	NBU 1022-12C4CS
4304751987	NBU 1022-12D1CS
4304751989	NBU 1022-12D1BS
4304751990	NBU 1022-12D4BS
4304751992	NBU 1022-12D4CS
4304751988	NBU 1022-12E1BS
4304751993	NBU 1022-12E1CS
4304751994	NBU 1022-12E4BS
4304751995	NBU 1022-12F4BS
4304751996	NBU 1022-12F1BS
4304751997	NBU 1022-12F1CS

-Jim Davis

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

RECEIVED: November 29, 2011

API Well Number: 43047519880000

BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-12E1BS 43047519880000

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-12E1B			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2097	8498		
Previous Shoe Setting Depth (TVD)	40	2097		
Max Mud Weight (ppg)	8.3	12.5		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5439	12.3		

Calculations	Surf String	8.625	"	
Max BHP (psi)	.052*Setting Depth*MW=	905		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	653	NO	air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	444	YES	OK
			***Can Full Expected Pressure Be Held At Previous Shoe?**	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	452	NO	Reasonable for area
Required Casing/BOPE Test Pressure=		2097	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=	5524		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4504	YES	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3654	YES	OK
			***Can Full Expected Pressure Be Held At Previous Shoe?**	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4116	NO	Reasonable
Required Casing/BOPE Test Pressure=		5000	psi	
***Max Pressure Allowed @ Previous Casing Shoe=**		2097	psi *Assumes 1psi/ft frac gradient	

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

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

RECEIVED: December 19, 2011

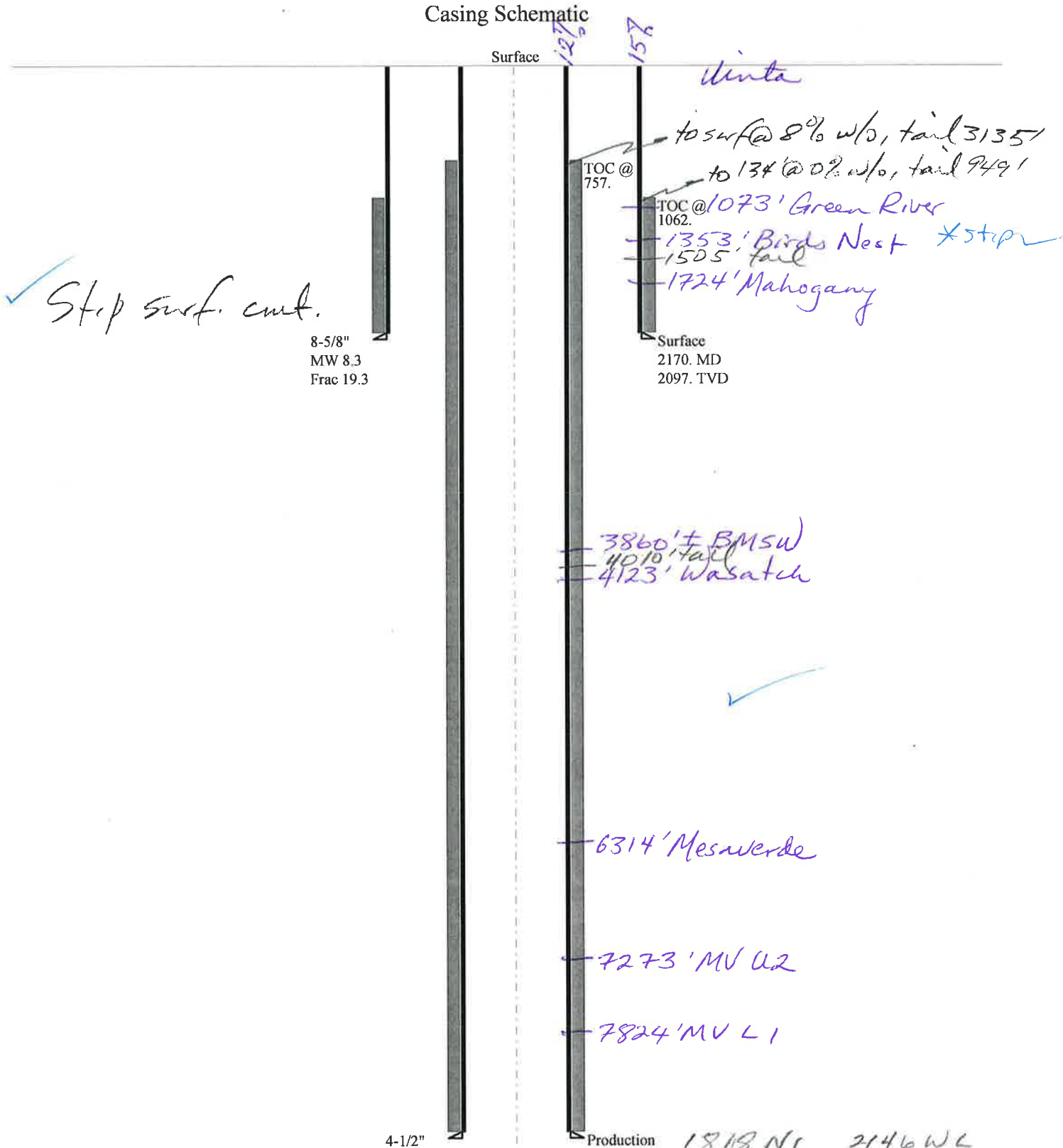
***Max Pressure Allowed @ Previous Casing Shoe=**		psi *Assumes 1psi/ft frac gradient

RECEIVED: December 19, 2011

API Well Number: 43047519880000

43047519880000 NBU 1022-12E1BS

Casing Schematic



Well name:	**43047519880000 NBU 1022-12E1BS**
Operator:	**KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type:	Surface
Project ID:	43-047-51988
Location:	UINTAH COUNTY

Design parameters:

Collapse

Mud weight: 8.330 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 1,910 psi

Internal gradient: 0.120 psi/ft

Calculated BHP 2,161 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

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

Tension is based on air weight.

Neutral point: 1,896 ft

Environment:

H2S considered?	No
Surface temperature:	74 °F
Bottom hole temperature:	103 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	100 ft
Cement top:	1,062 ft

Directional Info - Build & Drop

Kick-off point	300 ft
Departure at shoe:	470 ft
Maximum dogleg:	2 °/100ft
Inclination at shoe:	20 °

Re subsequent strings:

Next setting depth:	8,715 ft
Next mud weight:	12.500 ppg
Next setting BHP:	5,659 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	2097	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	908	1880	2.071	2161	3390	1.57	58.7	348	5.93 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940

Date: December 16,2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2097 ft, a mud weight of 8.33 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

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

Well name:	**43047519880000 NBU 1022-12E1BS**
Operator:	**KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type:	Production
Project ID:	43-047-51988
Location:	UINTAH COUNTY

Design parameters:

Collapse

Mud weight: 12.500 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 3,649 psi

Internal gradient: 0.220 psi/ft

Calculated BHP 5,518 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

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

Tension is based on air weight.

Neutral point: 7,127 ft

Environment:

H2S considered?	No
Surface temperature:	74 °F
Bottom hole temperature:	193 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	100 ft
Cement top:	757 ft

Directional Info - Build & Drop

Kick-off point	300 ft
Departure at shoe:	1346 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	8715	4.5	11.60	I-80	LT&C	8498	8715	3.875	115038

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	5518	6360	1.153	5518	7780	1.41	98.6	212	2.15 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940

Date: December 16,2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 8498 ft, a mud weight of 12.5 ppg The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

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

ON-SITE PREDRILL EVALUATION
Utah Division of Oil, Gas and Mining

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.				
Well Name	NBU 1022-12E1BS				
API Number	43047519880000	**APD No**	4582	**Field/Unit**	NATURAL BUTTES
Location: 1/4,1/4	SENW **Sec** 12 **Tw** 10.0S **Rng** 22.0E 1818 FNL 2146 FWL				
GPS Coord (UTM)	637563 4424981	**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 1500'. 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 47.2 miles to the northwest. Access from Vernal is by following Utah State, Uintah County and oilfield development roads. Five wells, in addition to this one will be directionally drilled from this pad. (For a total of six new wells). There is one existing well on this pad. (The NBU 513-12EX). 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 an east-west direction along the top of a flat topped ridge. This ridge breaks off sharply into rugged secondary canyons on the north 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 southwest side 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 seven wells, and is on the best site available in the immediate area.

Surface Use Plan

Current Surface Use
Grazing
Wildlfe Habitat
Existing Well Pad

New Road Miles	Well Pad	Src Const Material	Surface Formation
0	**Width** 352 **Length** 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 Y

West side of reserve pit will be 1.1 feet of fill. This fill shall be compacted during location construction.

Drainage Diverson Required? N

Berm Required? N

Erosion Sedimentation Control Required? N

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

Reserve Pit

Site-Specific Factors		Site Ranking	
Distance to Groundwater (feet)	100 to 200	5	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)		20	
Native Soil Type	Mod permeability	10	
Fluid Type	Fresh Water	5	
Drill Cuttings	Normal Rock	0	
Annual Precipitation (inches)		0	
Affected Populations	10 to 30	10 to 30	
Presence Nearby Utility Conduits	Not Present	0	
	Final Score	46	1 Sensitivity Level

Characteristics / Requirements

The reserve pit is planned in an area of cut (except for the west side which will be in 1.1 feet of fill) on the west side of the location. Dimensions are 120’ x 260’ 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	10/12/2011
Evaluator	**Date / Time**

Application for Permit to Drill
Statement of Basis

Utah Division of Oil, Gas and Mining

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
4582	43047519880000	SITLA	GW	S	No

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.	**Surface Owner-APD**	
Well Name	NBU 1022-12E1BS	**Unit**	NATURAL BUTTES
Field	NATURAL BUTTES	**Type of Work**	DRILL

Location SENW 12 10S 22E S 1818 FNL 2146 FWL GPS Coord (UTM) 637487E 4425192N

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 3,860'. 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	10/19/2011
APD Evaluator	**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 1500'. 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.

Six wells will be directionally drilled from this location. They are the NBU 1022-12E1BS, NBU 1022-12E1CS, NBU 1022-12E4BS, NBU 1022-12F1BS, NBU 1022-12F1CS and the NBU 1022-12F4BS. The existing location has one well. This well is the NBU 513-12EX, 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 northeast-southwest direction. This ridge breaks off sharply into rugged secondary canyons on the north and west sides. No drainage concerns exist, and no diversions will be needed. The pad as modified should be stable and sufficient for seven 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 southwest side 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	10/12/2011
Onsite Evaluator	**Date / Time**

Conditions of Approval / Application for Permit to Drill

RECEIVED: December 29, 2011

Application for Permit to Drill
Statement of Basis

Category	Condition
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.
Pits	The reserve pit should be located on the west side of the location.

RECEIVED: December 29, 2011

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 9/12/2011
API NO. ASSIGNED: 43047519880000
WELL NAME: NBU 1022-12E1BS
OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)
PHONE NUMBER: 720 929-6086
CONTACT: Gina Becker

PROPOSED LOCATION: SENW 12 100S 220E
Permit Tech Review: ✔

SURFACE: 1818 FNL 2146 FWL
Engineering Review: ✔

BOTTOM: 1572 FNL 0820 FWL
Geology Review: ✔

COUNTY: UINTAH
LATITUDE: 39.96571
LONGITUDE: -109.39016
UTM SURF EASTINGS: 637487.00
NORTHINGS: 4425192.00
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**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit: NATURAL BUTTES

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ✔ **Drilling Unit**

Board Cause No: Cause 173-14
Effective Date: 12/2/1999
Siting: Suspends General Siting

- ✔ **R649-3-11. Directional Drill**

Comments: Presite Completed

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

RECEIVED: December 29, 2011

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 1022-12E1BS
API Well Number: 43047519880000
Lease Number: UT ST UO 01997-A ST
Surface Owner: STATE
Approval Date: 12/29/2011

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

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: UT ST UO 01997-

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-12E1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047519880000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1818 FNL 2146 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 12 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION

- ☐ NOTICE OF INTENT — Approximate date work will start:
- ☐ SUBSEQUENT REPORT — Date of Work Completion:
- ✓ SPUD REPORT — Date of Spud: 4/23/2012
- ☐ DRILLING REPORT — Report Date:

TYPE OF ACTION

☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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. CMT W/ 28 SX READY MIX. SPUD WELL LOCATION ON APRIL 23, 2012 AT 23:00 HRS.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
April 27, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Gina Becker	720 929-6086	Regulatory Analyst II

SIGNATURE	DATE
N/A	4/25/2012

RECEIVED: Apr. 25, 2012

FORM 9

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

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

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: [signature]

DATE: 4/23/2012

(This space for State use only)

RECEIVED
APR 24 2012
Div. of Oil, Gas & Mining

(5/2000)

(See Instructions on Reverse Side)

	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 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) 929-6086

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751997	NBU 1022-12F1CS		SENW	12	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	4/23/2012			4/30/2012	

Comments: MIRU PETE MARTIN BUCKET RIG.
SPUD WELL LOCATION ON 04/23/2012 AT 17:00 HRS. WSMVD SENW

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751993	NBU 1022-12E1CS		SENW	12	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	4/23/2012			4/30/2012	

Comments: MIRU PETE MARTIN BUCKET RIG.
SPUD WELL LOCATION ON 04/23/2012 AT 20:00 HRS. WSMVD SWNW

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751988	NBU 1022-12E1BS		SENW	12	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	4/23/2012			4/30/2012	

Comments: MIRU PETE MARTIN BUCKET RIG.
SPUD WELL LOCATION ON 04/23/2012 AT 23:00 HRS. WSMVD SWNW

ACTION CODES:

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

GINA BECKER
Name (Please Print)

Signature

REGULATORY ANALYST
Title

4/25/2012
Date

RECEIVED
APR 25 2012
Div. of Oil, Gas & Mining

(5/2000)

FORM 9

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

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-12E1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047519880000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1818 FNL 2146 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 12 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 5/1/2012	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	✓ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

THE OPERATOR REQUESTS APPROVAL FOR A FIT WAIVER, A CLOSED LOOP DRILLING OPTION, AND A PRODUCTION CASING CHANGE. ALL OTHER ASPECTS OF THE PREVIOUSLY APPROVED DRILLING PLAN WILL NOT CHANGE. PLEASE SEE THE ATTACHMENT. THANK YOU.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
May 04, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst
SIGNATURE N/A		**DATE** 5/1/2012

RECEIVED: May. 01, 2012

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

NBU 1022-12E1BS

Surface:	1818 FNL / 2146 FWL	SENW
BHL:	1572 FNL / 820 FWL	SWNW

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:

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1,073'	
Birds Nest	1,353'	Water
Mahogany	1,724'	Water
Wasatch	4,123'	Gas
Mesaverde	6,314'	Gas
Sego	8,498'	Gas
TVD	8,498'	
TD	8,715'	

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

RECEIVED: May. 01, 2012

7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 8498' TVD, approximately equals 5,439 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,557 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.

RECEIVED: May. 01, 2012

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 11inch 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.

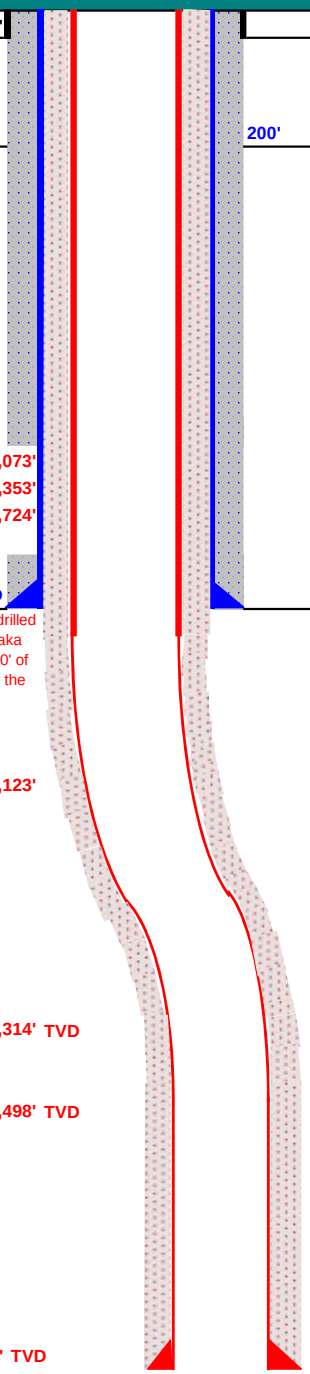
RECEIVED: May. 01, 2012

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	May 1, 2012
WELL NAME	**NBU 1022-12E1BS**	TD	8,498' TVD 8,715' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah
FINISHED ELEVATION	5164		
SURFACE LOCATION	SENW 1818 FNL 2146 FWL Sec 12 T 10S R 22E		
	Latitude: 39.96574 Longitude: -109.389395	NAD 27	
BTM HOLE LOCATION	SWNW 1572 FNL 820 FWL Sec 12 T 10S R 22E		
	Latitude: 39.966417 Longitude: -109.394115	NAD 27	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde		
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.		

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'	14"		
		200'	12-1/4	8-5/8", 28#, IJ-55, LTC	Air mist
			11'	8-5/8", 28#, IJ-55, LTC	Air mist
			7-7/8"	4-1/2" 11.6# I-80 Ultra DQX/LTC csg	Water / Fresh Water Mud 8.3-12.5 ppg



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

Green River @ 1,073'
Top of Birds Nest @ 1,353'
Mahogany @ 1,724'

Preset f/ GL @ 2,170' TVD

Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

Wasatch @ 4,123'

Mud logging program TBD
Cased hole logging program from TD - surf csg

Mverde @ 6,314' TVD

Sego @ 8,498' TVD

Max anticipated Mud required 12.5 ppg

TD @ 8,498' TVD 8,715' MD

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	COLLAPSE LTC	TENSION DQX
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	1.15		3.27
								7,780	6,350	223,000	267,035
	4-1/2"	5,000	to	8,715'	11.60	I-80	LTC	1.11	1.15	6.40	

Surface Casing:

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

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

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

Production casing:

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

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

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT		YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80		1.15
Option 1			+ 0.25 pps flocele					
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80		1.15
			+ 2% CaCl + 0.25 pps flocele					
SURFACE			**NOTE: If well will circulate water to surface, option 2 will be utilized**					
Option 2	LEAD	1,670'	65/35 Poz + 6% Gel + 10 pps gilsonite	160	35%	11.00		3.82
			+ 0.25 pps Flocele + 3% salt BWOW					
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15
			+ 0.25 pps flocele					
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION	LEAD	3,615'	Premium Lite II +0.25 pps	290	35%	12.00		3.38
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	5,100'	50/50 Poz/G + 10% salt + 2% gel	1,210	35%	14.30		1.31
			+ 0.1% R-3					

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

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

FLOAT EQUIPMENT & CENTRALIZERS

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: _____ **DATE:** _____

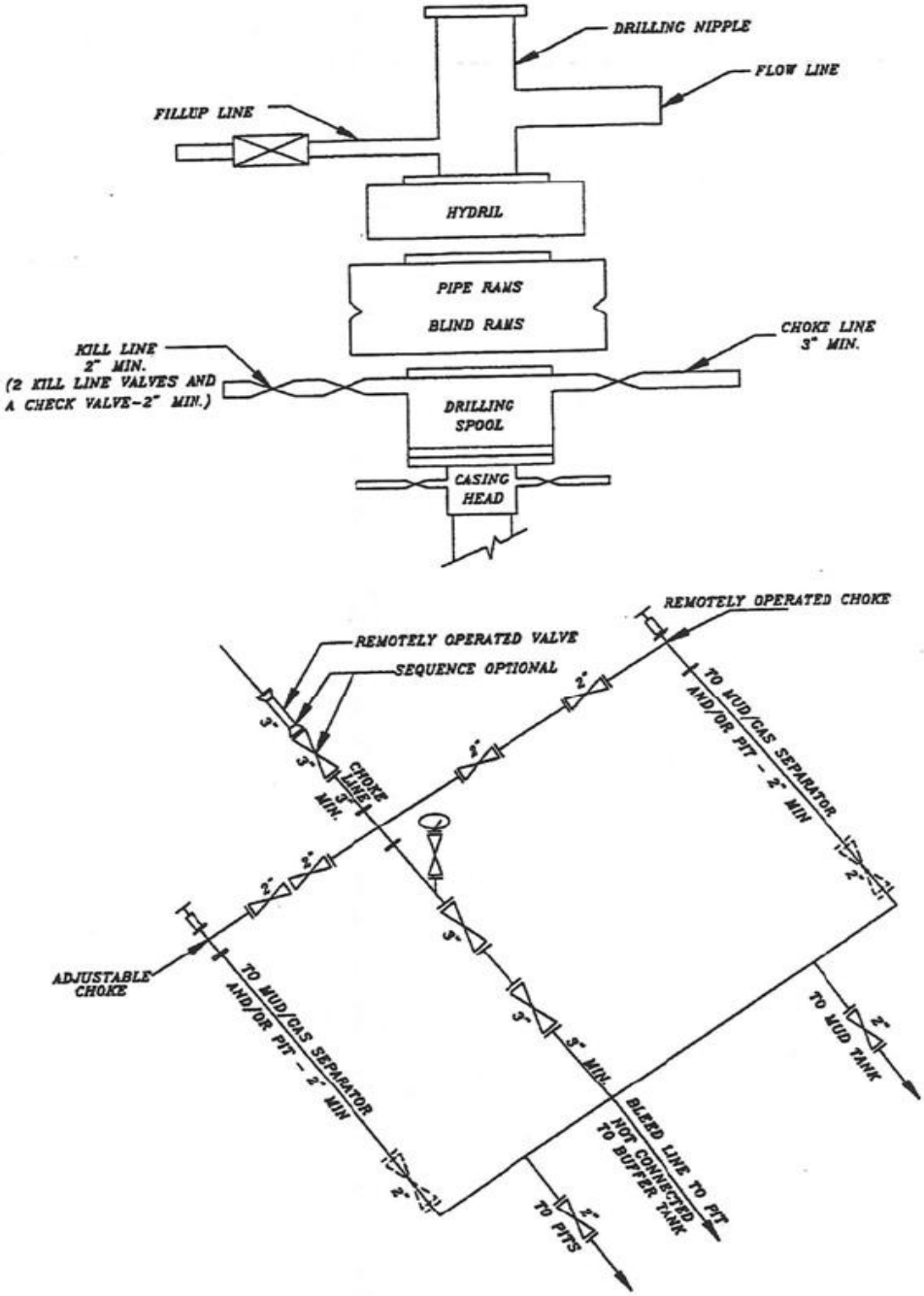
Nick Spence / Danny Showers / Chad Loesel

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Kenny Gathings / Lovel Young

RECEIVED: May. 01, 2012

EXHIBIT A
NBU 1022-12E1BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

RECEIVED: May. 01, 2012

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.

RECEIVED: May. 01, 2012

FORM 9

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

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-12E1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047519880000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1818 FNL 2146 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 12 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 5/3/2012	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

MIRU AIR RIG ON 5/1/2012. DRILLED SURFACE HOLE TO 2429'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
May 10, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst
SIGNATURE N/A		**DATE** 5/3/2012

RECEIVED: May. 03, 2012

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-

SUNDRY NOTICES AND REPORTS ON WELLS

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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-12E1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047519880000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1818 FNL 2146 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 12 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 5/15/2012	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Pit Refurb/ACTS

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

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

Approved by the Utah Division of Oil, Gas and Mining

Date: May 29, 2012

By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Gina Becker	720 929-6086	Regulatory Analyst II

SIGNATURE	DATE
N/A	5/14/2012

RECEIVED: May. 14, 2012

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Sundry Conditions of Approval Well Number 43047519880000

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

RECEIVED: May. 29, 2012

FORM 9

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

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

SUNDRY NOTICES AND REPORTS ON WELLS

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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-12E1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047519880000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 EXT

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FOOTAGES AT SURFACE: 1818 FNL 2146 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 12 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 5/1/2012	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	✓ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
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☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

THE OPERATOR REQUESTS APPROVAL FOR A FIT WAIVER, A CLOSED LOOP DRILLING OPTION, AND A PRODUCTION CASING CHANGE. ALL OTHER ASPECTS OF THE PREVIOUSLY APPROVED DRILLING PLAN WILL NOT CHANGE. PLEASE SEE THE ATTACHMENT. THANK YOU.

Approved by the Utah Division of Oil, Gas and Mining

Date: June 05, 2012

By: Dark K Quist

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst

SIGNATURE	DATE
N/A	5/1/2012

RECEIVED: May. 01, 2012

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

NBU 1022-12E1BS

Surface:	1818 FNL / 2146 FWL	SENW
BHL:	1572 FNL / 820 FWL	SWNW

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:

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1,073'	
Birds Nest	1,353'	Water
Mahogany	1,724'	Water
Wasatch	4,123'	Gas
Mesaverde	6,314'	Gas
Sego	8,498'	Gas
TVD	8,498'	
TD	8,715'	

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

RECEIVED: May. 01, 2012

7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 8498' TVD, approximately equals 5,439 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,557 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.

RECEIVED: May. 01, 2012

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.

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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.

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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.

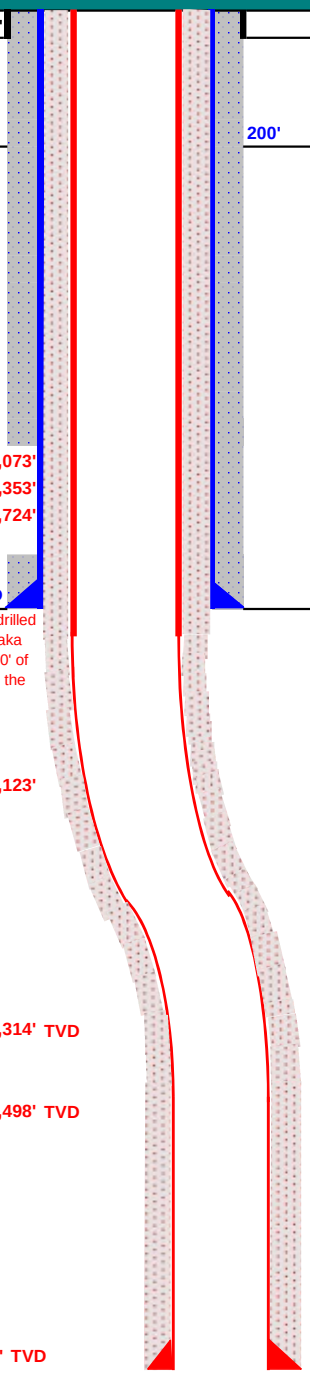
RECEIVED: May. 01, 2012

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	May 1, 2012
WELL NAME	**NBU 1022-12E1BS**	TD	8,498' TVD 8,715' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah
FINISHED ELEVATION	5164		
SURFACE LOCATION	SENW 1818 FNL 2146 FWL Sec 12 T 10S R 22E		
	Latitude: 39.96574 Longitude: -109.389395	NAD 27	
BTM HOLE LOCATION	SWNW 1572 FNL 820 FWL Sec 12 T 10S R 22E		
	Latitude: 39.966417 Longitude: -109.394115	NAD 27	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde		
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.		

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'	14"		
		200'	12-1/4	8-5/8", 28#, IJ-55, LTC	Air mist
			11'	8-5/8", 28#, IJ-55, LTC	Air mist
			7-7/8"	4-1/2" 11.6# I-80 Ultra DQX/LTC csg	Water / Fresh Water Mud 8.3-12.5 ppg



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

Green River @ 1,073'
Top of Birds Nest @ 1,353'
Mahogany @ 1,724'

Preset f/ GL @ 2,170' TVD

Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

Wasatch @ 4,123'

Mud logging program TBD
Cased hole logging program from TD - surf csg

Mverde @ 6,314' TVD

Sego @ 8,498' TVD

Max anticipated Mud required 12.5 ppg

TD @ 8,498' TVD 8,715' MD

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	COLLAPSE LTC	TENSION DQX
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	1.15		3.27
								7,780	6,350	223,000	267,035
	4-1/2"	5,000	to	8,715'	11.60	I-80	LTC	1.11	1.15	6.40	

Surface Casing:

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

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

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

Production casing:

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

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

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT		YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80		1.15
Option 1			+ 0.25 pps flocele					
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80		1.15
			+ 2% CaCl + 0.25 pps flocele					
SURFACE			**NOTE: If well will circulate water to surface, option 2 will be utilized**					
Option 2	LEAD	1,670'	65/35 Poz + 6% Gel + 10 pps gilsonite	160	35%	11.00		3.82
			+ 0.25 pps Flocele + 3% salt BWOW					
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15
			+ 0.25 pps flocele					
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION	LEAD	3,615'	Premium Lite II +0.25 pps	290	35%	12.00		3.38
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	5,100'	50/50 Poz/G + 10% salt + 2% gel	1,210	35%	14.30		1.31
			+ 0.1% R-3					

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

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

FLOAT EQUIPMENT & CENTRALIZERS

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: _____ **DATE:** _____

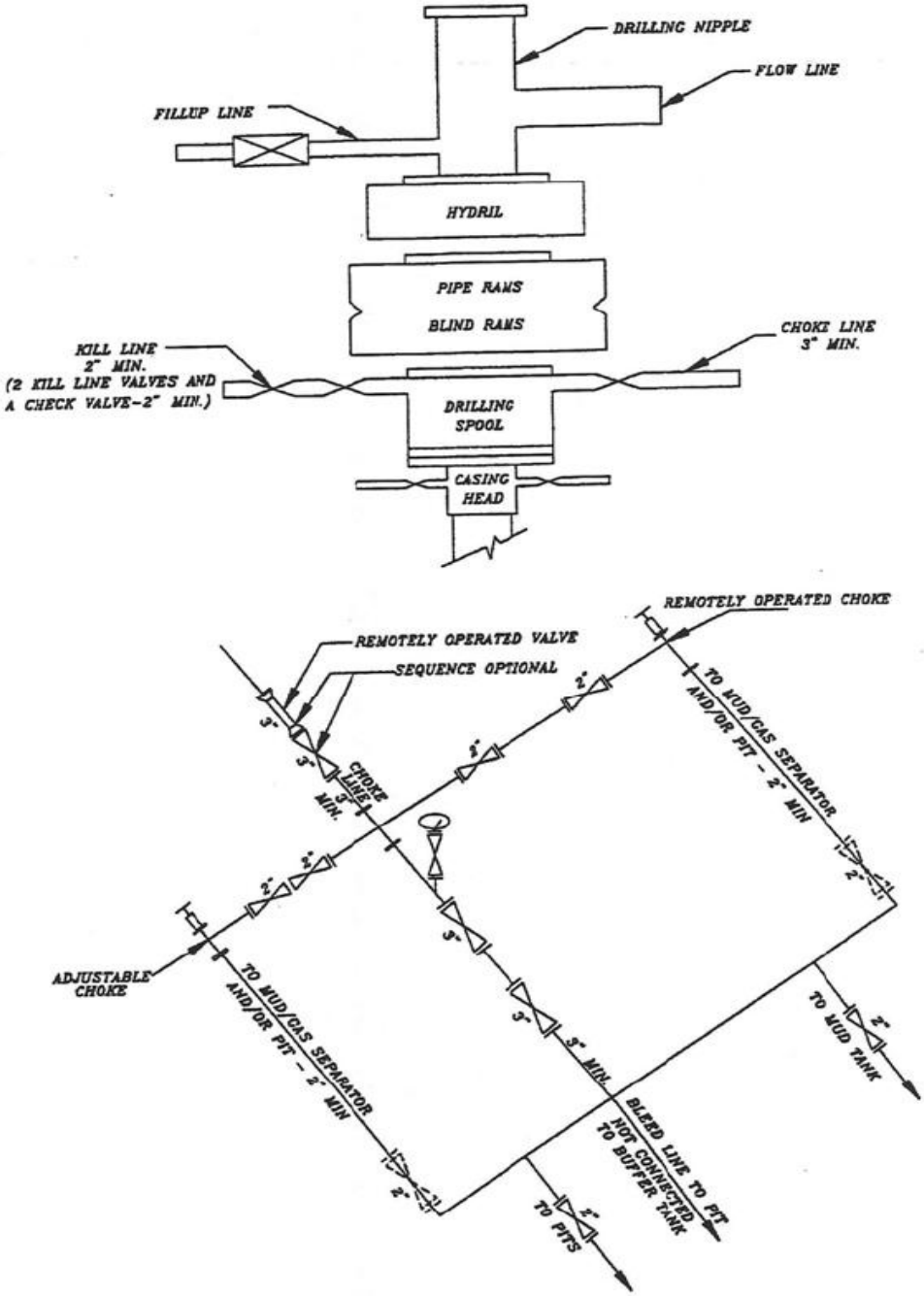
Nick Spence / Danny Showers / Chad Loesel

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Kenny Gathings / Lovel Young

RECEIVED: May. 01, 2012

EXHIBIT A
NBU 1022-12E1BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

RECEIVED: May. 01, 2012

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.

RECEIVED: May. 01, 2012

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-

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-12E1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047519880000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779
PHONE NUMBER: 720 929-6515 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1818 FNL 2146 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 12 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION

- ☐ NOTICE OF INTENT — Approximate date work will start:
- ✓ SUBSEQUENT REPORT — Date of Work Completion: 6/24/2012
- ☐ SPUD REPORT — Date of Spud:
- ☐ DRILLING REPORT — Report Date:

TYPE OF ACTION

☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: ACTS PIT

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

MIRU ROTARY RIG. FINISHED DRILLING FROM 2429' TO 8740' ON 6/22/2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED H&P 298 RIG ON 6/24/2012 @ 18:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES. THE PIT ON THIS LOCATION WILL BE REFURBISHED AND UTILIZED AS PART OF THE ACTS SYSTEM.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
June 25, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Cara Mahler	720 929-6029	Regulatory Analyst I

SIGNATURE	DATE
N/A	6/25/2012

RECEIVED: Jun. 25, 2012

FORM 9

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

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-12E1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047519880000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1818 FNL 2146 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 12 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

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

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 8,740'.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
August 07, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst

SIGNATURE	DATE
N/A	8/3/2012

RECEIVED: Aug. 03, 2012

FORM 9

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

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-12E1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047519880000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1818 FNL 2146 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 12 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 9/5/2012	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

No Activity for the month of August 2012. Well TD at 8,740.

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

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst

SIGNATURE	DATE
N/A	9/5/2012

RECEIVED: Sep. 05, 2012

FORM 9

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

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-12E1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047519880000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 EXT

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1818 FNL 2146 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 12 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
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☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 10/2/2012	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

Started completing the well. Well TD at 8,740.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
October 02, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst
SIGNATURE N/A		**DATE** 10/2/2012

RECEIVED: Oct. 02, 2012

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-

SUNDRY NOTICES AND REPORTS ON WELLS

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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:
NATURAL BUTTES

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
NBU 1022-12E1BS

2. NAME OF OPERATOR:
KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER:
43047519880000

3. ADDRESS OF OPERATOR:
P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER:
720 929-6515 EXT

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1818 FNL 2146 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 12 Township: 10.0S Range: 22.0E Meridian: S

COUNTY:
UINTAH

STATE:
UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
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	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	✓ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 10/3/2012	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

The subject well was placed on production on 10/03/2012. 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
October 11, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Lindsey Frazier	720 929-6857	Regulatory Analyst II

SIGNATURE	DATE
N/A	10/4/2012

RECEIVED: Oct. 04, 2012

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

AMENDED REPORT ☐ (highlight changes)

FORM 8

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:

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ DRY ☐ OTHER

7. UNIT or CA AGREEMENT NAME: UTU63047A

b. TYPE OF WORK: NEW WELL ☑ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER

8. WELL NAME and NUMBER: NBU 1022-12E1BS

2. NAME OF OPERATOR: KERR MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 4304751988

3. ADDRESS OF OPERATOR: P.O.BOX 173779 CITY DENVER STATE CO ZIP 80217 PHONE NUMBER: (720) 929-6000

10 FIELD AND POOL, OR WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: SENW 1818FNL 2146FWL S12,T10S,R22E
AT TOP PRODUCING INTERVAL REPORTED BELOW: SWNW 1557 FNL 812 FWL S12,T10S,R22E
AT TOTAL DEPTH: SWNW 1594 FNL 818 FWL S12,T10S,R22E BHL by HSM

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

12. COUNTY: UINTAH 13. STATE: UTAH

14. DATE SPUDDED: 4/23/2012 15. DATE T.D. REACHED: 6/22/2012 16. DATE COMPLETED: 10/3/2012 ABANDONED ☐ READY TO PRODUCE ☑

17. ELEVATIONS (DF, RKB, RT, GL): 5164 GL

18. TOTAL DEPTH: MD 8,740 TVD 8,514 19. PLUG BACK T.D.: MD 8,710 TVD 8,484 20. IF MULTIPLE COMPLETIONS, HOW MANY? * 21. DEPTH BRIDGE PLUG SET: MD TVD

RECEIVED OCT 30 2012 DIV. OF OIL, GAS & MINING

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

23.
WAS WELL CORED? NO ☑ YES ☐ (Submit analysis)
WAS DST RUN? NO ☑ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☐ YES ☑ (Submit copy)

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

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#	0	40		28			
11"	8 5/8" IJ-55	28#	0	2,411		725		0	
7 7/8"	4 1/2" I-80	11.6#	0	8,731		1,813		34	

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"	8,037							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) WASATCH	5,534	6,025		
(B) MESAVERDE	6,540	8,598		
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)		SIZE	NO. HOLES	PERFORATION STATUS
5,534	6,025	0.36	45	Open ☑ Squeezed ☐
6,540	8,598	0.36	154	Open ☑ Squeezed ☐
				Open ☐ Squeezed ☐
				Open ☐ Squeezed ☐

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
5534-8598	PUMP 8893 BBLS SLICK H2O & 197,108 LBS 30/50 OTTAWA SAND
	9 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

(5/2000)

(CONTINUED ON BACK)

31. INITIAL PRODUCTION

INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
10/3/2012		10/9/2012		24			0	2,960	220	FLOWING
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:
20/64	1,773	34					0	2,960	220	PROD

INTERVAL B (As shown in Item #26)

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

INTERVAL C (As shown in Item #26)

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

INTERVAL D (As shown in Item #26)

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

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

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.

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.

34. FORMATION (Log) MARKERS:

Name	Top (Measured Depth)
GREEN RIVER	1,073
BIRD'S NEST	1,338
MAHOGANY	1,704
WASATCH	4,331
MESAVERDE	6,531

35. ADDITIONAL REMARKS (Include plugging procedure)

The first 210' of the surface hole was drilled with a 12 ¼" bit. The remainder of surface hole was drilled with an 11" bit. DQX csg was run from surface to 5169'; LTC csg was run from 5169' to 8731'. 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) LINDSEY FRAZIER TITLE REGULATORY ANALYST

SIGNATURE Lindsey Frazier DATE 10-25-2012

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 1022-12E1BS BLACK		Spud Date: 5/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING	Start Date: 4/5/2012	End Date: 6/24/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/1/2012	9:30 - 11:00	1.50	MIRU	01	B	P		MOVE RIG OVER HOLE. INSTALL DIVERTOR HEAD AND BLUEY LINE. BUILD DITCH. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PIT PUMP. RIG UP PUMP. PRIME PUMP. INSPECT RIG. HELD PRE-SPUD SAFETY MEETING. PU BHA & SPUD @ 11:00
	11:00 - 12:00	1.00	DRLSUR	02	D	P		DRL F/ 44' T/210' (166'@ 166' PER HR) WOB, 5-15 K RPM, 45 UP/DWN/ROT WEIGHTS 20/20/20 PSI ON BTTM, 600 OFF BTTM, 400 PUMP RATE 512 GPM NO AIR M.W. 8.34, VIS 27
	12:00 - 13:30	1.50	DRLSUR	06	A	P		PULL OUT OF HOLE PICK UP 11" BIT AND DIRECTIONAL TOOLS TRIP IN HOLE TO 210'
	13:30 - 0:00	10.50	DRLSUR	02	D	P		DRL F/210' T/1600' (1390'@132 ' PER HR) WOB, 20 RPM, 45 UP/DWN/ROT WEIGHTS 70/60/65 PSI ON BTTM/1450 OFF BTTM/1250 LOST CIRC. @ 1480' AND APPLIED AIR PUMP RATE 512 GPM 24.2 CFM AIR M.W. 8.34, VIS 27 4.62' RIGHT AND 2.64' BELOW THE LINE
5/2/2012	0:00 - 10:30	10.50	DRLSUR	02	D	P		DRL F/1600' T/2429' (829'@132 ' PER HR) WOB, 20 RPM, 45 UP/DWN/ROT WEIGHTS 95/63/77 PSI ON BTTM/1610 OFF BTTM/1400 PUMP RATE 512 GPM 24.2 CFM AIR M.W. 8.34, VIS 27 7.08' RIGHT & 2.34' BELOW LINE
	10:30 - 12:30	2.00	DRLSUR	05	C	P		CIRCULATE FOR CASING
	12:30 - 17:00	4.50	DRLSUR	06	D	P		LDDS, BHA & DIRECTIONAL TOOLS
	17:00 - 17:30	0.50	CSGSUR	12	A	P		MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. MOVE CSG INTO POSITION TO P/U.
	17:30 - 20:00	2.50	CSGSUR	12	C	P		RUN 54 JTS 8 5/8", 28#, J55 CASING SHOE IS AT 2389' BAFFLE IS AT 2343' LAND CASING @ 20:00
	20:00 - 22:00	2.00	CSGSUR	05	D	P		PUMP ON CASING PUMP RESERVE PIT DOWN
	22:00 - 22:30	0.50	CSGSUR	12	B	P		HOLD SAFETY MEETING, RUN 200' OF 1". RIG DOWN RIG MOVE OFF WELL, REBUILD DITCH. RIG UP CEMENT TRUCK, 2" HARD LINES,.

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-12E1BS BLACK		Spud Date: 5/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING	Start Date: 4/5/2012	End Date: 6/24/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	22:30 - 0:00	1.50	CSGSUR	12	E	P		PRO PETRO MAKE UP CMT HEAD & LOAD PLUG PRESSURE TEST LINES TO 2000 PSI. PUMP 130 BBLS OF WATER AHEAD. PUMP 20 BBLS OF 8.3# GEL WATER AHEAD. PUMP (300 SX) 61.35 BBLS OF TAIL 15.8# 1.15 YD 5 GAL/SK PREMIUM CEMENT W/ 2% CALC. CMT TOP 1266' DROP PLUG ON FLY. DISPLACE W/ 146 BBLS OF H20. NO CIRC THROUGH OUT. FINAL LIFT OF 325 PSI AT 4 BBL/MIN. BUMP PLUG W/650 PSI HELD FOR 5 MIN. FLOAT HELD. PUMP (150 SX) 30.64 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACK SIDE. SHUT DOWN AND CLEAN TRUCK. NO CEMENT TO SURFACE.
5/3/2012	0:00 - 1:00	1.00	CSGSUR	12	E	P		WOC PUMP 125 SX (25.6 BBLS) RELEASE RIG @ 01:00
	1:00 - 1:00	0.00	CSGSUR	12	E	P		TOP OFF CMT WITH TRIPLE A @ 12:00
6/19/2012	14:00 - 15:00	1.00	MIRU	01	C	P		SKID RIG 10' TO NBU 1022-E1BSS,ALIGN OVER WELL
	15:00 - 18:30	3.50	PRPSPD	14	A	P		NIPPLE UP BOPS,FLOWLINE,MUD LINE,WATER LINE,CHOKE LINECHANGE OUT CASING BAILS,FOR DRILLING BAILS
	18:30 - 23:30	5.00	PRPSPD	15	A	P		RIG UP TESTER / PRESSURE TEST CASING 1500 HIGH 250 LOW FOR 30 MIN / PRESSURE TEST H&P EQUIP BLIND RAMS, PIPE RAMS , FLOOR VALVE, KILL LINES & KILL LINE VALVES, BOP WING VALVES , HCR VALVE + CHOKE LINE; INNER AND OUTER CHOKE VALVES & MANIFOLD TO 250 PSI LOW @ 5 MINUTES + 5000 PSI HIGH @ 10 MINUTES / TEST ANNULAR TO 250 PSI LOW @ 5 MINUTES + 2500 PSI HIGH/ HAD HYDRAULIC LEAK ON BLIND RAMS DRILLER, SIDE OPEN DOOR TO BLIND RAM, CHANGE OUT QUICK CONNECT FITTING , REPLACE DOOR GASKET,CLOSE & RE TEST
	23:30 - 0:00	0.50	PRPSPD	14	B	P		INSTALL WEAR BUSHING & SMITH BEARING ASSEMBLY
6/20/2012	0:00 - 1:00	1.00	PRPSPD	15	A	P		TEST SWACO EQUIPMENT TO 1,000 PSI
	1:00 - 3:00	2.00	PRPSPD	06	A	P		PU MUD MOTOR, DIR TOOLS,3 STDS HWDP TEST MWD,M MTR, TIH TAG@ 2,293
	3:00 - 4:00	1.00	PRPSPD	07	B	P		LEVEL DERRICK, INSTALL ROTATING HEAD
	4:00 - 4:30	0.50	PRPSPD	05	A	Z		FILL PIPE PRESSURED UP UNABLE TO CIRC THRU DRILL STRING
	4:30 - 8:00	3.50	PRPSPD	22	G	Z		TRIP FOR PLUGGED DRILL STRING/ FOUND SAND PACKED OFF IN FLOAT,CLEAN OUT,CIRC THROUGH STRING, TIH TO 2,293'
	8:00 - 9:00	1.00	DRLPRO	02	F	P		DRILL OUT CEMENT & SHOE TRACK FROM 2,293' TO 2,411' , CLEAN OUT RAT HOLE TO 2,451'

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-12E1BS BLACK		Spud Date: 5/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING	Start Date: 4/5/2012	End Date: 6/24/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	9:00 - 17:00	8.00	DRLPRO	02	D	P		DRILL / SLIDE / SURVEY F/ 2,451' TO 3,651' = 1200' @ 150 FPH WOB 18,000-24,000 TOP DRIVE RPM 45-70 MUD MOTOR RPM 115 PUMPS 124 SPM=558GPM PUMP PRESSURE ON/OFF BTM 2.230 / 1692 TORQUE ON/OFF BTM 7,000/ 5,000 PICK UP WT 114,000 SLACK OFF WT 101,000 ROT WT 90,000 SLIDE 262' IN 120 MIN 21.87% OF FOOTAGE DRILLED, 25 %OF HRS DRILLED MUD WT 8.4 VIS 26
	17:00 - 17:30	0.50	DRLPRO	07	A	P		SERVICE RIG @ 3,651'
	17:30 - 0:00	6.50	DRLPRO	02	D	P		DRILL / SLIDE / SURVEY F/ 3,651' TO 4,566' = 915' @ 140.76 FPH WOB 18,000-24,000 TOP DRIVE RPM 45-70 MUD MOTOR RPM 115 PUMPS 124 SPM=558GPM PUMP PRESSURE ON/OFF BTM 2.230 / 1692 TORQUE ON/OFF BTM 7,000/ 5,000 PICK UP WT 136,000 SLACK OFF WT 105,000 ROT WT 118,000 SLIDE 342' IN 160 MIN 37.30% OF FOOTAGE DRILLED, 41.03 %OF HRS DRILLED MUD WT 8.5 VIS 26
6/21/2012	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL / SLIDE / SURVEY F/ 4,566' TO 5,530' = 964' @ 160.66 FPH WOB 18,000-24,000 TOP DRIVE RPM 45-70 MUD MOTOR RPM 115 PUMPS 124 SPM=558GPM PUMP PRESSURE ON/OFF BTM 2.230 / 1692 TORQUE ON/OFF BTM 9,000/ 7,000 PICK UP WT 145,000 SLACK OFF WT 110,000 ROT WT 130,000 SLIDE 68' IN 35 MIN 8.68% OF FOOTAGE DRILLED, 11.67 %OF HRS DRILLED MUD WT 8.5 VIS 26

Operation Summary Report

Well: NBU 1022-12E1BS BLACK		Spud Date: 5/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING	Start Date: 4/5/2012	End Date: 6/24/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 16:30	10.50	DRLPRO	02	D	P		DRILL / SLIDE / SURVEY F/ 5,530' TO 6,575' = 1,045' @ 99.52 FPH WOB 18,000-26,000 TOP DRIVE RPM 45-70 MUD MOTOR RPM 115 PUMPS 124 SPM=558GPM PUMP PRESSURE ON/OFF BTM 2280/1975 TORQUE ON/OFF BTM 11,000/ 9,000 PICK UP WT 192,000 SLACK OFF WT 122,000 ROT WT 150,000 SLIDE 85' IN 155 MIN 8.21% OF FOOTAGE DRILLED, 24.60 %OF HRS DRILLED MUD WT 8.5 VIS 26
	16:30 - 17:00	0.50	DRLPRO	07	A	P		SERVICE RIG @ 6,575'
	17:00 - 0:00	7.00	DRLPRO	02	D	P		DRILL / SLIDE / SURVEY F/ 6,575' TO 7,520' = 945' @ 135 FPH WOB 18,000-26,000 TOP DRIVE RPM 45-70 MUD MOTOR RPM 115 PUMPS 124 SPM=558GPM PUMP PRESSURE ON/OFF BTM 2330/2030 TORQUE ON/OFF BTM 13,000/ 14,000 PICK UP WT 213,000 SLACK OFF WT 134,000 ROT WT 164,000 SLIDE 80' IN 60 MIN 8.47% OF FOOTAGE DRILLED, 13.79 %OF HRS DRILLED MUD WT 8.5 VIS 26
6/22/2012	0:00 - 10:00	10.00	DRLPRO	02	D	P		DRILL / SURVEY F/ 7,520' TO 8,740 TD' = 1,220' @ 122 FPH WOB 18,000-28,000 TOP DRIVE RPM 45-65 MUD MOTOR RPM 115 PUMPS 124 SPM=558GPM PUMP PRESSURE ON/OFF BTM 2330/2030 TORQUE ON/OFF BTM 14,000/ 16,000 PICK UP WT 280,000 SLACK OFF WT 150,000 ROT WT 178,000 MUD WT 8.5 VIS 26 MI SWACO OFF LONE / NOV D WATERING 10 TO 15' FLARE
	10:00 - 13:00	3.00	DRLPRO	05	A	P		CIRC & COND MUD RAISE MUD WT TO 11.8 PPG LOSSING PARTIAL CIRCULATION LOST 300 BBL MUD RAISE LCM CONTENT TO 10%
	13:00 - 23:00	10.00	DRLPRO	06	E	P		WIPER TRIP FROM 8,740' TD TO 2,411' CSG SHOE , TIH, TIGHT HOLE @ 4,378' WORK CLEAN ,WASH LAST 4 STDS TO BTM NO FILL
	23:00 - 0:00	1.00	DRLPRO	22	L	Z		CONTINUALLY WORKING ON BOTH MUD PUMPS DUE TO LCM UNDER VALVES
6/23/2012	0:00 - 1:00	1.00	DRLPRO	22	L	Z		CONTINUOUSLY WORK ON BOTH MUD PUMPS DUE TO LCM UNDER VALVES
	1:00 - 3:00	2.00	DRLPRO	05	A	P		CIRCULATE & CONDITION MUD @ 8,740' RAISE MUD WT TO 11.8 PPG

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-12E1BS BLACK		Spud Date: 5/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING	Start Date: 4/5/2012	End Date: 6/24/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	3:00 - 14:00	11.00	DRLPRO	06	A	P		TOOH LAYING DOWN TUBULARS FROM 8,740' TO BIT / WITH NO PROBLEMS
	14:00 - 21:00	7.00	DRLPRO	11	D	P		SAFETY MEETING WITH HALLIBURTON LOGGERS / RU & RUN TRIPPLE COMBO OPEN HOLE LOGS TO 8,705' LOOGERS DEPTH / DRILLERS DEPTH 8,740'
	21:00 - 22:30	1.50	DRLPRO	14	B	P		PULL SMITH BEARING ASSY,PULL WEAR BUSHING, INSTALL CASING BOWL
	22:30 - 0:00	1.50	DRLPRO	12	A	P		PRE JOB SAFETY MEETING / RU FRANKS CASING EQUIPMENT
6/24/2012	0:00 - 8:30	8.50	DRLPRO	12	C	P		CONTINUE TO RUN 4 1/2" PRODUCTION CASING FROM 6,400' TO 8,731' SHOE @ 8,731' / FLOAT COLLAR @ 8,710' M Verde Marker @ 6,408' / X-O @ 5,146' TOTAL JTS RAN 202
	8:30 - 10:00	1.50	DRLPRO	05	A	P		CIRCULATE & CONDITION MUD @ 8,731' / 60 SPM @ 400 PSI / MEANWHILE RIG DOWN FRANKS CASING EQUIPMENT / HOLD PRE JOB SAFETY MEETING WITH BJ CEMENTERS
	10:00 - 13:30	3.50	DRLPRO	12	E	P		INSTALL BJ CMT HEAD , TEST PUMP & LINES TO 5,000 PSI, ,DROP BOTTOM PLUG PUMP 25 BBLS FW PUMP 503 SKS LEAD CEMENT @ 12.5 PPG,(178 BBLS) (PREM LITE II + .0.25 pps CELLO FLAKE + 5 pps KOL SEAL + .05 lb/sx STATIC FREE + 6% bwoc BENTONITE + .2% bwoc SODIUM META SILICATE + 0.2 % R-3 +0.4%bwoc FL-52 100.1% FRESH WATER / (10.44 gal/sx, 1.98 yield) + 1310 SX TAIL @ 14.3 ppg(307 BBLS)+ (CLS G 50/50 POZ + 10% SALT + .005lbs/sx STATIC FREE + .2% R3 + .002 GPS FP-6L + 2% BENTONITE +0.5%EC-1+ 58.9% FW / (5.94 gal/sx, 1.32 yield) DROP TOP PLUG & DISPLACE W/ 135 BBLS H2O + ADDITIVES / PLUG DOWN @ 13:01HOURS / FLOATS HELD W/ 1.5 BBLS H2O RETURNED TO INVENTORY/ GOOD RETURNS THROUGH OUT JOB / 20 BBL LEAD CMT TO SURFACE / LIFT PRESSURE @ 2,747 PSI / BUMP PRESSURE TO 3,307 PSI / TOP OF TAIL CEMENT CALCULATED @ 3,650' / RIG DOWN BJ
	13:30 - 14:30	1.00	DRLPRO	14	B	P		FLUSH BOP'S & EQUIPMENT / SET PACK OFF WITH CAMERON / LD RUNNING TOOL
	14:30 - 18:00	3.50	DRLPRO	14	A	P		NIPPLE DOWN BOP'S / CLEAN PITS / RELEASE RIG @ 18:00 HRS 6/24/12

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-12E1BS BLACK	**Wellbore No.**	OH
Well Name	NBU 1022-12E1BS	**Wellbore Name**	NBU 1022-12E1BS
Report No.	1	**Report Date**	9/10/2012
Project	UTAH-UINTAH	**Site**	NBU 1022-12F PAD
Rig Name/No.		**Event**	COMPLETION
Start Date	9/10/2012	**End Date**	10/3/2012
Spud Date	5/1/2012	**Active Datum**	RKB @5,190.00usft (above Mean Sea Level)
UWI	SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0		

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	5,534.0 (usft)-8,598.0 (usft	**Start Date/Time**	9/10/2012 12:00AM
No. of Intervals	37	**End Date/Time**	9/10/2012 12:00AM
Total Shots	199	**Net Perforation Interval**	64.00 (usft)
Avg Shot Density	3.11 (shot/ft)	**Final Surface Pressure**	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/10/2012 12:00AM	WASATCH/			5,534.0	5,540.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/10/2012 12:00AM	WASATCH/			5,792.0	5,794.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	WASATCH/			5,846.0	5,848.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	WASATCH/			6,022.0	6,025.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			6,540.0	6,543.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			6,647.0	6,651.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			6,764.0	6,765.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			6,864.0	6,865.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			6,879.0	6,880.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			6,920.0	6,921.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			6,936.0	6,937.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			6,950.0	6,952.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,080.0	7,082.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,140.0	7,141.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,166.0	7,168.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,200.0	7,202.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,283.0	7,284.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,514.0	7,515.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,559.0	7,560.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,587.0	7,588.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,612.0	7,613.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,690.0	7,692.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/10/2012 12:00AM	MESAVERDE/			7,720.0	7,721.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,776.0	7,778.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,814.0	7,816.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,908.0	7,910.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			7,948.0	7,950.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			8,059.0	8,060.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			8,138.0	8,139.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			8,160.0	8,161.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			8,174.0	8,176.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			8,286.0	8,288.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			8,327.0	8,328.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			8,391.0	8,392.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			8,497.0	8,498.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			8,578.0	8,580.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
9/10/2012 12:00AM	MESAVERDE/			8,596.0	8,598.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

3 Plots

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-12E1BS BLACK		Spud Date: 5/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 9/10/2012	End Date: 10/3/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/1/2012	-							
5/2/2012	-							
9/10/2012	11:00 - 12:00	1.00	FRAC	33	C	P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 10 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 46 PSI. 1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 65 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. SWIFN
9/14/2012	11:00 - 11:15	0.25	FRAC	48		P		HELD SAFETY MEETING: GREASE PRESSURE
	11:15 - 12:30	1.25	FRAC	37		P		PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER DESIGN. POOH. SWIFWE.
9/17/2012	7:00 - 13:00	6.00	FRAC	36	B	P		FRAC STG 1)WHP PSI, BRK 1,690 PSI @ 4.7 BPM. ISIP 2,618 PSI, FG .75. CALC PERFS OPEN @ 47.7 BPM @ 5,931 PSI = 81% HOLES OPEN. (17/21 HOLES OPEN) ISIP 2,493 PSI, FG .73, NPI -125 PSI. MP 6,275 PSI, MR 52.7 BPM, AP 5,639 PSI, AR 51.5 BPM, PUMPED 30/50 OWATTA SAND PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8,317' P/U PERF AS PER DESIGN. POOH. SWIFN.
9/19/2012	6:45 - 7:00	0.25	FRAC	48		P		HSM, PLACEMENT, HIGH PRESSURE

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-12E1BS BLACK	Spud Date: 5/1/2012	
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 9/10/2012	End Date: 10/3/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 17:00	10.00	FRAC	36	B	P		FRAC STG #2] WHP=1,690#, BRK DN PERFS=5,553#, @=4.7 BPM, INJ RT=32.6, INJ PSI=5,841#, INITIAL ISIP=2,573#, INITIAL FG=.75, FINAL ISIP=3,948#, FINAL FG=.80, AVERAGE RATE=24.1, AVERAGE PRESSURE=5,939#, MAX RATE=33.3, MAX PRESSURE=6,795#, NET PRESSURE INCREASE=375#, 14/22 64% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,980', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW FRAC STG #3] WHP=1,207#, BRK DN PERFS=3,680#, @=4.5 BPM, INJ RT=29.9, INJ PSI=5,643#, INITIAL ISIP=2,300#, INITIAL FG=.73, FINAL ISIP=2,457#, FINAL FG=.75, AVERAGE RATE=38.8, AVERAGE PRESSURE=5,400#, MAX RATE=49, MAX PRESSURE=6,340#, NET PRESSURE INCREASE=157#, 15/24 63% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,751', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. SWIFN
9/20/2012	6:30 - 6:45	0.25	FRAC	48		P		HSM, SLIPS, TRIPS, FALLS

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-12E1BS BLACK		Spud Date: 5/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 9/10/2012	End Date: 10/3/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:45 - 17:00	10.25	FRAC	36	B	P		FRAC STG #4] WHP=1,580#, BRK DN PERFS=2,597#, @=4.2 BPM, INJ RT=50.4, INJ PSI=5,506#, INITIAL ISIP=1,700#, INITIAL FG=.66, FINAL ISIP=2,004#, FINAL FG=.70, AVERAGE RATE=46.1, AVERAGE PRESSURE=5,295#, MAX RATE=50.5, MAX PRESSURE=6,402#, NET PRESSURE INCREASE=308#, 15/24 76% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,314', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW FRAC STG #5] WHP=1,125#, BRK DN PERFS=2,049#, @=3.8 BPM, INJ RT=47.6, INJ PSI=5,172#, INITIAL ISIP=1,587#, INITIAL FG=.66, FINAL ISIP=2,295#, FINAL FG=.75, AVERAGE RATE=40.7, AVERAGE PRESSURE=4,575#, MAX RATE=51.2, MAX PRESSURE=6,697#, NET PRESSURE INCREASE=708#, 15/24 63% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=6,982', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW FRAC STG #6] WHP=1,020#, BRK DN PERFS=2,195#, @=4 BPM, INJ RT=46, INJ PSI=4,683#, INITIAL ISIP=1,536#, INITIAL FG=.66, FINAL ISIP=2,331#, FINAL FG=.77, AVERAGE RATE=45.9, AVERAGE PRESSURE=4,509#, MAX RATE=51.2, MAX PRESSURE=5,401#, NET PRESSURE INCREASE=795#, 16/21 76% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=6,681', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. SWIFN.
9/21/2012	6:45 - 7:00	0.25	FRAC	48		P		HSM, RIGGING DOWN

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-12E1BS BLACK		Spud Date: 5/1/2012	
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 9/10/2012		End Date: 10/3/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 16:00	9.00	FRAC	36	B	P		FRAC STG #7] WHP=520#, BRK DN PERFS=2,111#, @=4.1 BPM, INJ RT=50.8, INJ PSI=4,463#, INITIAL ISIP=665#, INITIAL FG=.53, FINAL ISIP=1,912#, FINAL FG=.72, AVERAGE RATE=49.2, AVERAGE PRESSURE=4,303#, MAX RATE=51.1, MAX PRESSURE=5,142#, NET PRESSURE INCREASE=1,247#, 16/21 76% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #8] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=6,055', PERF WASATCH USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW FRAC STG #8] WHP=355#, BRK DN PERFS=2,073#, @=3.9 BPM, INJ RT=49, INJ PSI=3,704#, INITIAL ISIP=1,289#, INITIAL FG=.65, FINAL ISIP=1,585#, FINAL FG=.70, AVERAGE RATE=41.3, AVERAGE PRESSURE=3,290#, MAX RATE=50.5, MAX PRESSURE=3,867#, NET PRESSURE INCREASE=296#, 21/21 100% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #9] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=5,570', PERF WASATCH USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW FRAC STG #9] WHP=212#, BRK DN PERFS=2,409#, @=3.7 BPM, INJ RT=51, INJ PSI=4,372#, INITIAL ISIP=1,275#, INITIAL FG=.66, FINAL ISIP=#, FINAL FG=., AVERAGE RATE=, AVERAGE PRESSURE=#, MAX RATE=, MAX PRESSURE=#, NET PRESSURE INCREASE=#, CALC PERFS OPEN. X OVER TO WIRE LINE P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=5,484' TOTAL FLUID PUMP'D=8,893 TOTAL SAND PUMP'D=197,108#
10/2/2012	13:00 - 17:00	4.00	DRLOUT	31	I	P		MIRU, NDWH, NUBOP, PU 3 7/8" BIT & POBS W/ XN SN RIH W/ 113 JTS 2 3/8" L-80 OFF FLOAT TO 3,606', SWIFN
10/3/2012	7:00 - 7:15	0.25	DRLOUT	48		P		HSM-JSA

Well: NBU 1022-12E1BS BLACK		Spud Date: 5/1/2012
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 9/10/2012	End Date: 10/3/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 15:30	8.25	DRLOUT	44	C	P		CONT PU TBG RIH TAG FILL @ 5,474', RU PWR SWVL, BRK CIRC, PRESS TEST BOP TO 3,000 PSI LOST 0 PSI IN 15 MIN. C/O 10' SAND TAG PLUG #1 @ 5,484', DRL HAL 8K CBP IN 6 MIN, 0 PSI INC, FCP 25 PSI, RIH TAG FILL @ 5,550'. C/O 20' SAND TAG PLUG #2 @ 5,570', DRL HAL 8K CBP IN 5 MIN, 100 PSI INC, FCP 25 PSI, RIH TAG FILL @ 6,035'. C/O 20' SAND TAG PLUG #3 @ 6,055, DRL HAL 8K CBP IN 4 MIN, 0 PSI INC, FCP 0 PSI, RIH TAG FILL @ 6,661'. C/O 20' SAND TAG PLUG #4 @ 6,681', DRL HAL 8K CBP IN 4 MIN, 200 PSI INC, FCP 25 PSI, RIH TAG FILL @ 6,967'. C/O 15' SAND TAG PLUG #5 @ 6,982', DRL HAL 8K CBP IN 6 MIN, 300 PSI INC, FCP 100 PSI, RIH TAG FILL @ 7,284'. C/O 30' SAND TAG PLUG #6 @ 7,314', DRL HAL 8K CBP IN 5 MIN, 400 PSI INC, FCP 300 PSI, RIH TAG FILL @ 7,721'. C/O 30' SAND TAG PLUG #7 @ 7,751', DRL HAL 8K CBP IN 5 MIN, 200 PSI INC, FCP 400 PSI, RIH TAG FILL @ 7,950'. C/O 30' SAND TAG PLUG #8 @ 7,980', DRL HAL 8K CBP IN 6 MIN, 300 PSI INC, FCP 400 PSI, RIH TAG FILL @ 8,292'. C/O 25' SAND TAG PLUG #9 @ 8,317', DRL HAL 8K CBP IN 5 MIN, 200 PSI INC, FCP 450 PSI, RIH TAG FILL @ 8,680'. C/O 30, SAND TO PBTD @ 8,710', CIRC WELL CLEAN, RD PWR SWVL, POOH LD 22 JTS, LAND TBG W/ 253 JTS 2 3/8" L-80 EOT @ 8,037.08', RD FLOOR & TBG EQUIP, NDBOP, NUWH, DROP BALL POBS @ 1,900 PSI, PRESS TEST FLOWLINE BETWEEN WELLHEAD & HAL 9,000 TO 3,000 PSI, LET BIT FALL 20 MIN TURN OVER TO FBC, RDMO, MIRU ON NBU 513-12EX, SDFN. KB-26' HANGER-.83' 253 JTS 2 3/8" L-80-8,008.05' POBS W/ XN SN-2.20' EOT @ 8,037.08'

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-12E1BS BLACK		Spud Date: 5/1/2012	
Project: UTAH-UINTAH	Site: NBU 1022-12F PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 9/10/2012		End Date: 10/3/2012
Active Datum: RKB @5,190.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/22/E/12/0/0/26/PM/N/1818/W/0/2146/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								283 JTS DEL 253 JTS USED 30 JTS RET TWTR=9,096 BBLS TWR=2,632 BBLS TWLTR=5,464 BBLS
	15:30 - 15:30	0.00	DRLOUT	50				WELL TURNED TO SALES @ 1500 HR ON 10/3/2012 1940 MCFD, 1920 BWPD, FCP 2054#, FTP 1745#, 20/64" CK.

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-12F PAD
Well: NBU 1022-12E1BS
Wellbore: NBU 1022-12E1BS
Section:
SHL:
Design: NBU 1022-12E1BS (wp01)
Latitude: 39.965740
Longitude: -109.389395
GL: 5164.00
KB: 5164' GL + 26' RKB @ 5190.00ft (H&P 298)

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4122.00	4348.00	WASATCH
4722.00	4955.56	top of cylinder
6314.00	6547.62	MESAVERDE
8501.00	8734.66	SEGO

WELL DETAILS: NBU 1022-12E1BS

Ground Level: 5164.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	14517644.12	2091715.83	39.965740	-109.389395	

CASING DETAILS

TVD	MD	Name	Size
2290.82	2389.00	8-5/8"	8-5/8

T M

Azimuths to True North
Magnetic North: 10.91°

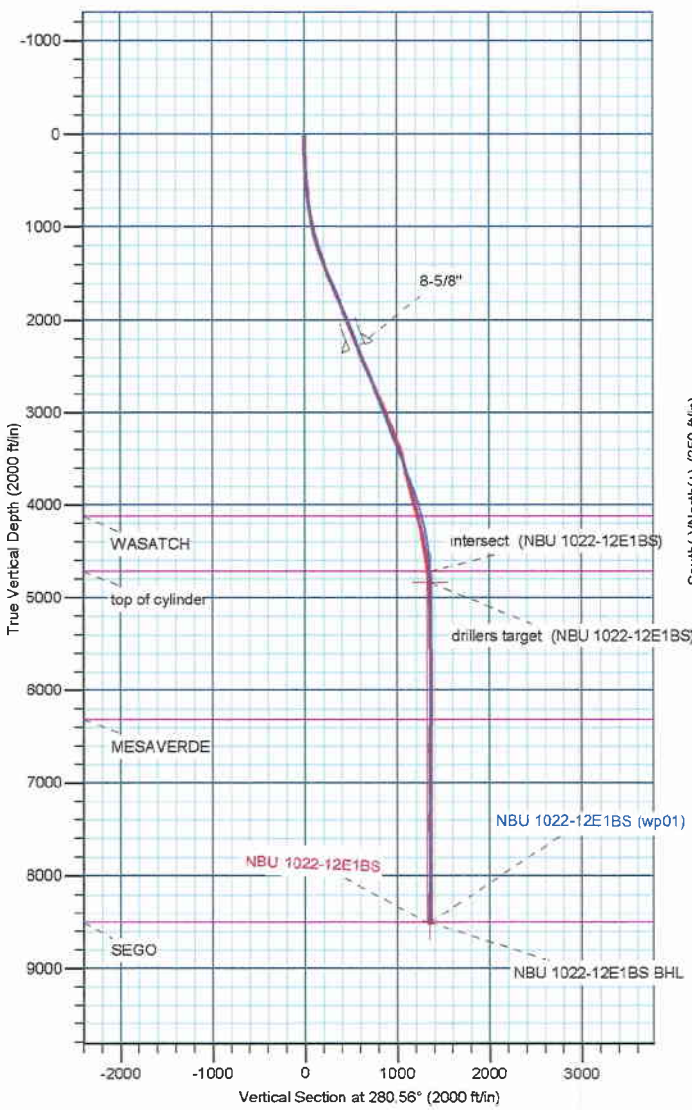
Magnetic Field
Strength: 52235.8snT
Dip Angle: 65.84°
Date: 5/4/2012
Model: IGRF2010

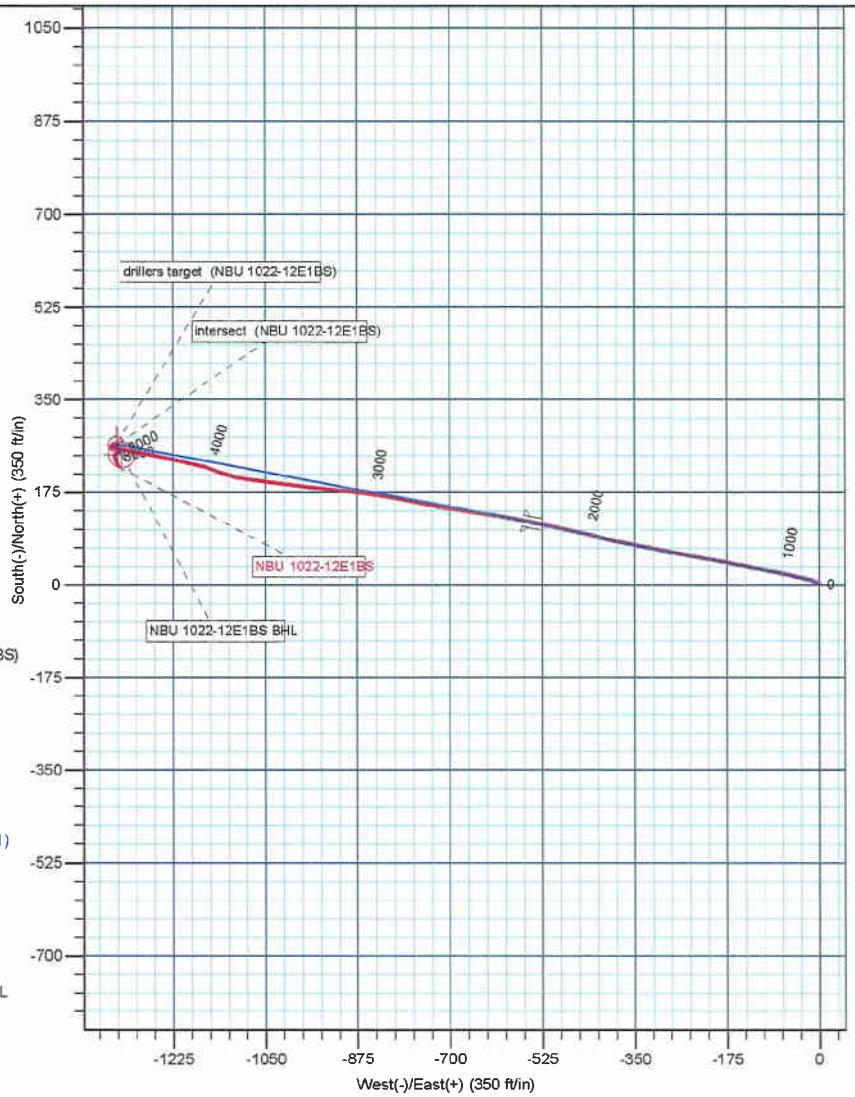
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
intersect (NBU 1022-12E1BS)	4722.00	266.19	-1330.62	14517886.24	2090380.63	39.966471	-109.394143	Point
drillers target (NBU 1022-12E1BS)	4835.60	266.61	-1332.83	14517886.62	2090378.40	39.966472	-109.394151	Circle (Radius: 15.00)
NBU 1022-12E1BS BHL	8501.00	246.61	-1322.83	14517866.81	2090388.76	39.966417	-109.394115	Circle (Radius: 25.00)

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
2389.00	21.37	280.82	2290.82	121.41	-562.14	0.00	0.00	574.87
2539.00	21.37	280.82	2430.50	131.67	-615.83	0.00	0.00	629.53
2550.82	21.37	280.66	2441.51	132.47	-620.06	0.50	-90.20	633.84
4000.70	21.37	280.66	3791.71	230.18	-1139.27	0.00	0.00	1162.16
5069.19	0.00	0.00	4835.60	266.61	-1332.83	2.00	180.00	1359.12
5187.60	0.36	153.44	4954.01	266.28	-1332.67	0.30	153.44	1358.90
8734.66	0.36	153.44	8501.00	246.61	-1322.83	0.00	0.00	1345.62





Andarko Petroleum Corporation

Survey Report

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-12E1BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	5164' GL + 26' RKB @ 5190.00ft (H&P 298)
Site:	UINTAH_NBU 1022-12F PAD	**MD Reference:**	5164' GL + 26' RKB @ 5190.00ft (H&P 298)
Well:	NBU 1022-12E1BS	**North Reference:**	True
Wellbore:	NBU 1022-12E1BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1022-12E1BS	**Database:**	edmp

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

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site UINTAH_NBU 1022-12F PAD

Site Position:		**Northing:**	14,517,616.83 usft	**Latitude:**	39.965663
From:	Lat/Long	**Easting:**	2,091,757.52 usft	**Longitude:**	-109.389248
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	1.03 °

Well NBU 1022-12E1BS

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,517,644.13 usft	**Latitude:**	39.965740
	+E/-W	0.00 ft	**Easting:**	2,091,715.83 usft	**Longitude:**	-109.389395
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,164.00 ft

Wellbore NBU 1022-12E1BS

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/4/2012	10.91	65.84	52,236

Design NBU 1022-12E1BS

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	22.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	279.56

Survey Program **Date** 7/20/2012

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
167.00	2,389.00	Survey #1 (NBU 1022-12E1BS)	MWD	MWD - STANDARD
2,465.00	8,740.00	Survey #2 (NBU 1022-12E1BS)		

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
22.00	0.00	0.00	22.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	0.70	304.29	167.00	0.50	-0.73	0.80	0.48	0.48	0.00
195.00	0.70	312.11	194.99	0.71	-1.00	1.10	0.34	0.00	27.93
224.00	0.88	313.87	223.99	0.98	-1.29	1.44	0.63	0.62	6.07
250.00	1.06	313.87	249.99	1.29	-1.61	1.80	0.69	0.69	0.00
279.00	1.06	318.81	278.98	1.68	-1.98	2.23	0.32	0.00	17.03
308.00	1.22	308.06	307.98	2.07	-2.40	2.71	0.92	0.55	-37.07
336.00	1.72	301.31	335.97	2.47	-2.99	3.36	1.89	1.79	-24.11
365.00	2.36	302.96	364.95	3.02	-3.87	4.31	2.22	2.21	5.69
455.00	3.85	293.54	454.82	5.24	-8.19	8.95	1.74	1.66	-10.47

Andarko Petroleum Corporation

Survey Report

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-12E1BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	5164' GL + 26' RKB @ 5190.00ft (H&P 298)
Site:	UINTAH_NBU 1022-12F PAD	**MD Reference:**	5164' GL + 26' RKB @ 5190.00ft (H&P 298)
Well:	NBU 1022-12E1BS	**North Reference:**	True
Wellbore:	NBU 1022-12E1BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1022-12E1BS	**Database:**	edmp

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
545.00	5.25	289.94	544.53	7.85	-14.83	15.93	1.59	1.56	-4.00
635.00	6.52	287.84	634.05	10.82	-23.57	25.04	1.43	1.41	-2.33
725.00	7.41	282.03	723.39	13.59	-34.11	35.89	1.26	0.99	-6.46
815.00	8.47	281.46	812.53	16.12	-46.28	48.31	1.18	1.18	-0.63
905.00	10.38	282.40	901.31	19.18	-60.70	63.04	2.13	2.12	1.04
995.00	12.21	281.54	989.56	22.82	-77.94	80.65	2.04	2.03	-0.96
1,085.00	13.72	281.35	1,077.26	26.83	-97.73	100.83	1.68	1.68	-0.21
1,175.00	15.92	282.14	1,164.26	31.52	-120.27	123.83	2.45	2.44	0.88
1,265.00	18.53	281.31	1,250.22	36.93	-146.36	150.46	2.91	2.90	-0.92
1,355.00	21.02	280.21	1,334.91	42.59	-176.27	180.90	2.80	2.77	-1.22
1,445.00	22.60	279.33	1,418.46	48.26	-209.23	214.34	1.79	1.76	-0.98
1,535.00	23.04	280.38	1,501.42	54.23	-243.62	249.24	0.67	0.49	1.17
1,625.00	24.36	281.79	1,583.83	61.20	-279.11	285.40	1.60	1.47	1.57
1,715.00	22.60	280.91	1,666.37	68.27	-314.26	321.24	1.99	-1.96	-0.98
1,805.00	22.60	281.00	1,749.46	74.84	-348.22	355.81	0.04	0.00	0.10
1,895.00	22.86	281.17	1,832.47	81.53	-382.35	390.58	0.30	0.29	0.19
1,985.00	22.16	284.16	1,915.61	89.06	-415.96	424.97	1.49	-0.78	3.32
2,075.00	22.77	283.46	1,998.78	97.27	-449.35	459.27	0.74	0.68	-0.78
2,165.00	21.72	282.05	2,082.09	104.80	-482.58	493.28	1.31	-1.17	-1.57
2,255.00	21.10	282.49	2,165.87	111.78	-514.68	526.10	0.71	-0.69	0.49
2,345.00	21.19	281.00	2,249.82	118.39	-546.46	558.54	0.61	0.10	-1.66
2,389.00	21.37	280.82	2,290.82	121.41	-562.14	574.50	0.44	0.41	-0.41
2,465.00	21.23	280.65	2,361.62	126.55	-589.27	602.10	0.20	-0.18	-0.22
FIRST MWD SURVEY									
2,559.00	21.67	278.87	2,449.11	132.38	-623.14	636.48	0.84	0.47	-1.89
2,654.00	21.63	278.07	2,537.41	137.54	-657.81	671.52	0.31	-0.04	-0.84
2,748.00	22.81	278.82	2,624.43	142.76	-692.97	707.06	1.29	1.26	0.80
2,842.00	24.19	281.44	2,710.63	149.38	-729.85	744.53	1.84	1.47	2.79
2,937.00	24.25	281.19	2,797.27	157.02	-768.07	783.48	0.13	0.06	-0.26
3,031.00	24.44	280.82	2,882.91	164.42	-806.11	822.22	0.26	0.20	-0.39
3,126.00	22.75	278.07	2,969.97	170.69	-843.60	860.23	2.12	-1.78	-2.89
3,220.00	22.31	277.07	3,056.80	175.44	-879.30	896.23	0.62	-0.47	-1.06
3,315.00	21.94	275.82	3,144.80	179.46	-914.85	931.95	0.63	-0.39	-1.32
3,409.00	20.94	275.82	3,232.30	182.94	-949.03	966.24	1.06	-1.06	0.00
3,504.00	21.38	277.56	3,320.89	186.94	-983.09	1,000.48	0.81	0.46	1.83
3,599.00	18.00	277.19	3,410.32	191.06	-1,014.83	1,032.47	3.56	-3.56	-0.39
3,693.00	15.81	278.94	3,500.26	194.87	-1,041.89	1,059.78	2.39	-2.33	1.86
3,788.00	14.63	275.69	3,591.93	198.07	-1,066.61	1,084.70	1.53	-1.24	-3.42
3,883.00	14.19	278.32	3,683.94	200.94	-1,090.07	1,108.31	0.83	-0.46	2.77
3,977.00	13.38	282.32	3,775.23	204.93	-1,112.10	1,130.69	1.33	-0.86	4.26
4,072.00	15.31	290.32	3,867.27	211.63	-1,134.60	1,154.00	2.91	2.03	8.42
4,167.00	14.19	291.07	3,959.14	220.17	-1,157.23	1,177.73	1.20	-1.18	0.79
4,261.00	13.88	282.82	4,050.35	226.82	-1,178.98	1,200.28	2.15	-0.33	-8.78

Andarko Petroleum Corporation

Survey Report

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-12E1BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	5164' GL + 26' RKB @ 5190.00ft (H&P 298)
Site:	UINTAH_NBU 1022-12F PAD	**MD Reference:**	5164' GL + 26' RKB @ 5190.00ft (H&P 298)
Well:	NBU 1022-12E1BS	**North Reference:**	True
Wellbore:	NBU 1022-12E1BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1022-12E1BS	**Database:**	edmp

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,355.00	14.75	282.57	4,141.43	231.92	-1,201.65	1,223.48	0.93	0.93	-0.27
4,449.00	15.31	282.82	4,232.21	237.28	-1,225.43	1,247.82	0.60	0.60	0.27
4,543.00	12.13	282.32	4,323.52	242.14	-1,247.19	1,270.08	3.39	-3.38	-0.53
4,638.00	9.63	278.82	4,416.80	245.49	-1,264.80	1,288.00	2.72	-2.63	-3.68
4,732.00	8.25	282.07	4,509.66	248.11	-1,279.16	1,302.60	1.56	-1.47	3.46
4,827.00	7.56	281.07	4,603.75	250.73	-1,291.96	1,315.66	0.74	-0.73	-1.05
4,921.00	7.00	277.57	4,697.00	252.67	-1,303.71	1,327.57	0.76	-0.60	-3.72
5,016.00	5.38	282.32	4,791.44	254.39	-1,313.80	1,337.80	1.79	-1.71	5.00
5,110.00	3.94	280.44	4,885.13	255.91	-1,321.28	1,345.43	1.54	-1.53	-2.00
5,205.00	2.50	281.44	4,979.98	256.92	-1,326.52	1,350.77	1.52	-1.52	1.05
5,299.00	2.00	308.57	5,073.91	258.34	-1,329.81	1,354.25	1.24	-0.53	28.86
5,393.00	1.88	309.57	5,167.85	260.35	-1,332.28	1,357.02	0.13	-0.13	1.06
5,487.00	0.31	271.69	5,261.83	261.34	-1,333.72	1,358.61	1.75	-1.67	-40.30
5,582.00	0.31	218.19	5,356.83	261.15	-1,334.14	1,358.98	0.29	0.00	-56.32
5,771.00	0.69	164.69	5,545.82	259.65	-1,334.16	1,358.75	0.30	0.20	-28.31
5,865.00	0.63	257.32	5,639.82	258.99	-1,334.51	1,358.99	1.02	-0.06	98.54
5,960.00	1.38	286.82	5,734.80	259.20	-1,336.11	1,360.61	0.93	0.79	31.05
6,148.00	0.94	263.07	5,922.77	259.67	-1,339.81	1,364.33	0.34	-0.23	-12.63
6,243.00	1.25	324.82	6,017.75	260.42	-1,341.18	1,365.81	1.22	0.33	65.00
6,337.00	1.88	21.07	6,111.72	262.70	-1,341.22	1,366.22	1.68	0.67	59.84
6,431.00	1.88	18.94	6,205.67	265.60	-1,340.16	1,365.67	0.07	0.00	-2.27
6,527.00	1.50	74.94	6,301.64	267.41	-1,338.44	1,364.27	1.69	-0.40	58.33
6,620.00	1.71	88.58	6,394.60	267.77	-1,335.88	1,361.80	0.47	0.23	14.67
6,714.00	2.06	109.57	6,488.55	267.23	-1,332.88	1,358.76	0.82	0.37	22.33
6,809.00	0.94	96.32	6,583.52	266.58	-1,330.50	1,356.30	1.23	-1.18	-13.95
6,903.00	0.88	226.94	6,677.51	266.00	-1,330.26	1,355.97	1.76	-0.06	138.96
6,998.00	1.44	213.32	6,772.49	264.50	-1,331.45	1,356.89	0.65	0.59	-14.34
7,092.00	1.44	203.57	6,866.46	262.43	-1,332.57	1,357.65	0.26	0.00	-10.37
7,187.00	1.75	192.57	6,961.42	259.92	-1,333.36	1,358.02	0.46	0.33	-11.58
7,281.00	0.75	135.32	7,055.40	258.09	-1,333.24	1,357.59	1.58	-1.06	-60.90
7,376.00	1.19	131.44	7,150.39	256.99	-1,332.07	1,356.25	0.47	0.46	-4.08
7,470.00	1.56	135.94	7,244.36	255.42	-1,330.45	1,354.39	0.41	0.39	4.79
7,565.00	1.69	147.94	7,339.32	253.31	-1,328.80	1,352.42	0.38	0.14	12.63
7,659.00	0.94	220.32	7,433.30	251.55	-1,328.57	1,351.89	1.77	-0.80	77.00
7,754.00	1.50	245.69	7,528.28	250.44	-1,330.20	1,353.32	0.81	0.59	26.71
7,848.00	1.56	234.44	7,622.25	249.19	-1,332.37	1,355.25	0.33	0.06	-11.97
7,943.00	1.38	227.82	7,717.22	247.67	-1,334.26	1,356.87	0.26	-0.19	-6.97
8,037.00	1.06	197.57	7,811.20	246.08	-1,335.37	1,357.69	0.75	-0.34	-32.18
8,132.00	1.19	178.32	7,906.18	244.26	-1,335.60	1,357.62	0.42	0.14	-20.26
8,226.00	1.19	167.72	8,000.16	242.33	-1,335.37	1,357.07	0.23	0.00	-11.28
8,415.00	2.00	168.69	8,189.09	237.17	-1,334.30	1,355.16	0.43	0.43	0.51
8,510.00	2.38	166.57	8,284.02	233.63	-1,333.52	1,353.80	0.41	0.40	-2.23
8,604.00	2.63	159.44	8,377.93	229.71	-1,332.31	1,351.96	0.42	0.27	-7.59

Andarko Petroleum Corporation

Survey Report

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-12E1BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	5164' GL + 26' RKB @ 5190.00ft (H&P 298)
Site:	UINTAH_NBU 1022-12F PAD	**MD Reference:**	5164' GL + 26' RKB @ 5190.00ft (H&P 298)
Well:	NBU 1022-12E1BS	**North Reference:**	True
Wellbore:	NBU 1022-12E1BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1022-12E1BS	**Database:**	edmp

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,690.00	3.17	142.21	8,463.82	225.99	-1,330.16	1,349.22	1.19	0.63	-20.03
LAST MWD SURVEY									
8,740.00	3.17	142.21	8,513.74	223.80	-1,328.46	1,347.18	0.00	0.00	0.00
PROJECTION TO TD									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,465.00	2,361.62	126.55	-589.27	FIRST MWD SURVEY
8,690.00	8,463.82	225.99	-1,330.16	LAST MWD SURVEY
8,740.00	8,513.74	223.80	-1,328.46	PROJECTION TO TD

Checked By: _____ Approved By: _____ Date: _____