API Well Number: 43047518390000

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 1022-2P4CS

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)
ST UT ML 22651

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	221 FSL 1342 FEL	SWSE	2	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	255 FSL 496 FEL	SESE	2	10.0 S	22.0 E	S
At Total Depth	255 FSL 496 FEL	SESE	2	10.0 S	22.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
255

23. NUMBER OF ACRES IN DRILLING UNIT
620

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
538

26. PROPOSED DEPTH
MD: 8651 TVD: 8522

27. ELEVATION - GROUND LEVEL
5094

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 - 2160	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 - 8651	11.6	I-80 LT&C	12.5	Premium Lite High Strength	270	3.38	11.0
							50/50 Poz	1190	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** 08/10/2011 **EMAIL** gina.becker@anadarko.com

API NUMBER ASSIGNED
43047518390000

APPROVAL
Permit Manager

RECEIVED: October 12, 2011

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

NBU 1022-2P4CS

Surface:	221 FSL / 1342 FEL	SWSE
BHL:	255 FSL / 496 FEL	SESE

Section 2 T10S R22E

Uintah County, Utah
Mineral Lease: ST UT ML 22651

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	1057	
Birds Nest	1341	Water
Mahogany	1710	Water
Wasatch	4123	Gas
Mesaverde	6348	Gas
MVU2	7301	Gas
MVL1	7886	Gas
TVD	8522	
TD	8651	

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 8522' TVD, approximately equals 5,454 psi 0.64 psi/ft = actual bottomhole gradient

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

Maximum anticipated surface pressure equals approximately 3,567 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: August 10, 2011

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

RECEIVED: August 10, 2011

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.

RECEIVED: August 10, 2011

API Well Number: 43047518390000

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	August 9, 2011
WELL NAME	**NBU 1022-2P4CS**	TD	8,522' TVD 8,651' MD
FIELD	Natural Buttes	COUNTY Uintah STATE Utah	FINISHED ELEVATION 5093.9
SURFACE LOCATION	SWSE 221 FSL 1342 FEL Sec 2 T 10S R 22E		
	Latitude: 39.971339 Longitude: -109.401781		NAD 27
BTM HOLE LOCATION	SESE 255 FSL 496 FEL Sec 2 T 10S R 22E		
	Latitude: 39.971431 Longitude: -109.398763		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 or equivalent BTC/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 @ 1,057'

Top of Birds Nest @ 1,341'

Mahogany @ 1,710'

Preset f/ GL @ 2,160' 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 @ 6,348' TVD

MVU2 @ 7,301' TVD

MVU1 @ 7,886' TVD

Max anticipated Mud required 12.5 ppg

TD @ 8,522' TVD 8,651' MD

RECEIVED: August 10, 2011

API Well Number: 43047518390000

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	LTC	BTC TENSION
CONDUCTOR	14"	0-40'									
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,160	28.00	IJ-55	LTC	2.50	1.86	6.57	N/A
								7,780	6,350	279,000	367,000
PRODUCTION	4-1/2"	0	to	8,651	11.60	I-80	LTC/BTC	1.11	1.15	3.44	4.52

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	1,660'	65/35 Poz + 6% Gel + 10 pps gilsonite	150	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	3,621'	Premium Lite II +0.25 pps	270	20%	11.00		3.38
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	5,030'	50/50 Poz/G + 10% salt + 2% gel	1,190	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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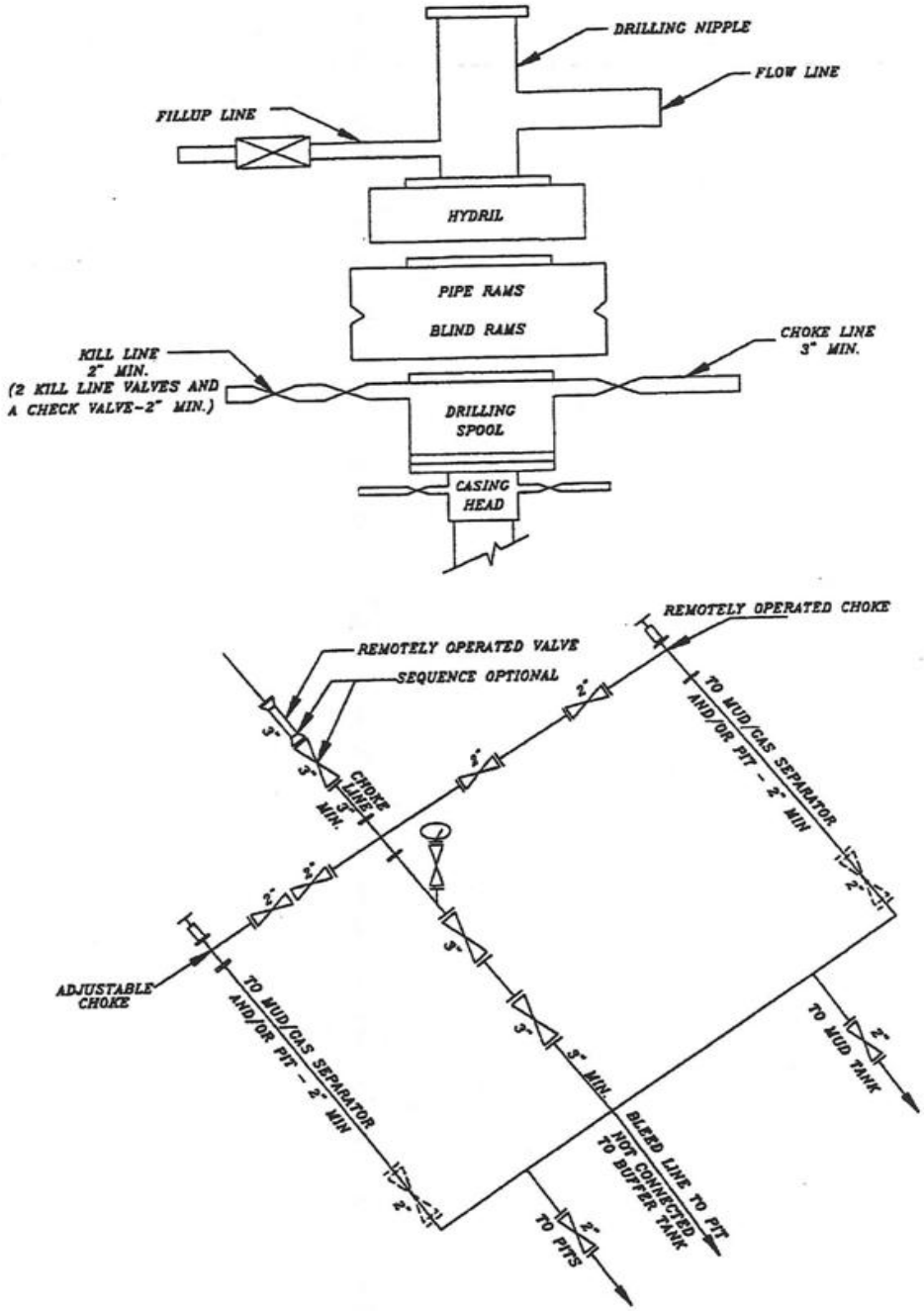
EXHIBIT A
NBU 1022-2P4CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

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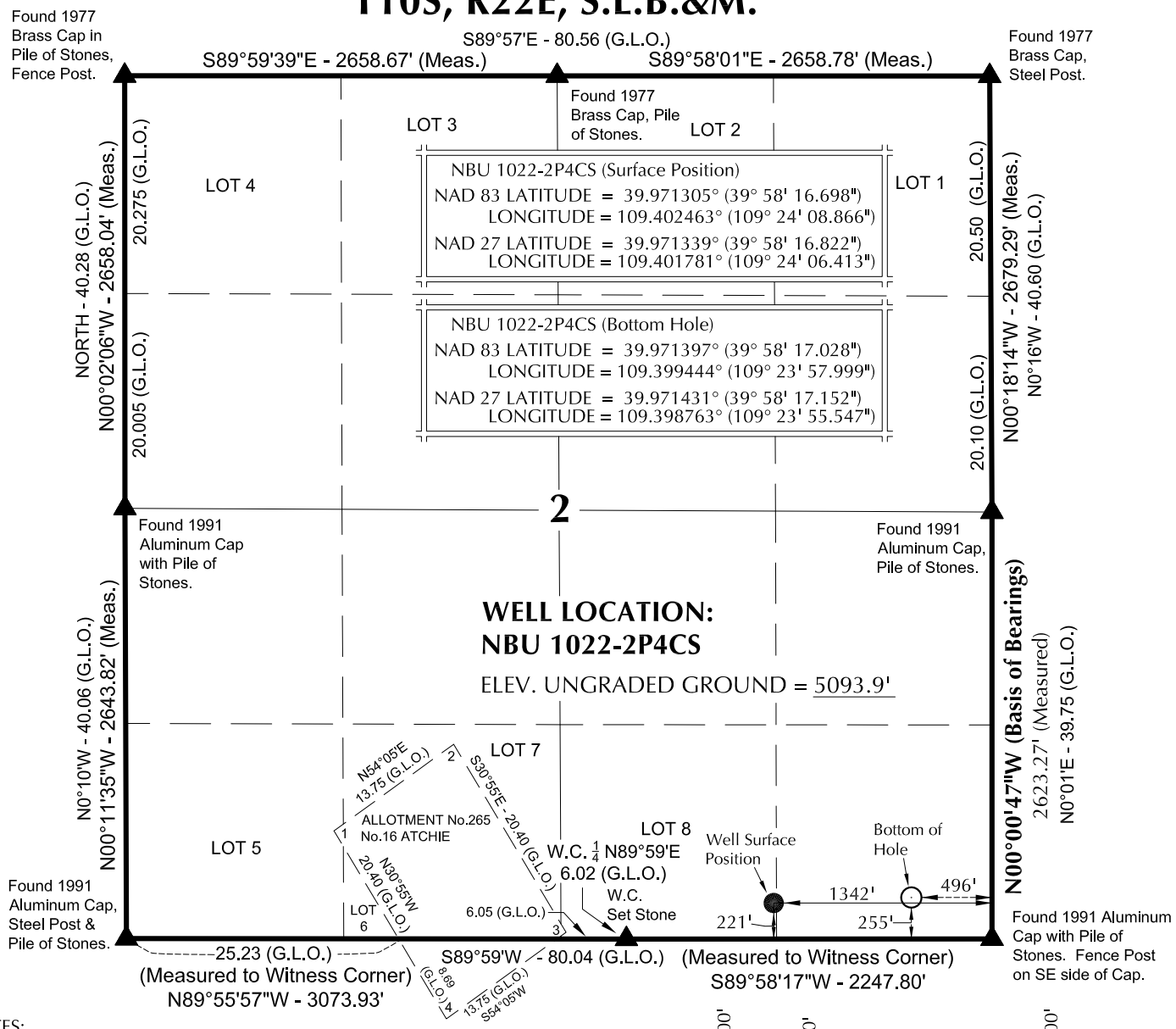
T10S, R22E, S.L.B.&M.



NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears N87°41'54"E 846.90' 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 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'.

N

1000' 500' 0' 1000'

SCALE

SURVEYOR'S CERTIFICATE

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

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

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH 2-25-11

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

WELL PAD: NBU 1022-2P

NBU 1022-2P4CS
WELL PLAT
255' FSL, 496' FEL (Bottom Hole)
SE 1/4 SE 1/4 OF SECTION 2, 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: 01-06-11	SURVEYED BY: R.Y.	SHEET NO:
DATE DRAWN: 01-24-11	DRAWN BY: M.W.W.	1
SCALE: 1" = 1000'	Date Last Revised:	1 OF 19

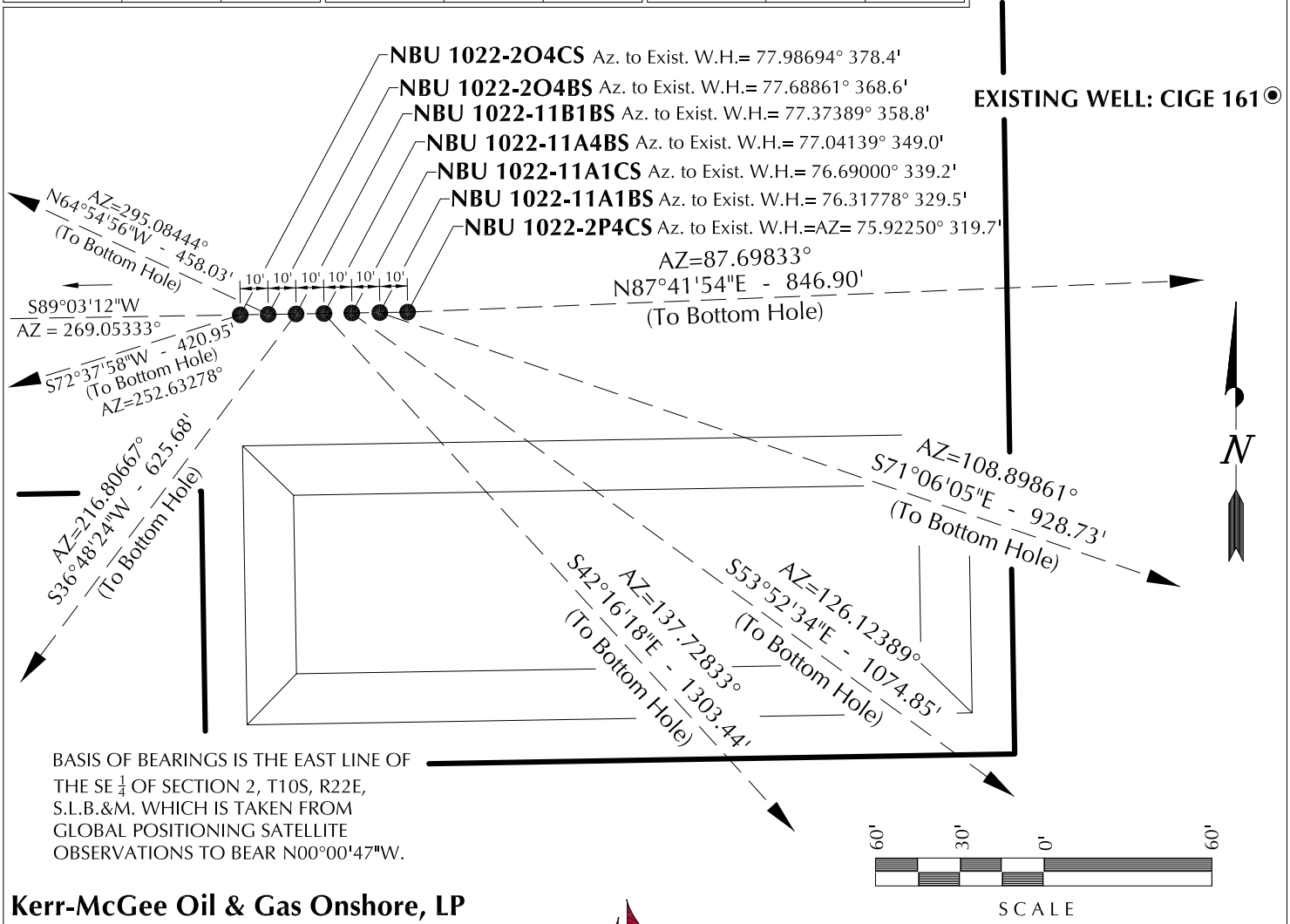
RECEIVED: August 10, 2011

API Well Number: 43047518390000

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
NBU 1022-2P4CS	39°58'16.698" 39.971305°	109°24'08.866" 109.402463°	39°58'16.822" 39.971339°	109°24'06.413" 109.401781°	221' FSL 1342' FEL	39°58'17.028" 39.971397°	109°23'57.999" 109.399444°	39°58'17.152" 39.971431°	109°23'55.547" 109.398763°	255' FSL 496' FEL
NBU 1022-11A1BS	39°58'16.697" 39.971305°	109°24'08.994" 109.402498°	39°58'16.820" 39.971339°	109°24'06.542" 109.401817°	221' FSL 1352' FEL	39°58'13.718" 39.970477°	109°23'57.714" 109.399365°	39°58'13.842" 39.970512°	109°23'55.262" 109.398684°	80' FNL 473' FEL
NBU 1022-11A1CS	39°58'16.695" 39.971304°	109°24'09.122" 109.402534°	39°58'16.819" 39.971338°	109°24'06.670" 109.401853°	221' FSL 1362' FEL	39°58'10.428" 39.969563°	109°23'57.980" 109.399439°	39°58'10.552" 39.969598°	109°23'55.528" 109.398758°	413' FNL 491' FEL
NBU 1022-11A4BS	39°58'16.693" 39.971304°	109°24'09.251" 109.402570°	39°58'16.817" 39.971338°	109°24'06.798" 109.401888°	221' FSL 1372' FEL	39°58'07.158" 39.968655°	109°23'58.001" 109.399445°	39°58'07.282" 39.968689°	109°23'55.550" 109.398764°	744' FNL 490' FEL
NBU 1022-11B1BS	39°58'16.692" 39.971303°	109°24'09.379" 109.402605°	39°58'16.815" 39.971338°	109°24'06.927" 109.401924°	221' FSL 1382' FEL	39°58'11.745" 39.969929°	109°24'14.197" 109.403944°	39°58'11.868" 39.969963°	109°24'11.744" 109.403262°	280' FNL 1755' FEL
NBU 1022-2O4BS	39°58'16.690" 39.971303°	109°24'09.508" 109.402641°	39°58'16.814" 39.971337°	109°24'07.055" 109.401960°	221' FSL 1392' FEL	39°58'18.612" 39.971837°	109°24'14.833" 109.404120°	39°58'18.735" 39.971871°	109°24'12.380" 109.403439°	415' FSL 1807' FEL
NBU 1022-2O4CS	39°58'16.689" 39.971302°	109°24'09.636" 109.402677°	39°58'16.812" 39.971337°	109°24'07.184" 109.401995°	220' FSL 1402' FEL	39°58'15.450" 39.970958°	109°24'14.796" 109.404110°	39°58'15.574" 39.970993°	109°24'12.343" 109.403429°	95' FSL 1804' FEL
CIGE 161	39°58'17.464" 39.971518°	109°24'04.883" 109.401356°	39°58'17.588" 39.971552°	109°24'02.431" 109.400675°	299' FSL 1032' FEL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1022-2P4CS	34.0'	846.2'	NBU 1022-11A1BS	-300.8'	878.7'	NBU 1022-11A1CS	-633.7'	868.2'	NBU 1022-11A4BS	-964.5'	876.8'
WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST			
NBU 1022-11B1BS	-501.0'	-374.9'	NBU 1022-2O4BS	194.2'	-414.8'	NBU 1022-2O4CS	-125.7'	-401.8'			



BASIS OF BEARINGS IS THE EAST LINE OF THE SE $\frac{1}{4}$ OF SECTION 2, T10S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°00'47"W.

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

WELL PAD - NBU 1022-2P

WELL PAD INTERFERENCE PLAT
WELLS - NBU 1022-2P4CS, NBU 1022-11A1BS, NBU 1022-11A1CS, NBU 1022-11A4BS, NBU 1022-11B1BS, NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, 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
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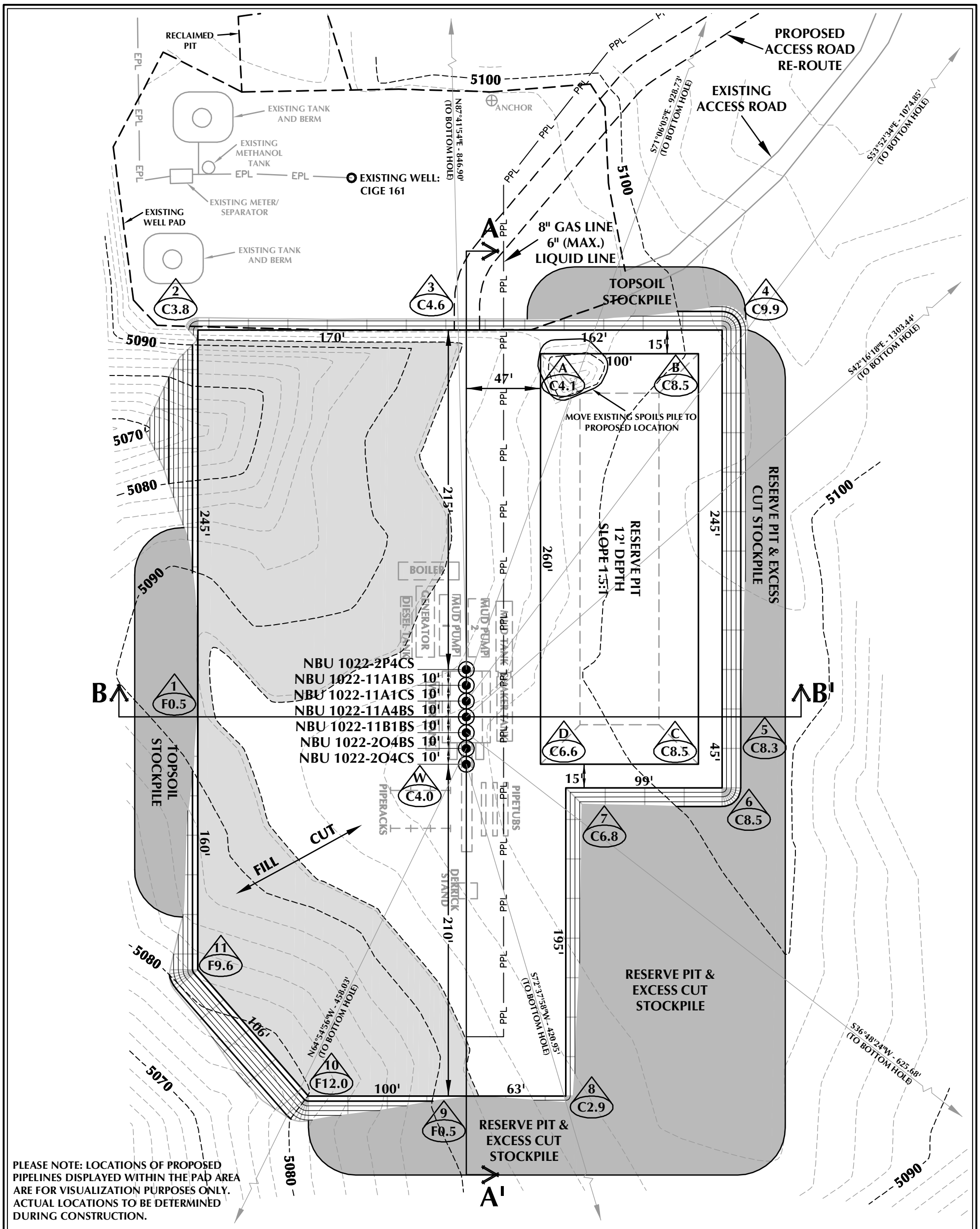
DATE SURVEYED: 01-06-11	SURVEYED BY: R.Y.	SHEET NO:
DATE DRAWN: 01-24-11	DRAWN BY: M.W.W.	8
SCALE: 1" = 60'	Date Last Revised:	8 OF 19

RECEIVED: August 10, 2011



WELL PAD - NBU 1022-2P DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5096.2'
FINISHED GRADE ELEVATION = 5092.2'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.58 ACRES
TOTAL DISTURBANCE AREA = 6.30 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

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

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 14,772 C.Y.
TOTAL FILL FOR WELL PAD = 12,060 C.Y.
TOPSOIL @ 6" DEPTH = 2,863 C.Y.
EXCESS MATERIAL = 2,712 C.Y.

RESERVE PIT QUANTITIES

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

WELL PAD LEGEND

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

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

WELL PAD - NBU 1022-2P

WELL PAD - LOCATION LAYOUT
NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

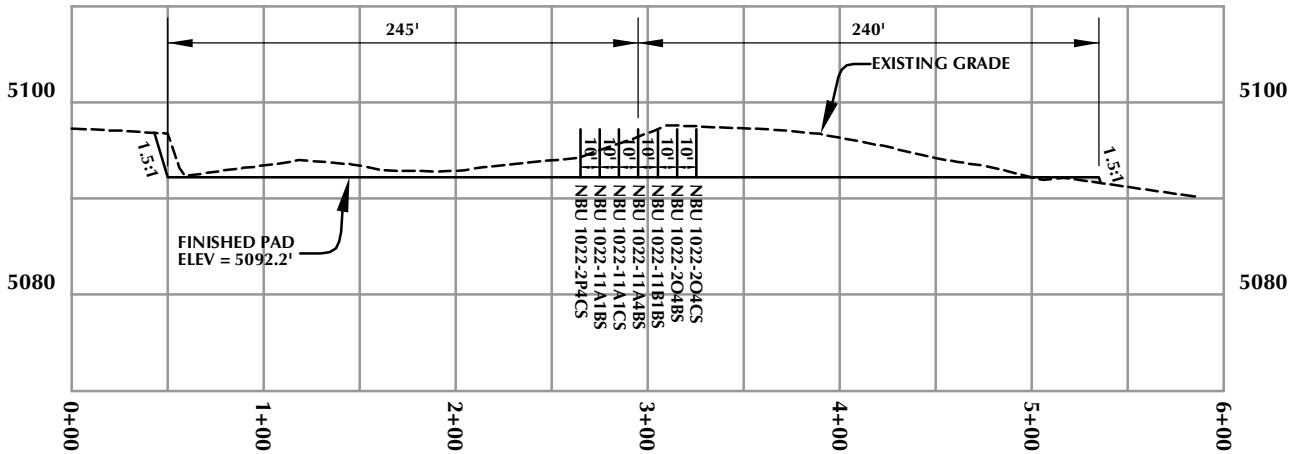
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

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

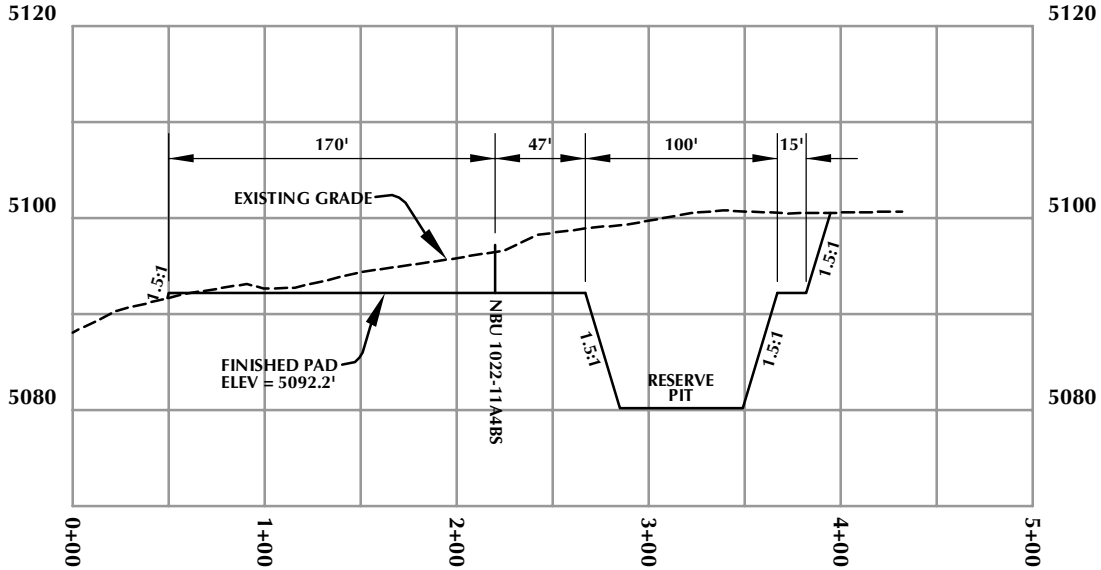
SCALE: 1"=60' | DATE: 3/30/11 | SHEET NO: 9
REVISED:
9 OF 19

C:\ANADARKO\2010_63_NBU_FOCUS_1022-2\DWG\NBU_1022_2P\NBU_1022_2P_PAD_20110113.dwg, 3/28/2011 8:46:38 AM

RECEIVED: August 10, 2011



CROSS SECTION A-A'



CROSS SECTION B-B'

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

WELL PAD - NBU 1022-2P

WELL PAD - CROSS SECTIONS
NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
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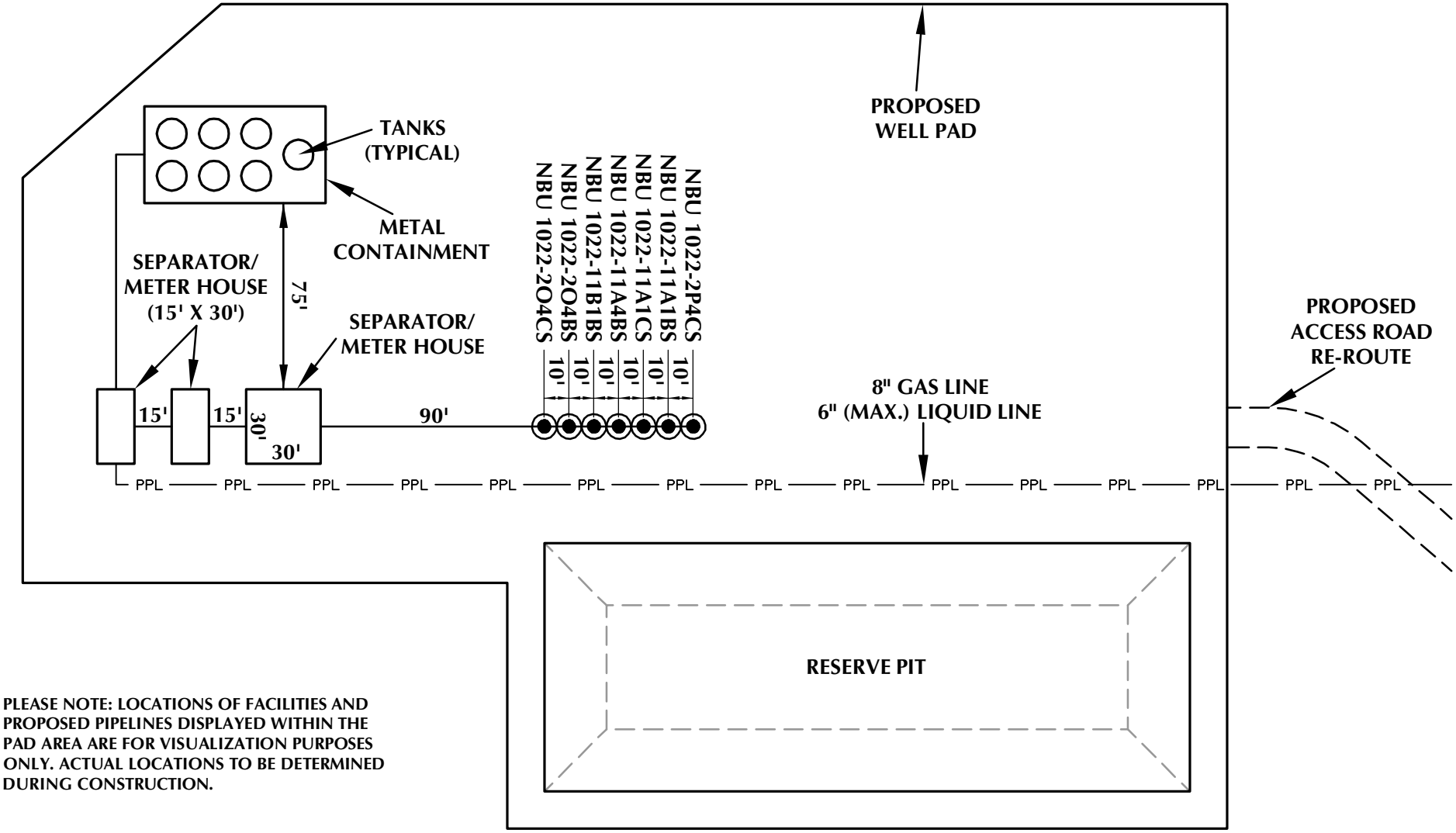
HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'

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

Scale: 1"=100' | Date: 3/30/11 | SHEET NO: 10 10 OF 19
REVISED:

K:\ANADARKO\2010_63_NBU_FOCUS_1022-2\DWG\NBU_1022_2P\NBU_1022_2P_PAD_20110113.dwg, 3/28/2011 8:15:49 AM

RECEIVED: August 10, 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 1022-2P

WELL PAD - FACILITIES DIAGRAM
NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, 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: 3/30/11 | SHEET NO: 11 | 11 OF 19
REVISED:

K:\ANADARKO\2010_63_NBU_FOCUS_1022-2\DWG\NBU_1022_2P\NBU_1022_2P_PAD_20110113.dwg, 3/28/2011 8:26:13 AM

RECEIVED: August 10, 2011

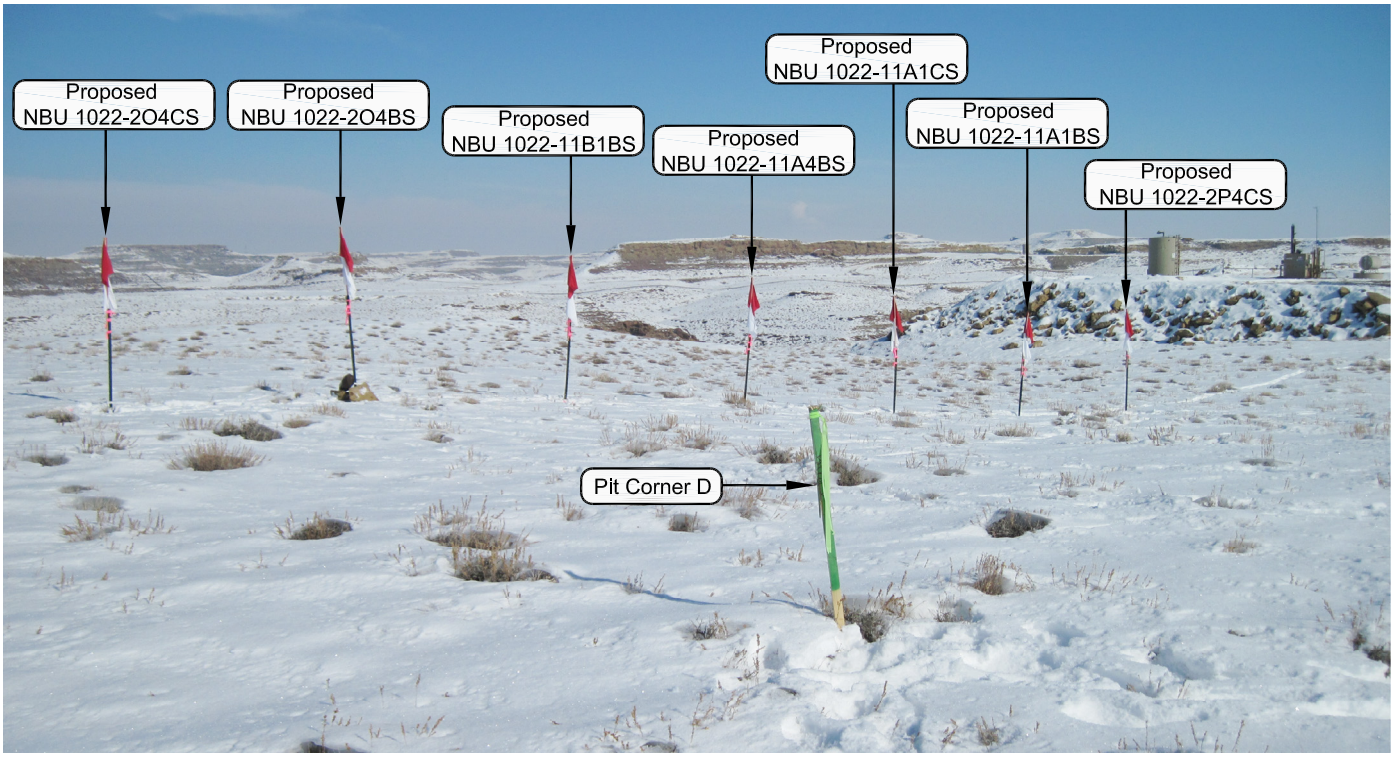


PHOTO VIEW: FROM CORNER D TO LOCATION STAKE **CAMERA ANGLE: NORTHEASTERLY**

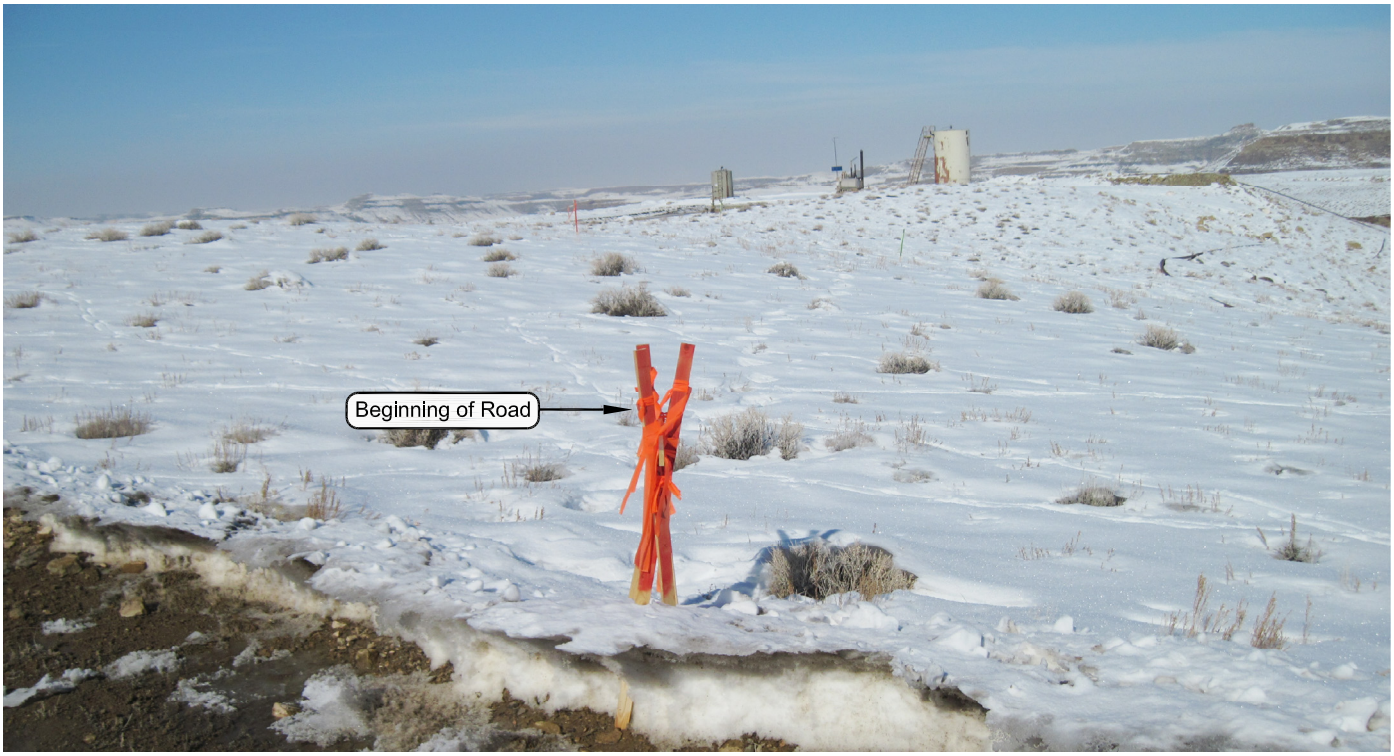


PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD **CAMERA ANGLE: NORTHWESTERLY**

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

WELL PAD - NBU 1022-2P

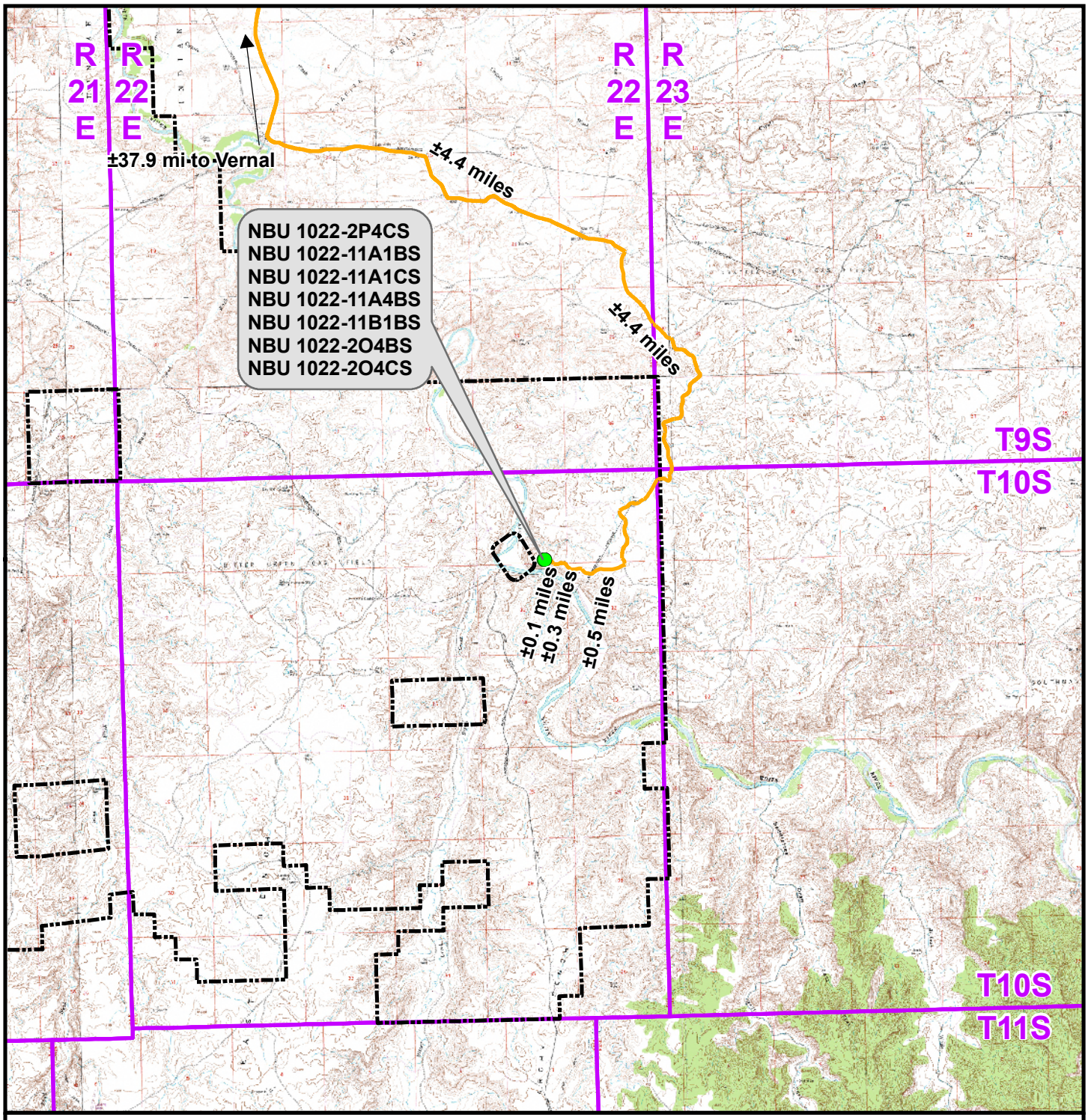
LOCATION PHOTOS
NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH.

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 PHOTOS TAKEN: 01-06-11	PHOTOS TAKEN BY: R.Y.	SHEET NO:
DATE DRAWN: 01-24-11	DRAWN BY: M.W.W.	12
Date Last Revised:		12 OF 19

RECEIVED: August 10, 2011



Legend

Distance From Well Pad - NBU 1022-2P To Unit Boundary: ±1,230ft

- 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 1022-2P

TOPO A
NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

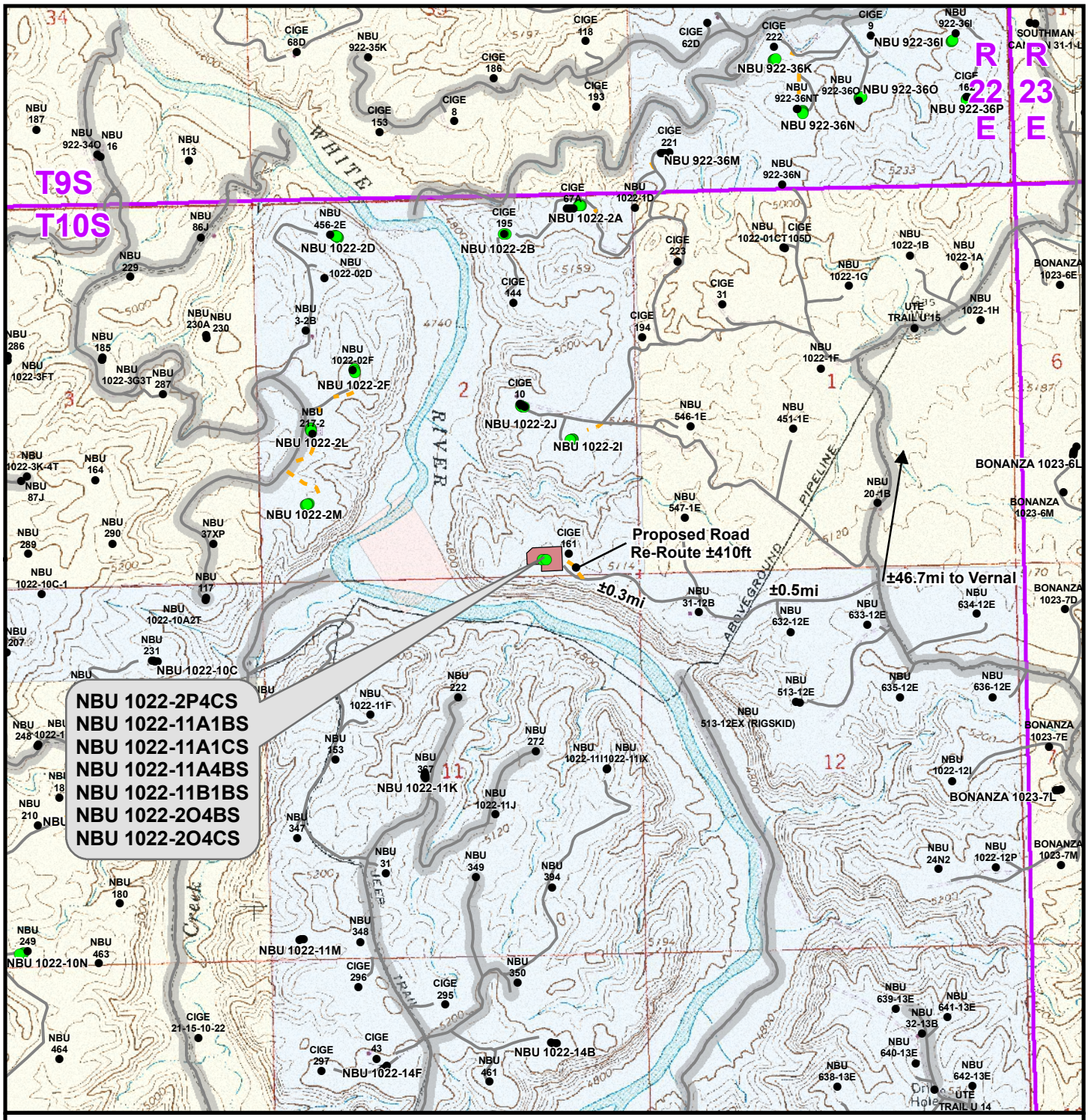
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1:100,000	NAD83 USP Central	Sheet No: 13 13 of 19
Drawn: KGS	Date: 30 Mar 2011	
Revised:	Date:	

RECEIVED: August 10, 2011

API Well Number: 43047518390000



Legend

Total Proposed Road Re-Route Length: ±410ft

- 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 1022-2P

TOPO B
NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

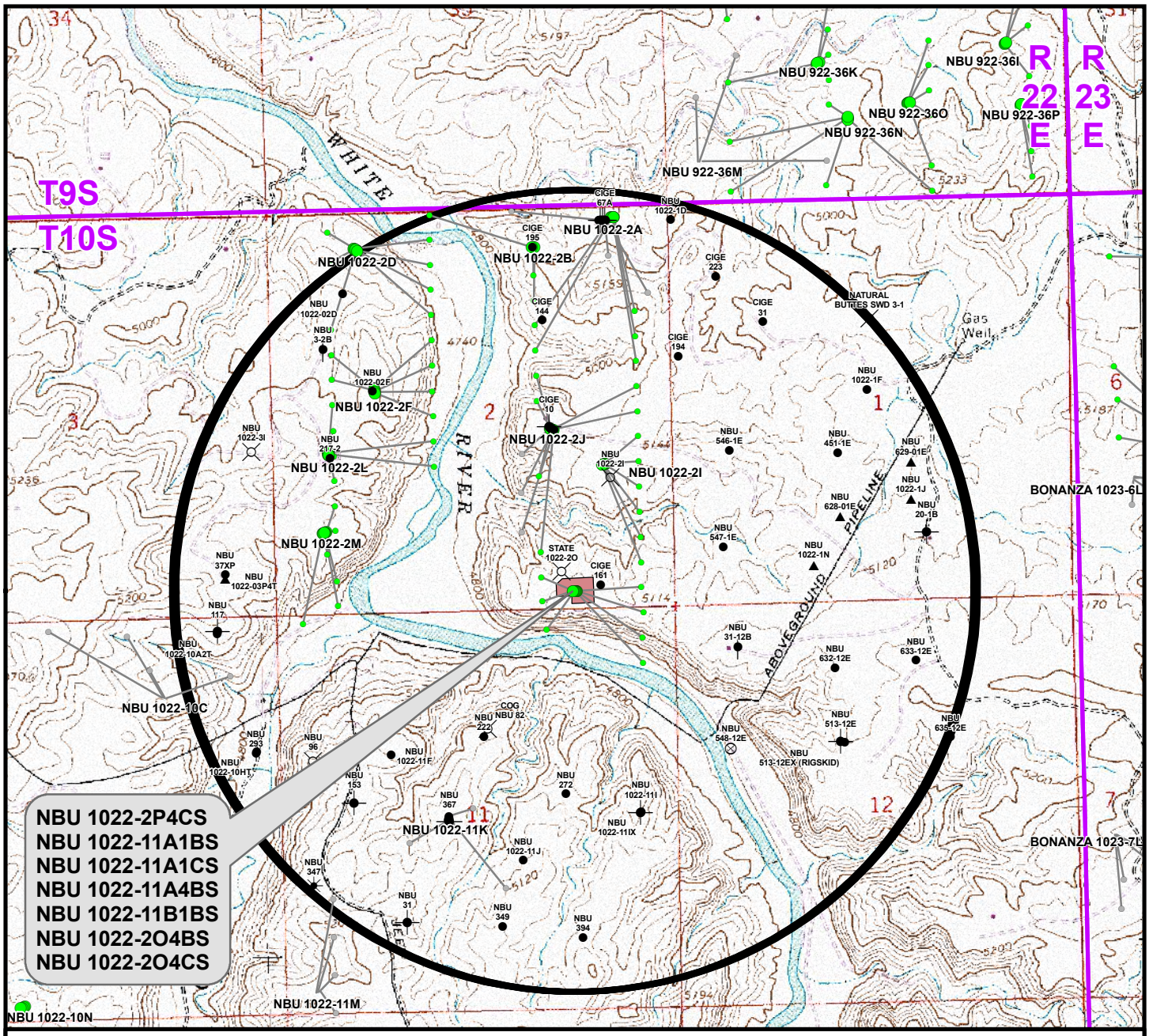
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 14
Drawn: KGS	Date: 30 Mar 2011	14 of 19
Revised:	Date:	

RECEIVED: August 10, 2011

API Well Number: 43047518390000



Proposed Well	Nearest Well Bore	Footage	Proposed Well	Nearest Well Bore	Footage
NBU 1022-2P4CS	CIGE 161	538ft	NBU 1022-11B1BS	CIGE 161	928ft
NBU 1022-11A1BS	CIGE 161	675ft	NBU 1022-2O4BS	NBU 1022-2O2S BH	644ft
NBU 1022-11A1CS	CIGE 161	892ft	NBU 1022-2O4CS	CIGE 161	798ft
NBU 1022-11A4BS	CIGE 161	1,172ft			

Legend

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

- 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 1022-2P

TOPO C
NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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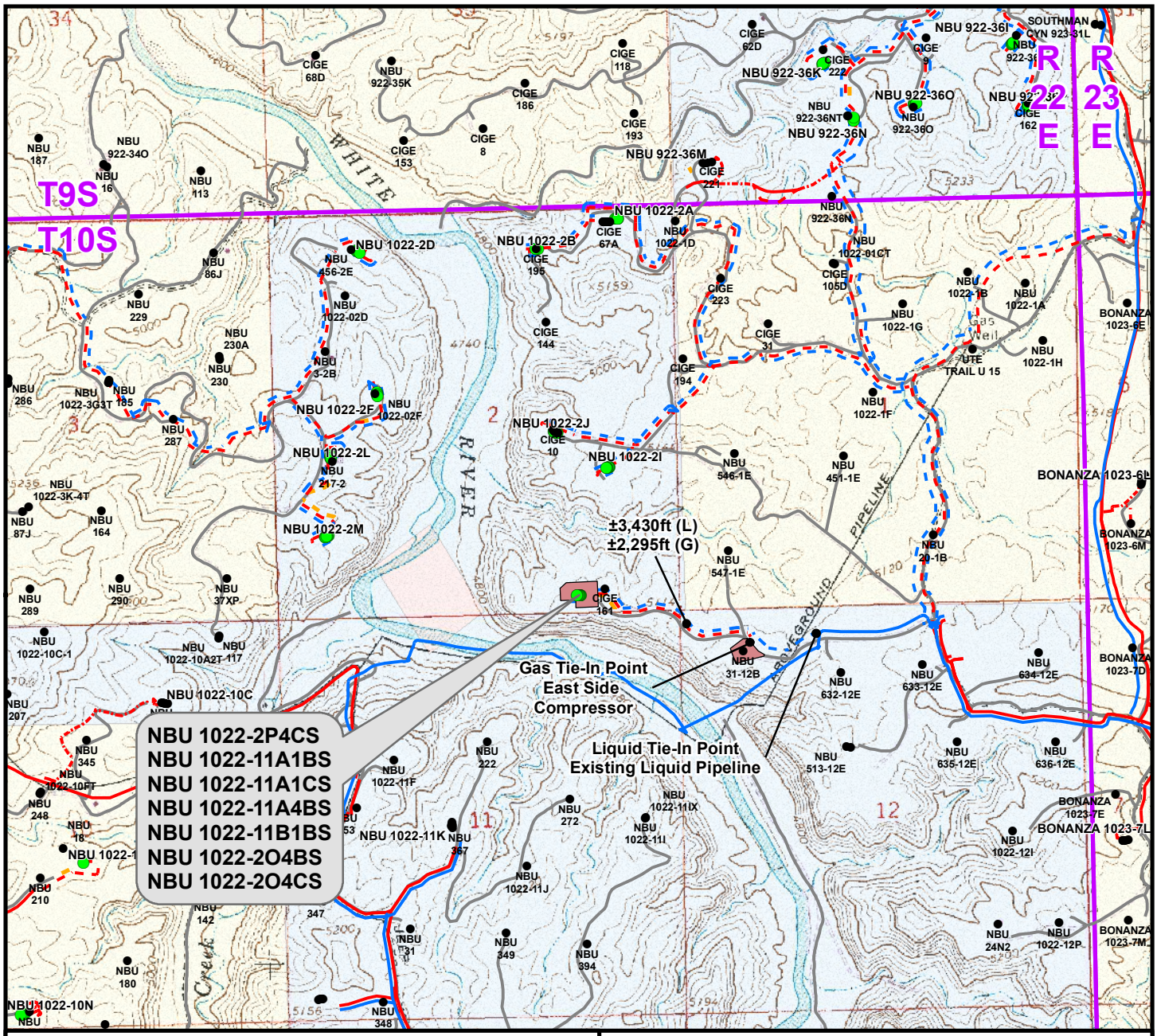
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 15
Drawn: KGS	Date: 30 Mar 2011	15 of 19
Revised:	Date:	

RECEIVED: August 10, 2011

API Well Number: 43047518390000



Proposed Liquid Pipeline	Length
Proposed 6"(Max.) (Meter House to Edge of Pad)	±475ft
Proposed 6"(Max.) (Edge of Pad to Existing Liquid Pipeline)	±3,430ft
TOTAL PROPOSED LIQUID PIPELINE =	±3,905ft

Proposed Gas Pipeline	Length
Proposed 8" (Meter House to Edge of Pad)	±475ft
Proposed 8" (Edge of Pad to East Side Compressor)	±2,295ft
TOTAL PROPOSED GAS PIPELINE =	±2,770ft

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 1022-2P

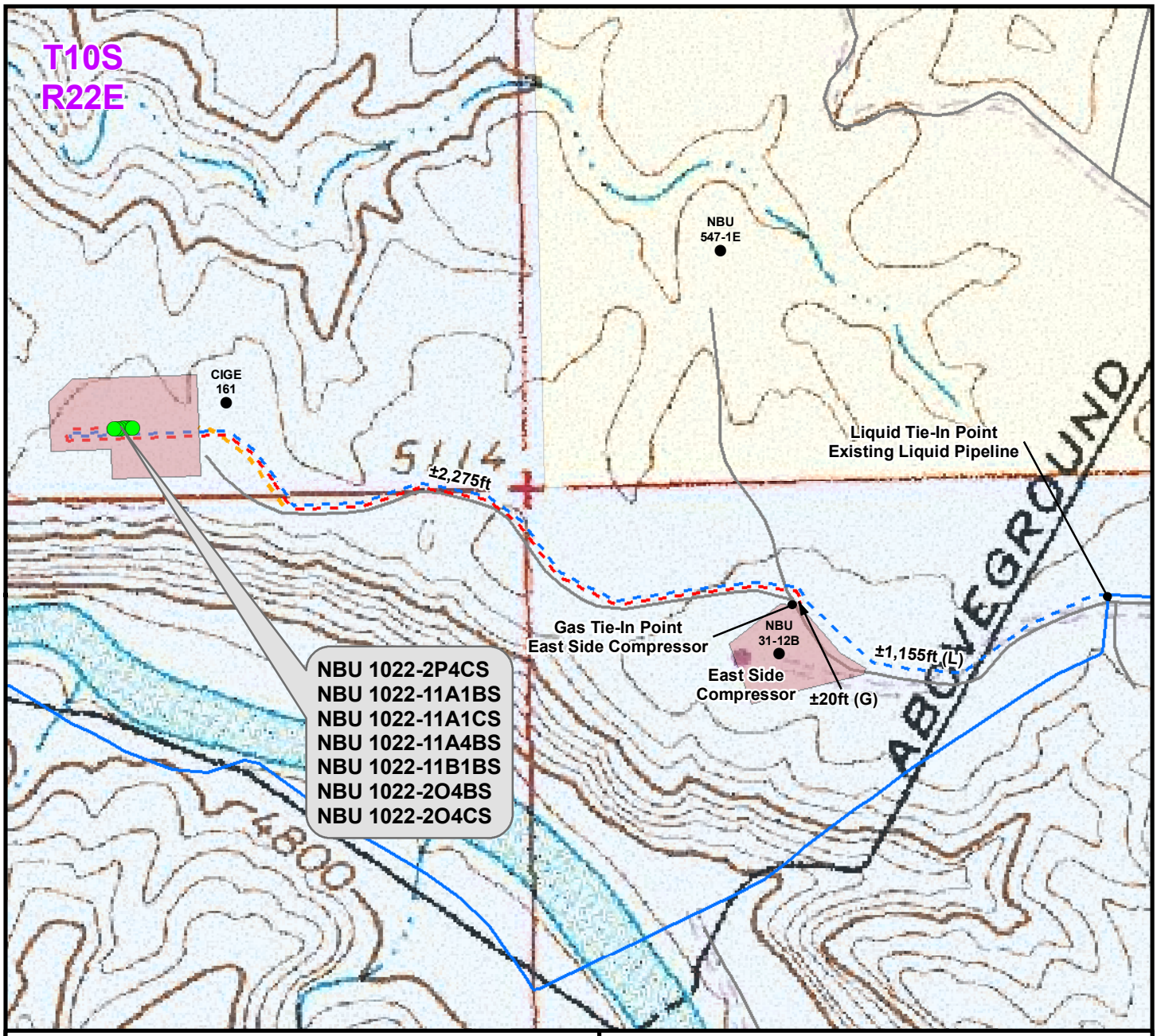
TOPO D
NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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: 16
Drawn: KGS	Date: 30 Mar 2011	16 of 19
Revised:	Date:	

RECEIVED: August 10, 2011



Proposed Liquid Pipeline	Length
Proposed 6"(Max.) (Meter House to Edge of Pad)	±475ft
Proposed 6"(Max.) (Edge of Pad to Existing Liquid Pipeline)	±3,430ft
TOTAL PROPOSED LIQUID PIPELINE =	±3,905ft

Proposed Gas Pipeline	Length
Proposed 8" (Meter House to Edge of Pad)	±475ft
Proposed 8" (Edge of Pad to East Side Compressor)	±2,295ft
TOTAL PROPOSED GAS PIPELINE =	±2,770ft

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 1022-2P

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

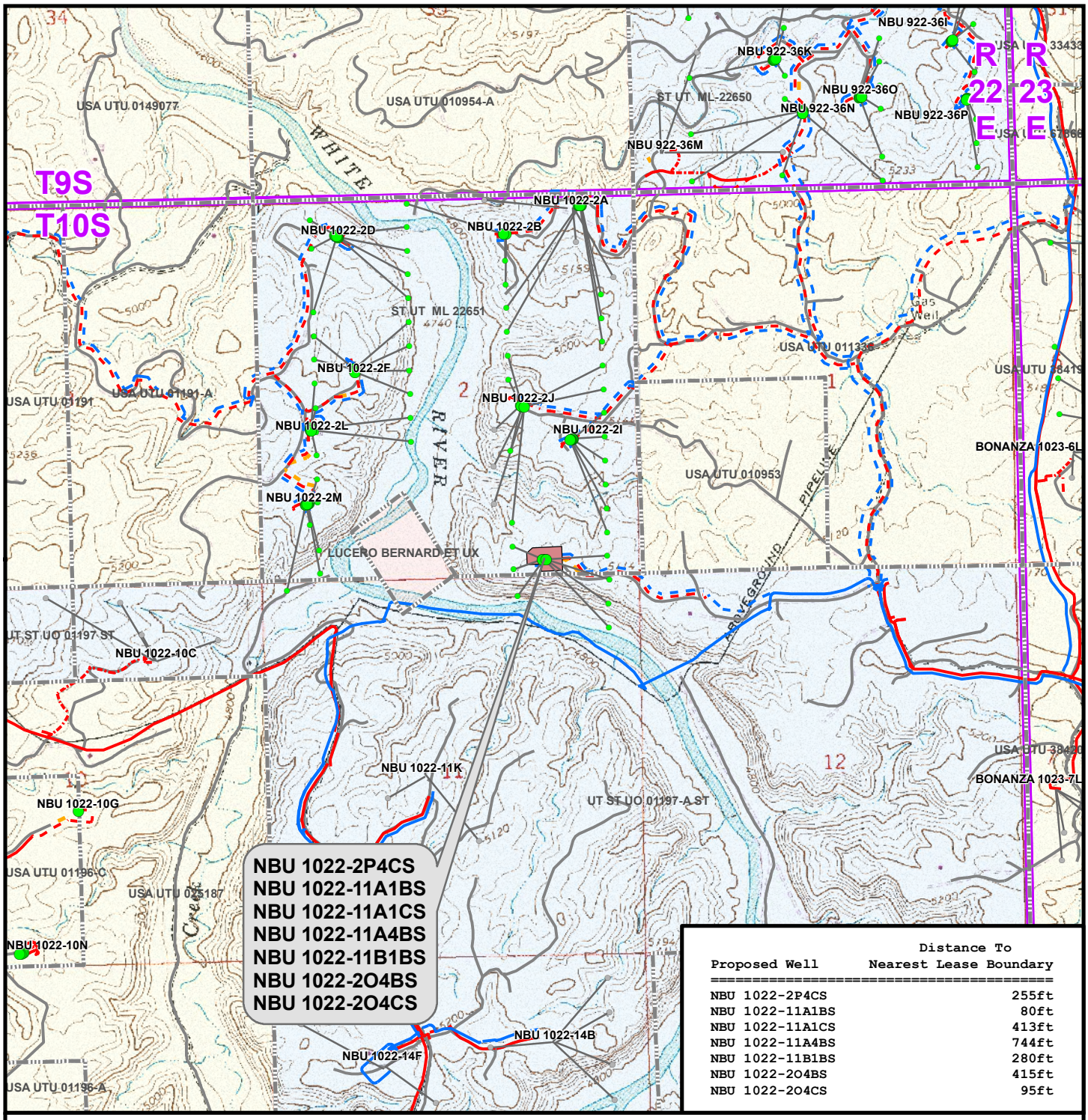
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 500ft	NAD83 USP Central	Sheet No: 17
Drawn: KGS	Date: 30 Mar 2011	17 of 19
Revised:	Date:	

RECEIVED: August 10, 2011

API Well Number: 43047518390000



Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-2P4CS	255ft
NBU 1022-11A1BS	80ft
NBU 1022-11A1CS	413ft
NBU 1022-11A4BS	744ft
NBU 1022-11B1BS	280ft
NBU 1022-2O4BS	415ft
NBU 1022-2O4CS	95ft

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 1022-2P

TOPO E
NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
LOCATED IN SECTION 2, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
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N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 18
Drawn: KGS	Date: 30 Mar 2011	18 of 19
Revised:	Date:	

RECEIVED: August 10, 2011

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – NBU 1022-2P
WELLS – NBU 1022-2P4CS,
NBU 1022-11A1BS, NBU 1022-11A1CS,
NBU 1022-11A4BS, NBU 1022-11B1BS,
NBU 1022-2O4BS & NBU 1022-2O4CS
Section 2, 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 southwesterly direction along the Seven Sisters Road approximately 4.4 miles to a service road to the west. Exit right and proceed in a westerly direction along the service road approximately 0.5 miles to a second service road to the northwest. Exit left and proceed in a northwesterly direction along the second service road approximately 0.3 miles to the proposed access road. Follow the road flags in a northwesterly direction approximately 410 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 47.6 miles in a southerly direction.

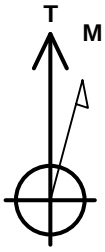
RECEIVED: August 10, 2011

API Well Number: 43047518390000

Scientific Drilling
Rocky Mountain Operations

Project: Uintah County, UT NAD27
Site: NBU 1022-2P PAD
Well: NBU 1022-2P4CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation



Azimuths to True North
Magnetic North: 11.02°

Magnetic Field
Strength: 52316.3snT
Dip Angle: 65.86°
Date: 07/21/2011
Model: IGRF2010

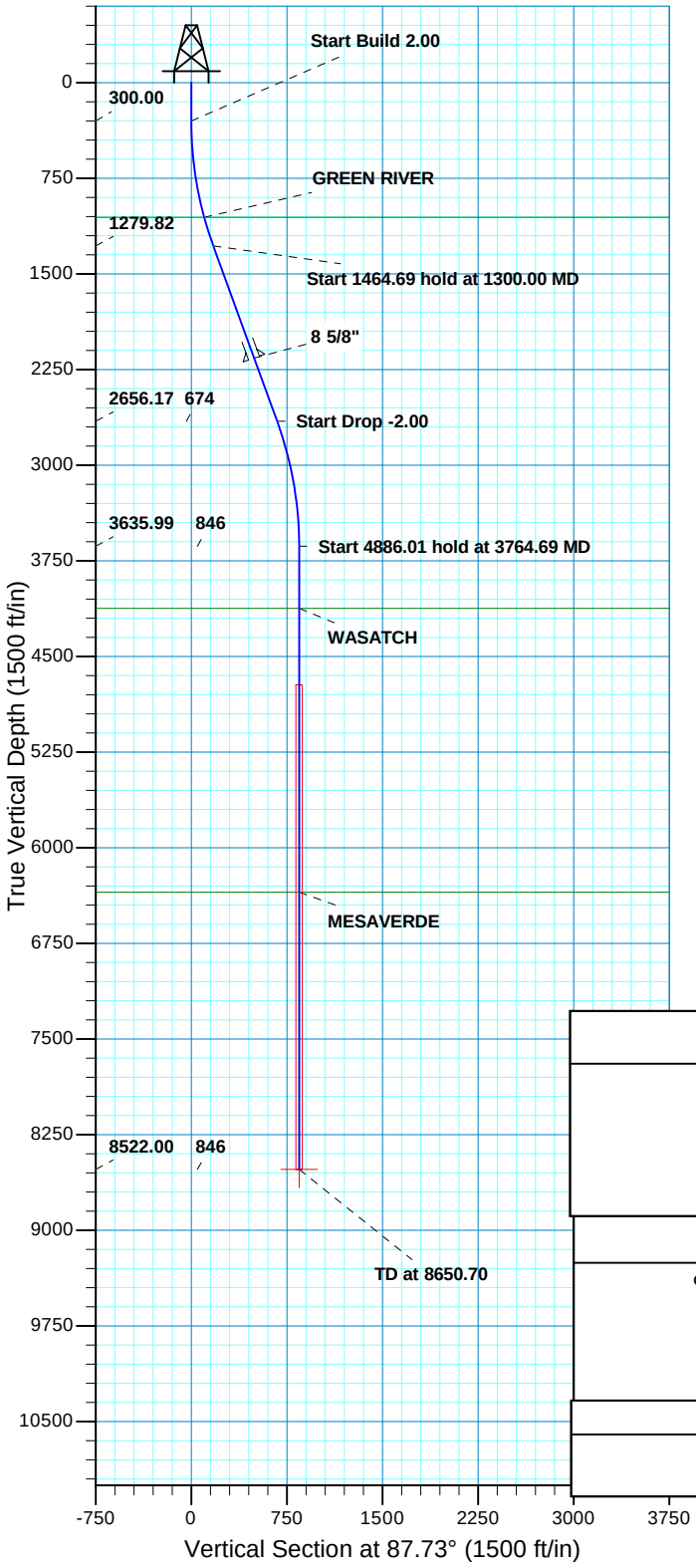
WELL DETAILS: NBU 1022-2P4CS

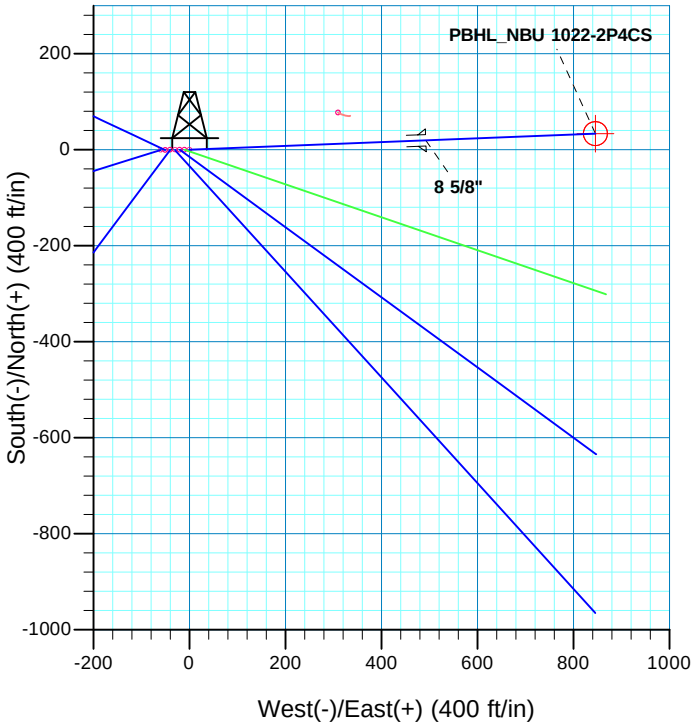
GL 5092' & KB 4'
@ 5096.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	603502.72	2587992.72	39° 58' 16.820 N	109° 24' 6.412 W

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8522.00	33.52	845.82	603556.08	2588837.52	39° 58' 17.152 N	109° 23' 55.547 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	87.73	1279.82	6.84	172.63	2.00	87.73	172.77	
2764.69	20.00	87.73	2656.17	26.68	673.19	0.00	0.00	673.72	
3764.69	0.00	0.00	3635.99	33.52	845.82	2.00	180.00	846.49	
8650.70	0.00	0.00	8522.00	33.52	845.82	0.00	0.00	846.49	PBHL_NBU 1022-2P4CS

PROJECT DETAILS: Uintah County, UT NAD27

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Utah Central 4302
Location: SECTION 2 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1057.00	1066.10	GREEN RIVER
4123.00	4251.70	WASATCH
6348.00	6476.70	MESAVERDE

CASING DETAILS

TVD	MD	Name	Size
2160.00	2236.67	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 1022-2P4CS/OH)

Created By: RobertScott Date: 12:54, July 21 2011

RECEI

Scientific Drilling
Rocky Mountain Operations

Kerr McGee Oil and Gas Onshore LP

Uintah County, UT NAD27
NBU 1022-2P PAD
NBU 1022-2P4CS

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

21 July, 2011

Anadarko
Petroleum Corporation

RECEIVED: August 10, 2011

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-2P4CS
Company:	Kerr McGee Oil and Gas Onshore LP	**TVD Reference:**	GL 5092' & KB 4' @ 5096.00ft (ASSUMED)
Project:	Uintah County, UT NAD27	**MD Reference:**	GL 5092' & KB 4' @ 5096.00ft (ASSUMED)
Site:	NBU 1022-2P PAD	**North Reference:**	True
Well:	NBU 1022-2P4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Project Uintah County, UT NAD27

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Utah Central 4302		

Site NBU 1022-2P PAD, SECTION 2 T10S R22E

Site Position:		**Northing:**	603,502.73 usft	**Latitude:**	39° 58' 16.820 N
From:	Lat/Long	**Easting:**	2,587,992.71 usft	**Longitude:**	109° 24' 6.412 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.34 °

Well NBU 1022-2P4CS, 221 FSL 1342 FEL

Well Position	**+N/-S**	0.00 ft	**Northing:**	603,502.73 usft	**Latitude:**	39° 58' 16.820 N
	+E/-W	0.00 ft	**Easting:**	2,587,992.71 usft	**Longitude:**	109° 24' 6.412 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,092.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	07/21/11	11.02	65.86	52,316

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	87.73

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	87.73	1,279.82	6.84	172.63	2.00	2.00	0.00	87.73	
2,764.69	20.00	87.73	2,656.17	26.68	673.19	0.00	0.00	0.00	0.00	
3,764.69	0.00	0.00	3,635.99	33.52	845.82	2.00	-2.00	0.00	180.00	
8,650.70	0.00	0.00	8,522.00	33.52	845.82	0.00	0.00	0.00	0.00	PBHL_NBU 1022-2P4

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Project:	Uintah County, UT NAD27	**MD Reference:**	GL 5092' & KB 4' @ 5096.00ft (ASSUMED)
Site:	NBU 1022-2P PAD	**North Reference:**	True
Well:	NBU 1022-2P4CS	**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	87.73	399.98	0.07	1.74	1.75	2.00	2.00	0.00
500.00	4.00	87.73	499.84	0.28	6.97	6.98	2.00	2.00	0.00
600.00	6.00	87.73	599.45	0.62	15.68	15.69	2.00	2.00	0.00
700.00	8.00	87.73	698.70	1.10	27.86	27.88	2.00	2.00	0.00
800.00	10.00	87.73	797.47	1.72	43.49	43.52	2.00	2.00	0.00
900.00	12.00	87.73	895.62	2.48	62.55	62.60	2.00	2.00	0.00
1,000.00	14.00	87.73	993.06	3.37	85.03	85.10	2.00	2.00	0.00
1,066.10	15.32	87.73	1,057.00	4.03	101.75	101.83	2.00	2.00	0.00
GREEN RIVER									
1,100.00	16.00	87.73	1,089.64	4.40	110.89	110.98	2.00	2.00	0.00
1,200.00	18.00	87.73	1,185.27	5.55	140.10	140.21	2.00	2.00	0.00
1,300.00	20.00	87.73	1,279.82	6.84	172.63	172.77	2.00	2.00	0.00
Start 1464.69 hold at 1300.00 MD									
1,400.00	20.00	87.73	1,373.78	8.20	206.81	206.97	0.00	0.00	0.00
1,500.00	20.00	87.73	1,467.75	9.55	240.98	241.17	0.00	0.00	0.00
1,600.00	20.00	87.73	1,561.72	10.91	275.16	275.37	0.00	0.00	0.00
1,700.00	20.00	87.73	1,655.69	12.26	309.33	309.58	0.00	0.00	0.00
1,800.00	20.00	87.73	1,749.66	13.62	343.51	343.78	0.00	0.00	0.00
1,900.00	20.00	87.73	1,843.63	14.97	377.68	377.98	0.00	0.00	0.00
2,000.00	20.00	87.73	1,937.60	16.32	411.86	412.18	0.00	0.00	0.00
2,100.00	20.00	87.73	2,031.57	17.68	446.03	446.38	0.00	0.00	0.00
2,200.00	20.00	87.73	2,125.54	19.03	480.21	480.59	0.00	0.00	0.00
2,236.67	20.00	87.73	2,160.00	19.53	492.74	493.13	0.00	0.00	0.00
8 5/8"									
2,300.00	20.00	87.73	2,219.51	20.39	514.38	514.79	0.00	0.00	0.00
2,400.00	20.00	87.73	2,313.48	21.74	548.56	548.99	0.00	0.00	0.00
2,500.00	20.00	87.73	2,407.45	23.10	582.73	583.19	0.00	0.00	0.00
2,600.00	20.00	87.73	2,501.42	24.45	616.91	617.39	0.00	0.00	0.00
2,700.00	20.00	87.73	2,595.39	25.81	651.08	651.60	0.00	0.00	0.00
2,764.69	20.00	87.73	2,656.17	26.68	673.19	673.72	0.00	0.00	0.00
Start Drop -2.00									
2,800.00	19.29	87.73	2,689.43	27.15	685.06	685.59	2.00	-2.00	0.00
2,900.00	17.29	87.73	2,784.37	28.40	716.42	716.98	2.00	-2.00	0.00
3,000.00	15.29	87.73	2,880.35	29.51	744.45	745.04	2.00	-2.00	0.00
3,100.00	13.29	87.73	2,977.25	30.48	769.12	769.72	2.00	-2.00	0.00
3,200.00	11.29	87.73	3,074.95	31.33	790.39	791.02	2.00	-2.00	0.00
3,300.00	9.29	87.73	3,173.33	32.04	808.25	808.88	2.00	-2.00	0.00
3,400.00	7.29	87.73	3,272.28	32.61	822.66	823.31	2.00	-2.00	0.00
3,500.00	5.29	87.73	3,371.68	33.04	833.62	834.27	2.00	-2.00	0.00
3,600.00	3.29	87.73	3,471.39	33.34	841.10	841.76	2.00	-2.00	0.00
3,700.00	1.29	87.73	3,571.31	33.50	845.10	845.76	2.00	-2.00	0.00
3,764.69	0.00	0.00	3,635.99	33.52	845.82	846.49	2.00	-2.00	-135.62
Start 4886.01 hold at 3764.69 MD									
3,800.00	0.00	0.00	3,671.30	33.52	845.82	846.49	0.00	0.00	0.00
3,900.00	0.00	0.00	3,771.30	33.52	845.82	846.49	0.00	0.00	0.00
4,000.00	0.00	0.00	3,871.30	33.52	845.82	846.49	0.00	0.00	0.00

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Site:	NBU 1022-2P PAD	**North Reference:**	True
Well:	NBU 1022-2P4CS	**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)
4,100.00	0.00	0.00	3,971.30	33.52	845.82	846.49	0.00	0.00	0.00
4,200.00	0.00	0.00	4,071.30	33.52	845.82	846.49	0.00	0.00	0.00
4,251.70	0.00	0.00	4,123.00	33.52	845.82	846.49	0.00	0.00	0.00
WASATCH									
4,300.00	0.00	0.00	4,171.30	33.52	845.82	846.49	0.00	0.00	0.00
4,400.00	0.00	0.00	4,271.30	33.52	845.82	846.49	0.00	0.00	0.00
4,500.00	0.00	0.00	4,371.30	33.52	845.82	846.49	0.00	0.00	0.00
4,600.00	0.00	0.00	4,471.30	33.52	845.82	846.49	0.00	0.00	0.00
4,700.00	0.00	0.00	4,571.30	33.52	845.82	846.49	0.00	0.00	0.00
4,800.00	0.00	0.00	4,671.30	33.52	845.82	846.49	0.00	0.00	0.00
4,900.00	0.00	0.00	4,771.30	33.52	845.82	846.49	0.00	0.00	0.00
5,000.00	0.00	0.00	4,871.30	33.52	845.82	846.49	0.00	0.00	0.00
5,100.00	0.00	0.00	4,971.30	33.52	845.82	846.49	0.00	0.00	0.00
5,200.00	0.00	0.00	5,071.30	33.52	845.82	846.49	0.00	0.00	0.00
5,300.00	0.00	0.00	5,171.30	33.52	845.82	846.49	0.00	0.00	0.00
5,400.00	0.00	0.00	5,271.30	33.52	845.82	846.49	0.00	0.00	0.00
5,500.00	0.00	0.00	5,371.30	33.52	845.82	846.49	0.00	0.00	0.00
5,600.00	0.00	0.00	5,471.30	33.52	845.82	846.49	0.00	0.00	0.00
5,700.00	0.00	0.00	5,571.30	33.52	845.82	846.49	0.00	0.00	0.00
5,800.00	0.00	0.00	5,671.30	33.52	845.82	846.49	0.00	0.00	0.00
5,900.00	0.00	0.00	5,771.30	33.52	845.82	846.49	0.00	0.00	0.00
6,000.00	0.00	0.00	5,871.30	33.52	845.82	846.49	0.00	0.00	0.00
6,100.00	0.00	0.00	5,971.30	33.52	845.82	846.49	0.00	0.00	0.00
6,200.00	0.00	0.00	6,071.30	33.52	845.82	846.49	0.00	0.00	0.00
6,300.00	0.00	0.00	6,171.30	33.52	845.82	846.49	0.00	0.00	0.00
6,400.00	0.00	0.00	6,271.30	33.52	845.82	846.49	0.00	0.00	0.00
6,476.70	0.00	0.00	6,348.00	33.52	845.82	846.49	0.00	0.00	0.00
MESAVERDE									
6,500.00	0.00	0.00	6,371.30	33.52	845.82	846.49	0.00	0.00	0.00
6,600.00	0.00	0.00	6,471.30	33.52	845.82	846.49	0.00	0.00	0.00
6,700.00	0.00	0.00	6,571.30	33.52	845.82	846.49	0.00	0.00	0.00
6,800.00	0.00	0.00	6,671.30	33.52	845.82	846.49	0.00	0.00	0.00
6,900.00	0.00	0.00	6,771.30	33.52	845.82	846.49	0.00	0.00	0.00
7,000.00	0.00	0.00	6,871.30	33.52	845.82	846.49	0.00	0.00	0.00
7,100.00	0.00	0.00	6,971.30	33.52	845.82	846.49	0.00	0.00	0.00
7,200.00	0.00	0.00	7,071.30	33.52	845.82	846.49	0.00	0.00	0.00
7,300.00	0.00	0.00	7,171.30	33.52	845.82	846.49	0.00	0.00	0.00
7,400.00	0.00	0.00	7,271.30	33.52	845.82	846.49	0.00	0.00	0.00
7,500.00	0.00	0.00	7,371.30	33.52	845.82	846.49	0.00	0.00	0.00
7,600.00	0.00	0.00	7,471.30	33.52	845.82	846.49	0.00	0.00	0.00
7,700.00	0.00	0.00	7,571.30	33.52	845.82	846.49	0.00	0.00	0.00
7,800.00	0.00	0.00	7,671.30	33.52	845.82	846.49	0.00	0.00	0.00
7,900.00	0.00	0.00	7,771.30	33.52	845.82	846.49	0.00	0.00	0.00
8,000.00	0.00	0.00	7,871.30	33.52	845.82	846.49	0.00	0.00	0.00
8,100.00	0.00	0.00	7,971.30	33.52	845.82	846.49	0.00	0.00	0.00
8,200.00	0.00	0.00	8,071.30	33.52	845.82	846.49	0.00	0.00	0.00
8,300.00	0.00	0.00	8,171.30	33.52	845.82	846.49	0.00	0.00	0.00
8,400.00	0.00	0.00	8,271.30	33.52	845.82	846.49	0.00	0.00	0.00
8,500.00	0.00	0.00	8,371.30	33.52	845.82	846.49	0.00	0.00	0.00
8,600.00	0.00	0.00	8,471.30	33.52	845.82	846.49	0.00	0.00	0.00
8,650.70	0.00	0.00	8,522.00	33.52	845.82	846.49	0.00	0.00	0.00
PBHL_NBU 1022-2P4CS									

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Project:	Uintah County, UT NAD27	**MD Reference:**	GL 5092' & KB 4' @ 5096.00ft (ASSUMED)
Site:	NBU 1022-2P PAD	**North Reference:**	True
Well:	NBU 1022-2P4CS	**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)

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 1022-2P4C: - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,522.00	33.52	845.82	603,556.08	2,588,837.52	39° 58' 17.152 N	109° 23' 55.547 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,236.67	2,160.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,066.10	1,057.00	GREEN RIVER			
4,251.70	4,123.00	WASATCH			
6,476.70	6,348.00	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	6.84	172.63	Start 1464.69 hold at 1300.00 MD
2,764.69	2,656.17	26.68	673.19	Start Drop -2.00
3,764.69	3,635.99	33.52	845.82	Start 4886.01 hold at 3764.69 MD
8,650.70	8,522.00	33.52	845.82	TD at 8650.70

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NBU 1022-11A1BS

Surface:	221 FSL / 1352 FEL	SWSE	Lot 8
BHL:	80 FNL / 473 FEL	NENE	Lot

NBU 1022-11A1CS

Surface:	221 FSL / 1362 FEL	SWSE	Lot 8
BHL:	413 FNL / 491 FEL	NENE	Lot

NBU 1022-11A4BS

Surface:	221 FSL / 1372 FEL	SWSE	Lot 8
BHL:	744 FNL / 490 FEL	NENE	Lot

NBU 1022-11B1BS

Surface:	221 FSL / 1382 FEL	SWSE	Lot 8
BHL:	280 FNL / 1755 FEL	NWNE	Lot

NBU 1022-2O4BS

Surface:	221 FSL / 1392 FEL	SWSE	Lot 8
BHL:	415 FSL / 1807 FEL	SWSE	Lot 8

NBU 1022-2O4CS

Surface:	220 FSL / 1402 FEL	SWSE	Lot 8
BHL:	95 FSL / 1804 FEL	SWSE	Lot 8

NBU 1022-2P4CS

Surface:	221 FSL / 1342 FEL	SWSE	Lot 8
BHL:	255 FSL / 496 FEL	SESE	Lot

Pad: NBU 1022-2P PAD
Section 2 T10S R22E
Mineral Lease: ST UT ML 22651

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.)

RECEIVED: August 10, 2011

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

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

A. Existing Roads:

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

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

B. Planned Access Roads:

One new access road is proposed (see Topo Map B). The ±410' reroute will follow the proposed gas and liquid pipelines from the East edge of the pad to existing access road. 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 CIGE 161. The CIGE 161 well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of June 2, 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).

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The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) above ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Gathering Facilities:

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

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is ±2,770' and the individual segments are broken up as follows:

±475' (0.09 miles) –New 8" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
±2,295' (0.43 miles) –New 8" buried gas pipeline from the edge of pad to the tie-in at the East Side Compressor. Please refer to Topo D2 - Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is ±3,905'and the individual segments are broken up as follows:

±475' (0.09 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
±3,430' (0.65 miles) –New 6" buried liquid pipeline from the edge of pad to the tie-in at the existing liquid pipeline. Please refer to Topo D2 - Pad and Pipeline Detail.

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.

RECEIVED: August 10, 2011

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

D. Location and Type of Water Supply:

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

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

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

No water well is to be drilled on this lease.

E. Source of Construction Materials:

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

F. Methods for Handling Waste Materials:

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

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

RECEIVED: August 10, 2011

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

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification.)

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

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

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after 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.

RECEIVED: August 10, 2011

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

Materials Management

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

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

G. Ancillary Facilities:

None are anticipated.

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

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

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

I. Plans for Reclamation of the Surface:

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

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

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Interim Reclamation

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

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

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

Final Reclamation

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

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

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

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

Seeding and Measures Common to Interim and Final Reclamation

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

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

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

J. Surface/Mineral Ownership:

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

L. Other Information:

None

RECEIVED: August 10, 2011

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

August 10, 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

August 4, 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 1022-2P4CS
T10S-R22E
Section 2: SWSE
Surface: 221' FSL, 1342' FEL
T10S-R22E
Section 2: SESE
Bottom Hole: 255' FSL, 496' FEL
Uintah County, Utah

Dear Ms. Mason:

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

- Kerr-McGee's NBU 1022-2P4CS 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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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)

August 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 1022-11F PAD		
43-047-51797	NBU 1022-11C2CS	Sec 11 T10S R22E 1860 FNL 1499 FWL
		BHL Sec 11 T10S R22E 0370 FNL 1365 FWL
43-047-51799	NBU 1022-11C3DS	Sec 11 T10S R22E 1852 FNL 1505 FWL
		BHL Sec 11 T10S R22E 1268 FNL 1726 FWL
43-047-51800	NBU 1022-11D1CS	Sec 11 T10S R22E 1868 FNL 1493 FWL
		BHL Sec 11 T10S R22E 0576 FNL 0818 FWL
43-047-51801	NBU 1022-11F2DS	Sec 11 T10S R22E 1844 FNL 1512 FWL
		BHL Sec 11 T10S R22E 1622 FNL 1625 FWL
NBU 1022-11G2 PAD		
43-047-51802	NBU 1022-11B4CS	Sec 11 T10S R22E 1627 FNL 2594 FEL
		BHL Sec 11 T10S R22E 1238 FNL 1803 FEL
43-047-51813	NBU 1022-11B4BS	Sec 11 T10S R22E 1633 FNL 2601 FEL
		BHL Sec 11 T10S R22E 0908 FNL 1804 FEL
43-047-51815	NBU 1022-11B1CS	Sec 11 T10S R22E 1639 FNL 2609 FEL
		BHL Sec 11 T10S R22E 0577 FNL 1805 FEL
43-047-51817	NBU 1022-C4AS	Sec 11 T10S R22E 1645 FNL 2617 FEL
		BHL Sec 11 T10S R22E 0825 FNL 2462 FWL
43-047-51818	NBU 1022-11C4CS	Sec 11 T10S R22E 1651 FNL 2625 FEL
		BHL Sec 11 T10S R22E 1071 FNL 2131 FWL

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API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51855	NBU 1022-11F4AS	Sec 11 T10S R22E 1657 FNL 2633 FEL
		BHL Sec 11 T10S R22E 2138 FNL 2288 FWL
NBU 1022-2A PAD		
43-047-51803	NBU 1022-2G1CS	Sec 02 T10S R22E 0165 FNL 0760 FEL
		BHL Sec 02 T10S R22E 1905 FNL 1814 FEL
43-047-51807	NBU 1022-2G1BS	Sec 02 T10S R22E 0164 FNL 0770 FEL
		BHL Sec 02 T10S R22E 1573 FNL 1815 FEL
43-047-51808	NBU 1022-2H1BS	Sec 02 T10S R22E 0167 FNL 0730 FEL
		BHL Sec 02 T10S R22E 1410 FNL 0494 FEL
43-047-51812	NBU 1022-2H1CS	Sec 02 T10S R22E 0166 FNL 0740 FEL
		BHL Sec 02 T10S R22E 1743 FNL 0494 FEL
43-047-51825	NBU 1022-2H4BS	Sec 02 T10S R22E 0165 FNL 0750 FEL
		BHL Sec 02 T10S R22E 2074 FNL 0493 FEL
NBU 1022-11G4 PAD		
43-047-51805	NBU 1022-11A4CS	Sec 11 T10S R22E 2411 FNL 1535 FEL
		BHL Sec 11 T10S R22E 1075 FNL 0490 FEL
43-047-51814	NBU 1022-11H1BS	Sec 11 T10S R22E 2405 FNL 1526 FEL
		BHL Sec 11 T10S R22E 1406 FNL 0490 FEL
43-047-51822	NBU 1022-11G4CS	Sec 11 T10S R22E 2435 FNL 1566 FEL
		BHL Sec 11 T10S R22E 2559 FNL 1799 FEL
43-047-51823	NBU 1022-11G1BS	Sec 11 T10S R22E 2423 FNL 1550 FEL
		BHL Sec 11 T10S R22E 1568 FNL 1802 FEL
43-047-51837	NBU 1022-11G1CS	Sec 11 T10S R22E 2417 FNL 1542 FEL
		BHL Sec 11 T10S R22E 1954 FNL 1646 FEL
43-047-51853	NBU 1022-11G4BS	Sec 11 T10S R22E 2429 FNL 1558 FEL
		BHL Sec 11 T10S R22E 2229 FNL 1800 FEL
NBU 1022-2I PAD		
43-047-51809	NBU 1022-2I4CS	Sec 02 T10S R22E 1886 FSL 0949 FEL
		BHL Sec 02 T10S R22E 1576 FSL 0492 FEL
43-047-51810	NBU 1022-2P1BS	Sec 02 T10S R22E 1881 FSL 0957 FEL
		BHL Sec 02 T10S R22E 1245 FSL 0492 FEL
43-047-51824	NBU 1022-2I1CS	Sec 02 T10S R22E 1895 FSL 0931 FEL
		BHL Sec 02 T10S R22E 2240 FSL 0493 FEL
43-047-51829	NBU 1022-2I4BS	Sec 02 T10S R22E 1890 FSL 0940 FEL
		BHL Sec 02 T10S R22E 1909 FSL 0492 FEL
43-047-51838	NBU 1022-2P4BS	Sec 02 T10S R22E 1872 FSL 0975 FEL
		BHL Sec 02 T10S R22E 0581 FSL 0492 FEL
43-047-51852	NBU 1022-2P1CS	Sec 02 T10S R22E 1877 FSL 0966 FEL
		BHL Sec 02 T10S R22E 0913 FSL 0492 FEL
NBU 1022-2B PAD		
43-047-51811	NBU 1022-2B1CS	Sec 02 T10S R22E 0544 FNL 1813 FEL
		BHL Sec 02 T10S R22E 0579 FNL 1818 FEL

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API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51827	NBU 1022-2B4CS	Sec 02 T10S R22E 0543 FNL 1793 FEL
		BHL Sec 02 T10S R22E 1242 FNL 1816 FEL
43-047-51828	NBU 1022-2B4BS	Sec 02 T10S R22E 0543 FNL 1803 FEL
		BHL Sec 02 T10S R22E 0910 FNL 1817 FEL
43-047-51830	NBU 1022-2C1BS	Sec 02 T10S R22E 0544 FNL 1823 FEL
		BHL Sec 02 T10S R22E 0090 FNL 2158 FWL
NBU 1022-11J PAD		
43-047-51816	NBU 1022-11K4BS	Sec 11 T10S R22E 1980 FSL 2131 FEL
		BHL Sec 11 T10S R22E 1804 FSL 1963 FWL
43-047-51843	NBU 1022-11J1CS	Sec 11 T10S R22E 1990 FSL 2130 FEL
		BHL Sec 11 T10S R22E 2065 FSL 1797 FEL
43-047-51851	NBU 1022-11J1BS	Sec 11 T10S R22E 2000 FSL 2129 FEL
		BHL Sec 11 T10S R22E 2395 FSL 1798 FEL
NBU 1022-2J PAD		
43-047-51819	NBU 1022-2G4CS	Sec 02 T10S R22E 2375 FSL 1639 FEL
		BHL Sec 02 T10S R22E 2568 FNL 1813 FEL
43-047-51820	NBU 1022-2H4CS	Sec 02 T10S R22E 2351 FSL 1584 FEL
		BHL Sec 02 T10S R22E 2406 FNL 0493 FEL
43-047-51844	NBU 1022-2J4BS	Sec 02 T10S R22E 2367 FSL 1621 FEL
		BHL Sec 02 T10S R22E 1741 FSL 1811 FEL
43-047-51845	NBU 1022-2O1CS	Sec 02 T10S R22E 2343 FSL 1566 FEL
		BHL Sec 02 T10S R22E 0747 FSL 1808 FEL
43-047-51847	NBU 1022-2I1BS	Sec 02 T10S R22E 2347 FSL 1575 FEL
		BHL Sec 02 T10S R22E 2572 FSL 0493 FEL
43-047-51854	NBU 1022-2G4BS	Sec 02 T10S R22E 2359 FSL 1602 FEL
		BHL Sec 02 T10S R22E 2237 FNL 1814 FEL
NBU 1022-O1 PAD		
43-047-51821	NBU 1022-11O1CS	Sec 11 T10S R22E 0944 FSL 1360 FEL
		BHL Sec 11 T10S R22E 0744 FSL 1793 FEL
43-047-51831	NBU 1022-11O4CS	Sec 11 T10S R22E 0925 FSL 1366 FEL
		BHL Sec 11 T10S R22E 0079 FSL 1824 FEL
43-047-51832	NBU 1022-11P1BS	Sec 11 T10S R22E 0973 FSL 1351 FEL
		BHL Sec 11 T10S R22E 1068 FSL 0474 FEL
43-047-51833	NBU 1022-11P4BS	Sec 11 T10S R22E 0954 FSL 1357 FEL
		BHL Sec 11 T10S R22E 0456 FSL 0504 FEL
43-047-51836	NBU 1022-12M1BS	Sec 11 T10S R22E 0963 FSL 1354 FEL
		BHL Sec 12 T10S R22E 1077 FSL 0824 FWL
43-047-51856	NBU 1022-11O4BS	Sec 11 T10S R22E 0935 FSL 1363 FEL
		BHL Sec 11 T10S R22E 0413 FSL 1792 FEL

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API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

NBU 1022-11I1 PAD

43-047-51834 NBU 1022-11I1CS Sec 11 T10S R22E 2545 FSL 0532 FEL
BHL Sec 11 T10S R22E 2112 FSL 0481 FEL

43-047-51835 NBU 1022-12L1CS Sec 11 T10S R22E 2554 FSL 0528 FEL
BHL Sec 12 T10S R22E 2070 0FSL 823 FWL

43-047-51857 NBU 1022-11H4BS Sec 11 T10S R22E 2582 FSL 0518 FEL
BHL Sec 11 T10S R22E 2067 FNL 0489 FEL

43-047-51858 NBU 1022-11H4CS Sec 11 T10S R22E 2592 FSL 0514 FEL
BHL Sec 11 T10S R22E 2398 FNL 0489 FEL

43-047-51861 NBU 1022-12L1BS Sec 11 T10S R22E 2564 FSL 0525 FEL
BHL Sec 12 T10S R22E 2401 FSL 0822 FWL

43-047-51863 NBU 1022-11H1CS Sec 11 T10S R22E 2573 FSL 0521 FEL
BHL Sec 11 T10S R22E 1737 FNL 0490 FEL

NBU 1022-2P PAD

43-047-51839 NBU 1022-2P4CS Sec 02 T10S R22E 0221 FSL 1342 FEL
BHL Sec 02 T10S R22E 0255 FSL 0496 FEL

43-047-51841 NBU 1022-11B1BS Sec 02 T10S R22E 0221 FSL 1382 FEL
BHL Sec 11 T10S R22E 0280 FNL 1755 FEL

43-047-51842 NBU 1022-11A1BS Sec 02 T10S R22E 0221 FSL 1352 FEL
BHL Sec 11 T10S R22E 0080 FNL 0473 FEL

43-047-51846 NBU 1022-2O4CS Sec 02 T10S R22E 0220 FSL 1402 FEL
BHL Sec 02 T10S R22E 0095 FSL 1804 FEL

43-047-51848 NBU 1022-11A4BS Sec 02 T10S R22E 0221 FSL 1372 FEL
BHL Sec 11 T10S R22E 0744 FNL 0490 FEL

43-047-51849 NBU 1022-2O4BS Sec 02 T10S R22E 0221 FSL 1392 FEL
BHL Sec 02 T10S R22E 0415 FSL 1807 FEL

43-047-51850 NBU 1022-11A1CS Sec 02 T10S R22E 0221 FSL 1362 FEL
BHL Sec 11 T10S R22E 0413 FNL 0491 FEL

NBU 1022-14A PAD

43-047-51840 NBU 1022-11P4CS Sec 14 T10S R22E 0379 FNL 1228 FEL
BHL Sec 11 T10S R22E 0088 FSL 0466 FEL

43-047-51860 NBU 1022-12M1CS Sec 14 T10S R22E 0385 FNL 1236 FEL
BHL Sec 12 T10S R22E 0746 FSL 0825 FWL

43-047-51868 NBU 1022-12M4BS Sec 14 T10S R22E 0391 FNL 1244 FEL
BHL Sec 12 T10S R22E 0415 FSL 0825 FWL

43-047-51870 NBU 1022-12M4CS Sec 14 T10S R22E 0397 FNL 1252 FEL
BHL Sec 12 T10S R22E 0086 FSL 0819 FWL

NBU 1022-11O2 PAD

43-047-51859 NBU 1022-11K4CS Sec 11 T10S R22E 1103 FSL 2372 FEL
BHL Sec 11 T10S R22E 1442 FSL 2113 FWL

RECEIVED: August 22, 2011

API #	WELL NAME	LOCATION

(Proposed PZ WASATCH-MESA VERDE)

43-047-51862 NBU 1022-11N1BS Sec 11 T10S R22E 1094 FSL 2377 FEL
BHL Sec 11 T10S R22E 1111 FSL 2105 FWL

43-047-51864 NBU 1022-11N1CS Sec 11 T10S R22E 1085 FSL 2382 FEL
BHL Sec 11 T10S R22E 0801 FSL 2127 FWL

43-047-51865 NBU 1022-11N4BS Sec 11 T10S R22E 1077 FSL 2387 FEL
BHL Sec 11 T10S R22E 0462 FSL 2127 FWL

43-047-51867 NBU 1022-11N4CS Sec 11 T10S R22E 1068 FSL 2392 FEL
BHL Sec 11 T10S R22E 0146 FSL 2084 FWL

43-047-51869 NBU 1022-11O2AS Sec 11 T10S R22E 1111 FSL 2367 FEL
BHL Sec 11 T10S R22E 1102 FSL 1964 FEL

NBU 1022-11I3 PAD

43-047-51866 NBU 1022-11I4BS Sec 11 T10S R22E 1489 FSL 0996 FEL
BHL Sec 11 T10S R22E 1774 FSL 0485 FEL

43-047-51871 NBU 1022-11I4CS Sec 11 T10S R22E 1459 FSL 0997 FEL
BHL Sec 11 T10S R22E 1443 FSL 0497 FEL

43-047-51872 NBU 1022-12L4BS Sec 11 T10S R22E 1479 FSL 0996 FEL
BHL Sec 12 T10S R22E 1739 FSL 0823 FWL

43-047-51873 NBU 1022-12L4CS Sec 11 T10S R22E 1469 FSL 0996 FEL
BHL Sec 12 T10S R22E 1408 FSL 0824 FWL

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

Michael L. Coulthard

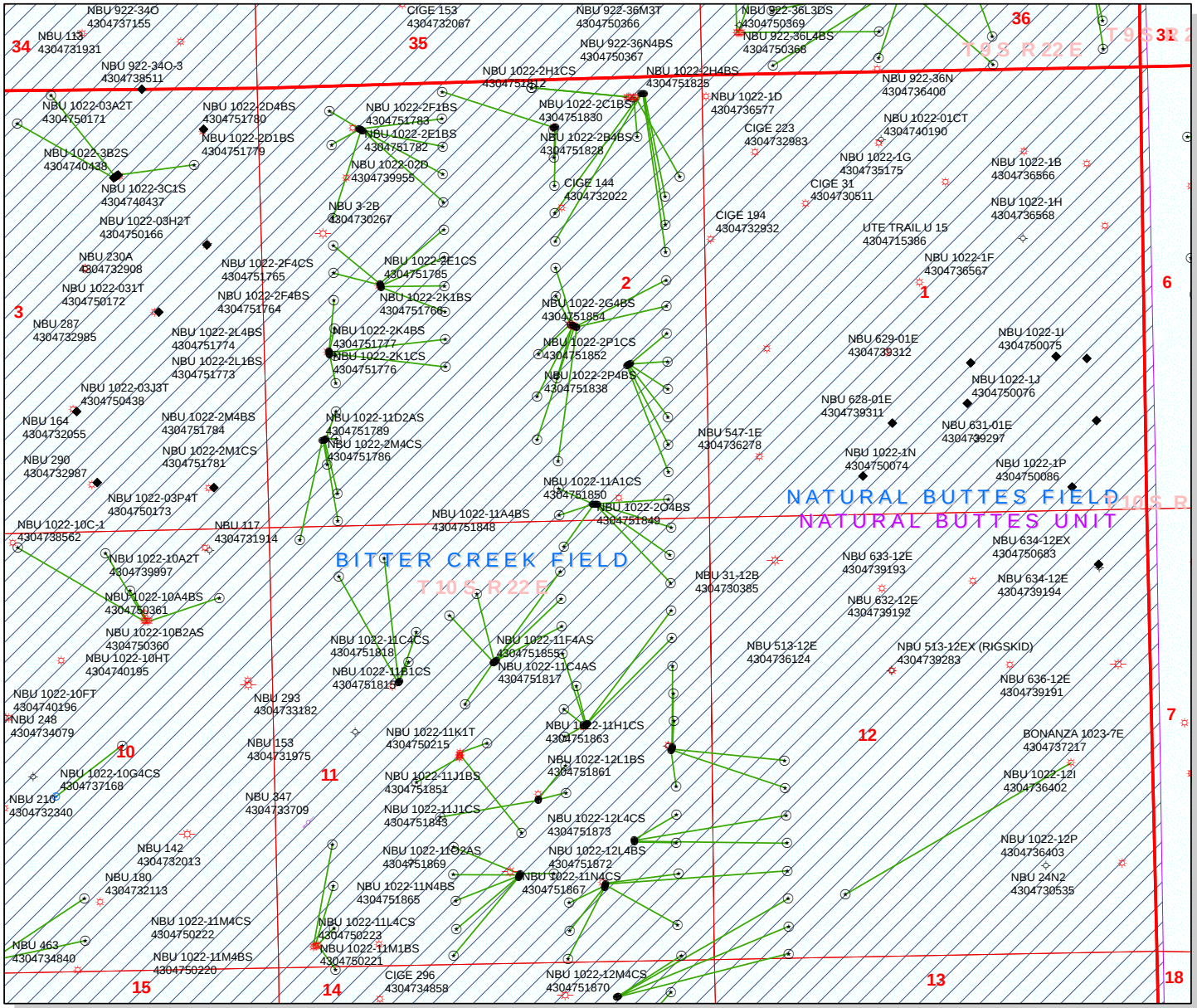
Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2011.08.19 08:43:17 -06'00'

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

MCoulthard:mc:8-19-11

RECEIVED: August 22, 2011

API Well Number: 43047518390000



API Number: 4304751839

Well Name: NBU 1022-2P4CS

Township T1.0 . Range R2.2 . Section 02

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

1,500 750 0 1,500 Feet

1:14,795

RECEIVED: August 22, 2011

From: Jim Davis
To: Hill, Brad; Mason, Diana
CC: Bonner, Ed; Garrison, LaVonne; Lytle, Andy
Date: 9/26/2011 5:08 PM
Subject: Anadarko APD approvals 10S 22E Sec 2, 11 and 14
Attachments: Anadarko Approvals from SITLA 9.26.11.xls

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

4304751840	NBU 1022-11P4CS
4304751860	NBU 1022-12M1CS
4304751868	NBU 1022-12M4BS
4304751870	NBU 1022-12M4CS
4304751803	NBU 1022-2G1CS
4304751807	NBU 1022-2G1BS
4304751808	NBU 1022-2H1BS
4304751812	NBU 1022-2H1CS
4304751825	NBU 1022-2H4BS
4304751811	NBU 1022-2B1CS
4304751827	NBU 1022-2B4CS
4304751828	NBU 1022-2B4BS
4304751830	NBU 1022-2C1BS
4304751809	NBU 1022-2I4CS
4304751810	NBU 1022-2P1BS
4304751824	NBU 1022-2I1CS
4304751829	NBU 1022-2I4BS
4304751838	NBU 1022-2P4BS
4304751852	NBU 1022-2P1CS
4304751839	NBU 1022-2P4CS
4304751841	NBU 1022-11B1BS
4304751842	NBU 1022-11A1BS
4304751846	NBU 1022-2O4CS
4304751848	NBU 1022-11A4BS
4304751849	NBU 1022-2O4BS
4304751850	NBU 1022-11A1CS

These APDS are approved including arch clearance but will require **spot paleo monitoring** as recommended in the applicable paleo reports:

4304751758	NBU 1022-2C1CS
4304751767	NBU 1022-2C4BS
4304751768	NBU 1022-2C4CS
4304751779	NBU 1022-2D1BS
4304751780	NBU 1022-2D4BS
4304751782	NBU 1022-2E1BS
4304751783	NBU 1022-2F1BS
4304751760	NBU 1022-2E4BS
4304751761	NBU 1022-2F1CS
4304751764	NBU 1022-2F4BS
4304751765	NBU 1022-2F4CS
4304751766	NBU 1022-2K1BS
4304751785	NBU 1022-2E1CS
4304751775	NBU 1022-2L4CS
4304751778	NBU 1022-2M1BS
4304751781	NBU 1022-2M1CS
4304751784	NBU 1022-2M4BS
4304751786	NBU 1022-2M4CS
4304751789	NBU 1022-11D2AS

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4304751802	NBU 1022-11B4CS
4304751813	NBU 1022-11B4BS
4304751815	NBU 1022-11B1CS
4304751817	NBU 1022-11C4AS
4304751818	NBU 1022-11C4CS
4304751855	NBU 1022-11F4AS
4304751805	NBU 1022-11A4CS
4304751814	NBU 1022-11H1BS
4304751822	NBU 1022-11G4CS
4304751823	NBU 1022-11G1BS
4304751837	NBU 1022-11G1CS
4304751853	NBU 1022-11G4BS
4304751834	NBU 1022-11I1CS
4304751835	NBU 1022-12L1CS
4304751857	NBU 1022-11H4BS
4304751858	NBU 1022-11H4CS
4304751861	NBU 1022-12L1BS
4304751863	NBU 1022-11H1CS
4304751866	NBU 1022-11I4BS
4304751871	NBU 1022-11I4CS
4304751872	NBU 1022-12L4BS
4304751873	NBU 1022-12L4CS
4304751816	NBU 1022-11K4BS
4304751843	NBU 1022-11J1CS
4304751851	NBU 1022-11J1BS
4304751859	NBU 1022-11K4CS
4304751862	NBU 1022-11N1BS
4304751864	NBU 1022-11N1CS
4304751865	NBU 1022-11N4BS
4304751867	NBU 1022-11N4CS
4304751869	NBU 1022-11O2AS

These APDS are approved including arch clearance but will require **full paleo monitoring** as recommended in the applicable paleo reports:

4304751771	NBU 1022-2E4CS
4304751772	NBU 1022-2L1CS
4304751773	NBU 1022-2L1BS
4304751774	NBU 1022-2L4BS
4304751776	NBU 1022-2K1CS
4304751777	NBU 1022-2K4BS
4304751819	NBU 1022-2G4CS
4304751820	NBU 1022-2H4CS
4304751844	NBU 1022-2J4BS
4304751845	NBU 1022-2O1CS
4304751847	NBU 1022-2I1BS
4304751854	NBU 1022-2G4BS
4304751797	NBU 1022-11C2CS
4304751799	NBU 1022-11C3DS
4304751800	NBU 1022-11D1CS
4304751801	NBU 1022-11F2DS
4304751821	NBU 1022-11O1CS
4304751831	NBU 1022-11O4CS
4304751832	NBU 1022-11P1BS
4304751833	NBU 1022-11P4BS
4304751836	NBU 1022-12M1BS
4304751856	NBU 1022-11O4BS

RECEIVED: September 27, 2011

That's a big enough list that I'm including a simple spreadsheet that has this same information, but organized in such a way as may be more useful to some of you.
Thanks.
-Jim

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

RECEIVED: September 27, 2011

API Well Number: 43047518390000

BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-2P4CS 43047518390000

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-2P4CS			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2088	8522		
Previous Shoe Setting Depth (TVD)	40	2088		
Max Mud Weight (ppg)	8.3	12.5		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5454	12.3		

Calculations	**Surf String**	**8.625**	**"**	
Max BHP (psi)	.052*Setting Depth*MW=	901		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	650	NO	air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	442	YES	OK
			***Can Full Expected Pressure Be Held At Previous Shoe?**	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	450	NO	Reasonable depth in area
Required Casing/BOPE Test Pressure=		2088	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=	5539		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4516	YES	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3664	YES	OK
			***Can Full Expected Pressure Be Held At Previous Shoe?**	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4124	NO	Reasonable
Required Casing/BOPE Test Pressure=		5000	psi	
***Max Pressure Allowed @ Previous Casing Shoe=**		2088	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	

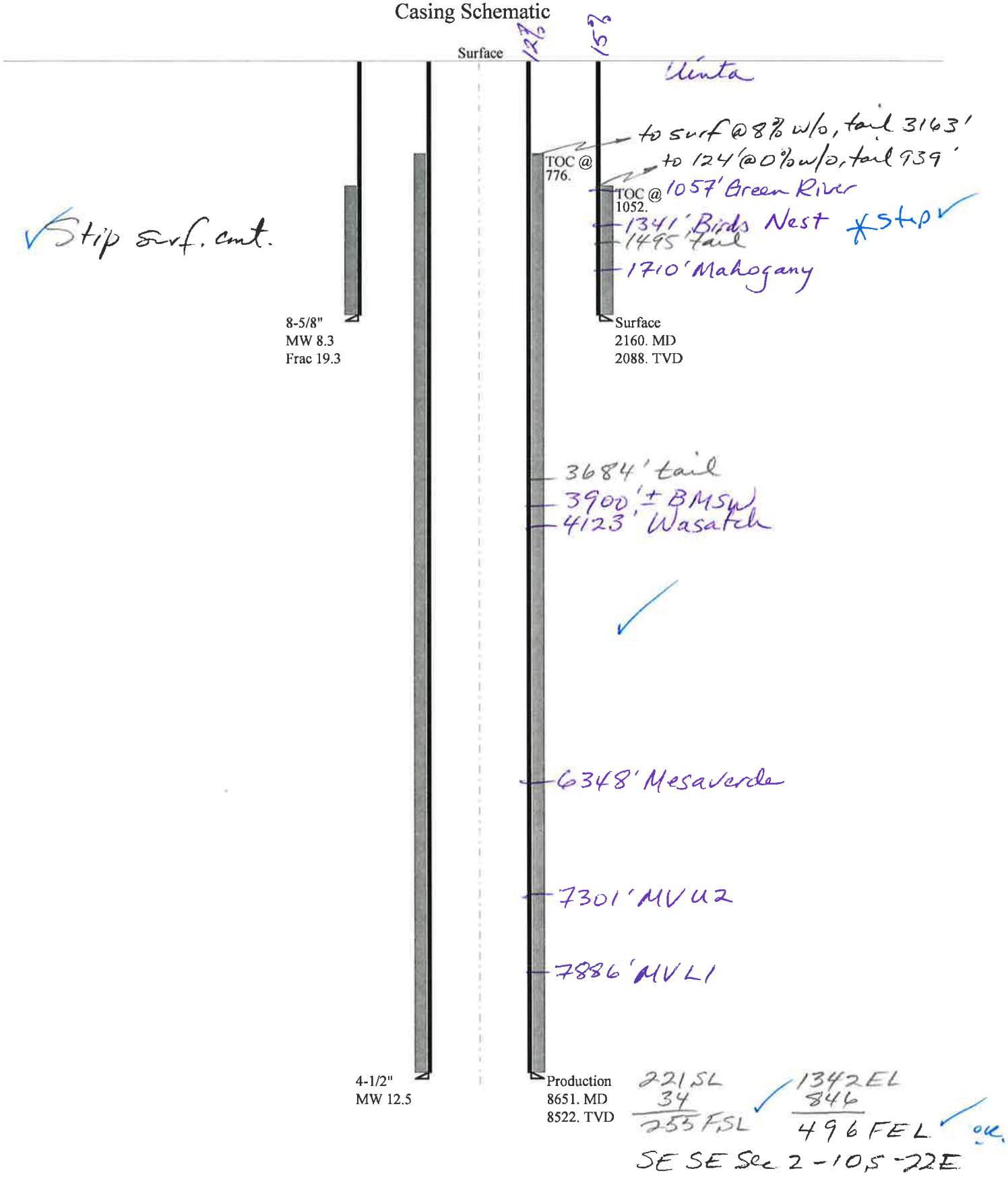
RECEIVED: October 06, 2011

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

RECEIVED: October 06, 2011

43047518390000 NBU 1022-2P4CS

Casing Schematic



Well name:	**43047518390000 NBU 1022-2P4CS**
Operator:	**KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type:	Surface
Project ID:	43-047-51839
Location:	UINTAH COUNTY

Design parameters:

Collapse

Mud weight: 8.330 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 1,901 psi

Internal gradient: 0.120 psi/ft

Calculated BHP 2,151 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: 1,887 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:	1,052 ft

Directional Info - Build & Drop

Kick-off point	300 ft
Departure at shoe:	467 ft
Maximum dogleg:	2 °/100ft
Inclination at shoe:	20 °

Re subsequent strings:

Next setting depth:	8,651 ft
Next mud weight:	12.500 ppg
Next setting BHP:	5,618 psi
Fracture mud wt:	19.250 ppg
Fracture depth:	2,160 ft
Injection pressure:	2,160 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	2160	8.625	28.00	I-55	LT&C	2088	2160	7.892	85536

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	904	1880	2.081	2151	3390	1.58	58.5	348	5.95 J

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

Date: September 20,2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2088 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:	**43047518390000 NBU 1022-2P4CS**
Operator:	**KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type:	Production
Project ID:	43-047-51839
Location:	UINTAH COUNTY

Design parameters:

Collapse

Mud weight: 12.500 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 3,659 psi

Internal gradient: 0.220 psi/ft

Calculated BHP 5,534 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: 7,059 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:	776 ft

Directional Info - Build & Drop

Kick-off point	300 ft
Departure at shoe:	847 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	8651	4.5	11.60	I-80	LT&C	8522	8651	3.875	114193

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	5534	6360	1.149	5534	7780	1.41	98.9	212	2.14 J

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

Date: September 20,2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 8522 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 1022-2P4CS				
API Number	43047518390000	**APD No**	4397	**Field/Unit**	NATURAL BUTTES
Location: 1/4,1/4	SWSE **Sec** 2 **Tw** 10.0S **Rng** 22.0E 221 FSL 1342 FEL				
GPS Coord (UTM)	636481 4425590	**Surface Owner**			

Participants

Andy Lytle, Sheila Wopsock, Charles Chase, Grizz Oleen, Mark Kuehn, Doyle Holmes, (Kerr McGee). John Slaugh, Mitch Batty, (Timberline). Jim Davis (SITLA). 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 approx. 1100 feet to the southwest. 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 40 air miles to the northwest. Access from Vernal is approximately 47.6 road miles following Utah State, Uintah County and oilfield development roads. Six wells, in addition to this one (for a total of seven) will be directionally drilled from this pad. This proposed location will be a new pad. The CIGE 161 location is directly to the east of this site, but this location is not adequate for seven additional wells.. A 410 foot access road will be constructed. The proposed location will run in an east-west direction along the top of a flat topped ridge. This ridge breaks off sharply into rugged secondary canyons especially on the south side. A shallow draw coming to this site from the north will be re-routed around the location. The reserve pit will be on the south side of the location and the excess cut stockpile will be on the south and west sides of the location. The pad 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
Wildlfe Habitat

New Road Miles	Well Pad	Src Const Material	Surface Formation
0.13	**Width** 100 **Length** 260	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, raptors and small mammals and birds.

Soil Type and Characteristics

Shallow rocky sandy loam.

Erosion Issues Y

Fill on north side of location will be compacted during construction.

Sedimentation Issues N

Site Stability Issues N

Drainage Diverson Required? Y

Shallow draw coming into location from the north will be re-routed.

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			
Presence Nearby Utility Conduits	Not Present	0	
	Final Score	40	1 Sensitivity Level

Characteristics / Requirements

The reserve pit is planned in an area of cut on the south side of the location. Dimensions are 100’ x 260’ x 12’ deep with 2’ of freeboard. Kerr McGee agreed to line the pit with a 30-mil liner and 2 layers of felt.

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

Other Observations / Comments

Of the seven wells being drilled from this pad, four will have well bores that leave section two and produce from section eleven to the south. These four are the NBU 10-22-11A1BS, NBU 1022-11A1CS, NBU 1022-11A4BS and the NBU 1022-11B1BS.

David Hackford	8/18/2011
Evaluator	**Date / Time**

Application for Permit to Drill
Statement of Basis

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
4397	43047518390000	SITLA	GW	S	No

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.	**Surface Owner-APD**	
Well Name	NBU 1022-2P4CS	**Unit**	NATURAL BUTTES
Field	NATURAL BUTTES	**Type of Work**	DRILL

Location SWSE 2 10S 22E S 221 FSL 1342 FEL GPS Coord (UTM) 636472E 4425587N

Geologic Statement of Basis

Kerr McGee proposes to set 2,160' 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 3,900'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 2. 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	9/1/2011
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 1100' to the southwest. 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 40 air miles to the northwest. Access from Vernal is approximately 47.6 road miles following Utah State, Uintah County and oilfield development roads. A 410' access road will be constructed.

Seven wells will be directionally drilled from this location. They are the NBU 1022-2P4CS, NBU 1022-11A1BS, NBU 1022-11A1CS, NBU 1022-11A4BS, NBU 1022-11B1BS, NBU 1022-2O4BS, and the NBU 1022-2O4CS. The proposed location is on the point of a flat topped ridge that runs in an east-west direction. This ridge breaks off sharply into rugged secondary canyons especially to the south. A shallow drainage enters the proposed site from the north and will be re-routed around the location.. The pad as constructed should be stable and sufficient for seven wells, and is the best site in the immediate area.

Excess material will be stockpiled on the west side of the reserve pit The north side of location will be fill and will be compacted during construction..

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. Jim Davis was present. Kerr McGee was told to consult with SITLA for reclamation standards including seeding mixes to be used.

David Hackford	8/18/2011
Onsite Evaluator	**Date / Time**

Conditions of Approval / Application for Permit to Drill

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

RECEIVED: October 12, 2011

Application for Permit to Drill
Statement of Basis

Pits	The reserve pit should be located on the south side of the location.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.

RECEIVED: October 12, 2011

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 8/10/2011
API NO. ASSIGNED: 43047518390000
WELL NAME: NBU 1022-2P4CS
OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)
PHONE NUMBER: 720 929-6086
CONTACT: Gina Becker

PROPOSED LOCATION: SWSE 02 100S 220E
Permit Tech Review: ✔

SURFACE: 0221 FSL 1342 FEL
Engineering Review: ✔

BOTTOM: 0255 FSL 0496 FEL
Geology Review: ✔

COUNTY: UINTAH
LATITUDE: 39.97132
LONGITUDE: -109.40196
UTM SURF EASTINGS: 636472.00
NORTHINGS: 4425587.00
FIELD NAME: NATURAL BUTTES
LEASE TYPE: 3 - State
LEASE NUMBER: ST UT ML 22651
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: 460' Fr U Bdry & Uncommitted Tracts

- ✔ **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: October 12, 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 1022-2P4CS
API Well Number: 43047518390000
Lease Number: ST UT ML 22651
Surface Owner: STATE
Approval Date: 10/12/2011

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

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

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

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

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

Conditions of Approval:
In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

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

Surface casing shall be cemented to the surface.

Additional Approvals:
The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:
- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:
- Within 24 hours following the spudding of the well – contact Carol Daniels
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at http://oilgas.ogm.utah.gov
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

Contact Information:
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):
- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
  801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
  801-231-8956 - after office hours

Reporting Requirements:
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:
- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

Approved By:

For John Rogers
Associate Director, Oil & Gas

SUBMIT AS EMAIL | Print Form

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
Submitted By GINA BECKER Phone Number 720.929.6086
Well Name/Number NBU 1022-2P4CS
Qtr/Qtr SWSE Section 2 Township 10S Range 22E
Lease Serial Number ST UT ML 22651
API Number 4304751839

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

Date/Time 12/29/2011 07:00 HRS AM ☐ PM ☐

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

- ☑ Surface Casing
- ☐ Intermediate Casing
- ☐ Production Casing
- ☐ Liner
- ☐ Other

RECEIVED
DEC 29 2011
DIV. OF OIL, GAS & MINING

Date/Time 01/14/2012 08:00 HRS AM ☐ PM ☐

BOPE

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

Date/Time _____ _____ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT 435.828.0986 OR LOVEL YOUNG AT 435.781.7051

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ST UT ML 22651

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 1022-2P4CS

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

9. API NUMBER: 43047518390000

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: 0221 FSL 1342 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 02 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
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
✓ SPUD REPORT Date of Spud: 12/29/2011	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ 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 PETE MARTIN 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 DEC. 29, 2011 AT 08:30 HRS.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
01/06/2012

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

SIGNATURE	DATE
N/A	1/6/2012

RECEIVED Jan. 06, 2012

FORM 6

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

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
4304751839	NBU 1022-2P4CS		SWSE	2	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	12/29/2011			1/18/2012	

Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD
SPUD WELL LOCATION ON 12/29/2011 AT 08:30 HRS. BHL = SESE

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751842	NBU 1022-11A1BS		SWSE	2	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	12/31/2011			1/18/2012	

Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD
SPUD WELL LOCATION ON 12/31/2011 AT 08:30 HRS. BHL = Sec 11 NENE

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751850	NBU 1022-11A1CS		SWSE	2	10S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	12/29/2011			1/18/2012	

Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD
SPUD WELL LOCATION ON 12/29/2011 AT 13:30 HRS. BHL = Sec 11 NENE

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**
1/6/2012 — **Date**

RECEIVED
JAN 18 2012
DIV. OF OIL, GAS & MINING

(5/2000)

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ST UT ML 22651

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 1022-2P4CS

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

9. API NUMBER: 43047518390000

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: 0221 FSL 1342 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 02 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: 1/27/2012	☐ 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 JAN. 25, 2012. DRILLED SURFACE HOLE TO 2369'. 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
January 30, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst
SIGNATURE N/A		**DATE** 1/30/2012

RECEIVED: Jan. 30, 2012

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ST UT ML 22651

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 1022-2P4CS

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

9. API NUMBER: 43047518390000

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: 0221 FSL 1342 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 02 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: 1/17/2012	☐ 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 changes in the drilling plan. Specifically, the Operator requests approval for a FIT wavier, 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: February 02, 2012

By: Dark K Quist

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

SIGNATURE	DATE
N/A	1/17/2012

RECEIVED: Jan. 17, 2012

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

NBU 1022-2P4CS

Surface:	221 FSL / 1342 FEL	SWSE
BHL:	255 FSL / 496 FEL	SESE

Section 2 T10S R22E

Uintah County, Utah
Mineral Lease: ST UT ML 22651

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	1,057'	
Birds Nest	1,341'	Water
Mahogany	1,710'	Water
Wasatch	4,123'	Gas
Mesaverde	6,348'	Gas
MVU2	7,301'	Gas
MVL1	7,886'	Gas
TVD	8,522'	
TD	8,651'	

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

RECEIVED: Jan. 17, 2012

6. Evaluation Program:

Please refer to the attached Drilling Program

7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 8522' TVD, approximately equals 5,454 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,567 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.

RECEIVED: Jan. 17, 2012

Background

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

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

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 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.

RECEIVED: Jan. 17, 2012

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: Jan. 17, 2012

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	January 16, 2012
WELL NAME	**NBU 1022-2P4CS**	TD	8,522' TVD 8,651' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah FINISHED ELEVATION 5,092'
SURFACE LOCATION	SWSE 221 FSL 1342 FEL	Sec 2 T 10S R 22E	
	Latitude: 39.971339	Longitude: -109.401781	NAD 27
BTM HOLE LOCATION	SESE 255 FSL 496 FEL	Sec 2 T 10S R 22E	
	Latitude: 39.971431	Longitude: -109.398763	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 @ 1,057'
Top of Birds Nest @ 1,341'
Mahogany @ 1,710'

Preset f/ GL @ 2,160' 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 @ 6,348' TVD

MVU2 @ 7,301' TVD

MVU1 @ 7,886' TVD

Max anticipated Mud required 12.5 ppg

TD @ 8,522' TVD 8,651' MD

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	LTC	DQX TENSION
CONDUCTOR	14"	0-40'									
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,160	28.00	IJ-55	LTC	2.50	1.86	6.57	N/A
								7,780	6,350	223,000	267,000
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	1.15		3.29
	4-1/2"	5,000	to	8,651'	11.60	I-80	LTC	1.11	1.15	6.51	

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	1,660'	65/35 Poz + 6% Gel + 10 pps gilsonite	150	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	3,621'	Premium Lite II +0.25 pps	270	20%	11.00		3.38
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	5,030'	50/50 Poz/G + 10% salt + 2% gel	1,190	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:** _____

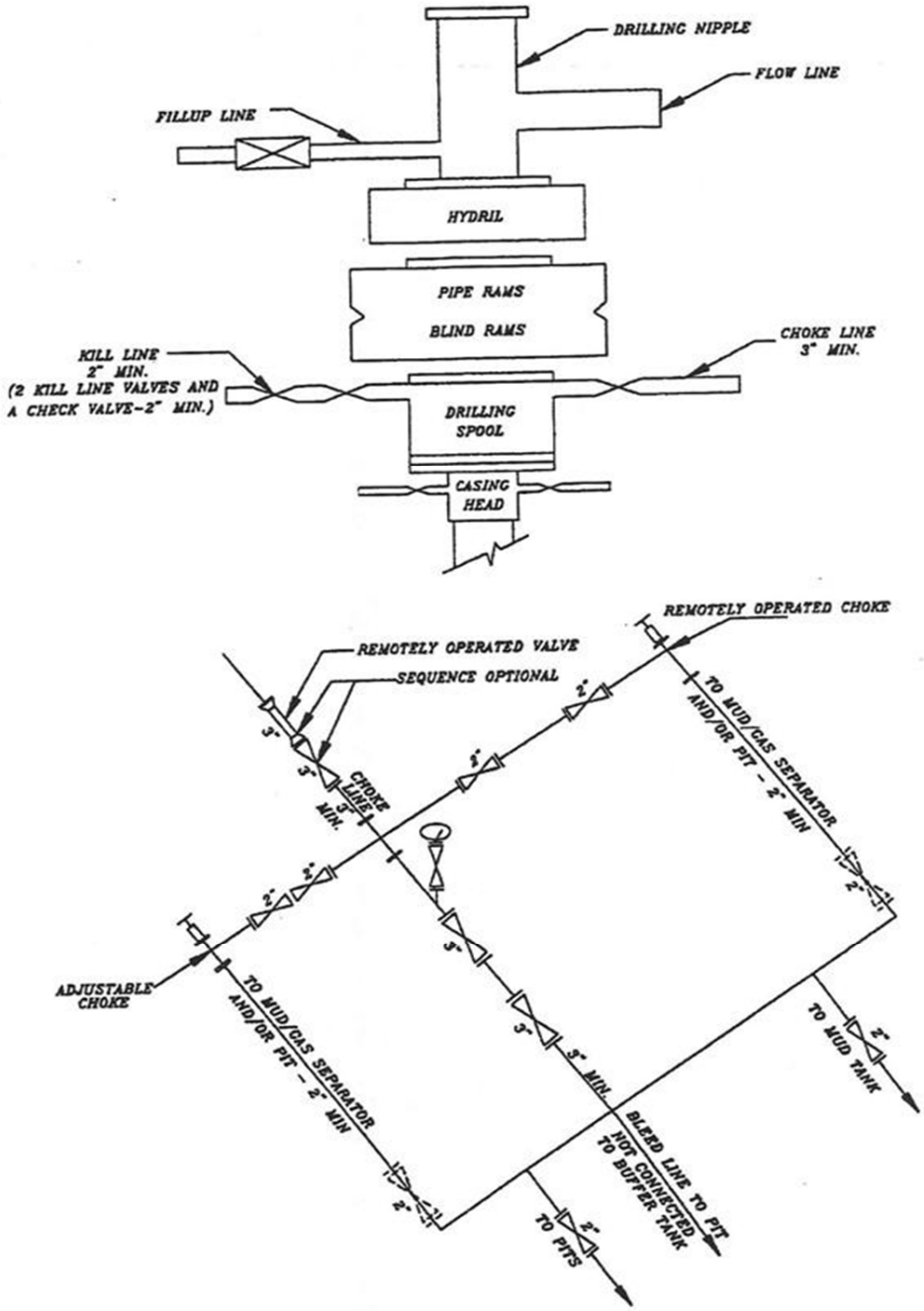
Nick Spence / Danny Showers / Chad Loesel

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Kenny Gathings / Lovel Young

RECEIVED: Jan. 17, 2012

EXHIBIT A
NBU 1022-2P4CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

RECEIVED: Jan. 17, 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: Jan. 17, 2012

BLM - Vernal Field Office - Notification Form

Operator KERR MCGEE Rig Name/# H&P 311
Submitted By SCOTT ALLRED Phone Number 435- 790-1884
Well Name/Number NBU 1022-2P4CS
Qtr/Qtr NE/SE Section 2 Township 10S Range 22E
Lease Serial Number ST UT ML 22651
API Number 43-047-518390000

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

Date/Time _____ _____ AM ☐ PM ☐

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

☐ Surface Casing
☐ Intermediate Casing
☐ Production Casing
☐ Liner
☐ Other

Date/Time _____ _____ AM ☐ PM ☐

BOPE

☒ Initial BOPE test at surface casing point
☐ BOPE test at intermediate casing point
☐ 30 day BOPE test
☐ Other

Date/Time 2/4/2012 01:00 AM ☒ PM ☐

Remarks TIME ESTIMATED

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FEB 0 2 2012
DIV. OF OIL, GAS & MINING

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ST UT ML 22651

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 1022-2P4CS

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

9. API NUMBER: 43047518390000

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: 0221 FSL 1342 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 02 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: 2/9/2012	☐ 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 ROTARY RIG. FINISHED DRILLING FROM 2369' TO 8673' ON FEBRUARY 7, 2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED H&P 311 RIG ON FEBRUARY 9, 2012 @ 04:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.

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

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst
SIGNATURE N/A		**DATE** 2/9/2012

RECEIVED: Feb. 09, 2012

BLM - Vernal Field Office - Notification Form

Operator KERR MCGEE Rig Name/# H&P 311
Submitted By SCOTT ALLRED Phone Number 435- 790-1884
Well Name/Number NBU 1022-2P4CS
Qtr/Qtr NE/SE Section 2 Township 10S Range 22E
Lease Serial Number ST UT ML 22651
API Number 43-047-518390000

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

Date/Time _____ _____ AM ☐ PM ☐

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

☐ Surface Casing
☐ Intermediate Casing
☒ Production Casing
☐ Liner
☐ Other

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FEB 07 2012
DIV. OF OIL, GAS & MINING

Date/Time 2/8/2012 11:00 AM ☒ PM ☐

BOPE

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

Date/Time _____ _____ AM ☐ PM ☐

Remarks TIME ESTIMATED

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ST UT ML 22651

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 1022-2P4CS

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

9. API NUMBER: 43047518390000

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: 0221 FSL 1342 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 02 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:
- ✓ DRILLING REPORT — Report Date: 5/11/2012

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.

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON MAY 11, 2012 AT 11:00 A.M. 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
May 14, 2012

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

SIGNATURE	DATE
N/A	5/14/2012

RECEIVED: May. 14, 2012

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: ST UT ML 22651

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 1022-2P4CS

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

9. API NUMBER: 43047518390000

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: 0221 FSL 1342 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 02 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
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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: 7/6/2012	☐ 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.

Well was completed, finishing well completion report.

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

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst
SIGNATURE N/A		**DATE** 7/6/2012

RECEIVED: Jul. 06, 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: ST UT ML 22651

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 1022-2P4CS ✓

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

9. API NUMBER: 4304751839

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: SWSE 221 FSL 1342 FEL S2,T10S,R22E

AT TOP PRODUCING INTERVAL REPORTED BELOW: SESE 265 FSL 514 FEL S2,T10S,R22E

AT TOTAL DEPTH: SESE 252 FSL 506 FEL S2,T10S,R22E BHL by HSM

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSE 2 10S 22E S

12. COUNTY: UINTAH

13. STATE: UTAH

14. DATE SPUDDED: 12/29/2011

15. DATE T.D. REACHED: 2/7/2012

16. DATE COMPLETED: 5/11/2012 ABANDONED ☐ READY TO PRODUCE ☑

17. ELEVATIONS (DF, RKB, RT, GL): 5092 GL

18. TOTAL DEPTH: MD 8,673 TVD 8,566

19. PLUG BACK T.D.: MD 8,615 TVD 8,508

20. IF MULTIPLE COMPLETIONS, HOW MANY? *

21. DEPTH BRIDGE PLUG SET: MD TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)

BHV-DSN/SD/ACTR-CBL/CMI/GR/CCL

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"	85/8" IJ-55	28#	0	2,360		675		0	
7 7/8"	4 1/2" I-80	11.6#	0	8,658		1,820		100	

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	7,996							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) MESAVERDE	6,456	8,440		
(B)				
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
6,456 8,440	0.36	216	Open ☑ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6456-8440	PUMP 9513 BBLS SLICK H2O &186,518 LBS 30/50 OTTAWA SAND
	9 STAGES

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JUL 3 1 2012
DIV. OF OIL, GAS & MINING

29. ENCLOSED ATTACHMENTS:

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

30. WELL STATUS: PROD

(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:
5/11/2012		5/12/2012		24			0	2,821	660	
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	1,628	2,269					0	2,821	660	PROD

INTERVAL B (As shown in Item #26)

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

INTERVAL C (As shown in Item #26)

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

INTERVAL D (As shown in Item #26)

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

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

33. SUMMARY OF POROUS ZONES (Include Aquifers):

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

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

34. FORMATION (Log) MARKERS:

Name	Top (Measured Depth)
GREEN RIVER	1,057
BIRD'S NEST	1,366
MAHOGANY	1,759
WASATCH	4,247
MESAVERDE	6,375

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 5032'; LTC csg was run from 5032' to 8658'. Attached is the chronological well history, perforation report & final survey.

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

NAME (PLEASE PRINT) CARA MAHLER TITLE REGULATORY ANALYST

SIGNATURE DATE 7/23/2012

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 1022-2P4CS - RED		Spud Date: 1/25/2012
Project: UTAH-UINTAH	Site: NBU 1022-2P PAD	Rig Name No: PROPETRO 12/12, H&P 311/311
Event: DRILLING	Start Date: 1/9/2012	End Date: 2/9/2012
Active Datum: RKB @5,117.00usft (above Mean Sea Level)	UWI: SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/25/2012	0:00 - 9:30	9.50	MIRU	01	A	P		MOVE RIG AND CAMPS 17 MILES WITH 2 J D FIELD SERVICE TRUCKS. MOVE RIG WITH 3 CDL DRIVER. RIG UP CAMPS W/ 2 MOUNTAIN WEST SWAMPERS. ENTIRE RIG ON LOCATION @ 09:30. RELEASE TRUCKS. (JD TRUCKS HAULED CAMPS, FRAC TANKS, PUMP , C-CANS, FUEL TANK. AND FORKLIFT.)
	9:30 - 12:00	2.50	MIRU	01	B	P		DRESS CONDUCTORS ON ALL 2 WELL'S. INSTALL DIVERTOR HEAD AND BOWIE LINE. BUILD DITCH. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PIT PUMP. RIG UP PUMP. PRIME PUMP. INSPECT RIG. READY
	12:00 - 13:30	1.50	MIRU	08	A	Z		SHUT DOWN TO SERVICE THE RIG FLOOR MOTOR
	13:30 - 14:00	0.50	PRPSPD	01	B	P		HELD PRE-SPUD SAFETY MEETING. TALKED ABOUT HAVING TWO RIG'S ON LOCATION. P/U 8" 1.83 BEND .17 RPG MUD MOTOR (3RD RUN) (SN 775-77428). M/U QD507 12.25" BIT (21ST RUN) (SN 7137067). TRIP IN TO SPUD.
	14:00 - 15:30	1.50	DRLSUR	02	D	P		SPUD 01/25/2012 14:00. DRILL 12.25" HOLE 44'-210'. (166', 83'/HR) GPM 400. DH RPM 68 RPM=45, WOB 5-15K. PSI ON/OFF 600/400. UP/DOWN/ ROT 20/20/20 K. DRAG 0 K. CIRC RESERVE W. 8.3# WATER. DRILL DOWN TO 210' W/ 6" COLLARS.
	15:30 - 18:00	2.50	DRLSUR	06	A	P		TRIP OUT. LAY DOWN 6" DRILL COLLARS, 12 1/4 BIT. CHECK BIT AND MOTOR. PICK UP Q506 11" BIT (2ND RUN) (SN 7019741) SCRIBE MOTOR. P/U 8" DIRECTIONAL ASSEMBLY AND SCRIBE. INSTALL EM TOOL. TRIP IN TO 210' TO DRILL AHEAD.
	18:00 - 18:30	0.50	DRLSUR	22	L	Z		TROUBLE SHOOT MWD TOOL, TURNE THE POWER UP ON THE BATTERIES TO OBTAIN A GOOD SIGNAL
	18:30 - 0:00	5.50	DRLSUR	02	D	P		DRILL 11" HOLE ROTATE/SLIDE 210'-680' (470', 86'/HR) GPM 491. DH RPM 86 RPM=55, WOB 15-20K. PSI ON/OFF 1,125/890. UP/DOWN/ ROT 51/47/49 K. DRAG 2 K. CIRC RESERVE W. 8.3# WATER. NO LOSSES.
1/26/2012	0:00 - 4:30	4.50	DRLSUR	02	D	P		DRILL 11" HOLE ROTATE/SLIDE 680'-1,160' (480', 107'/HR) GPM 491. DH RPM 86 RPM=55, WOB 15-20K. PSI ON/OFF 1,180/1,010. UP/DOWN/ ROT 60/50/55 K. DRAG 5 K. CIRC RESERVE W. 8.3# WATER. NO LOSSES.
	4:30 - 12:30	8.00	DRLSUR	02	D	P		DRILL 11" HOLE ROTATE/SLIDE 1,160'-1,820' (660', 83'/HR) GPM 491. DH RPM 86 RPM=55, WOB 15-20K. PSI ON/OFF 1,445/1,257. UP/DOWN/ ROT 75/56/64 K. DRAG 11 K. CIRC RESERVE W. 8.3# WATER. NO LOSSES.

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-2P4CS - RED		Spud Date: 1/25/2012
Project: UTAH-UINTAH	Site: NBU 1022-2P PAD	Rig Name No: PROPETRO 12/12, H&P 311/311
Event: DRILLING	Start Date: 1/9/2012	End Date: 2/9/2012
Active Datum: RKB @5,117.00usft (above Mean Sea Level)	UWI: SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:30 - 20:30	8.00	DRLSUR	02	D	P		DRILL 11" HOLE ROTATE/SLIDE 1,820'-2,369' (549', 83'/HR) TD @ 01/26/2012 20:30 GPM 491. DH RPM 86 RPM=55, WOB 15-20K. PSI ON/OFF 1,445/1,257. UP/DOWN/ ROT 75/56/64 K. DRAG 11 K. CIRC RESERVE W. 8.3# WATER. LOST RETURNS @ 1890'. PUT AIR ON THE HOLE @ 1800 CFM. LAST SURVEY @ 2,305' INC-16.62 AZ-87.24 APPROXIMATLY 8' RIGHT 48' LOW OF THE LINE.
	20:30 - 22:30	2.00	DRLSUR	05	A	P		CIRCULATE AND CONDITION HOLE FOR CASING RUN.
	22:30 - 0:00	1.50	DRLSUR	06	D	P		LAY DOWN DRILL STRING.
1/27/2012	0:00 - 3:00	3.00	DRLSUR	08	A	Z		WAITED FOR HYDRAULIC HOSE TO COME FROM TOWN, FIXING/REPLACING HYDRAULIC HOSE ON RIG.
	3:00 - 5:30	2.50	DRLSUR	06	D	P		LDDS NO TIGHT WHILE LAYING DOWN DRILL STRING. LAY DOWN DIRECTIONAL TOOLS. PULL MOTOR AND BREAK BIT. LAY DOWN MOTOR.
	5:30 - 6:30	1.00	DRLSUR	12	A	P		MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. AND MOVE CSG INTO POSITION TO P/U.
	6:30 - 8:30	2.00	DRLSUR	12	C	P		HOLD SAFETY MEETING. RUN 53 JNT'S OF 8-5/8" 28# J-55 LTC CSG. LAND FLOAT SHOE @ 2339.31' KB. LAND BAFFLE PLATE @ 2293.42' KB. MADE FLOAT SHOE UP WITH THREAD LOCK. RAN 5 TOTAL CENTRALIZERS.
	8:30 - 9:00	0.50	DRLSUR	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, CEMENT HEAD, LOAD PLUG.
	9:00 - 10:00	1.00	DRLSUR	12	E	P		PRESSURE TEST LINES TO 2000 PSI. PUMP 130 BBLS OF WATER AHEAD. CATCH PSI. PUMP 20 BBLS OF 8.3# GEL WATER AHEAD. MIX AND PUMP (300 SX) 61.4 BBLS OF 15.8# 1.15 YD 5 GAL/SK PREMIUM CEMENT W/ 2% CALC. DROP PLUG ON FLY. DISPLACE W/ 142.9 BBLS OF H20. NO CIRC THROUGH OUT. FINAL LIFT OF 300 PSI AT 4 BBL/MIN. BUMP PLUG WITH 900 PSI FOR 5 MIN. FLOAT HELD.
	10:00 - 13:00	3.00	DRLSUR	12	E	P		MIX AND PUMP (150 SX) 30.7 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE, NO CEMENT TO SURFACE. SHUT DOWN AND CLEAN TRUCK.. WAIT 2 HOURS MIX AND PUMP (225 SX) 46 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE NO CEMENT TO SURFACE. SHUT DOWN AND CLEAN TRUCK.. WILL HAVE TRIPLE A TOP OUT. RELEASE RIG @ 01/27/2012 13:00. TRIPLE A TOPED OUT WITH READY MIX 1 BBL TO SURFACE, CEMENT HOLDING AT SURFACE
2/1/2012	0:00 - 6:00	6.00	DRLPRO	21	C	P		WAIT ON DAYLIGHT
	6:00 - 18:00	12.00	DRLPRO	01	A	P		MOVE RIG, SET IN MUD TANKS, MOTOR HOUSES, PUMPS
	18:00 - 0:00	6.00	DRLPRO	21	C	P		WAIT ON DAYLIGHT
2/2/2012	0:00 - 6:00	6.00	DRLPRO	21	C	P		WAIT ON DAYLIGHT
	6:00 - 18:00	12.00	DRLPRO	01	A	P		MOVE AND SET IN 75% OF RIG

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-2P4CS - RED		Spud Date: 1/25/2012
Project: UTAH-UINTAH	Site: NBU 1022-2P PAD	Rig Name No: PROPETRO 12/12, H&P 311/311
Event: DRILLING	Start Date: 1/9/2012	End Date: 2/9/2012
Active Datum: RKB @5,117.00usft (above Mean Sea Level)	UWI: SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLPRO	21	C	P		WAIT ON DAYLIGHT
2/3/2012	0:00 - 7:00	7.00	DRLPRO	01	B	P		WAIT ON DAYLIGHT
	7:00 - 0:00	17.00	DRLPRO	01	B	P		RIG UP/ SET IN SUB, SET DERRICK ON FLOOR, HOOK UP ALL LINES, FILL MUD TANKS RAISE DERRICK, RIG UP FLOOR AND NIPPLE UP
2/4/2012	0:00 - 5:30	5.50	DRLPRO	15	A	P		HOLD SAFTEY MEETING, RIG UP BOP TESTERS PRESS TEST THE BOP, TIW, DART VALVE, BOP VALVES, PIPE RAMS, BLIND RAMS, CHOKE VALVES, KILL LINE AND STRATA LINES TO 250 PSI LOW/5MIN AND 5000 PSI HIGH/10 MIN. TESTED THE ANNULAR T/250 PSI LOW & 2500 PSI HIGH,TEST 8 5/8" CASING T/1500 PSI (OK) RD TESTER. INSTALL WEAR BUSHING
	5:30 - 12:30	7.00	DRLPRO	06	A	P		P/U BIT, MUD MOTOR, DIRECTIONAL TOOLS, BHA, PICK UP DRILL PIPE TO 2140'
	12:30 - 15:00	2.50	DRLPRO	02	D	P		DRILL CEMENT @ 2140' FLOAT @2314' SHOE @ 2358' CEMENT TO 2390
	15:00 - 15:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRILLED 2390' T/ 3300', 910' 8.5 HRS, 107.1 FPH WOB 20/25K, HOOK LOAD PU 1117K SO 88 ROT 100K OFF BOTTOM PUMP PRESS.1375# ON BOTTOM PUMP PRESS. 1625# OFF/ON BOTTOM TORQUE 3/8K. MM/ 123 RPM,40 TD/ 163 RPM PUMP 1/2 60/60 SPM, 535 GPM,. DIFF PRESS. 250-500# MUD 8.5 MW 26 VIS DRILL 821' SLIDE 89', 4' LEFT 30' HIGH
2/5/2012	0:00 - 16:00	16.00	DRLPRO	02	D	P		DRILLED 3300' T/ 4995', 1695' 16 HRS, 105.9 FPH WOB 20/25K, HOOK LOAD PU 133K SO 104 ROT 120K OFF BOTTOM PUMP PRESS.1800# ON BOTTOM PUMP PRESS. 1900# OFF/ON BOTTOM TORQUE 3/8K. MM/ 123 RPM,40 TD/ 163 RPM PUMP 1/2 60/60 SPM, 535 GPM,. DIFF PRESS. 250-500# MUD 8.5 MW 26 VIS DRILL 1635' SLIDE 60', 17' N. 10' W
	16:00 - 16:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	16:30 - 0:00	7.50	DRLPRO	02	D	P		DRILLED 4995' T/ 5975', 980' 7.5 HRS, 130.6 FPH WOB 20/25K, HOOK LOAD PU 180K SO 108 ROT 138K OFF BOTTOM PUMP PRESS.1600# ON BOTTOM PUMP PRESS. 12150# OFF/ON BOTTOM TORQUE 3/12K. MM/ 123 RPM,45 TD/ 168 RPM PUMP 1/2 60/60 SPM, 535 GPM,. DIFF PRESS. 250-500# MUD 8.5 MW 28 VIS DRILL 880' SLIDE 100', 11' N. 17' W

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-2P4CS - RED		Spud Date: 1/25/2012
Project: UTAH-UINTAH	Site: NBU 1022-2P PAD	Rig Name No: PROPETRO 12/12, H&P 311/311
Event: DRILLING	Start Date: 1/9/2012	End Date: 2/9/2012
Active Datum: RKB @5,117.00usft (above Mean Sea Level)	UWI: SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/6/2012	0:00 - 16:30	16.50	DRLPRO	02	D	P		DRILLED 5975' T/ 7826', 1851' 16.5 HRS, 112.8 FPH WOB 20/25K, HOOK LOAD PU 210K SO 120 ROT 159K OFF BOTTOM PUMP PRESS.1720# ON BOTTOM PUMP PRESS. 2100# OFF/ON BOTTOM TORQUE 3/12K. MM/ 123 RPM,45 TD/ 168 RPM PUMP 1/2 60/60 SPM, 535 GPM,. DIFF PRESS. 250-500# MUD 8.5 MW 28 VIS DRILL 1821' SLIDE 30', 12' N. 20' W
	16:30 - 17:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	17:00 - 0:00	7.00	DRLPRO	02	D			DRILLED 7826' T/ 8507', 681' 7 HRS, 97.2 FPH WOB 20/25K, HOOK LOAD PU 252K SO 132 ROT 171K OFF BOTTOM PUMP PRESS.2050# ON BOTTOM PUMP PRESS. 2525# OFF/ON BOTTOM TORQUE 3/15K. MM/ 123 RPM,45 TD/ 168 RPM PUMP 1/2 60/60 SPM, 535 GPM,. DIFF PRESS. 250-500# MUD 8.5 MW 28 VIS DRILL 681' SLIDE 0 ', 0' N. 9' W
2/7/2012	0:00 - 1:30	1.50	DRLPRO	02	D	P		DRILLED 8507' T/ 8673', 166' 1.5 HRS, 110.7 FPH WOB 20/25K, HOOK LOAD PU 252K SO 132 ROT 171K OFF BOTTOM PUMP PRESS.2050# ON BOTTOM PUMP PRESS. 2525# OFF/ON BOTTOM TORQUE 3/15K. MM/ 123 RPM,45 TD/ 168 RPM PUMP 1/2 60/60 SPM, 535 GPM,. DIFF PRESS. 250-500# MUD 8.5 MW 28 VIS DRILL 681' SLIDE 0 ', 0' N. 9' W TD @ 1:30 2/7/2012
	1:30 - 2:30	1.00	DRLPRO	05	B	P		DISPLACE WATER W/ 11.4 MUD
	2:30 - 14:30	12.00	DRLPRO	05	B	X		LOST CIRC. MIX LCM AND BUILD VOL AND WT. LOST 650 BBLS, GOT RETURNS, BUILD VOL. CIRC. HOLE WT 11.5
	14:30 - 21:00	6.50	DRLPRO	06	E	P		TOOH TO SHOE CHECK FOR FLOW AND TRIP IN HOLE
	21:00 - 23:00	2.00	DRLPRO	05	C	P		CIRC. AND COND MUD PRIOR TO TRIP OUT
	23:00 - 0:00	1.00	DRLPRO	06	B	P		TOOH FOR LOGS
2/8/2012	0:00 - 3:00	3.00	DRLPRO	06	B	P		TRIP OUT FOR LOGS STAND BACK MWD TOOLS, BHA, LAY DOWN MOTOR AND BIT
	3:00 - 10:00	7.00	DRLPRO	11	D	P		RUN INTO BOTTOM 8673 W/ TRIPLE COMBO OPEN HOLE LOGS

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-2P4CS - RED	Spud Date: 1/25/2012	
Project: UTAH-UINTAH	Site: NBU 1022-2P PAD	Rig Name No: PROPETRO 12/12, H&P 311/311
Event: DRILLING	Start Date: 1/9/2012	End Date: 2/9/2012
Active Datum: RKB @5,117.00usft (above Mean Sea Level)	UWI: SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	10:00 - 20:00	10.00	DRLPRO	12	C	P		PULL WEAR BUSHING AND RIG UP CASING CREW. RUN FLOAT SHOE,SHOE JT FLOAT COLLAR & 54 JNTS 4 1/2" I-80 11.6# LT&C ,1MARKER JT.32 JTS LT&C CASING X OVER F/LT&C T/ DQX & 117 JNTS 4 1/2" I-80 11.6# DQX CASING W/THE SHOE SET @ 8658' & THE FLOAT COLLAR @ 8614' (TORQUE TURN DQX CSG) WASATCH MARKER JNT @ 5009' & THE MESA VERDE MARKER JNT @ 6378, RD CASING CREWS
	20:00 - 21:00	1.00	DRLPRO	05	D	P		INSTALL PUMP SWEDGE,FILL PIPE CIRC OUT GAS & COND HOLE F/CEMENT,R/D KIMZEY CASING EQUIP & LAYDOWN MACHINE
	21:00 - 0:00	3.00	DRLPRO	12	E			HOLD SAFTEY MEETING,RU BJ CEMENTERS,PRESSURE TEST LINES TO 5000 PSI FOR 5 MIN. ,PUMPED 25 BBL PRE FLUSH 8.4 PPG H2O, LEAD CEMENT,12.5 PPG @2.02 CU/FT SK YIELD ,475 SKS,170 BBLS, TAIL CEMENT 14.3 PPG @ 1.31 CU/FT SK YIELD,1345 SKS,313 BBLS,DISPLACED 133 BBLS H2O W/CLAY CARE, FINAL LIFT PRESS 2820 PSI, BUMP PLUG T/3500 PSI HELD FOR 5 MIN BLEED OFF FLOAT HELD, 8 BBLS CEMENT TO SURF,EST. TOP OF TAIL 3622',R/D BJ CEMENTING EQUIP,FLUSH OUT BOPS & FLOWLINE
2/9/2012	0:00 - 4:00	4.00	DRLPRO	01	C	P		NIPPLE DOWN, CLEAN TANKS, RIG RELEASEED @ 04:00 SKID TO NBU 1022-11A1BS

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-2P4CS - RED	**Wellbore No.**	OH
Well Name	NBU 1022-2P4CS	**Wellbore Name**	NBU 1022-2P4CS
Report No.	1	**Report Date**	4/13/2012
Project	UTAH-UINTAH	**Site**	NBU 1022-2P PAD
Rig Name/No.		**Event**	COMPLETION
Start Date	4/13/2012	**End Date**	5/11/2012
Spud Date	1/25/2012	**Active Datum**	RKB @5,117.00usft (above Mean Sea Level)
UWI	SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0		

1.3 General

Contractor		**Job Method**		**Supervisor**	
Perforated Assembly		**Conveyed Method**			

1.4 Initial Conditions

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

1.5 Summary

Gross Interval	6,456.0 (usft)-8,440.0 (usft	**Start Date/Time**	4/13/2012 12:00AM
No. of Intervals	42	**End Date/Time**	4/13/2012 12:00AM
Total Shots	216	**Net Perforation Interval**	54.00 (usft)
Avg Shot Density	4.00 (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
4/13/2012 12:00AM	MESAVERDE/			6,456.0	6,458.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	

2.1 Perforated Interval (Continued)

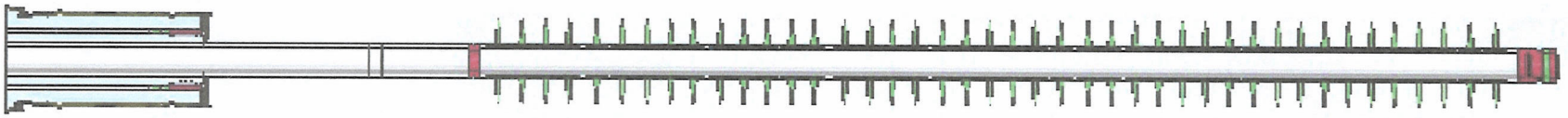
Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
4/13/2012 12:00AM	MESAVERDE/			6,502.0	6,503.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			6,529.0	6,530.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			6,564.0	6,566.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			6,668.0	6,670.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			6,741.0	6,742.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			6,803.0	6,804.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			6,835.0	6,836.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			6,859.0	6,860.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			6,950.0	6,951.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			6,986.0	6,988.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,009.0	7,010.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,066.0	7,067.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,085.0	7,086.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,227.0	7,228.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,294.0	7,296.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,309.0	7,310.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,340.0	7,342.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,440.0	7,441.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,471.0	7,472.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,507.0	7,509.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,541.0	7,542.0	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
4/13/2012 12:00AM	MESAVERDE/			7,553.0	7,554.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,620.0	7,622.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,720.0	7,722.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,746.0	7,748.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,795.0	7,796.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,824.0	7,825.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,866.0	7,867.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,892.0	7,893.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,927.0	7,928.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			7,979.0	7,980.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			8,021.0	8,022.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			8,040.0	8,041.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			8,088.0	8,089.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			8,116.0	8,117.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			8,149.0	8,150.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			8,176.0	8,177.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			8,228.0	8,229.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			8,279.0	8,280.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			8,364.0	8,366.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
4/13/2012 12:00AM	MESAVERDE/			8,438.0	8,440.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	

3 Plots

3.1 Wellbore Schematic



US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-2P4CS - RED		Spud Date: 1/25/2012
Project: UTAH-UINTAH	Site: NBU 1022-2P PAD	Rig Name No: ROYAL WELL SERVICE 2/2, ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 4/13/2012	End Date: 5/11/2012
Active Datum: RKB @5,117.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
1/25/2012	-							
4/19/2012	9:30 - 9:45	0.25	COMP	48		P		HSM & JSA W/B&C QUICK TEST.
	9:49 - 10:57	1.13	COMP	33	E	P		WHP 0 PSI. FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1006 PSI. HELD FOR 15 MIN LOST 0 PSI. PSI TEST T/ 3506 PSI. HELD FOR 15 MIN LOST 6 PSI. 1ST PSI TEST T/ 7043 PSI. HELD FOR 30 MIN LOST 62 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SWIFN
4/24/2012	15:30 - 15:45	0.25	COMP	48		P		HSM & JSA W/CASEDHOLE SOLUATIONS.
	15:45 - 17:30	1.75	COMP	37	B	P		WHP 0 PSI - MIRU CASEDHOLE SOLUATIONS. PERF STG 1) P/U 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 90 DEG PHSG. PERF M.V. AS PER PERF DESIGN. POOH & HANG BACK LUB. SWI – SDFN.
4/25/2012	6:45 - 7:00	0.25	COMP	48		P		HSM & JSA W/SUPERIOR WELL SERVICE & CASEDHOLE SOLUATIONS
	8:59 - 9:36	0.62	COMP	37	B	P		WHP 0 PSI - MIRU SUPERIOR WELL SERVICE. PT SURFACD EQUIP TO 8500 PSI. 265# LOSS IN 15 MIN. FRAC STG 1) WHP 1500 PSI. BRK DWN PERF 4.7 BPM @ 5811 PSI. ISIP 3331 PSI. FG. 0.84. EST INJ RATE 49.6 BPM @ 4605 PSI. 24/24 PERFS OPEN - 100%. MP 6312 PSI, MR 50.3 BPM, AP 4498 PSI, AR 49.8 BPM. ISIP 2473 PSI, FG. 0.74, NPI (-858) PSI. X-OVER FOR WL.
	9:40 - 10:30	0.83	COMP	37	B	P		PERF STG 2) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 90 DEG PHSG. RIH SET CBP @ 8207'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC
	10:55 - 11:30	0.58	COMP	36	E	P		FRAC STG 2) WHP 2222 PSI. BRK DWN PERF 4.7 BPM @ 5318 PSI. ISIP 2537 PSI. FG. 0.75. EST INJ RATE 53.8 BPM @ 5275 PSI. 24/24 PERFS OPEN - 100%. MP 6138 PSI, MR 54.5 BPM, AP 5045 PSI, AR 53.9 BPM. ISIP 2551 PSI, FG. 0.75, NPI 14 PSI. X-OVER FOR WL
	11:35 - 12:25	0.83	COMP	37	B	P		PERF STG 3) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 90 DEG PHSG. RIH SET CBP @ 8010'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC
	12:39 - 13:06	0.45	COMP	36	E	P		FRAC STG 3) WHP 1330 PSI. BRK DWN PERF 4.5 BPM @ 4296 PSI. ISIP 2613 PSI. FG. 0.77. EST INJ RATE 53.6 BPM @ 4746 PSI. 24/24 PERFS OPEN - 100%. MP 6188 PSI, MR 54 BPM, AP 4862 PSI, AR 52.9 BPM. ISIP 2560 PSI, FG. 0.76, NPI (-53) PSI. X-OVER FOR WL.

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-2P4CS - RED		Spud Date: 1/25/2012
Project: UTAH-UINTAH	Site: NBU 1022-2P PAD	Rig Name No: ROYAL WELL SERVICE 2/2, ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 4/13/2012	End Date: 5/11/2012
Active Datum: RKB @5,117.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	13:11 - 14:01	0.83	COMP	37	B	P		PERF STG 4) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 90 DEG PHSG. RIH SET CBP @ 7778'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC
	14:22 - 14:38	0.27	COMP	36	E	P		FRAC STG 4) WHP 2255 PSI. BRK DWN PERF 4.5 BPM @ 3658 PSI. ISIP 2621 PSI. FG. 0.78. EST INJ RATE 51.7 BPM @ 5289 PSI. 24/24 PERFS OPEN - 100%. MP 5571 PSI, MR 52.9 BPM, AP 4896 PSI, AR 52 BPM. ISIP 2408 PSI, FG. 0.75, NPI (-213) PSI. X-OVER FOR WL.
	14:33 - 15:23	0.83	COMP	37	B	P		PERF STG 5) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 90 DEG PHSG. RIH SET CBP @ 7584'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC
	15:52 - 16:08	0.27	COMP	36	E	P		FRAC STG 5) WHP 690 PSI. BRK DWN PERF 4.7 BPM @ 4021 PSI. ISIP 2031 PSI. FG. 0.71. EST INJ RATE 52.1 BPM @ 4502 PSI. 24/24 PERFS OPEN - 100%. MP 6328 PSI, MR 52.9 BPM, AP 4502 PSI, AR 52.2 BPM. ISIP 2256 PSI, FG. 0.74, NPI 225 PSI. X-OVER FOR WL.
	16:13 - 17:03	0.83	COMP	37	B	P		PERF STG 6) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 90 DEG PHSG. RIH SET CBP @ 7372'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC SWI - SDFN.
4/26/2012	6:45 - 7:00	0.25	COMP	48		P		HSM & JSA W/SUPERIOR WELL SERVICE & CASEDHOLE SOLUATIONS
	7:58 - 8:13	0.25	COMP	36	E	P		FRAC STG 6) WHP 1585 PSI. BRK DWN PERF 4.6 BPM @ 4837 PSI. ISIP 2091 PSI. FG. 0.73. EST INJ RATE 52 BPM @ 3559 PSI. 24/24 PERFS OPEN - 100%. MP 5649 PSI, MR 53.9 BPM, AP 4091 PSI, AR 52.2 BPM. ISIP 2359 PSI, FG. 0.76, NPI 268 PSI. X-OVER FOR WL. ((DROPPED FR RATE TO 0.25 AFTER PAD))
	8:18 - 9:08	0.83	COMP	37	B	P		PERF STG 7) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 90 DEG PHSG. RIH SET CBP @ 7116'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC
	9:54 - 10:11	0.28	COMP	36	E	P		FRAC STG 7) WHP 925 PSI. BRK DWN PERF 4.6 BPM @ 4383 PSI. ISIP 1700 PSI. FG. 0.68. EST INJ RATE 52.2 BPM @ 4100 PSI. 24/24 PERFS OPEN - 100%. MP 6285 PSI, MR 52.4 BPM, AP 4441 PSI, AR 52 BPM. ISIP 2435 PSI, FG. 0.75, NPI 735 PSI. X-OVER FOR WL. ((RAN FR @ 0.25/M))
	10:16 - 11:06	0.83	COMP	37	B	P		PERF STG 8) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 90 DEG PHSG. RIH SET CBP @ 6890'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-2P4CS - RED		Spud Date: 1/25/2012
Project: UTAH-UINTAH	Site: NBU 1022-2P PAD	Rig Name No: ROYAL WELL SERVICE 2/2, ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 4/13/2012	End Date: 5/11/2012
Active Datum: RKB @5,117.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	11:29 - 11:58	0.48	COMP	36	E	P		FRAC STG 8) WHP 612 PSI. BRK DWN PERF 3.3 BPM @ 2009 PSI. ISIP 1412 PSI. FG. 0.65. EST INJ RATE 52.1 BPM @ 4334 PSI. 22/24 PERFS OPEN - 91%. MP 5308 PSI, MR 52.4 BPM, AP 4240 PSI, AR 52.2 BPM. ISIP 1754 PSI, FG. 0.67, NPI 142 PSI. X-OVER FOR WL. ((RAN FR @ 0.25/M))
	12:03 - 12:53	0.83	COMP	37	B	P		PERF STG 9) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 90 DEG PHSG. RIH SET CBP @ 6596'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC
	12:59 - 13:40	0.68	COMP	36	E	P		FRAC STG 9) WHP 1120 PSI. BRK DWN PERF 3.6 BPM @ 1569 PSI. ISIP 1143 PSI. FG. 0.61. EST INJ RATE 54.2 BPM @ 3843 PSI. 24/24 PERFS OPEN - 100%. MP 5155 PSI, MR 54.5 BPM, AP 3752 PSI, AR 54.2 BPM. ISIP 1828 PSI, FG. 0.72, NPI 685 PSI. X-OVER FOR WL. ((RAN FR @ 0.25/M)) TOTAL SLK WTR: 9513 BBLS TOTAL SND: 186518#
	13:45 - 14:35	0.83	COMP	34	I	P		KILL PLUG) RIH W/HALCO 8K CBP & SETL @ 6406'. POOH & R/D WIRELINE. SWI - SDFN.
5/10/2012	6:45 - 7:00	0.25	COMP	48		P		HSM, JSA PICKING UP PIPE
	7:00 - 9:30	2.50	COMP	30	A	P		MIRU, SPOT EQUIP, N/D WH, N/U 5K BOP, R/U FLOOR & TBG EQUIP, R/U FLOWLINE TO PIT, SPOT TBG TRAILER
	9:30 - 12:30	3.00	COMP	31	I	P		P/U TBG, REMOVE THREAD PROTECTORS, TALLY & DRIFT TBG TO KILL PLUG
	12:30 - 13:00	0.50	COMP	47	B	P		PRESS TEST BOP'S TO 3,000 PSI FOR 15 MIN, LOST 0 PSI

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-2P4CS - RED		Spud Date: 1/25/2012
Project: UTAH-UINTAH	Site: NBU 1022-2P PAD	Rig Name No: ROYAL WELL SERVICE 2/2, ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 4/13/2012	End Date: 5/11/2012
Active Datum: RKB @5,117.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	13:00 - 16:30	3.50	COMP	44	C	P		MIRU PWR SWVL & NEW WASHINGTON RUBBER C/O 14' SAND, TAG 1ST PLUG @ 6,415' DRL PLUG IN 4 MIN. 0 PSI INCREASE RIH, CSG PRESS 0 PSI. C/O 22' SAND, TAG 2ND PLUG @ 6,601' DRL PLUG IN 4 MIN. 0 PSI INCREASE RIH, CSG PRESS 0 PSI. C/O 69' SAND, TAG 3RD PLUG @ 6,893' DRL PLUG IN 5 MIN. 400 PSI INCREASE RIH, CSG PRESS 50 PSI. C/O 37' SAND, TAG 4TH PLUG @ 7,122' DRL PLUG IN 5 MIN. 500 PSI INCREASE RIH, CSG PRESS 500 PSI. C/O 32' SAND, TAG 5TH PLUG @ 7,385' DRL PLUG IN 6 MIN. 0 PSI INCREASE RIH, CSG PRESS 300 PSI. C/O 40' SAND, TAG 6TH PLUG @ 7,595' DRL PLUG IN 6 MIN. 0 PSI INCREASE RIH, CSG PRESS 400 PSI. C/O 29' SAND, TAG 7TH PLUG @ 7,778' DRL PLUG IN 3 MIN. 0 PSI INCREASE RIH, CSG PRESS 400 PSI. CIRC & LET WELL CLEAN UP FOR 30 MIN, D/O REMAINING PLUGS IN AM, EOT @7830', SDFN
5/11/2012	6:45 - 7:00	0.25	COMP	48		P		HSM, JSA

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-2P4CS - RED		Spud Date: 1/25/2012
Project: UTAH-UINTAH	Site: NBU 1022-2P PAD	Rig Name No: ROYAL WELL SERVICE 2/2, ROYAL WELL SERVICE 2/2
Event: COMPLETION	Start Date: 4/13/2012	End Date: 5/11/2012
Active Datum: RKB @5,117.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/22/E/2/0/0/26/PM/S/221/E/0/1342/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 15:00	8.00	COMP	44	C	P		2800 SICP C/O 51' SAND, TAG 8TH PLUG @ 8,014' DRL PLUG IN 7 MIN. 0 PSI INCREASE RIH, CSG PRESS 400 PSI. C/O 39' SAND, TAG 9TH PLUG @ 8,216' DRL PLUG IN 5 MIN. 0 PSI INCREASE RIH, CSG PRESS 500 PSI. PBTD @ 8,613', BTM PERF @ 8,440', RIH TAG @ 8,507', C/O TO 8,613, 173' PAST BTM PERF W/ 271 JTS 2 3/8" L-80 TBG, LD 20 JTS, PU & STRIP IN TBG HANGER & LAND TBG W/ 251 JTS 2 3/8" L-80, EOT 7,995.88'. RD POWER SWIVEL, FLOOR & TBG EQUIP, ND BOPS, NU WH, DROP BALL TO SHEAR OFF BIT W/ 1400 PSI, LET BIT FALL FOR 20 MIN. TURN OVER TO FLOW BACK CREW, RDMO KB= 25' 4 1/16" WEATHERFORD HANGER= .83' TBG DELIVERED 282 JTS 251 JTS 2 3/8" L-80 = 7,967.85' TBG USED 251 JTS POBS= 2.20' TBG RETURNED 31 JTS EOT @7,995.88' TWTR= 9,513 BBLS TWR= 1,400 BBLS TWLTR= 8,113 BBLS
	11:00 - 11:30	0.50	COMP	50				WELL TURNED TO SALES @ 1100 HR ON 5/11/2012- 3400 MCFD, 1920 BWPD, FCP 2240#, FTP 2300@, 20/64"
5/12/2012	-							
	7:00 -			50				WELL IP'D ON 5/12/12 - 2821 MCFD, 0 BOPD, 660 BWPD, CP 2269, FTP 1628#, CK 20/64, LP 132#, 24 HRS

Scientific Drilling
Rocky Mountain Operations

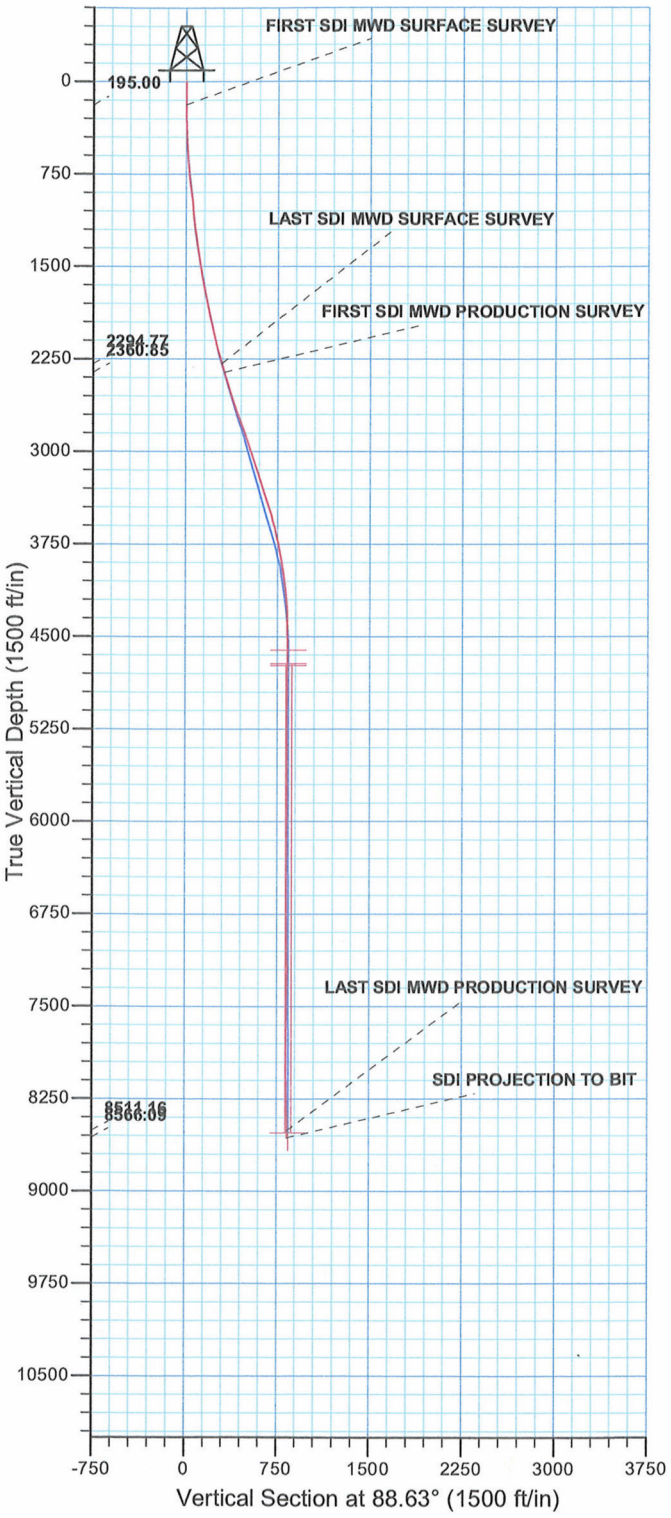
Project: Uintah County, UT UTM12
Site: NBU 1022-2P PAD
Well: NBU 1022-2P4CS
Wellbore: OH
Design: OH

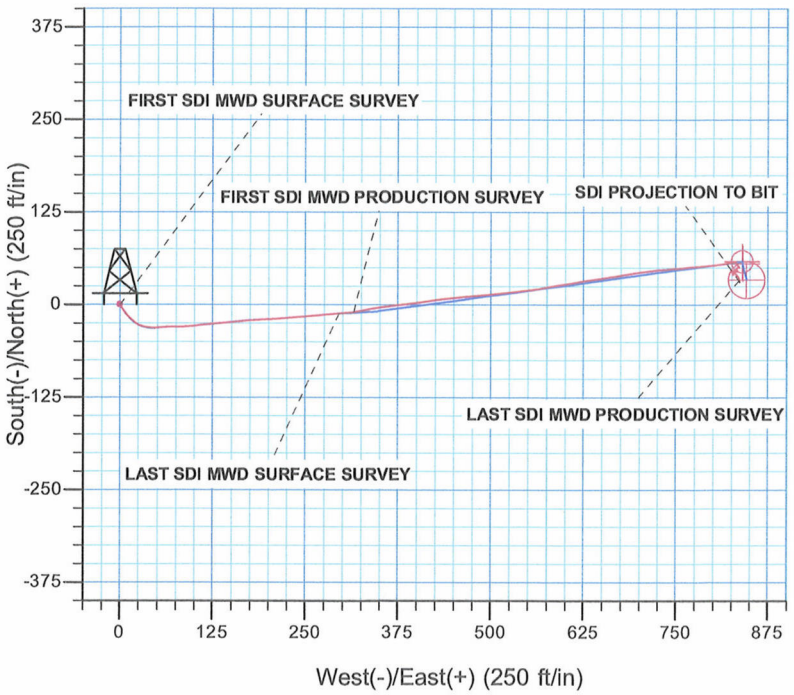
Anadarko Petroleum Corporation

WELL DETAILS: NBU 1022-2P4CS					
GL 5092' & KB 21' @ 5113.00ft (HP 311)					
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	14519620.58	2088208.52	39.971339	-109.401781

Azimuths to True North
Magnetic North: 11.02°

Magnetic Field
Strength: 52316.2snT
Dip Angle: 65.86°
Date: 07/21/2011
Model: IGRF2010





PROJECT DETAILS: Uintah County, UT UTM12	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	NAD 1927 - Western US
Ellipsoid:	Clarke 1866
Zone:	Zone 12N (114 W to 108 W)
Location:	SECTION 2 T10S R22E
System Datum:	Mean Sea Level

Design: OH (NBU 1022-2P4CS/OH)

Created By: RobertScott Date: 14:06, February 09 2012

Scientific Drilling
Rocky Mountain Operations

Kerr McGee Oil and Gas Onshore LP

Uintah County, UT UTM12
NBU 1022-2P PAD
NBU 1022-2P4CS

OH

Design: OH

Standard Survey Report

09 February, 2012

Anadarko
Petroleum Corporation

Company:	Kerr McGee Oil and Gas Onshore LP	**Local Co-ordinate Reference:**	Well NBU 1022-2P4CS
Project:	Uintah County, UT UTM12	**TVD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Site:	NBU 1022-2P PAD	**MD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Well:	NBU 1022-2P4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Project Uintah County, UT UTM12

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

Site NBU 1022-2P PAD, SECTION 2 T10S R22E

Site Position:		**Northing:**	14,519,620.58 usft	**Latitude:**	39.971339
From:	Lat/Long	**Easting:**	2,088,208.52 usft	**Longitude:**	-109.401781
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.03 °

Well NBU 1022-2P4CS, 221 FSL 1342 FEL

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,519,620.58 usft	**Latitude:**	39.971339
	+E/-W	0.00 ft	**Easting:**	2,088,208.52 usft	**Longitude:**	-109.401781
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,092.00 ft

Wellbore OH

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	07/21/11	11.02	65.86	52,316

Design OH

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**
	0.00	0.00	0.00	88.63

Survey Program **Date** 02/09/12

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
21.00	2,322.00	Survey #1 SDI MWD SURFACE (OH)	MWD SDI	MWD - Standard ver 1.0.1
2,391.00	8,673.00	Survey #2 SDI MWD PRODUCTION (OH)	MWD SDI	MWD - Standard ver 1.0.1

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
21.00	0.00	0.00	21.00	0.00	0.00	0.00	0.00	0.00	0.00
195.00	0.53	168.80	195.00	-0.79	0.16	0.14	0.30	0.30	0.00
FIRST SDI MWD SURFACE SURVEY									
281.00	1.67	146.22	280.98	-2.22	0.93	0.88	1.39	1.33	-26.26
362.00	3.37	141.56	361.90	-5.07	3.07	2.94	2.11	2.10	-5.75
452.00	5.03	142.09	451.65	-10.25	7.14	6.89	1.84	1.84	0.59
542.00	6.10	142.89	541.23	-17.18	12.45	12.03	1.19	1.19	0.89
632.00	6.07	126.88	630.73	-23.85	19.14	18.56	1.88	-0.03	-17.79
722.00	5.98	115.28	720.23	-28.71	27.18	26.49	1.35	-0.10	-12.89

Company:	Kerr McGee Oil and Gas Onshore LP	**Local Co-ordinate Reference:**	Well NBU 1022-2P4CS
Project:	Uintah County, UT UTM12	**TVD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Site:	NBU 1022-2P PAD	**MD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Well:	NBU 1022-2P4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
812.00	5.80	97.08	809.77	-31.27	35.94	35.18	2.08	-0.20	-20.22
902.00	6.24	88.21	899.27	-31.68	45.34	44.57	1.14	0.49	-9.86
992.00	5.88	83.87	988.77	-31.03	54.81	54.05	0.65	-0.40	-4.82
1,082.00	5.80	86.19	1,078.30	-30.24	63.93	63.19	0.28	-0.09	2.58
1,172.00	6.27	90.35	1,167.80	-29.97	73.38	72.64	0.71	0.52	4.62
1,262.00	7.91	87.94	1,257.11	-29.77	84.49	83.75	1.85	1.82	-2.68
1,352.00	8.45	87.42	1,346.20	-29.25	97.28	96.55	0.61	0.60	-0.58
1,442.00	9.41	83.02	1,435.11	-28.06	111.19	110.49	1.31	1.07	-4.89
1,532.00	9.85	82.49	1,523.84	-26.16	126.13	125.46	0.50	0.49	-0.59
1,622.00	10.46	85.92	1,612.43	-24.57	141.91	141.28	0.95	0.68	3.81
1,712.00	10.55	83.81	1,700.92	-23.10	158.25	157.65	0.44	0.10	-2.34
1,802.00	11.34	84.87	1,789.28	-21.42	175.25	174.69	0.91	0.88	1.18
1,892.00	10.64	86.10	1,877.63	-20.07	192.36	191.82	0.82	-0.78	1.37
1,982.00	12.22	87.24	1,965.84	-19.04	210.16	209.64	1.77	1.76	1.27
2,072.00	13.81	85.48	2,053.53	-17.74	230.38	229.89	1.82	1.77	-1.96
2,162.00	14.60	84.43	2,140.78	-15.79	252.38	251.93	0.92	0.88	-1.17
2,252.00	16.00	84.87	2,227.59	-13.58	276.03	275.62	1.56	1.56	0.49
2,322.00	16.62	87.24	2,294.77	-12.24	295.63	295.26	1.30	0.89	3.39
LAST SDI MWD SURFACE SURVEY									
2,391.00	16.88	80.73	2,360.85	-10.15	315.38	315.05	2.74	0.38	-9.43
FIRST SDI MWD PRODUCTION SURVEY									
2,485.00	17.15	79.85	2,450.73	-5.51	342.49	342.26	0.40	0.29	-0.94
2,579.00	18.82	83.55	2,540.14	-1.36	371.20	371.06	2.15	1.78	3.94
2,674.00	18.29	81.70	2,630.20	2.51	401.18	401.12	0.83	-0.56	-1.95
2,768.00	20.40	82.40	2,718.89	6.81	432.02	432.06	2.26	2.24	0.74
2,863.00	19.79	84.42	2,808.11	10.56	464.44	464.56	0.97	-0.64	2.13
2,957.00	18.11	85.04	2,897.01	13.37	494.83	495.01	1.80	-1.79	0.66
3,052.00	18.29	83.46	2,987.26	16.35	524.35	524.59	0.55	0.19	-1.66
3,146.00	19.26	82.49	3,076.25	20.05	554.38	554.70	1.08	1.03	-1.03
3,240.00	17.23	79.85	3,165.53	24.53	583.45	583.87	2.33	-2.16	-2.81
3,335.00	19.79	80.91	3,255.60	29.56	613.19	613.72	2.72	2.69	1.12
3,429.00	18.11	82.40	3,344.51	34.00	643.38	644.01	1.86	-1.79	1.59
3,523.00	17.85	79.85	3,433.92	38.47	672.05	672.78	0.88	-0.28	-2.71
3,618.00	16.00	81.26	3,524.80	43.03	699.32	700.15	1.99	-1.95	1.48
3,712.00	14.60	83.11	3,615.47	46.42	723.89	724.79	1.58	-1.49	1.97
3,807.00	13.89	86.18	3,707.55	48.62	747.16	748.11	1.09	-0.75	3.23
3,901.00	11.43	84.34	3,799.25	50.29	767.69	768.67	2.65	-2.62	-1.96
3,995.00	10.46	85.74	3,891.54	51.84	785.46	786.48	1.07	-1.03	1.49
4,090.00	8.00	84.16	3,985.31	53.15	800.64	801.69	2.60	-2.59	-1.66
4,184.00	6.24	82.93	4,078.58	54.45	812.22	813.29	1.88	-1.87	-1.31
4,279.00	4.92	78.89	4,173.13	55.87	821.34	822.44	1.45	-1.39	-4.25
4,373.00	2.73	73.97	4,266.91	57.26	827.45	828.58	2.35	-2.33	-5.23
4,467.00	1.14	127.93	4,360.86	57.31	830.34	831.47	2.40	-1.69	57.40

Company:	Kerr McGee Oil and Gas Onshore LP	**Local Co-ordinate Reference:**	Well NBU 1022-2P4CS
Project:	Uintah County, UT UTM12	**TVD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Site:	NBU 1022-2P PAD	**MD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Well:	NBU 1022-2P4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,562.00	1.49	144.19	4,455.84	55.72	831.81	832.90	0.54	0.37	17.12
4,656.00	1.58	135.75	4,549.80	53.80	833.43	834.48	0.26	0.10	-8.98
4,750.00	1.72	147.95	4,643.76	51.68	835.08	836.08	0.40	0.15	12.98
4,845.00	0.44	272.07	4,738.75	50.48	835.47	836.44	2.11	-1.35	130.65
4,939.00	0.79	254.41	4,832.74	50.32	834.49	835.45	0.42	0.37	-18.79
5,033.00	1.06	234.19	4,926.73	49.64	833.16	834.11	0.45	0.29	-21.51
5,128.00	0.79	234.45	5,021.72	48.75	831.91	832.84	0.28	-0.28	0.27
5,222.00	1.06	214.24	5,115.71	47.65	830.89	831.80	0.45	0.29	-21.50
5,316.00	0.88	197.36	5,209.69	46.24	830.19	831.06	0.36	-0.19	-17.96
5,411.00	1.23	185.24	5,304.68	44.53	829.88	830.71	0.43	0.37	-12.76
5,505.00	0.88	29.84	5,398.67	44.15	830.15	830.97	2.19	-0.37	-165.32
5,599.00	0.53	38.19	5,492.66	45.12	830.77	831.62	0.39	-0.37	8.88
5,694.00	0.62	69.22	5,587.66	45.65	831.53	832.38	0.34	0.09	32.66
5,788.00	0.53	102.79	5,681.66	45.73	832.43	833.28	0.36	-0.10	35.71
5,883.00	0.97	306.26	5,776.65	46.11	832.21	833.07	1.55	0.46	-164.77
5,977.00	0.70	277.78	5,870.64	46.66	831.00	831.87	0.52	-0.29	-30.30
6,071.00	0.44	276.91	5,964.64	46.78	830.07	830.95	0.28	-0.28	-0.93
6,166.00	0.44	254.41	6,059.63	46.72	829.35	830.24	0.18	0.00	-23.68
6,260.00	0.44	219.16	6,153.63	46.35	828.78	829.65	0.28	0.00	-37.50
6,354.00	0.70	194.38	6,247.63	45.51	828.41	829.26	0.38	0.28	-26.36
6,449.00	0.62	191.91	6,342.62	44.45	828.16	828.99	0.09	-0.08	-2.60
6,543.00	0.53	181.90	6,436.62	43.51	828.04	828.84	0.14	-0.10	-10.65
6,638.00	0.88	194.46	6,531.61	42.37	827.84	828.62	0.40	0.37	13.22
6,732.00	1.06	219.51	6,625.60	41.00	827.11	827.85	0.49	0.19	26.65
6,826.00	0.97	348.62	6,719.59	41.11	826.40	827.15	1.95	-0.10	137.35
6,921.00	1.85	35.73	6,814.56	43.14	827.14	827.93	1.46	0.93	49.59
7,015.00	1.14	61.75	6,908.53	44.82	828.85	829.68	1.03	-0.76	27.68
7,109.00	0.88	65.62	7,002.52	45.56	830.33	831.18	0.29	-0.28	4.12
7,204.00	0.79	95.41	7,097.51	45.80	831.64	832.50	0.46	-0.09	31.36
7,298.00	1.23	110.79	7,191.49	45.38	833.23	834.08	0.55	0.47	16.36
7,392.00	1.58	279.98	7,285.48	45.24	832.90	833.74	2.98	0.37	179.99
7,487.00	1.32	280.42	7,380.45	45.67	830.53	831.39	0.27	-0.27	0.46
7,581.00	1.06	264.42	7,474.43	45.78	828.60	829.46	0.45	-0.28	-17.02
7,675.00	1.06	258.01	7,568.42	45.51	826.89	827.74	0.13	0.00	-6.82
7,770.00	0.70	229.44	7,663.40	44.95	825.59	826.43	0.59	-0.38	-30.07
7,844.00	0.88	224.35	7,737.40	44.25	824.85	825.67	0.26	0.24	-6.88
7,958.00	0.62	71.68	7,851.39	43.82	824.82	825.63	1.28	-0.23	-133.92
8,053.00	0.88	78.27	7,946.39	44.13	826.02	826.84	0.29	0.27	6.94
8,147.00	1.06	116.59	8,040.37	43.89	827.51	828.32	0.70	0.19	40.77
8,241.00	1.23	129.42	8,134.35	42.86	829.06	829.85	0.33	0.18	13.65
8,336.00	1.41	129.16	8,229.33	41.47	830.76	831.51	0.19	0.19	-0.27
8,430.00	1.67	140.67	8,323.30	39.68	832.52	833.23	0.43	0.28	12.24
8,524.00	1.93	154.39	8,417.25	37.20	834.07	834.72	0.53	0.28	14.60
8,618.00	2.99	161.59	8,511.16	33.44	835.53	836.09	1.17	1.13	7.66

Company:	Kerr McGee Oil and Gas Onshore LP	**Local Co-ordinate Reference:**	Well NBU 1022-2P4CS
Project:	Uintah County, UT UTM12	**TVD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Site:	NBU 1022-2P PAD	**MD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Well:	NBU 1022-2P4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
LAST SDI MWD PRODUCTION SURVEY									
8,673.00	2.99	161.59	8,566.09	30.72	836.44	836.93	0.00	0.00	0.00
SDI PROJECTION TO BIT									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
195.00	195.00	-0.79	0.16	FIRST SDI MWD SURFACE SURVEY
2,322.00	2,294.77	-12.24	295.63	LAST SDI MWD SURFACE SURVEY
2,391.00	2,360.85	-10.15	315.38	FIRST SDI MWD PRODUCTION SURVEY
8,618.00	8,511.16	33.44	835.53	LAST SDI MWD PRODUCTION SURVEY
8,673.00	8,566.09	30.72	836.44	SDI PROJECTION TO BIT

Checked By: _____ Approved By: _____ Date: _____

Anadarko Petroleum Corporation

Kerr McGee Oil and Gas Onshore LP

Uintah County, UT UTM12
NBU 1022-2P PAD
NBU 1022-2P4CS

OH

Design: OH

Survey Report - Geographic

09 February, 2012

Anadarko Petroleum Corporation

Company:	Kerr McGee Oil and Gas Onshore LP	**Local Co-ordinate Reference:**	Well NBU 1022-2P4CS
Project:	Uintah County, UT UTM12	**TVD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Site:	NBU 1022-2P PAD	**MD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Well:	NBU 1022-2P4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Project Uintah County, UT UTM12

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

Site NBU 1022-2P PAD, SECTION 2 T10S R22E

Site Position:		**Northing:**	14,519,620.58 usft	**Latitude:**	39.971339
From:	Lat/Long	**Easting:**	2,088,208.52 usft	**Longitude:**	-109.401781
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.03 °

Well NBU 1022-2P4CS, 221 FSL 1342 FEL

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,519,620.58 usft	**Latitude:**	39.971339
	+E/-W	0.00 ft	**Easting:**	2,088,208.52 usft	**Longitude:**	-109.401781
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,092.00 ft

Wellbore OH

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	07/21/11	11.02	65.86	52,316

Design OH

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**
	0.00	0.00	0.00	88.63

Survey Program **Date** 02/09/12

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
21.00	2,322.00	Survey #1 SDI MWD SURFACE (OH)	MWD SDI	MWD - Standard ver 1.0.1
2,391.00	8,673.00	Survey #2 SDI MWD PRODUCTION (OH)	MWD SDI	MWD - Standard ver 1.0.1

Survey

Measured Depth (ft)	**Inclination (°)**	**Azimuth (°)**	**Vertical Depth (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Map Northing (usft)**	**Map Easting (usft)**	**Latitude**	**Longitude**
0.00	0.00	0.00	0.00	0.00	0.00	14,519,620.58	2,088,208.52	39.971339	-109.401781
21.00	0.00	0.00	21.00	0.00	0.00	14,519,620.58	2,088,208.52	39.971339	-109.401781
195.00	0.53	168.80	195.00	-0.79	0.16	14,519,619.79	2,088,208.69	39.971337	-109.401781
FIRST SDI MWD SURFACE SURVEY									
281.00	1.67	146.22	280.98	-2.22	0.93	14,519,618.38	2,088,209.49	39.971333	-109.401778
362.00	3.37	141.56	361.90	-5.07	3.07	14,519,615.57	2,088,211.68	39.971325	-109.401770
452.00	5.03	142.09	451.65	-10.25	7.14	14,519,610.46	2,088,215.84	39.971311	-109.401756
542.00	6.10	142.89	541.23	-17.18	12.45	14,519,603.63	2,088,221.27	39.971292	-109.401737
632.00	6.07	126.88	630.73	-23.85	19.14	14,519,597.08	2,088,228.08	39.971274	-109.401713
722.00	5.98	115.28	720.23	-28.71	27.18	14,519,592.37	2,088,236.21	39.971260	-109.401684
812.00	5.80	97.08	809.77	-31.27	35.94	14,519,589.96	2,088,245.01	39.971253	-109.401653

Company:	Kerr McGee Oil and Gas Onshore LP	**Local Co-ordinate Reference:**	Well NBU 1022-2P4CS
Project:	Uintah County, UT UTM12	**TVD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Site:	NBU 1022-2P PAD	**MD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Well:	NBU 1022-2P4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
902.00	6.24	88.21	899.27	-31.68	45.34	14,519,589.72	2,088,254.42	39.971252	-109.401619
992.00	5.88	83.87	988.77	-31.03	54.81	14,519,590.54	2,088,263.88	39.971254	-109.401586
1,082.00	5.80	86.19	1,078.30	-30.24	63.93	14,519,591.49	2,088,272.98	39.971256	-109.401553
1,172.00	6.27	90.35	1,167.80	-29.97	73.38	14,519,591.94	2,088,282.43	39.971257	-109.401519
1,262.00	7.91	87.94	1,257.11	-29.77	84.49	14,519,592.33	2,088,293.53	39.971257	-109.401480
1,352.00	8.45	87.42	1,346.20	-29.25	97.28	14,519,593.08	2,088,306.31	39.971259	-109.401434
1,442.00	9.41	83.02	1,435.11	-28.06	111.19	14,519,594.52	2,088,320.19	39.971262	-109.401384
1,532.00	9.85	82.49	1,523.84	-26.16	126.13	14,519,596.69	2,088,335.09	39.971267	-109.401331
1,622.00	10.46	85.92	1,612.43	-24.57	141.91	14,519,598.56	2,088,350.84	39.971272	-109.401275
1,712.00	10.55	83.81	1,700.92	-23.10	158.25	14,519,600.32	2,088,367.15	39.971276	-109.401217
1,802.00	11.34	84.87	1,789.28	-21.42	175.25	14,519,602.30	2,088,384.13	39.971280	-109.401156
1,892.00	10.64	86.10	1,877.63	-20.07	192.36	14,519,603.96	2,088,401.20	39.971284	-109.401095
1,982.00	12.22	87.24	1,965.84	-19.04	210.16	14,519,605.31	2,088,418.99	39.971287	-109.401031
2,072.00	13.81	85.48	2,053.53	-17.74	230.38	14,519,606.97	2,088,439.18	39.971290	-109.400959
2,162.00	14.60	84.43	2,140.78	-15.79	252.38	14,519,609.32	2,088,461.14	39.971296	-109.400881
2,252.00	16.00	84.87	2,227.59	-13.58	276.03	14,519,611.95	2,088,484.74	39.971302	-109.400796
2,322.00	16.62	87.24	2,294.77	-12.24	295.63	14,519,613.65	2,088,504.32	39.971305	-109.400726
LAST SDI MWD SURFACE SURVEY									
2,391.00	16.88	80.73	2,360.85	-10.15	315.38	14,519,616.09	2,088,524.03	39.971311	-109.400656
FIRST SDI MWD PRODUCTION SURVEY									
2,485.00	17.15	79.85	2,450.73	-5.51	342.49	14,519,621.21	2,088,551.05	39.971324	-109.400559
2,579.00	18.82	83.55	2,540.14	-1.36	371.20	14,519,625.87	2,088,579.68	39.971335	-109.400457
2,674.00	18.29	81.70	2,630.20	2.51	401.18	14,519,630.28	2,088,609.59	39.971346	-109.400350
2,768.00	20.40	82.40	2,718.89	6.81	432.02	14,519,635.13	2,088,640.34	39.971358	-109.400240
2,863.00	19.79	84.42	2,808.11	10.56	464.44	14,519,639.47	2,088,672.69	39.971368	-109.400124
2,957.00	18.11	85.04	2,897.01	13.37	494.83	14,519,642.82	2,088,703.03	39.971376	-109.400015
3,052.00	18.29	83.46	2,987.26	16.35	524.35	14,519,646.32	2,088,732.49	39.971384	-109.399910
3,146.00	19.26	82.49	3,076.25	20.05	554.38	14,519,650.57	2,088,762.44	39.971394	-109.399803
3,240.00	17.23	79.85	3,165.53	24.53	583.45	14,519,655.57	2,088,791.44	39.971406	-109.399699
3,335.00	19.79	80.91	3,255.60	29.56	613.19	14,519,661.12	2,088,821.08	39.971420	-109.399593
3,429.00	18.11	82.40	3,344.51	34.00	643.38	14,519,666.11	2,088,851.19	39.971432	-109.399485
3,523.00	17.85	79.85	3,433.92	38.47	672.05	14,519,671.09	2,088,879.77	39.971445	-109.399383
3,618.00	16.00	81.26	3,524.80	43.03	699.32	14,519,676.14	2,088,906.96	39.971457	-109.399286
3,712.00	14.60	83.11	3,615.47	46.42	723.89	14,519,679.97	2,088,931.46	39.971466	-109.399198
3,807.00	13.89	86.18	3,707.55	48.62	747.16	14,519,682.58	2,088,954.68	39.971472	-109.399115
3,901.00	11.43	84.34	3,799.25	50.29	767.69	14,519,684.62	2,088,975.18	39.971477	-109.399042
3,995.00	10.46	85.74	3,891.54	51.84	785.46	14,519,686.49	2,088,992.92	39.971481	-109.398978
4,090.00	8.00	84.16	3,985.31	53.15	800.64	14,519,688.07	2,089,008.08	39.971485	-109.398924
4,184.00	6.24	82.93	4,078.58	54.45	812.22	14,519,689.58	2,089,019.63	39.971489	-109.398883
4,279.00	4.92	78.89	4,173.13	55.87	821.34	14,519,691.16	2,089,028.72	39.971492	-109.398850
4,373.00	2.73	73.97	4,266.91	57.26	827.45	14,519,692.66	2,089,034.81	39.971496	-109.398829
4,467.00	1.14	127.93	4,360.86	57.31	830.34	14,519,692.76	2,089,037.69	39.971496	-109.398818
4,562.00	1.49	144.19	4,455.84	55.72	831.81	14,519,691.20	2,089,039.19	39.971492	-109.398813
4,656.00	1.58	135.75	4,549.80	53.80	833.43	14,519,689.31	2,089,040.84	39.971487	-109.398807
4,750.00	1.72	147.95	4,643.76	51.68	835.08	14,519,687.22	2,089,042.53	39.971481	-109.398801
4,845.00	0.44	272.07	4,738.75	50.48	835.47	14,519,686.03	2,089,042.95	39.971478	-109.398800
4,939.00	0.79	254.41	4,832.74	50.32	834.49	14,519,685.85	2,089,041.97	39.971477	-109.398803
5,033.00	1.06	234.19	4,926.73	49.64	833.16	14,519,685.14	2,089,040.65	39.971475	-109.398808
5,128.00	0.79	234.45	5,021.72	48.75	831.91	14,519,684.23	2,089,039.42	39.971473	-109.398813
5,222.00	1.06	214.24	5,115.71	47.65	830.89	14,519,683.11	2,089,038.42	39.971470	-109.398816
5,316.00	0.88	197.36	5,209.69	46.24	830.19	14,519,681.69	2,089,037.74	39.971466	-109.398819
5,411.00	1.23	185.24	5,304.68	44.53	829.88	14,519,679.98	2,089,037.46	39.971461	-109.398820
5,505.00	0.88	29.84	5,398.67	44.15	830.15	14,519,679.60	2,089,037.74	39.971460	-109.398819
5,599.00	0.53	38.19	5,492.66	45.12	830.77	14,519,680.58	2,089,038.35	39.971463	-109.398817
5,694.00	0.62	69.22	5,587.66	45.65	831.53	14,519,681.12	2,089,039.09	39.971464	-109.398814

Company:	Kerr McGee Oil and Gas Onshore LP	**Local Co-ordinate Reference:**	Well NBU 1022-2P4CS
Project:	Uintah County, UT UTM12	**TVD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Site:	NBU 1022-2P PAD	**MD Reference:**	GL 5092' & KB 21' @ 5113.00ft (HP 311)
Well:	NBU 1022-2P4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,788.00	0.53	102.79	5,681.66	45.73	832.43	14,519,681.22	2,089,039.99	39.971465	-109.398811
5,883.00	0.97	306.26	5,776.65	46.11	832.21	14,519,681.60	2,089,039.76	39.971466	-109.398812
5,977.00	0.70	277.78	5,870.64	46.66	831.00	14,519,682.12	2,089,038.54	39.971467	-109.398816
6,071.00	0.44	276.91	5,964.64	46.78	830.07	14,519,682.23	2,089,037.61	39.971467	-109.398819
6,166.00	0.44	254.41	6,059.63	46.72	829.35	14,519,682.16	2,089,036.90	39.971467	-109.398822
6,260.00	0.44	219.16	6,153.63	46.35	828.78	14,519,681.77	2,089,036.33	39.971466	-109.398824
6,354.00	0.70	194.38	6,247.63	45.51	828.41	14,519,680.93	2,089,035.98	39.971464	-109.398825
6,449.00	0.62	191.91	6,342.62	44.45	828.16	14,519,679.86	2,089,035.75	39.971461	-109.398826
6,543.00	0.53	181.90	6,436.62	43.51	828.04	14,519,678.93	2,089,035.64	39.971458	-109.398826
6,638.00	0.88	194.46	6,531.61	42.37	827.84	14,519,677.78	2,089,035.47	39.971455	-109.398827
6,732.00	1.06	219.51	6,625.60	41.00	827.11	14,519,676.40	2,089,034.76	39.971452	-109.398830
6,826.00	0.97	348.62	6,719.59	41.11	826.40	14,519,676.49	2,089,034.05	39.971452	-109.398832
6,921.00	1.85	35.73	6,814.56	43.14	827.14	14,519,678.54	2,089,034.75	39.971457	-109.398830
7,015.00	1.14	61.75	6,908.53	44.82	828.85	14,519,680.24	2,089,036.43	39.971462	-109.398824
7,109.00	0.88	65.62	7,002.52	45.56	830.33	14,519,681.01	2,089,037.89	39.971464	-109.398818
7,204.00	0.79	95.41	7,097.51	45.80	831.64	14,519,681.27	2,089,039.21	39.971465	-109.398814
7,298.00	1.23	110.79	7,191.49	45.38	833.23	14,519,680.88	2,089,040.80	39.971464	-109.398808
7,392.00	1.58	279.98	7,285.48	45.24	832.90	14,519,680.74	2,089,040.47	39.971463	-109.398809
7,487.00	1.32	280.42	7,380.45	45.67	830.53	14,519,681.13	2,089,038.10	39.971464	-109.398818
7,581.00	1.06	264.42	7,474.43	45.78	828.60	14,519,681.20	2,089,036.16	39.971465	-109.398824
7,675.00	1.06	258.01	7,568.42	45.51	826.89	14,519,680.91	2,089,034.45	39.971464	-109.398831
7,770.00	0.70	229.44	7,663.40	44.95	825.59	14,519,680.32	2,089,033.16	39.971462	-109.398835
7,844.00	0.88	224.35	7,737.40	44.25	824.85	14,519,679.61	2,089,032.44	39.971461	-109.398838
7,958.00	0.62	71.68	7,851.39	43.82	824.82	14,519,679.18	2,089,032.42	39.971459	-109.398838
8,053.00	0.88	78.27	7,946.39	44.13	826.02	14,519,679.51	2,089,033.61	39.971460	-109.398834
8,147.00	1.06	116.59	8,040.37	43.89	827.51	14,519,679.29	2,089,035.10	39.971460	-109.398828
8,241.00	1.23	129.42	8,134.35	42.86	829.06	14,519,678.29	2,089,036.68	39.971457	-109.398823
8,336.00	1.41	129.16	8,229.33	41.47	830.76	14,519,676.94	2,089,038.40	39.971453	-109.398817
8,430.00	1.67	140.67	8,323.30	39.68	832.52	14,519,675.18	2,089,040.19	39.971448	-109.398810
8,524.00	1.93	154.39	8,417.25	37.20	834.07	14,519,672.72	2,089,041.79	39.971441	-109.398805
8,618.00	2.99	161.59	8,511.16	33.44	835.53	14,519,668.99	2,089,043.31	39.971431	-109.398800
LAST SDI MWD PRODUCTION SURVEY									
8,673.00	2.99	161.59	8,566.09	30.72	836.44	14,519,666.29	2,089,044.27	39.971423	-109.398797
SDI PROJECTION TO BIT									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
195.00	195.00	-0.79	0.16	FIRST SDI MWD SURFACE SURVEY
2,322.00	2,294.77	-12.24	295.63	LAST SDI MWD SURFACE SURVEY
2,391.00	2,360.85	-10.15	315.38	FIRST SDI MWD PRODUCTION SURVEY
8,618.00	8,511.16	33.44	835.53	LAST SDI MWD PRODUCTION SURVEY
8,673.00	8,566.09	30.72	836.44	SDI PROJECTION TO BIT

Checked By: _____ Approved By: _____ Date: _____