API Well Number: 43047529300000

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 1022-3E2AS

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)
UTU-01191

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	1946 FNL 504 FWL	SWNW	3	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	1676 FNL 625 FWL	SWNW	3	10.0 S	22.0 E	S
At Total Depth	1676 FNL 625 FWL	SWNW	3	10.0 S	22.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
1676

23. NUMBER OF ACRES IN DRILLING UNIT
1042

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
290

26. PROPOSED DEPTH
MD: 8897 TVD: 8879

27. ELEVATION - GROUND LEVEL
5067

28. BOND NUMBER
WYB000291

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 - 2380	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 - 8897	11.6	I-80 LT&C	12.5	Premium Lite High Strength	300	3.38	12.0
							50/50 Poz	1210	1.31	14.3

ATTACHMENTS

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

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

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

SIGNATURE | **DATE** 07/06/2012 | **EMAIL** gina.becker@anadarko.com

API NUMBER ASSIGNED
43047529300000

APPROVAL
Permit Manager

RECEIVED: August 21, 2012

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

NBU 1022-3E2AS

Surface: 1946 FNL / 504 FWL SWNW
BHL: 1676 FNL / 625 FWL SWNW

Section 3 T10S R22E

Uintah County, Utah
Mineral Lease: UTU-01191

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	1,198'	
Birds Nest	1,430'	Water
Mahogany	1,933'	Water
Wasatch	4,304'	Gas
Mesaverde	6,678'	Gas
Sego	8,879'	Gas
TVD	8,879'	
TD	8,897'	

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 8879' TVD, approximately equals 5,683 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,717 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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

8. Anticipated Starting Dates:

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

9. Variances:

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

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

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

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

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

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

Background

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

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

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

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

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

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

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

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

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

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

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

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.

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KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	February 13, 2012
WELL NAME	**NBU 1022-3E2AS**	TD	8,879' TVD 8,897' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah FINISHED ELEVATION 5067.2
SURFACE LOCATION	SWNW 1946 FNL 504 FWL Sec 3 T 10S R 22E		
	Latitude: 39.979925 Longitude: -109.433702 NAD 83		
BTM HOLE LOCATION	SWNW 1676 FNL 625 FWL Sec 3 T 10S R 22E		
	Latitude: 39.980667 Longitude: -109.433281 NAD 83		
OBJECTIVE ZONE(S)	Wasatch/Mesaverde		
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (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 @ 1,198'
Top of Birds Nest @ 1,430'
Mahogany @ 1,933'

Preset f/ GL @ 2,380' 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 @ 4,304'

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

Mverde @ 6,678' TVD

Sego @ 8,879' TVD

Max anticipated Mud required 12.5 ppg

8,879' TVD
TD @ 8,897' MD

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KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	COLLAPSE LTC	TENSION DQX
CONDUCTOR	14"	0-40'									
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,380	28.00	IJ-55	LTC	2.27	1.69	5.96	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	1.10		3.20
	4-1/2"	5,000	to	8,897'	11.60	I-80	LTC	1.11	1.10	6.10	

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	1,880'	65/35 Poz + 6% Gel + 10 pps gilsonite	170	35%	11.00		3.82
			+ 0.25 pps Flocele + 3% salt BWOW					
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15
			+ 0.25 pps flocele					
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION	LEAD	3,797'	Premium Lite II +0.25 pps	300	35%	12.00		3.38
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	5,100'	50/50 Poz/G + 10% salt + 2% gel	1,210	35%	14.30		1.31
			+ 0.1% R-3					

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

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

FLOAT EQUIPMENT & CENTRALIZERS

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

ADDITIONAL INFORMATION

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

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

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

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

DRILLING ENGINEER: Nick Spence / Danny Showers / Chad Loesel **DATE:**

DRILLING SUPERINTENDENT: Kenny Gathings / Lovel Young **DATE:**

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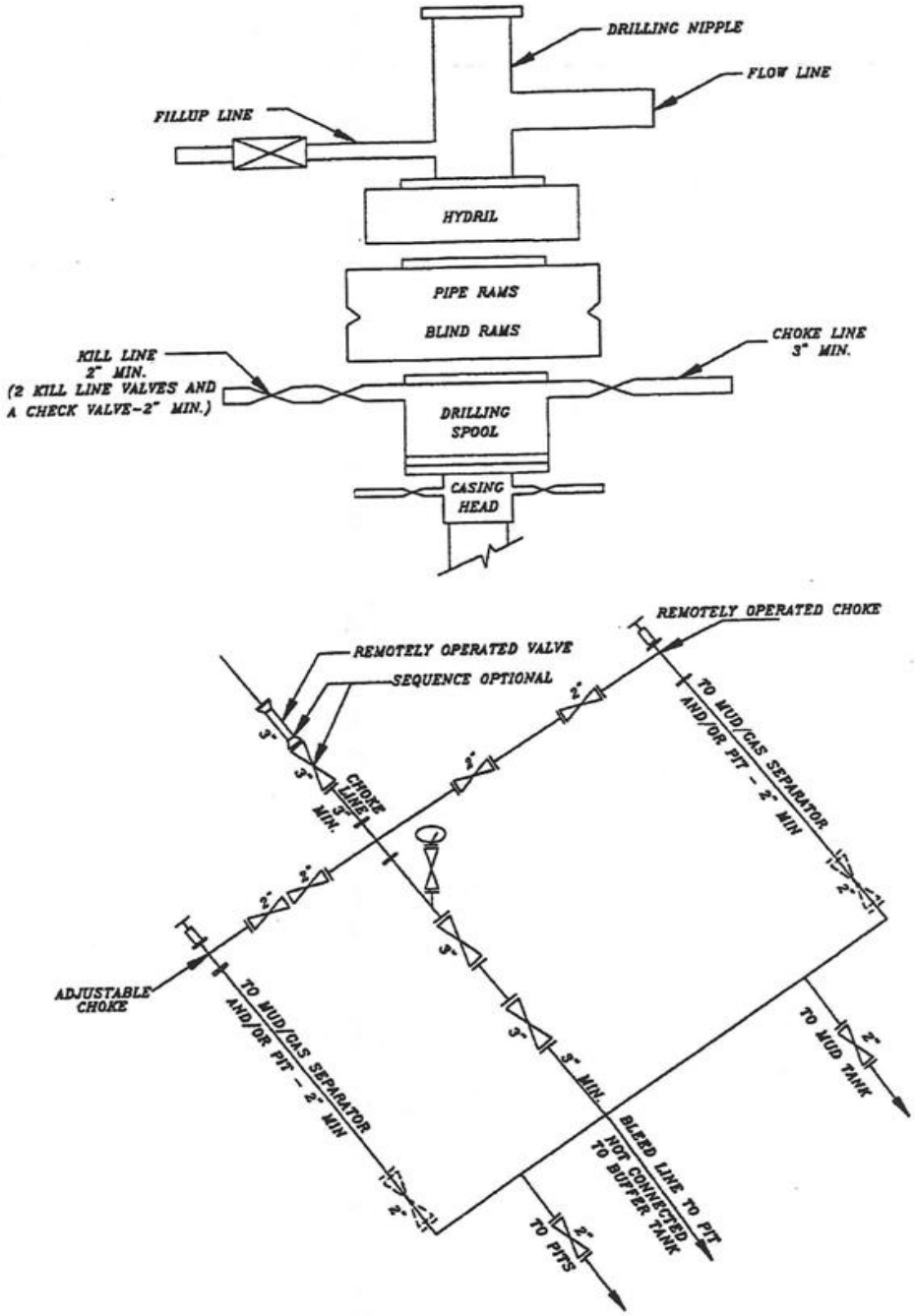
EXHIBIT A
NBU 1022-3E2AS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

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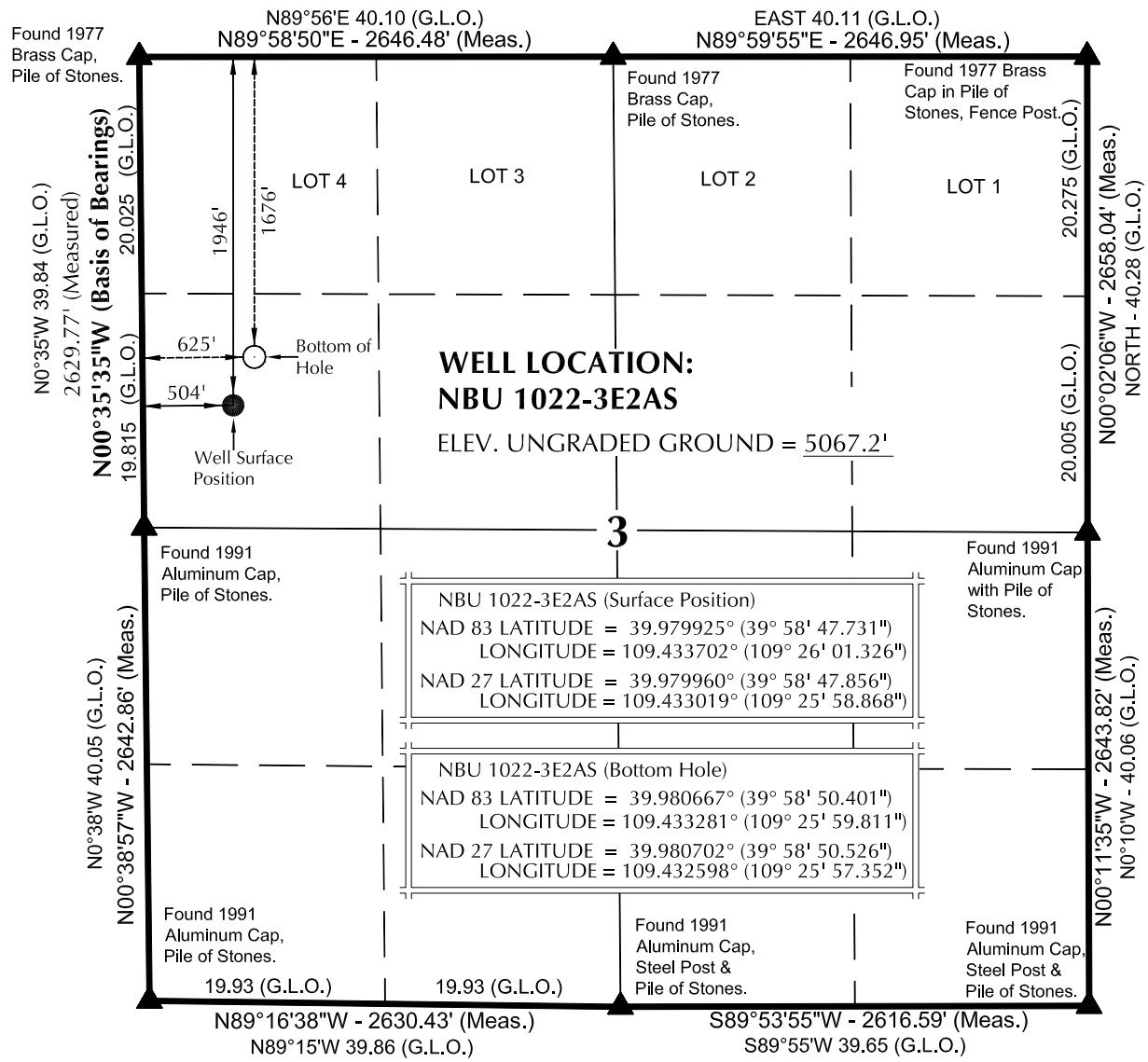
API Well Number: 43047529300000

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 N23°34'23"E 294.88' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW $\frac{1}{4}$ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

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.

11-18-11

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

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH

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

WELL PAD: NBU 1022-3E

NBU 1022-3E2AS
WELL PLAT
1676' FNL, 625' FWL (Bottom Hole)
SW $\frac{1}{4}$ NW $\frac{1}{4}$ OF SECTION 3, 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: 11-2-11	SURVEYED BY: J.W.	SHEET NO:
DATE DRAWN: 11-12-11	DRAWN BY: T.J.R.	2
SCALE: 1" = 1000'	Date Last Revised:	2 OF 16

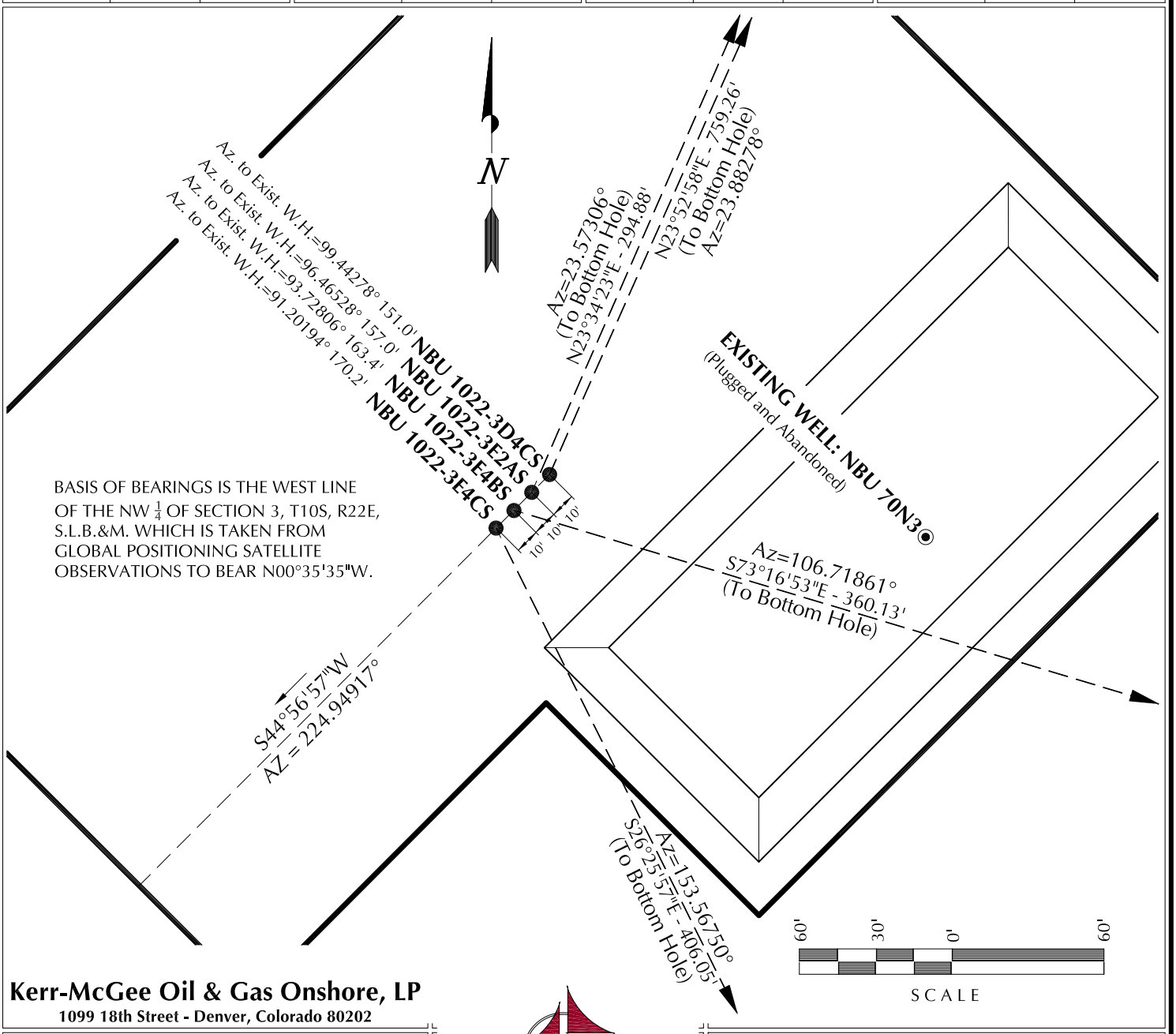
RECEIVED: July 06, 2012

API Well Number: 43047529300000

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
NBU 1022-3D4CS	39°58'47.801" 39.979945°	109°26'01.235" 109.433676°	39°58'47.926" 39.979979°	109°25'58.777" 109.432994°	1939' FNL 511' FWL	39°58'54.659" 39.981850°	109°25'57.284" 109.432579°	39°58'54.784" 39.981884°	109°25'54.826" 109.431896°	1245' FNL 826' FWL
NBU 1022-3E2AS	39°58'47.731" 39.979925°	109°26'01.326" 109.433702°	39°58'47.856" 39.979960°	109°25'58.868" 109.433019°	1946' FNL 504' FWL	39°58'50.401" 39.980667°	109°25'59.811" 109.433281°	39°58'50.526" 39.980702°	109°25'57.352" 109.432598°	1676' FNL 625' FWL
NBU 1022-3E4BS	39°58'47.662" 39.979906°	109°26'01.416" 109.433727°	39°58'47.786" 39.979941°	109°25'58.958" 109.433044°	1953' FNL 497' FWL	39°58'46.637" 39.979621°	109°25'56.987" 109.432497°	39°58'46.761" 39.979656°	109°25'54.529" 109.431814°	2057' FNL 841' FWL
NBU 1022-3E4CS	39°58'47.592" 39.979887°	109°26'01.508" 109.433752°	39°58'47.716" 39.979921°	109°25'59.049" 109.433069°	1960' FNL 490' FWL	39°58'43.999" 39.978889°	109°25'59.188" 109.433108°	39°58'44.123" 39.978923°	109°25'56.730" 109.432425°	2324' FNL 667' FWL
NBU 70N3	39°58'47.556" 39.979877°	109°25'59.323" 109.433145°	39°58'47.680" 39.979911°	109°25'56.864" 109.432462°	1964' FNL 660' FWL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1022-3D4CS	694.2'	307.4'	NBU 1022-3E2AS	270.3'	117.9'	NBU 1022-3E4BS	-103.6'	344.9'	NBU 1022-3E4CS	-363.6'	180.8'



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

WELL PAD - NBU 1022-3E

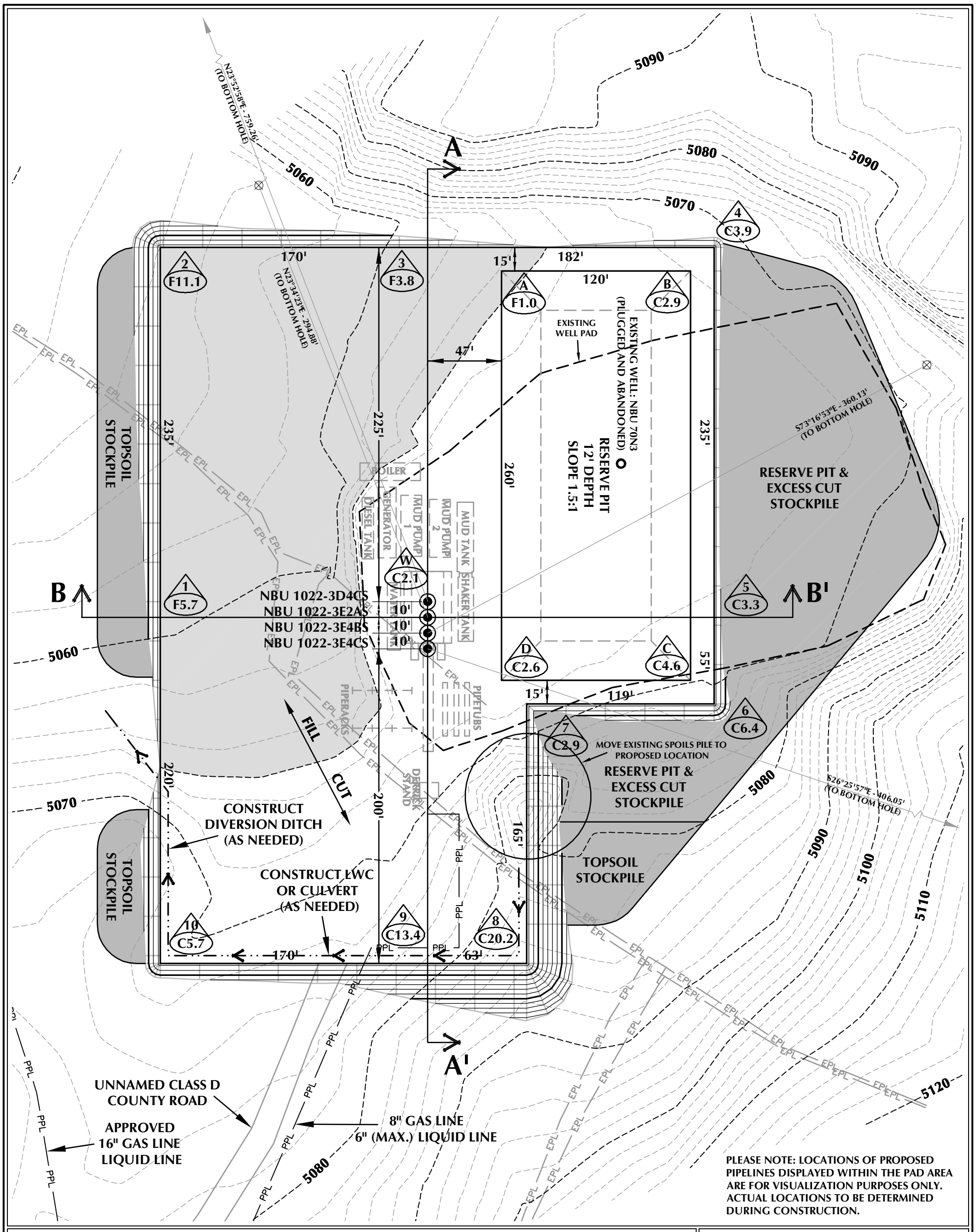
WELL PAD INTERFERENCE PLAT
WELLS - NBU 1022-3D4CS, NBU 1022-3E2AS, NBU 1022-3E4BS & NBU 1022-3E4CS LOCATED IN SECTION 3, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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: 11-2-11	SURVEYED BY: J.W.	SHEET NO: 5
DATE DRAWN: 11-12-11	DRAWN BY: T.J.R.	5 OF 16
SCALE: 1" = 60'	Date Last Revised:	

RECEIVED: July 06, 2012



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

WELL PAD - NBU 1022-3E DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5067.2'
FINISHED GRADE ELEVATION = 5065.1'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.66 ACRES
TOTAL DISTURBANCE AREA = 4.84 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 = 13,393 C.Y.
TOTAL FILL FOR WELL PAD = 12,503 C.Y.
TOPSOIL @ 6" DEPTH = 2,128 C.Y.
EXCESS MATERIAL = 890 C.Y.

RESERVE PIT QUANTITIES

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

WELL PAD LEGEND

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

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

WELL PAD - NBU 1022-3E

WELL PAD - LOCATION LAYOUT
NBU 1022-3D4CS, NBU 1022-3E2AS,
NBU 1022-3E4BS & NBU 1022-3E4CS
LOCATED IN SECTION 3, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

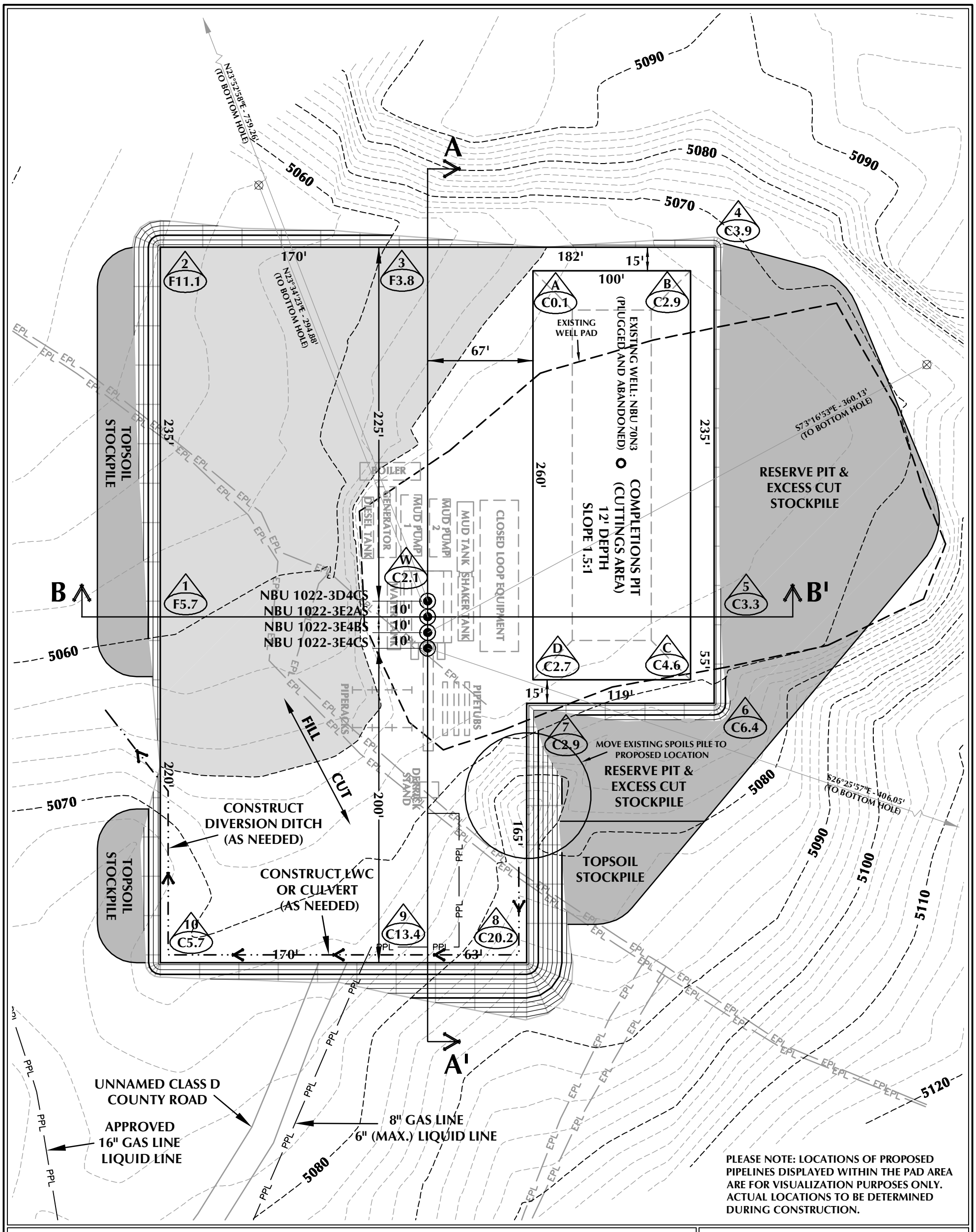
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

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

SCALE: 1"=60' | DATE: 11/18/11 | SHEET NO: 6
REVISED:
6 OF 16

K:\ANADARKO\20112011_49_NBU_FOCUS_1022-3\DWGS\NBU 1022-3E\NBU 1022-3E.dwg, 1/12/2012 9:20:21 AM, getty

RECEIVED: July 06, 2012



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

WELL PAD - NBU 1022-3E (CLOSED LOOP) DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5067.2'
FINISHED GRADE ELEVATION = 5065.1'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.66 ACRES
TOTAL DISTURBANCE AREA = 4.84 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 13,393 C.Y.
TOTAL FILL FOR WELL PAD = 12,503 C.Y.
TOPSOIL @ 6" DEPTH = 2,128 C.Y.
EXCESS MATERIAL = 890 C.Y.

COMPLETIONS PIT QUANTITIES

TOTAL CUT FOR COMPLETIONS PIT
+/- 8,870 C.Y.
COMPLETIONS 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

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

WELL PAD - NBU 1022-3E

WELL PAD - LOCATION LAYOUT
NBU 1022-3D4CS, NBU 1022-3E2AS,
NBU 1022-3E4BS & NBU 1022-3E4CS
LOCATED IN SECTION 3, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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

SCALE: 1"=60' | DATE: 1/11/12 | SHEET NO: 6B 6B OF 16
REVISED:

K:\ANADARKO\20112011_49_NBU_FOCUS_1022-3\DWGS\NBU 1022-3E\NBU 1022-3E.dwg, 1/12/2012 9:19:52 AM, getty

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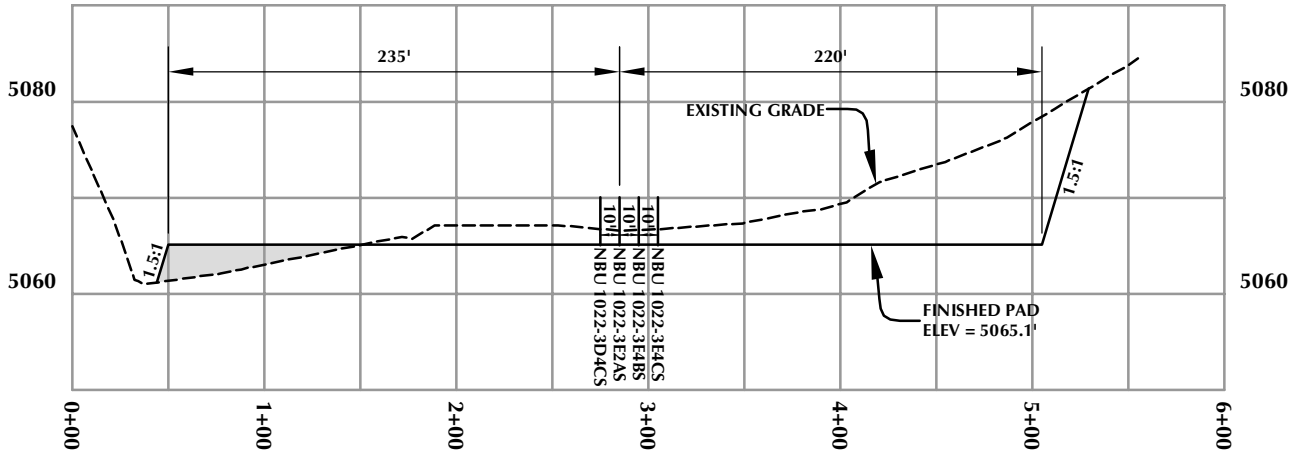
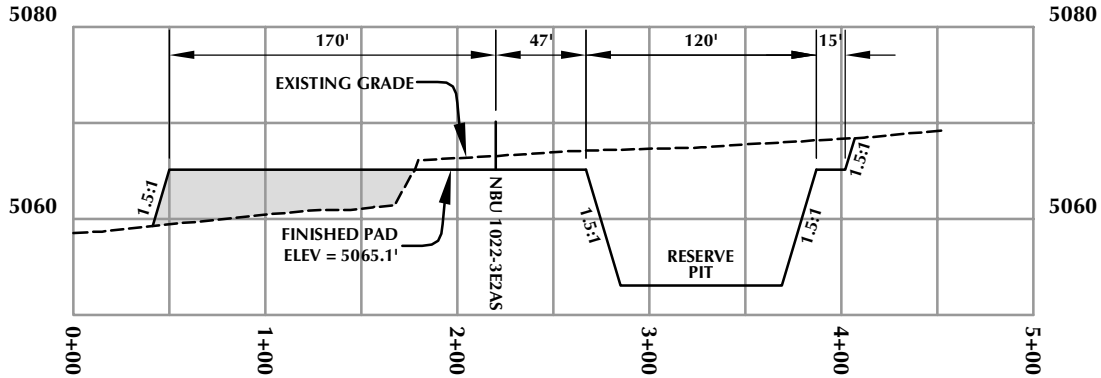


CROSS SECTION A-A'



CROSS SECTION B-B'

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

WELL PAD - NBU 1022-3E

WELL PAD - CROSS SECTIONS
NBU 1022-3D4CS, NBU 1022-3E2AS,
NBU 1022-3E4BS & NBU 1022-3E4CS
LOCATED IN SECTION 3, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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CONSULTING, LLC
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Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

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

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

Scale: 1"=100' | Date: 11/18/11 | SHEET NO: 7
REVISED:
7 OF 16

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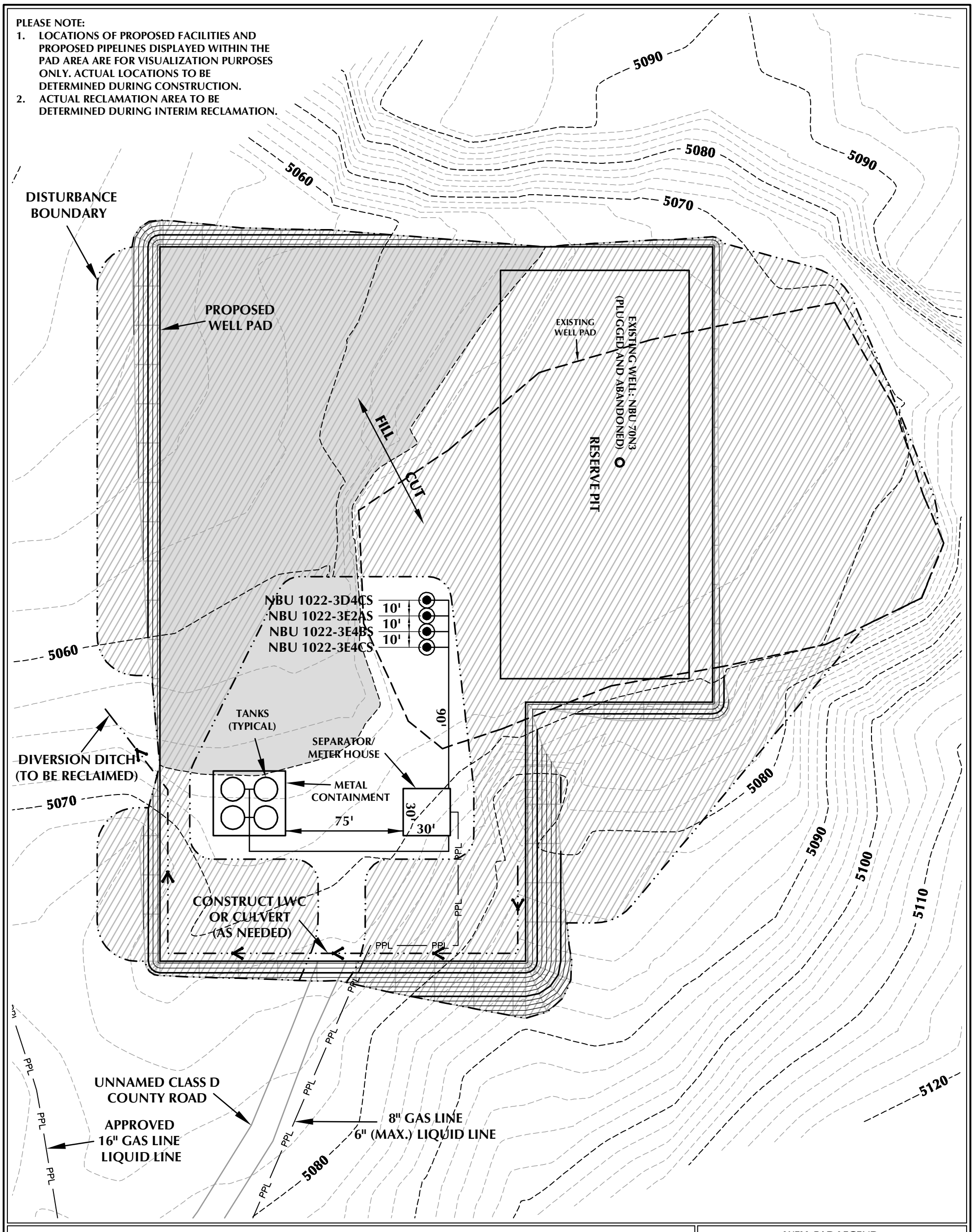

WELL PAD - NBU 1022-3E DESIGN SUMMARY

TOTAL DISTURBANCE AREA = 4.86 ACRES (INCLUDING EXISTING)
RECLAMATION AREA = 4.17 ACRES
TOTAL WELL PAD AREA AFTER RECLAMATION = 0.69 ACRES

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
- RECLAMATION AREA

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

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

WELL PAD - NBU 1022-3E

WELL PAD - RECLAMATION LAYOUT
NBU 1022-3D4CS, NBU 1022-3E2AS,
NBU 1022-3E4BS & NBU 1022-3E4CS
LOCATED IN SECTION 3, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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Sheridan, WY 82801
Phone 307-674-0609
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TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

SCALE: 1"=60' | DATE: 1/11/12 | SHEET NO: 8
REVISED:
8 OF 16

K:\ANADARKO\2011\2011_49_NBU_FOCUS_1022-3\DWGS\NBU 1022-3E\NBU 1022-3E.dwg, 1/12/2012 9:19:34 AM, getty

RECEIVED: July 06, 2012

API Well Number: 43047529300000

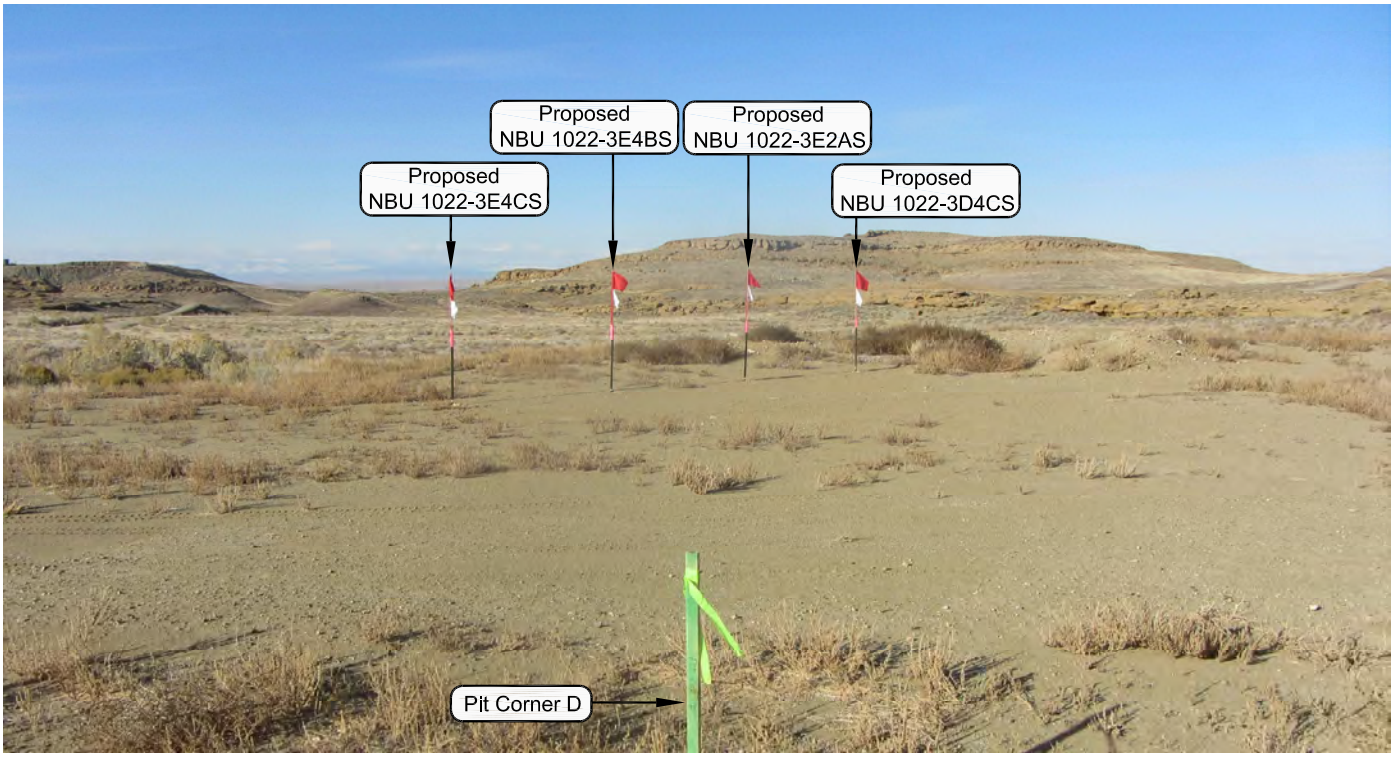

PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY

PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: NORTHEASTERLY

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

WELL PAD - NBU 1022-3E

LOCATION PHOTOS
NBU 1022-3D4CS, NBU 1022-3E2AS, NBU 1022-3E4BS & NBU 1022-3E4CS
LOCATED IN SECTION 3, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

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CONSULTING, LLC
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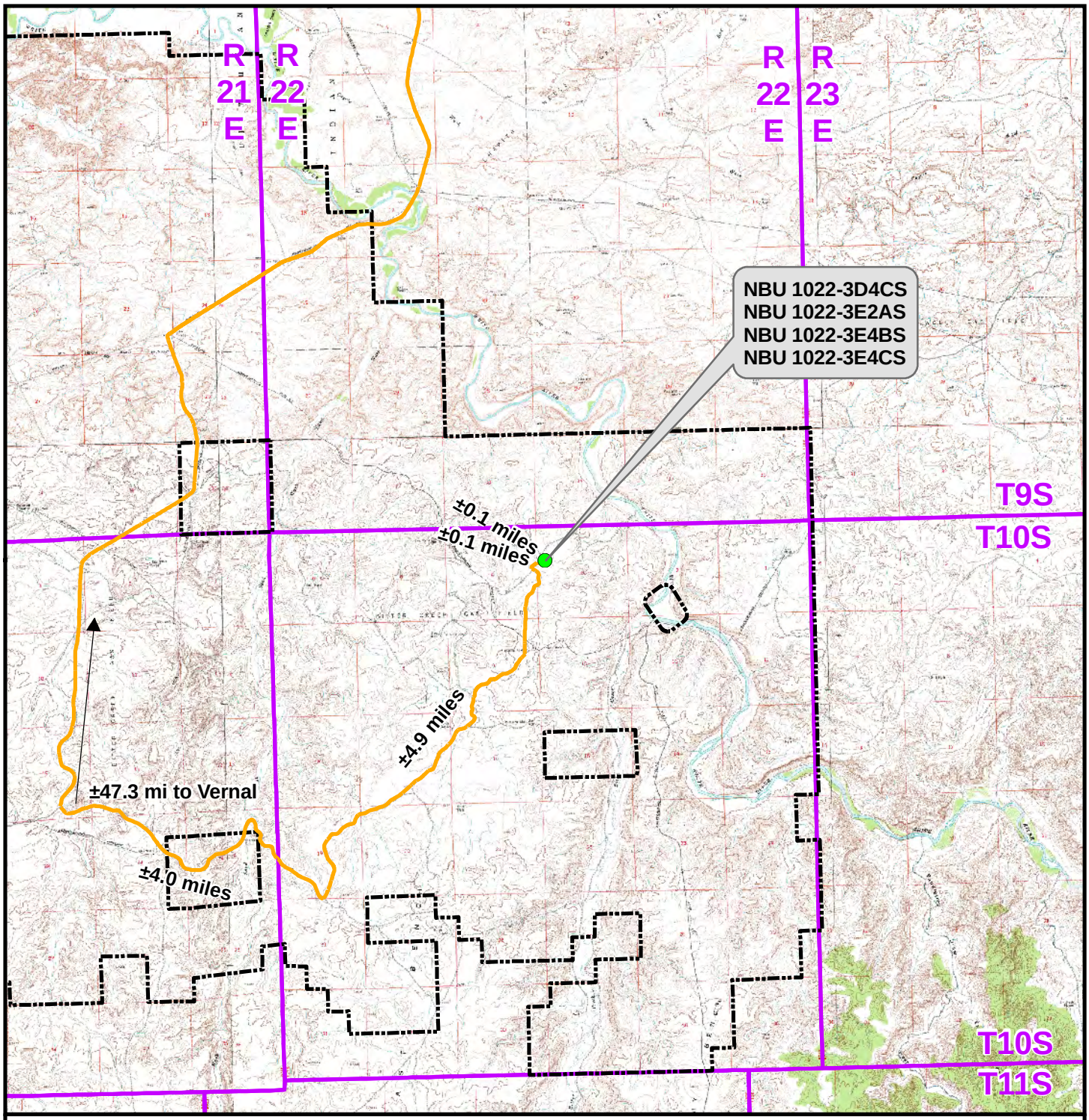
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

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

DATE PHOTOS TAKEN: 11-2-11	PHOTOS TAKEN BY: J.W.	SHEET NO:
DATE DRAWN: 11-12-11	DRAWN BY: T.J.R.	9
Date Last Revised:		9 OF 16

RECEIVED: July 06, 2012



Legend

Distance From Well Pad - NBU 1022-3E To Unit Boundary: ±6,640ft

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

WELL PAD - NBU 1022-3E

TOPO A
NBU 1022-3D4CS, NBU 1022-3E2AS, NBU 1022-3E4BS & NBU 1022-3E4CS
LOCATED IN SECTION 3, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

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1099 18th Street
Denver, Colorado 80202

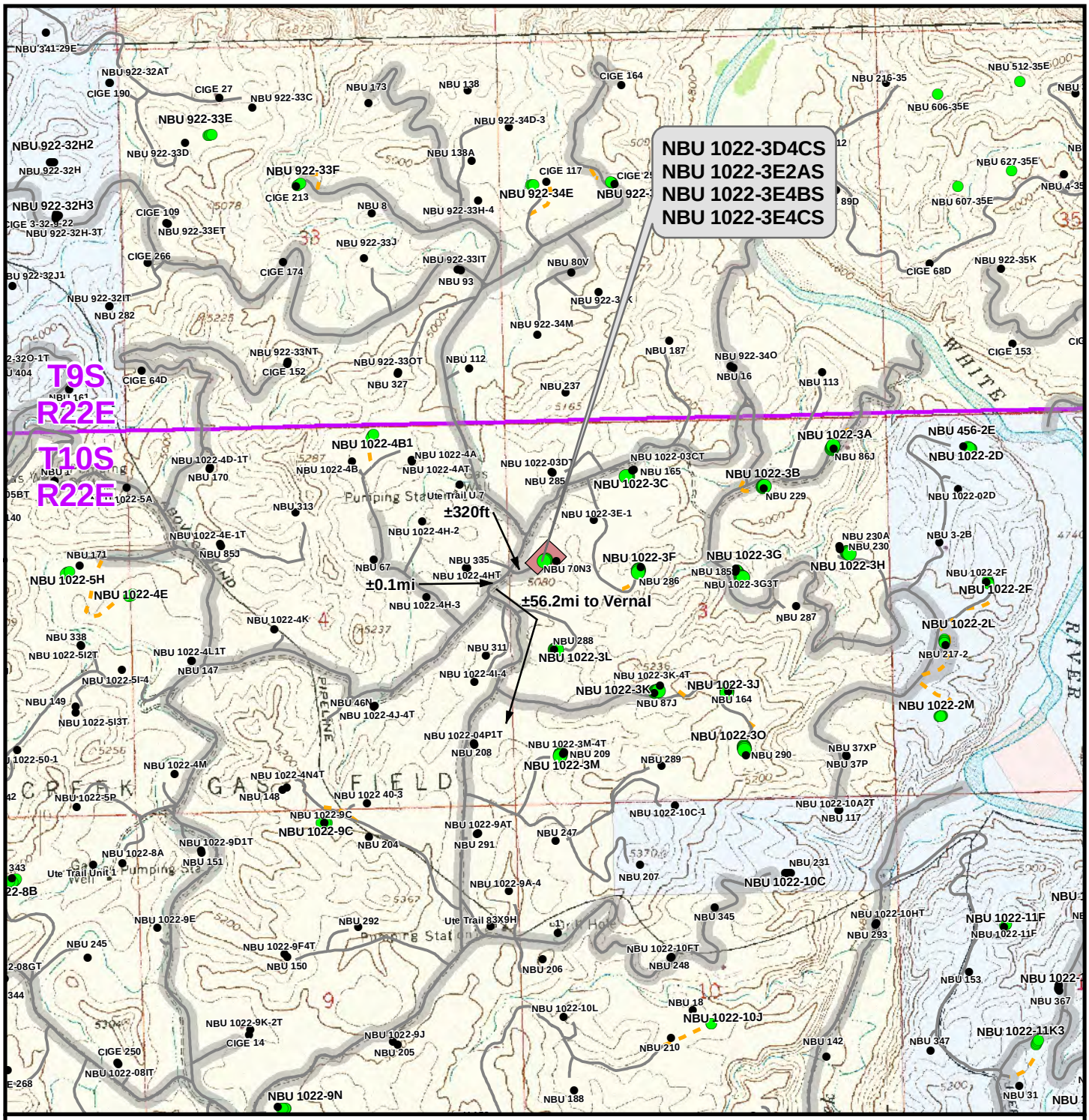
609 CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

N

SCALE: 1:100,000	NAD83 USP Central	SHEET NO: 10
DRAWN: KGS	DATE: 18 Nov 2011	10 OF 16
REVISED:	DATE:	

RECEIVED: July 06, 2012

API Well Number: 43047529300000



Legend

Total Proposed Road Length: ±0ft

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

WELL PAD - NBU 1022-3E

TOPO B
NBU 1022-3D4CS, NBU 1022-3E2AS, NBU 1022-3E4BS & NBU 1022-3E4CS LOCATED IN SECTION 3, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

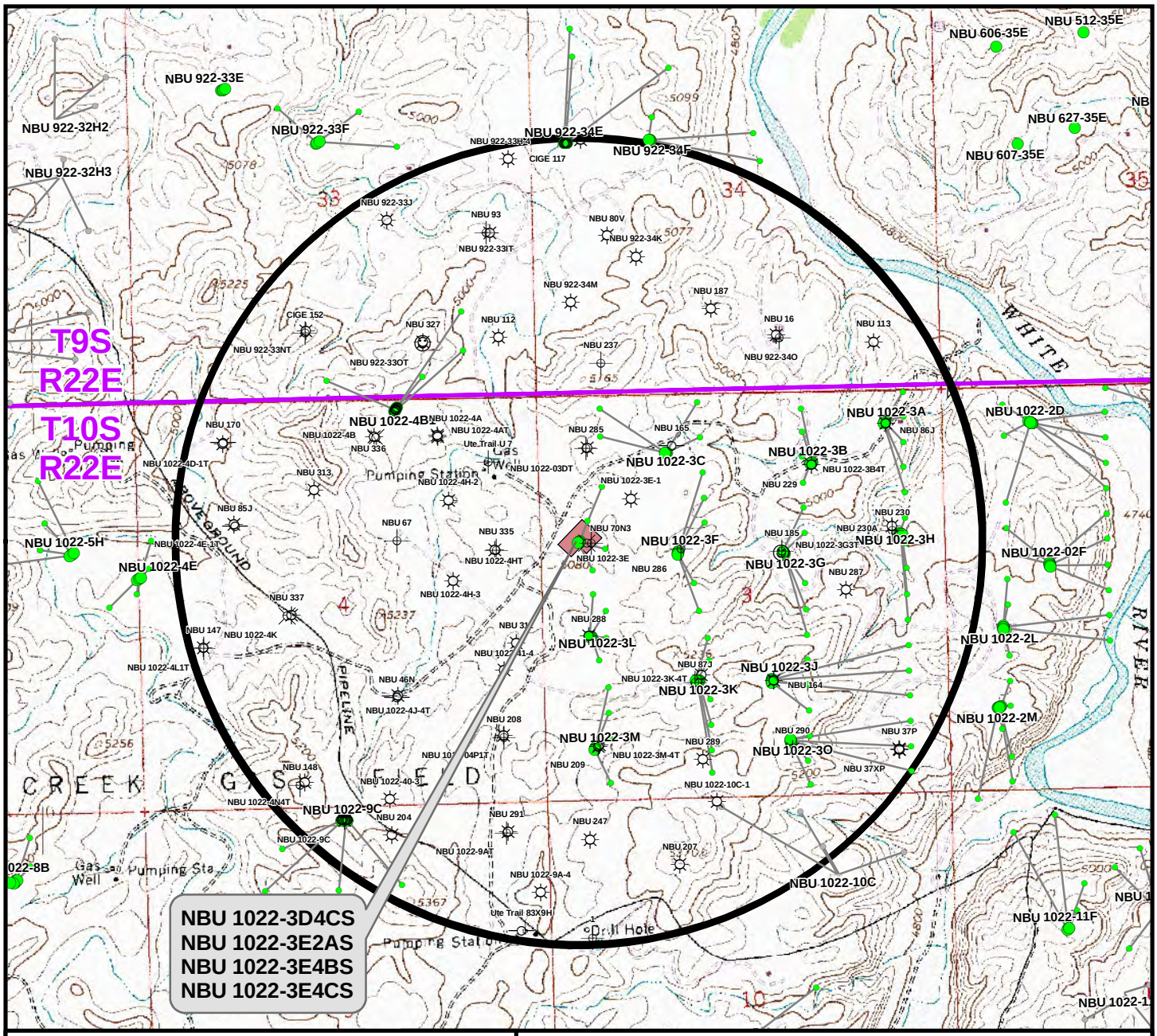
609 CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 11
DRAWN: KGS	DATE: 18 Nov 2011	11 OF 16
REVISED:	DATE:	

RECEIVED: July 06, 2012

API Well Number: 43047529300000



Well locations derived from Utah Division of Oil, Gas and Mining (UDOGM) (oilgas.ogm.utah.gov). The estimated distances from proposed bore locations to the nearest existing bore locations are based on UDOGM data.

Proposed Well	Nearest Well Bore	Footage
NBU 1022-3D4CS	NBU 1022-3E-1	408ft
NBU 1022-3E2AS	NBU 70N3	290ft
NBU 1022-3E4BS	NBU 70N3	204ft
NBU 1022-3E4CS	NBU 70N3	360ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Well - 1 Mile Radius
- Producing
- Spudded
- APD Approved
- Preliminary Location
- Deferred
- Cancelled
- Temporarily Abandoned
- Active Injector
- Location Abandoned
- Plugged & Abandoned
- Shut-In

WELL PAD - NBU 1022-3E

TOPO C
NBU 1022-3D4CS, NBU 1022-3E2AS, NBU 1022-3E4BS & NBU 1022-3E4CS
LOCATED IN SECTION 3, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

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1099 18th Street
Denver, Colorado 80202

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2155 North Main Street
Sheridan, Wyoming 82801
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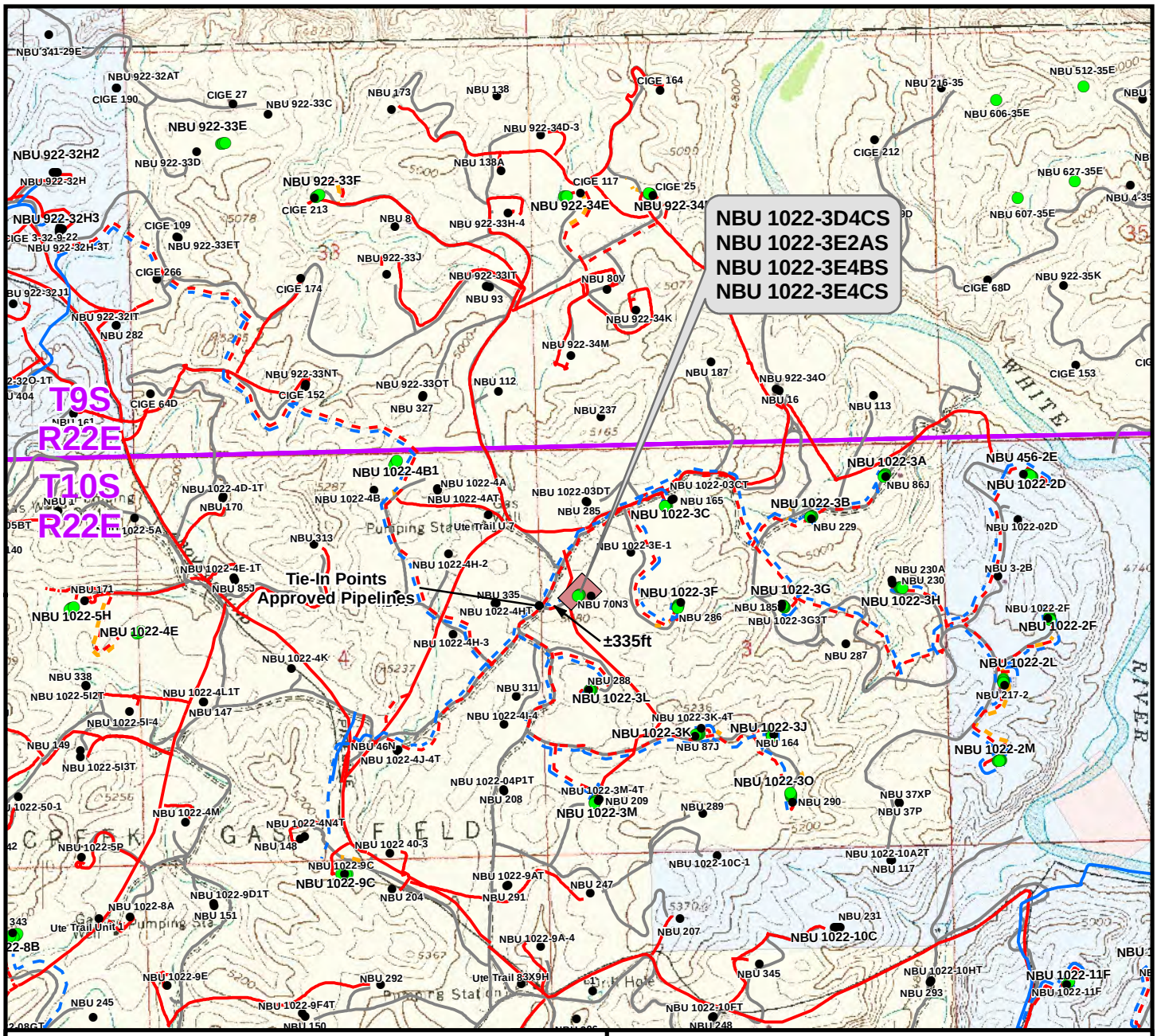
Fax 307-674-0182

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 12
DRAWN: TL	DATE: 18 Nov 2011	12 OF 16
REVISED:	DATE:	

RECEIVED: July 06, 2012

API Well Number: 43047529300000



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Meter House to Edge of pad)	±160ft
Buried 6"(Max.) (Edge of Pad to Approved Liquid Pipeline)	±335ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±495ft

Proposed Gas Pipeline	Length
Buried 8" (Meter House to Edge of Pad)	±160ft
Buried 8" (Edge of Pad to Approved 16" Gas Pipeline)	±335ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±495ft

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

WELL PAD - NBU 1022-3E

TOPO D
NBU 1022-3D4CS, NBU 1022-3E2AS, NBU 1022-3E4BS & NBU 1022-3E4CS
LOCATED IN SECTION 3, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

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1099 18th Street
Denver, Colorado 80202

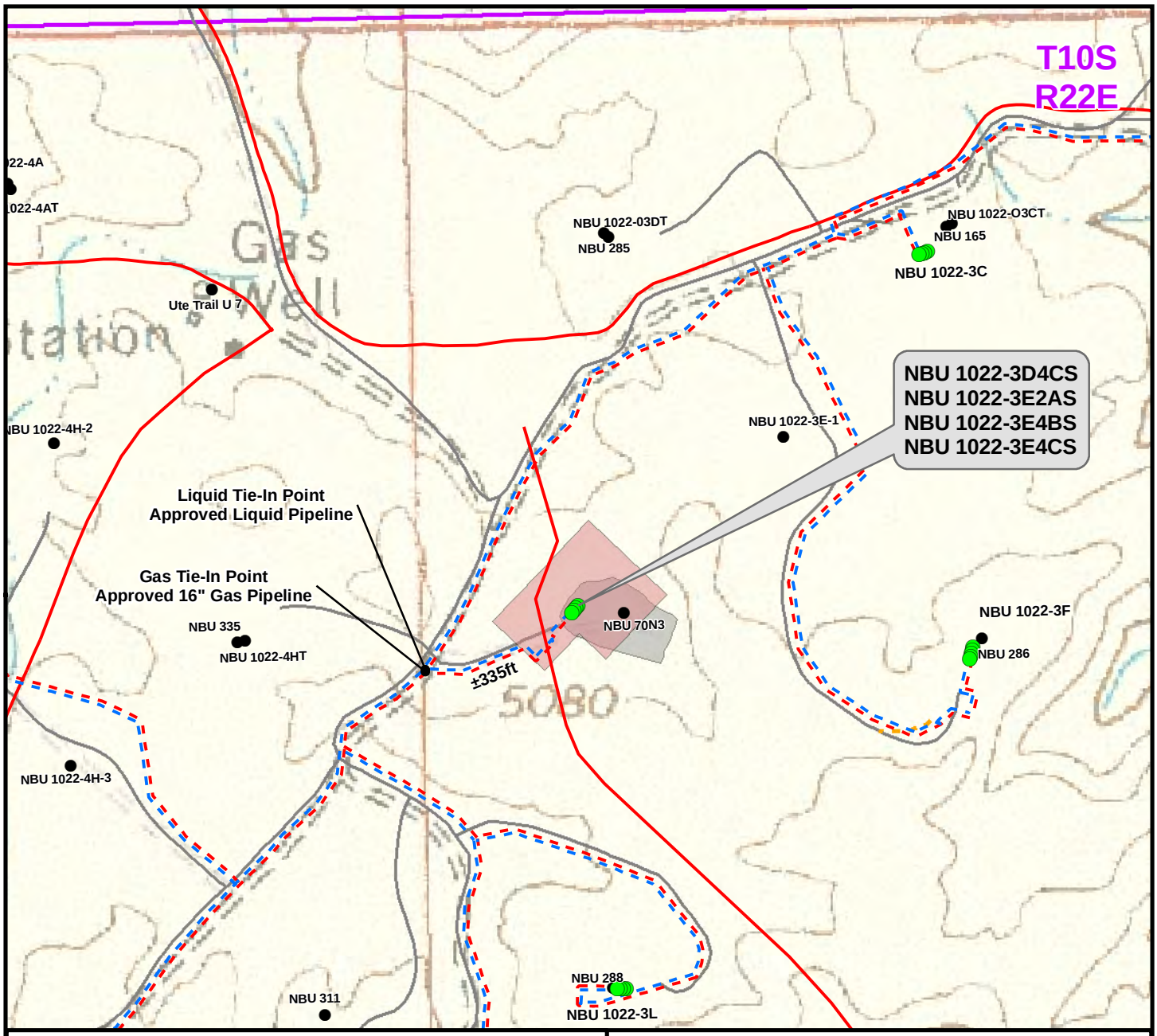
609 CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 13
DRAWN: TL	DATE: 18 Nov 2011	13 OF 16
REVISED:	DATE:	

RECEIVED: July 06, 2012

API Well Number: 43047529300000



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Meter House to Edge of pad)	±160ft
Buried 6"(Max.) (Edge of Pad to Approved Liquid Pipeline)	±335ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±495ft

Proposed Gas Pipeline	Length
Buried 8" (Meter House to Edge of Pad)	±160ft
Buried 8" (Edge of Pad to Approved 16" Gas Pipeline)	±335ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±495ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad - Proposed
- Well Pad - Existing
- 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

WELL PAD - NBU 1022-3E

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 1022-3D4CS, NBU 1022-3E2AS,
NBU 1022-3E4BS & NBU 1022-3E4CS
LOCATED IN SECTION 3, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

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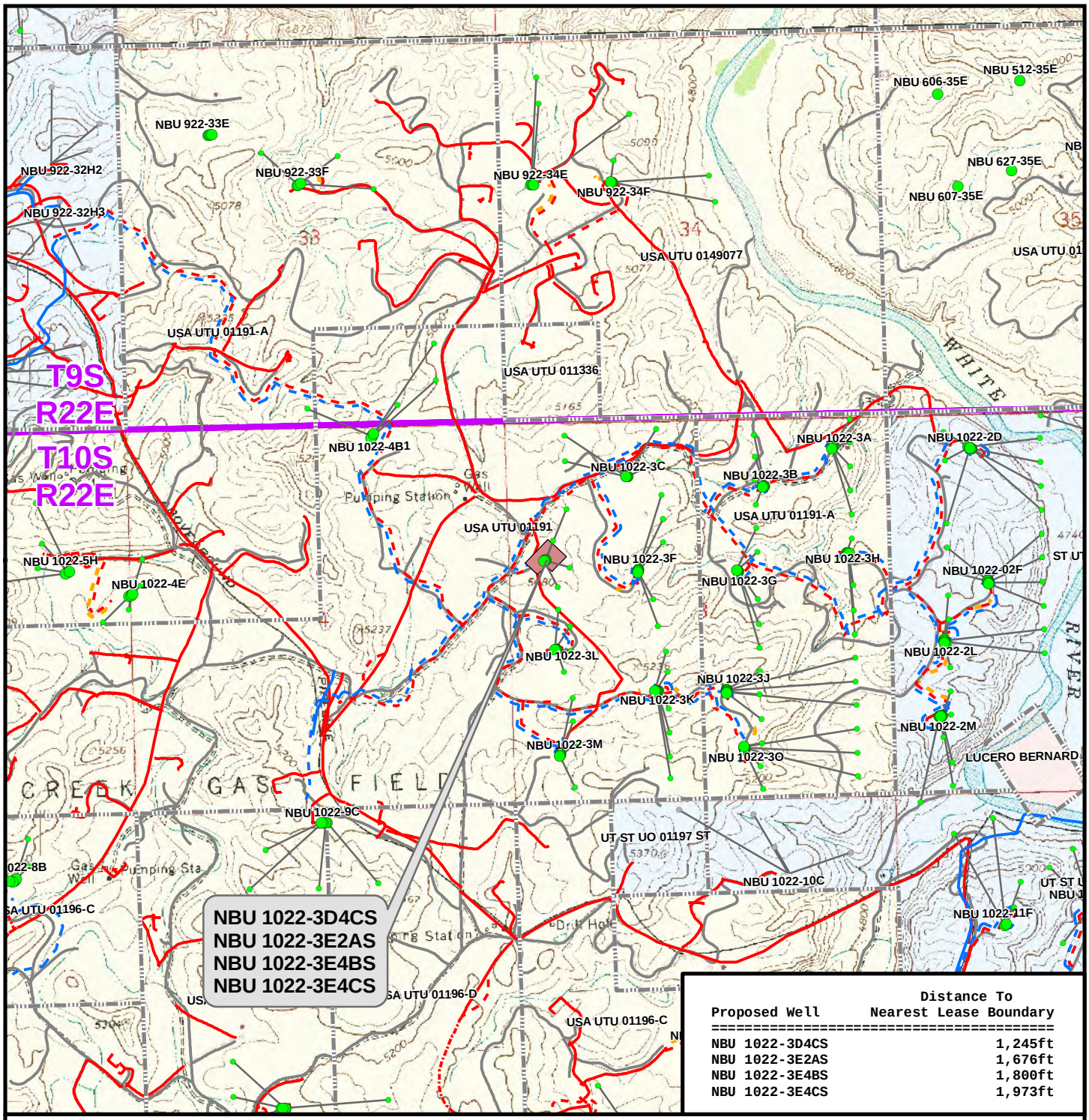
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

N

SCALE: 1" = 500ft	NAD83 USP Central	SHEET NO: 14
DRAWN: TL	DATE: 18 Nov 2011	14 OF 16
REVISED:	DATE:	

RECEIVED: July 06, 2012

API Well Number: 43047529300000



Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-3D4CS	1,245ft
NBU 1022-3E2AS	1,676ft
NBU 1022-3E4BS	1,800ft
NBU 1022-3E4CS	1,973ft

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

WELL PAD - NBU 1022-3E

TOPO E
NBU 1022-3D4CS, NBU 1022-3E2AS, NBU 1022-3E4BS & NBU 1022-3E4CS
LOCATED IN SECTION 3, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH

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2155 North Main Street
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N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 15
DRAWN: TL	DATE: 18 Nov 2011	15 OF 16
REVISED:	DATE:	

RECEIVED: July 06, 2012

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – NBU 1022-3E
WELLS - NBU 1022-3D4CS, NBU 1022-3E2AS,
NBU 1022-3E4BS & NBU 1022-3E4CS
Section 3, 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 23.8 miles to the intersection of the Bitter Creek Road (County B Road 4120). Exit left and proceed in a southeasterly direction along the Bitter Creek Road approximately 4.0 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 4.9 miles to a second Class D County Road to the northeast. Exit right and proceed in a northeasterly direction along the second Class D County Road approximately 0.1 miles to a service road to the northeast. Exit right and proceed in a northeasterly direction along the service road approximately 320 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 56.4 miles in a southerly direction.

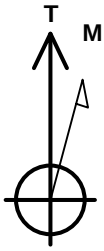
RECEIVED: July 06, 2012

API Well Number: 43047520300000

Scientific Drilling
Rocky Mountain Operations

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-3E PAD
Well: NBU 1022-3E2AS
Wellbore: OH
Design: PLAN #1

Anadarko Petroleum Corporation



Azimuths to True North
Magnetic North: 10.96°

Magnetic Field
Strength: 52262.4snT
Dip Angle: 65.85°
Date: 02/06/2012
Model: IGRF2010

WELL DETAILS: NBU 1022-3E2AS

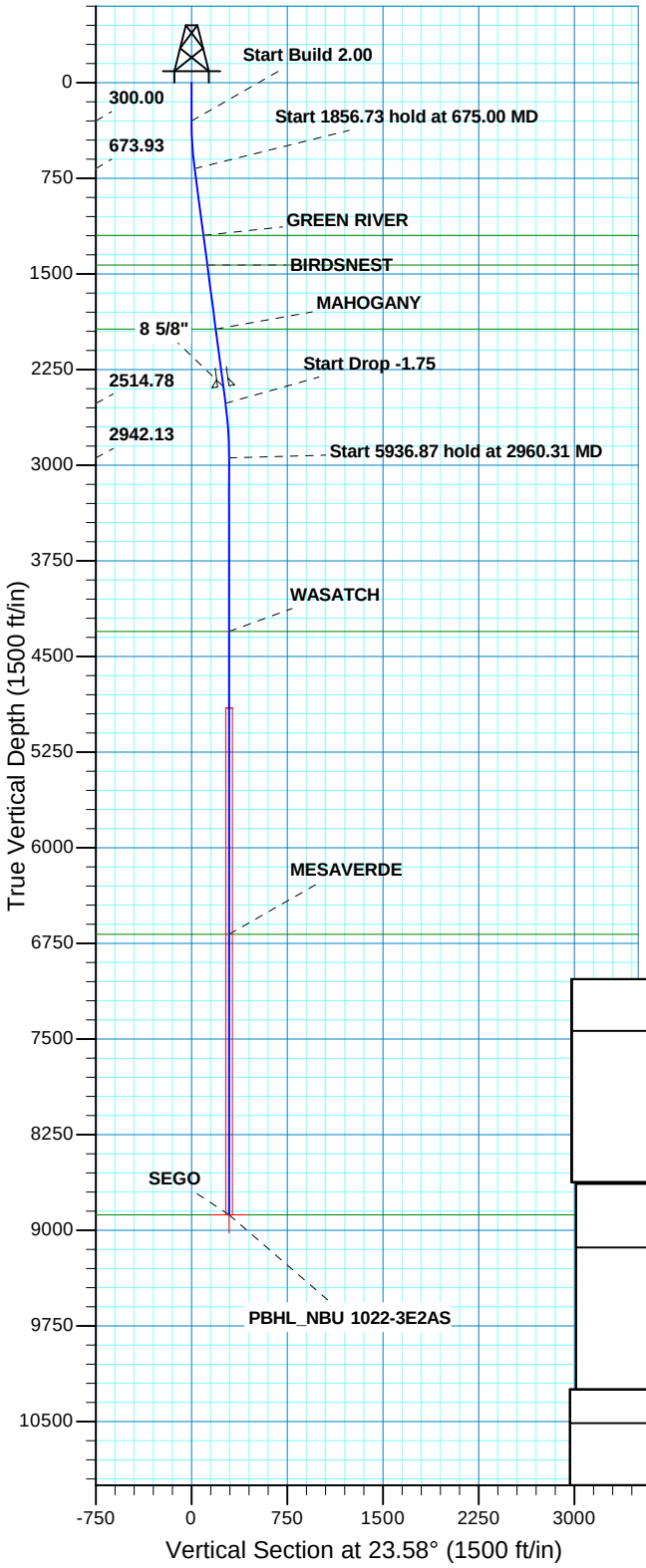
GL 5065 & KB 4 @ 5069.00ft (ASSUMED)

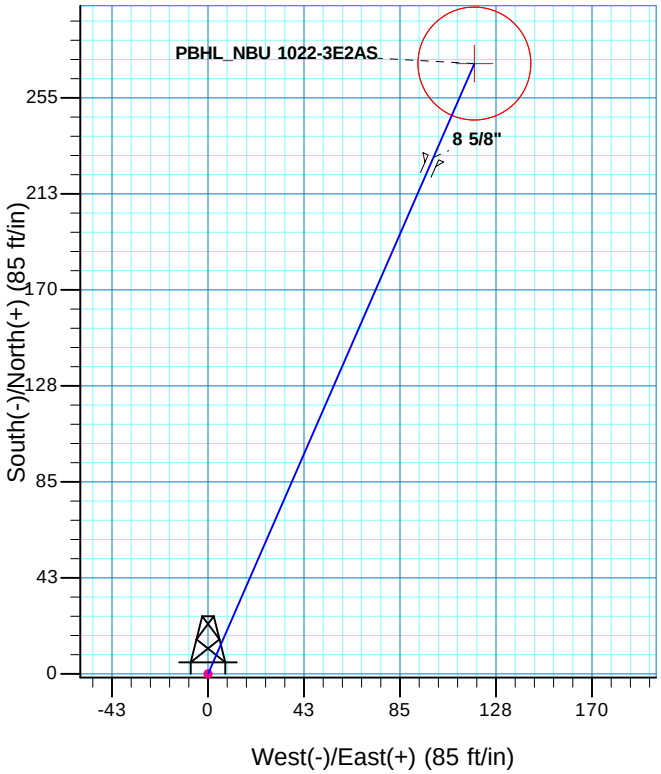
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14522604.64	2079400.63	39.979960	-109.433019

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8879.00	270.25	117.96	14522876.92	2079513.82	39.980702	-109.432598	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	
675.00	7.50	23.58	673.93	22.46	9.80	2.00	23.58	24.51	
2531.73	7.50	23.58	2514.78	244.58	106.76	0.00	0.00	266.86	
2960.31	0.00	0.00	2942.13	270.25	117.96	1.75	180.00	294.87	
8897.18	0.00	0.00	8879.00	270.25	117.96	0.00	0.00	294.87	PBHL_NBU 1022-3E2AS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 3 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	D
1198.00	1203.59	GREEN RIVER	
1430.00	1437.59	BIRDSNEST	
1933.00	1944.93	MAHOGANY	
4304.00	4322.18	WASATCH	
6678.00	6696.18	MESAVERDE	
8879.00	8897.18	SEGO	

CASING DETAILS

TVD	MD	Name	Size
2383.00	2398.82	8 5/8"	8.625

Plan: PLAN #1 (NBU 1022-3E2AS/OH)

Created By: RobertScott Date: 16:18, February 07 2012

RECEIV

API Well Number: 43047529300000

Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022-3E PAD
NBU 1022-3E2AS

OH

Plan: PLAN #1

Standard Planning Report

07 February, 2012

Anadarko
Petroleum Corporation

RECEIVED: July 06, 2012

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1022-3E2AS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5065 & KB 4 @ 5069.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5065 & KB 4 @ 5069.00ft (ASSUMED)
Site:	NBU 1022-3E PAD	**North Reference:**	True
Well:	NBU 1022-3E2AS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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

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

Site NBU 1022-3E PAD, SECTION 3 T10S R22E

Site Position:		**Northing:**	14,522,611.69 usft	**Latitude:**	39.979979
From:	Lat/Long	**Easting:**	2,079,407.51 usft	**Longitude:**	-109.432994
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.01 °

Well NBU 1022-3E2AS, 1946 FNL 504 FWL

Well Position	**+N/-S**	-6.92 ft	**Northing:**	14,522,604.64 usft	**Latitude:**	39.979960
	+E/-W	-7.01 ft	**Easting:**	2,079,400.62 usft	**Longitude:**	-109.433019
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,065.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	02/06/12	10.96	65.85	52,262

Design PLAN #1

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	23.58

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	
675.00	7.50	23.58	673.93	22.46	9.80	2.00	2.00	0.00	23.58	
2,531.73	7.50	23.58	2,514.78	244.58	106.76	0.00	0.00	0.00	0.00	
2,960.31	0.00	0.00	2,942.13	270.25	117.96	1.75	-1.75	0.00	180.00	
8,897.18	0.00	0.00	8,879.00	270.25	117.96	0.00	0.00	0.00	0.00	PBHL_NBU 1022-3E2

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Site:	NBU 1022-3E PAD	**North Reference:**	True
Well:	NBU 1022-3E2AS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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	23.58	399.98	1.60	0.70	1.75	2.00	2.00	0.00
500.00	4.00	23.58	499.84	6.40	2.79	6.98	2.00	2.00	0.00
600.00	6.00	23.58	599.45	14.38	6.28	15.69	2.00	2.00	0.00
675.00	7.50	23.58	673.93	22.46	9.80	24.51	2.00	2.00	0.00
Start 1856.73 hold at 675.00 MD									
700.00	7.50	23.58	698.72	25.45	11.11	27.77	0.00	0.00	0.00
800.00	7.50	23.58	797.86	37.42	16.33	40.82	0.00	0.00	0.00
900.00	7.50	23.58	897.01	49.38	21.55	53.88	0.00	0.00	0.00
1,000.00	7.50	23.58	996.15	61.34	26.78	66.93	0.00	0.00	0.00
1,100.00	7.50	23.58	1,095.29	73.30	32.00	79.98	0.00	0.00	0.00
1,200.00	7.50	23.58	1,194.44	85.27	37.22	93.03	0.00	0.00	0.00
1,203.59	7.50	23.58	1,198.00	85.70	37.41	93.50	0.00	0.00	0.00
GREEN RIVER									
1,300.00	7.50	23.58	1,293.58	97.23	42.44	106.09	0.00	0.00	0.00
1,400.00	7.50	23.58	1,392.73	109.19	47.66	119.14	0.00	0.00	0.00
1,437.59	7.50	23.58	1,430.00	113.69	49.63	124.05	0.00	0.00	0.00
BIRDSNEST									
1,500.00	7.50	23.58	1,491.87	121.15	52.88	132.19	0.00	0.00	0.00
1,600.00	7.50	23.58	1,591.02	133.12	58.11	145.25	0.00	0.00	0.00
1,700.00	7.50	23.58	1,690.16	145.08	63.33	158.30	0.00	0.00	0.00
1,800.00	7.50	23.58	1,789.31	157.04	68.55	171.35	0.00	0.00	0.00
1,900.00	7.50	23.58	1,888.45	169.00	73.77	184.40	0.00	0.00	0.00
1,944.93	7.50	23.58	1,933.00	174.38	76.12	190.27	0.00	0.00	0.00
MAHOGANY									
2,000.00	7.50	23.58	1,987.59	180.97	78.99	197.46	0.00	0.00	0.00
2,100.00	7.50	23.58	2,086.74	192.93	84.21	210.51	0.00	0.00	0.00
2,200.00	7.50	23.58	2,185.88	204.89	89.44	223.56	0.00	0.00	0.00
2,300.00	7.50	23.58	2,285.03	216.85	94.66	236.61	0.00	0.00	0.00
2,398.82	7.50	23.58	2,383.00	228.68	99.82	249.51	0.00	0.00	0.00
8 5/8"									
2,400.00	7.50	23.58	2,384.17	228.82	99.88	249.67	0.00	0.00	0.00
2,500.00	7.50	23.58	2,483.32	240.78	105.10	262.72	0.00	0.00	0.00
2,531.73	7.50	23.58	2,514.78	244.58	106.76	266.86	0.00	0.00	0.00
Start Drop -1.75									
2,600.00	6.31	23.58	2,582.55	252.10	110.04	275.07	1.75	-1.75	0.00
2,700.00	4.56	23.58	2,682.10	260.77	113.83	284.53	1.75	-1.75	0.00
2,800.00	2.81	23.58	2,781.89	266.65	116.39	290.95	1.75	-1.75	0.00
2,900.00	1.06	23.58	2,881.83	269.74	117.74	294.32	1.75	-1.75	0.00
2,960.31	0.00	0.00	2,942.13	270.25	117.96	294.87	1.75	-1.75	0.00
Start 5936.87 hold at 2960.31 MD									
3,000.00	0.00	0.00	2,981.82	270.25	117.96	294.87	0.00	0.00	0.00
3,100.00	0.00	0.00	3,081.82	270.25	117.96	294.87	0.00	0.00	0.00
3,200.00	0.00	0.00	3,181.82	270.25	117.96	294.87	0.00	0.00	0.00
3,300.00	0.00	0.00	3,281.82	270.25	117.96	294.87	0.00	0.00	0.00
3,400.00	0.00	0.00	3,381.82	270.25	117.96	294.87	0.00	0.00	0.00
3,500.00	0.00	0.00	3,481.82	270.25	117.96	294.87	0.00	0.00	0.00
3,600.00	0.00	0.00	3,581.82	270.25	117.96	294.87	0.00	0.00	0.00
3,700.00	0.00	0.00	3,681.82	270.25	117.96	294.87	0.00	0.00	0.00

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Site:	NBU 1022-3E PAD	**North Reference:**	True
Well:	NBU 1022-3E2AS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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)
3,800.00	0.00	0.00	3,781.82	270.25	117.96	294.87	0.00	0.00	0.00
3,900.00	0.00	0.00	3,881.82	270.25	117.96	294.87	0.00	0.00	0.00
4,000.00	0.00	0.00	3,981.82	270.25	117.96	294.87	0.00	0.00	0.00
4,100.00	0.00	0.00	4,081.82	270.25	117.96	294.87	0.00	0.00	0.00
4,200.00	0.00	0.00	4,181.82	270.25	117.96	294.87	0.00	0.00	0.00
4,300.00	0.00	0.00	4,281.82	270.25	117.96	294.87	0.00	0.00	0.00
4,322.18	0.00	0.00	4,304.00	270.25	117.96	294.87	0.00	0.00	0.00
WASATCH									
4,400.00	0.00	0.00	4,381.82	270.25	117.96	294.87	0.00	0.00	0.00
4,500.00	0.00	0.00	4,481.82	270.25	117.96	294.87	0.00	0.00	0.00
4,600.00	0.00	0.00	4,581.82	270.25	117.96	294.87	0.00	0.00	0.00
4,700.00	0.00	0.00	4,681.82	270.25	117.96	294.87	0.00	0.00	0.00
4,800.00	0.00	0.00	4,781.82	270.25	117.96	294.87	0.00	0.00	0.00
4,900.00	0.00	0.00	4,881.82	270.25	117.96	294.87	0.00	0.00	0.00
5,000.00	0.00	0.00	4,981.82	270.25	117.96	294.87	0.00	0.00	0.00
5,100.00	0.00	0.00	5,081.82	270.25	117.96	294.87	0.00	0.00	0.00
5,200.00	0.00	0.00	5,181.82	270.25	117.96	294.87	0.00	0.00	0.00
5,300.00	0.00	0.00	5,281.82	270.25	117.96	294.87	0.00	0.00	0.00
5,400.00	0.00	0.00	5,381.82	270.25	117.96	294.87	0.00	0.00	0.00
5,500.00	0.00	0.00	5,481.82	270.25	117.96	294.87	0.00	0.00	0.00
5,600.00	0.00	0.00	5,581.82	270.25	117.96	294.87	0.00	0.00	0.00
5,700.00	0.00	0.00	5,681.82	270.25	117.96	294.87	0.00	0.00	0.00
5,800.00	0.00	0.00	5,781.82	270.25	117.96	294.87	0.00	0.00	0.00
5,900.00	0.00	0.00	5,881.82	270.25	117.96	294.87	0.00	0.00	0.00
6,000.00	0.00	0.00	5,981.82	270.25	117.96	294.87	0.00	0.00	0.00
6,100.00	0.00	0.00	6,081.82	270.25	117.96	294.87	0.00	0.00	0.00
6,200.00	0.00	0.00	6,181.82	270.25	117.96	294.87	0.00	0.00	0.00
6,300.00	0.00	0.00	6,281.82	270.25	117.96	294.87	0.00	0.00	0.00
6,400.00	0.00	0.00	6,381.82	270.25	117.96	294.87	0.00	0.00	0.00
6,500.00	0.00	0.00	6,481.82	270.25	117.96	294.87	0.00	0.00	0.00
6,600.00	0.00	0.00	6,581.82	270.25	117.96	294.87	0.00	0.00	0.00
6,696.18	0.00	0.00	6,678.00	270.25	117.96	294.87	0.00	0.00	0.00
MESAVERDE									
6,700.00	0.00	0.00	6,681.82	270.25	117.96	294.87	0.00	0.00	0.00
6,800.00	0.00	0.00	6,781.82	270.25	117.96	294.87	0.00	0.00	0.00
6,900.00	0.00	0.00	6,881.82	270.25	117.96	294.87	0.00	0.00	0.00
7,000.00	0.00	0.00	6,981.82	270.25	117.96	294.87	0.00	0.00	0.00
7,100.00	0.00	0.00	7,081.82	270.25	117.96	294.87	0.00	0.00	0.00
7,200.00	0.00	0.00	7,181.82	270.25	117.96	294.87	0.00	0.00	0.00
7,300.00	0.00	0.00	7,281.82	270.25	117.96	294.87	0.00	0.00	0.00
7,400.00	0.00	0.00	7,381.82	270.25	117.96	294.87	0.00	0.00	0.00
7,500.00	0.00	0.00	7,481.82	270.25	117.96	294.87	0.00	0.00	0.00
7,600.00	0.00	0.00	7,581.82	270.25	117.96	294.87	0.00	0.00	0.00
7,700.00	0.00	0.00	7,681.82	270.25	117.96	294.87	0.00	0.00	0.00
7,800.00	0.00	0.00	7,781.82	270.25	117.96	294.87	0.00	0.00	0.00
7,900.00	0.00	0.00	7,881.82	270.25	117.96	294.87	0.00	0.00	0.00
8,000.00	0.00	0.00	7,981.82	270.25	117.96	294.87	0.00	0.00	0.00
8,100.00	0.00	0.00	8,081.82	270.25	117.96	294.87	0.00	0.00	0.00
8,200.00	0.00	0.00	8,181.82	270.25	117.96	294.87	0.00	0.00	0.00
8,300.00	0.00	0.00	8,281.82	270.25	117.96	294.87	0.00	0.00	0.00
8,400.00	0.00	0.00	8,381.82	270.25	117.96	294.87	0.00	0.00	0.00
8,500.00	0.00	0.00	8,481.82	270.25	117.96	294.87	0.00	0.00	0.00
8,600.00	0.00	0.00	8,581.82	270.25	117.96	294.87	0.00	0.00	0.00
8,700.00	0.00	0.00	8,681.82	270.25	117.96	294.87	0.00	0.00	0.00

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Well:	NBU 1022-3E2AS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.00	0.00	0.00	8,781.82	270.25	117.96	294.87	0.00	0.00	0.00
8,897.18	0.00	0.00	8,879.00	270.25	117.96	294.87	0.00	0.00	0.00
TD at 8897.18 - SEGO - PBHL_NBU 1022-3E2AS									

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 1022-3E2A - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,879.00	270.25	117.96	14,522,876.92	2,079,513.82	39.980702	-109.432598

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,398.82	2,383.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,203.59	1,198.00	GREEN RIVER			
1,437.59	1,430.00	BIRDSNEST			
1,944.93	1,933.00	MAHOGANY			
4,322.18	4,304.00	WASATCH			
6,696.18	6,678.00	MESAVERDE			
8,897.18	8,879.00	SEGO			

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
675.00	673.93	22.46	9.80	Start 1856.73 hold at 675.00 MD
2,531.73	2,514.78	244.58	106.76	Start Drop -1.75
2,960.31	2,942.13	270.25	117.96	Start 5936.87 hold at 2960.31 MD
8,897.18	8,879.00	270.25	117.96	TD at 8897.18

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

NBU 1022-3E PAD

API #	NBU 1022-3D4CS		
Surface:	1939 FNL / 511 FWL	SWNW	Lot
BHL:	1245 FNL / 826 FWL	NWNW	Lot 4

API #	NBU 1022-3E2AS		
Surface:	1946 FNL / 504 FWL	SWNW	Lot
BHL:	1676 FNL / 625 FWL	SWNW	Lot

API #	NBU 1022-3E4BS		
Surface:	1953 FNL / 497 FWL	SWNW	Lot
BHL:	2057 FNL / 841 FWL	SWNW	Lot

API #	NBU 1022-3E4CS		
Surface:	1960 FNL / 490 FWL	SWNW	Lot
BHL:	2324 FNL / 667 FWL	SWNW	Lot

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

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.

An on-site meeting was held on December 6, 2011. Present were:

- David Gordon, Tyler Cox - BLM;
- Jacob Dunham - 609 Consulting;
- John Slaugh, Mitch Batty - Timberline Engineering & Land Surveying, Inc.; and
- Gina Becker, Charles Chase, Doyle Holmes, Casey McGee, Grizz Oleen, Sheila Wopsock - Kerr-McGee

A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

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B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BLM. BMPs. Described in the BLM's Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition (Gold Book) (USDI and USDA, 2007) and/or BLM Manual Section 9113 (1985) will be considered in consultation with the BLM in the design, construction, improvement and maintenance of all new or reconstructed roads. If a new road would cross a water of the United States, Kerr-McGee will adhere to the requirements of applicable Nationwide Permits of the Department of Army Corps of Engineers.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

There are no new proposed access roads associated with this pad. Please refer to Topo B.

C. Location of Existing Wells:

A) Refer to Topo Map C.

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D. Location of Existing and/or Proposed Facilities:

This pad will expand the existing pad for the NBU 70N3, which is a plugged and abandoned gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on February 6, 2012. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accomodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with the BLM (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

GAS GATHERING

Please refer to Exhibit A and Topo D2- Pad and Pipeline Detail.

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is ±495' and the individual segments are broken up as follows:

The following segments are "onlease", no ROW needed.

±160' (0.03 miles) – Section 3 T10S R22E (SW/4 NW/4) – On-lease UTU-01191, BLM surface, New 8" buried gas gathering pipeline from the meter to the edge of the pad. Please refer to Topo D2- Pad and Pipeline Detail.

±335' (0.06 miles) – Section 3 T10S R22E (SW/4 NW/4) – On-lease UTU-01191, BLM surface, New 8" buried gas gathering pipeline from the edge of the pad to tie-in to the approved 16" gas pipeline. Please refer to Topo D2- Pad and Pipeline Detail and Exhibit A, Line 9.

LIQUID GATHERING

Please refer to Exhibit B and Topo D2- Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is ±495' and the individual segments are broken up as follows:

The following segments are "onlease", no ROW needed.

±160' (0.03 miles) – Section 3 T10S R22E (SW/4 NW/4) – On-lease UTU-01191, BLM surface, New 6" buried liquid gathering pipeline from the separator to the edge of the pad. Please refer to Topo D2-Pad and Pipeline Detail.

±335' (0.06 miles) – Section 3 T10S R22E (SW/4 NW/4) – On-lease UTU-01191, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad to tie-in to the approved liquid pipeline. Please refer to Topo D2-Pad and Pipeline Detail and Exhibit B, Line 9.

Pipeline Gathering Construction

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. 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. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically

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be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' distrubance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent distrubance width is for maintenance and repairs. Cross country permanent distrubance width also are required to be 30ft.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

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.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

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When no longer deemed necessary by the operator, Kerr-McGee or it's successor will consult with the BLM, Vernal Field Office before terminating of the use of the pipeline(s).

The Anadarko Completions Transportation System (ACTS) information:

Please refer to Exhibit C for ACTs Lines

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is disussed in more detail below. 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/completion pit.

If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom o pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

Any hydrocarbons collected will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit .

ACTS will require temporarily laying multiple 6” aluminum water transfer lines on the surface between either existing or refurbished reserve pits. Please see the attached ACTS exhibit C for placement of the proposed temporary lines. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BLM considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BLM.

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E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:

Permit # 49-2307	JD Field Services	Green River- Section 15, T2N, R22E
Permit # 49-2321	R.N. Industries	White River- Section 2, T10S, R24E
Permit # 49-2319	R.N. Industries	White River- Various Sources
Permit # 49-2320	R.N. Industries	Green River- Section 33, T8S, R23E

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.

F. Construction Materials:

Construction operations will typically be completed with native materials found on location. 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 (described in site-specific documents). No construction materials will be removed from federal lands without prior approval from the BLM. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BLM.

G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BLM, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BLM, 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 precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons 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 reserve/completion 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 the BLM. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. 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. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for

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ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BLM.

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.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year 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. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

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 (trash and other solid waste including cans, paper, cable, etc.) 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. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced 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. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

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.

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.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

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 (crude oil/condensate, produced

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water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E
NBU #159 in Sec. 35 T9S R21E
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

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

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. 34 T9S R21E

H. Ancillary Facilities:

No additional ancillary facilities are planned for this location.

I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), 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 depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of distrubance will not exceed the maximum disturbance outlined in the attached exhibits.

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

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BLM.

J. Plans for Surface Reclamation:

The 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. Interim 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.

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

Interim Reclamation

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BLM for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

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. Disposal of pit fluids and linings is discussed in Section G.

Final Reclamation

Final reclamation will be performed for unproductive wells and after 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 Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BLM will be notified prior to commencement of reclamation operations. 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 the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

Reclamation of roads will be performed at the discretion of the BLM. 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 in accordance with the seeding specifications of the BLM.

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

Measures Common to Interim and Final Reclamation

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

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Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. 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 seed mixes will be selected from a list provided by or approved by the BLM, or a specific seed mix will be proposed by Kerr-McGee to the BLM and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Bonanza Area Mix	**Pure Live Seed lbs/acre**
Crested Wheat (Hycrest)	2
Bottlebrush Squirreltail	1
Western Wheatgrass (Arriba)	1
Indian Ricegrass	1
Fourwing Saltbush	2
Shadscale	2
Forage Kochia	0.25
Rocky Mountain Bee	0.5
Total	9.75

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes 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, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage. Soil amendments such as "Sustain" (an organic fertilizer that will be applied at the rate 1,800 – 2,100 lbs/acre with seed) may also be dry broadcast or applied with hydro-seeding equipment.

Weed Control

All weed management will be done in accordance with the Vernal BLM Surface Disturbance Weed Policy. Noxious weeds will be controlled, as applicable, on project areas. Monitoring and management of noxious and/or invasive weeds of concern will be completed annually until the project is deemed successfully reclaimed by the surface management agency and/or owner according to the Anadarko Integrated Weed Management Plan. Noxious weed infestations will be mapped using a GPS unit and submitted to the BLM with information required in the Vernal BLM Surface Disturbance Weed Policy. If herbicide is to be applied it will be done according to an approved Pesticide Use Permit (PUP), inclusive of applicable locations. All pesticide applications will be recorded using a Pesticide Application Record (PAR) and will be submitted along with a Pesticide Use Report (PUR) annually prior to Dec. 31.

Monitoring

Monitoring of reclaimed project areas will be completed annually during the growing season and actions to ensure reclamation success will be taken as needed. During the first two growing seasons an ocular methodology will be used to determine the success of the reclamation activities. During the 3rd growing season a 200 point line intercept (quantitative) methodology will be used to obtain basal cover. The goal is to have the reclaimed area reach 30% basal cover when compared to the reference site. If after three growing seasons the area has not reached 30% basal cover, additional reclamation activities may be necessary. Monitoring will continue until the reclaimed area reaches 75% basal cover of desirable vegetation when compared to the reference site. (Green River District Reclamation Guidelines)

All monitoring reports will be submitted electronically to the Vernal BLM in the form of a geo-database no later than March 1st of the calendar year following the data collection.

RECEIVED: July 06, 2012

K. Surface/Mineral Ownership:

United States of America
Bureau of Land Management
170 South 500 East
Vernal, UT 84078
(435)781-4400

L. Other Information:

Onsite Specifics:

- None

Cultural and Paleontological Resources

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BLM.

Resource Reports:

A Class I literature review was completed on February 1, 2012 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-404.

A paleontological reconnaissance survey was completed on February 3, 2012 by Intermountain Paleo Consultants. For additional details please refer to report IPC 11-202PRE.

Biological field survey was completed on June 15, 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-685.

Proposed Action Annual Emissions Tables:

Table 1: Proposed Action Annual Emissions (tons/year)[1]

Pollutant	Development	Production	Total
NOx	3.8	0.12	3.92
CO	2.2	0.11	2.31
VOC	0.1	4.9	5
SO_2	0.005	0.0043	0.0093
PM_{10}	1.7	0.11	1.81
$PM_{2.5}$	0.4	0.025	0.425
Benzene	2.2E-03	0.044	0.046
Toluene	1.6E-03	0.103	0.105
Ethylbenzene	3.4E-04	0.005	0.005
Xylene	1.1E-03	0.076	0.077
n-Hexane	1.7E-04	0.145	0.145
Formaldehyde	1.3E-02	8.64E-05	1.31E-02

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

RECEIVED: July 06, 2012

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory[a] (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	31.36	16,547	0.19%
VOC	40	127,495	0.03%

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

RECEIVED: July 06, 2012

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 pursuant to 43 CFR 3104 for lease activities is being provided 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

February 14, 2012
Date

Kerr-McGee Oil & Gas Onshore LP
1099 18TH STREET STE. 1800
DENVER, CO 80202
720-929-6708 • FAX 720-929-7708
E-MAIL: JOE.JOHNSON@ANADARKO.COM

February 14, 2012

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 1022-3E2AS
T10S-R22E
Section 3: SWNW/SWNW
Surface: 1946' FNL, 504' FWL
Bottom Hole: 1676' FNL, 625' FWL
Uintah County, Utah

Dear Ms. Mason:

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

- Kerr-McGee's NBU 1022-3E2AS 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.

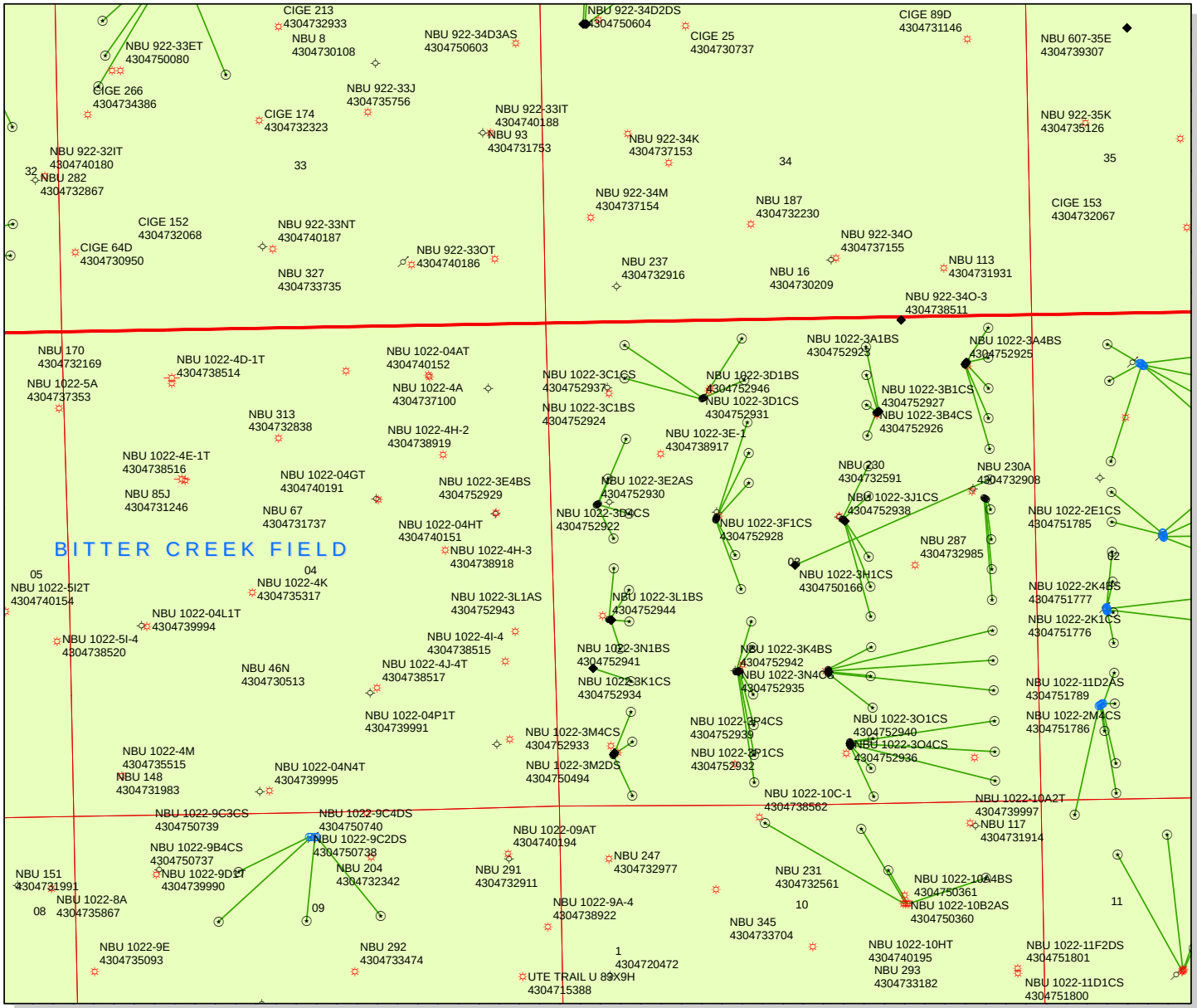
Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joseph D. Johnson
Landman

RECEIVED: July 06, 2012

API Well Number: 43047529300000



API Number: 4304752930

Well Name: NBU 1022-3E2AS

Township T10.0S Range R22.0E Section 03

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

Wells Query
Status
- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- 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
- Bottom Hole Location - OilGasDb

1,400 700 0 1,400 Feet

1:13,484

RECEIVED: July 13, 2012

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)

July 16, 2012

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

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

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

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
WELL PAD - NBU 1022-3H		
43-047-52902	NBU 1022-3H4CS	Sec 03 T10S R22E 1949 FNL 0549 FEL
		BHL Sec 03 T10S R22E 2396 FNL 0494 FEL
43-047-52906	NBU 1022-3I1CS	Sec 03 T10S R22E 1939 FNL 0567 FEL
		BHL Sec 03 T10S R22E 2232 FSL 0494 FEL
43-047-52910	NBU 1022-3H4BS	Sec 03 T10S R22E 1953 FNL 0540 FEL
		BHL Sec 03 T10S R22E 2065 FNL 0494 FEL
43-047-52914	NBU 1022-3I1BS	Sec 03 T10S R22E 1944 FNL 0558 FEL
		BHL Sec 03 T10S R22E 2562 FSL 0494 FEL
WELL PAD - NBU 1022-3G		
43-047-52903	NBU 1022-3J1BS	Sec 03 T10S R22E 2166 FNL 2090 FEL
		BHL Sec 03 T10S R22E 2402 FSL 1820 FEL
43-047-52907	NBU 1022-3G1CS	Sec 03 T10S R22E 2153 FNL 2105 FEL
		BHL Sec 03 T10S R22E 1903 FNL 1821 FEL
43-047-52917	NBU 1022-3G1BS	Sec 03 T10S R22E 2146 FNL 2112 FEL
		BHL Sec 03 T10S R22E 1572 FNL 1821 FEL
43-047-52938	NBU 1022-3J1CS	Sec 03 T10S R22E 2159 FNL 2097 FEL
		BHL Sec 03 T10S R22E 2071 FSL 1820 FEL

RECEIVED: July 18, 2012

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

WELL PAD - NBU 1022-3F

43-047-52904 NBU 1022-3K1BS Sec 03 T10S R22E 2143 FNL 1787 FWL
BHL Sec 03 T10S R22E 2399 FSL 2046 FWL

43-047-52913 NBU 1022-3F4CS Sec 03 T10S R22E 2133 FNL 1790 FWL
BHL Sec 03 T10S R22E 2531 FNL 1987 FWL

43-047-52919 NBU 1022-3F1BS Sec 03 T10S R22E 2114 FNL 1795 FWL
BHL Sec 03 T10S R22E 1411 FNL 2159 FWL

43-047-52921 NBU 1022-3C4CS Sec 03 T10S R22E 2104 FNL 1798 FWL
BHL Sec 03 T10S R22E 1078 FNL 2153 FWL

43-047-52928 NBU 1022-3F1CS Sec 03 T10S R22E 2123 FNL 1793 FWL
BHL Sec 03 T10S R22E 1742 FNL 2152 FWL

WELL PAD - NBU 1022-3J

43-047-52905 NBU 1022-3J4BS Sec 03 T10S R22E 1505 FSL 2293 FEL
BHL Sec 03 T10S R22E 1740 FSL 1820 FEL

43-047-52908 NBU 1022-3I4BS Sec 03 T10S R22E 1496 FSL 2294 FEL
BHL Sec 03 T10S R22E 1901 FSL 0494 FEL

43-047-52912 NBU 1022-3O1BS Sec 03 T10S R22E 1456 FSL 2295 FEL
BHL Sec 03 T10S R22E 1077 FSL 1819 FEL

43-047-52915 NBU 1022-3P1BS Sec 03 T10S R22E 1466 FSL 2295 FEL
BHL Sec 03 T10S R22E 1240 FSL 0494 FEL

43-047-52916 NBU 1022-3I4CS Sec 03 T10S R22E 1486 FSL 2294 FEL
BHL Sec 03 T10S R22E 1571 FSL 0494 FEL

WELL PAD - NBU 1022-3A

43-047-52909 NBU 1022-3H1BS Sec 03 T10S R22E 0488 FNL 0748 FEL
BHL Sec 03 T10S R22E 1405 FNL 0495 FEL

43-047-52923 NBU 1022-3A1BS Sec 03 T10S R22E 0453 FNL 0728 FEL
BHL Sec 03 T10S R22E 0083 FNL 0488 FEL

43-047-52925 NBU 1022-3A4BS Sec 03 T10S R22E 0470 FNL 0738 FEL
BHL Sec 03 T10S R22E 0744 FNL 0495 FEL

WELL PAD - NBU 1022-3K

43-047-52918 NBU 1022-3N1CS Sec 03 T10S R22E 1500 FSL 2008 FWL
BHL Sec 03 T10S R22E 0913 FSL 2150 FWL

43-047-52934 NBU 1022-3K1CS Sec 03 T10S R22E 1493 FSL 1969 FWL
BHL Sec 03 T10S R22E 2047 FSL 2147 FWL

43-047-52935 NBU 1022-3N4CS Sec 03 T10S R22E 1496 FSL 1988 FWL
BHL Sec 03 T10S R22E 0287 FSL 2143 FWL

43-047-52941 NBU 1022-3N1BS Sec 03 T10S R22E 1501 FSL 2018 FWL
BHL Sec 03 T10S R22E 1244 FSL 2150 FWL

43-047-52942 NBU 1022-3K4BS Sec 03 T10S R22E 1494 FSL 1978 FWL
BHL Sec 03 T10S R22E 1760 FSL 2154 FWL

RECEIVED: July 18, 2012

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

WELL PAD - NBU 1022-3E

43-047-52920 NBU 1022-3E4CS Sec 03 T10S R22E 1960 FNL 0490 FWL
BHL Sec 03 T10S R22E 2324 FNL 0667 FWL

43-047-52922 NBU 1022-3D4CS Sec 03 T10S R22E 1939 FNL 0511 FWL
BHL Sec 03 T10S R22E 1245 FNL 0826 FWL

43-047-52929 NBU 1022-3E4BS Sec 03 T10S R22E 1953 FNL 0497 FWL
BHL Sec 03 T10S R22E 2057 FNL 0841 FWL

43-047-52930 NBU 1022-3E2AS Sec 03 T10S R22E 1946 FNL 0504 FWL
BHL Sec 03 T10S R22E 1676 FNL 0625 FWL

WELL PAD - NBU 1022-3C

43-047-52924 NBU 1022-3C1BS Sec 03 T10S R22E 0810 FNL 1682 FWL
BHL Sec 03 T10S R22E 0166 FNL 2110 FWL

43-047-52931 NBU 1022-3D1CS Sec 03 T10S R22E 0817 FNL 1664 FWL
BHL Sec 03 T10S R22E 0581 FNL 0826 FWL

43-047-52937 NBU 1022-3C1CS Sec 03 T10S R22E 0806 FNL 1692 FWL
BHL Sec 03 T10S R22E 0619 FNL 2130 FWL

43-047-52946 NBU 1022-3D1BS Sec 03 T10S R22E 0813 FNL 1673 FWL
BHL Sec 03 T10S R22E 0224 FNL 0833 FWL

WELL PAD - NBU 1022-3B

43-047-52926 NBU 1022-3B4CS Sec 03 T10S R22E 0998 FNL 1724 FEL
BHL Sec 03 T10S R22E 1241 FNL 1822 FEL

43-047-52927 NBU 1022-3B1CS Sec 03 T10S R22E 0988 FNL 1706 FEL
BHL Sec 03 T10S R22E 0578 FNL 1822 FEL

WELL PAD - NBU 1022-3O

43-047-52932 NBU 1022-3P1CS Sec 03 T10S R22E 0699 FSL 2072 FEL
BHL Sec 03 T10S R22E 0909 FSL 0494 FEL

43-047-52936 NBU 1022-3O4CS Sec 03 T10S R22E 0660 FSL 2065 FEL
BHL Sec 03 T10S R22E 0106 FSL 1825 FEL

43-047-52939 NBU 1022-3P4CS Sec 03 T10S R22E 0680 FSL 2069 FEL
BHL Sec 03 T10S R22E 0256 FSL 0500 FEL

43-047-52940 NBU 1022-3O1CS Sec 03 T10S R22E 0709 FSL 2073 FEL
BHL Sec 03 T10S R22E 0746 FSL 1819 FEL

WELL PAD - NBU 1022-3M

43-047-52933 NBU 1022-3M4CS Sec 03 T10S R22E 0607 FSL 0615 FWL
BHL Sec 03 T10S R22E 0163 FSL 0812 FWL

WELL PAD - NBU 1022-3L

43-047-52943 NBU 1022-3L1AS Sec 03 T10S R22E 2086 FSL 0607 FWL
BHL Sec 03 T10S R22E 2411 FSL 0825 FWL

43-047-52944 NBU 1022-3L1BS Sec 03 T10S R22E 2086 FSL 0597 FWL
BHL Sec 03 T10S R22E 2644 FSL 0665 FWL

RECEIVED: July 18, 2012

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

Michael L. Coulthard

Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2012.07.16 13:26:05 -06'00'

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

MCoulthard:mc:7-16-12

RECEIVED: July 18, 2012

API Well Number: 43047529300000

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 7/6/2012
API NO. ASSIGNED: 43047529300000
WELL NAME: NBU 1022-3E2AS
OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)
PHONE NUMBER: 720 929-6086
CONTACT: Gina Becker

PROPOSED LOCATION: SWNW 03 100S 220E
Permit Tech Review: ✔

SURFACE: 1946 FNL 0504 FWL
Engineering Review: ✔

BOTTOM: 1676 FNL 0625 FWL
Geology Review: ✔

COUNTY: UINTAH
LATITUDE: 39.97982
LONGITUDE: -109.43368
UTM SURF EASTINGS: 633743.00
NORTHINGS: 4426693.00
FIELD NAME: NATURAL BUTTES
LEASE TYPE: 1 - Federal
LEASE NUMBER: UTU-01191
PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE
SURFACE OWNER: 1 - Federal
COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

- ✔ **PLAT**
- ✔ **Bond:** FEDERAL - WYB000291
- ☐ **Potash**
- ✔ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ✔ **Water Permit:** 43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ✔ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit: NATURAL BUTTES

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

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

- ✔ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
3 - Commingling - ddoucet
4 - Federal Approval - dmason
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason

RECEIVED: August 21, 2012

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 1022-3E2AS
API Well Number: 43047529300000
Lease Number: UTU-01191
Surface Owner: FEDERAL
Approval Date: 8/21/2012

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

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

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

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

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

Conditions of Approval:
State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

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.

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 at 801-538-5284
  (please leave a voicemail message if not available)
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website
  at http://oilgas.ogm.utah.gov

Reporting Requirements:
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

Approved By:

For John Rogers
Associate Director, Oil & Gas

Form 3160-3
(August 2007)

RECEIVED
FEB 2 7 2012
BLM VERNAL, UTAH

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
UTU01191

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
UTU63047A

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

8. Lease Name and Well No.
NBU 1022-3E2AS

2. Name of Operator
KERR-MCGEE OIL & GAS ONSHORE LP
Contact: GINA T BECKER
Email: GINA.BECKER@ANADARKO.COM

9. API Well No.
43 047 52930

3a. Address
P.O. BOX 173779
DENVER, CO 80202-3779

3b. Phone No. (include area code)
Ph: 720-929-6086
Fx: 720-929-7086

10. Field and Pool, or Exploratory
NATURAL BUTTES

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface SWNW 1946FNL 504FWL 39.979925 N Lat, 109.433702 W Lon

At proposed prod. zone SWNW 1676FNL 625FWL 39.980667 N Lat, 109.433281 W Lon

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 3 T10S R22E Mer SLB

14. Distance in miles and direction from nearest town or post office*
APPROXIMATELY 56 MILES SOUTHEAST OF VERNAL, UTAH

12. County or Parish
UINTAH

13. State
UT

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
1676

16. No. of Acres in Lease
1042.00

17. Spacing Unit dedicated to this well

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
290

19. Proposed Depth
8897 MD
8879 TVD

20. BLM/BIA Bond No. on file
WYB000291

21. Elevations (Show whether DF, KB, RT, GL, etc.
5067 GL

22. Approximate date work will start
08/08/2012

23. Estimated duration
60-90 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature
(Electronic Submission)

Name (Printed/Typed)
GINA T BECKER Ph: 720-929-6086

Date
02/14/2012

Title
REGULATORY ANALYST II

RECEIVED
AUG 2 7 2012
DIV. OF OIL, GAS & MINING

Approved by (Signature)

Name (Printed/Typed)
Jerry Kenczka

Date
AUG 1 7 2012

Title
Assistant Field Manager
Lands & Mineral Resources

Office
VERNAL FIELD OFFICE

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

UDOGM

Electronic Submission #130919 verified by the BLM Well Information System
For KERR-MCGEE OIL & GAS ONSHORE, sent to the Vernal

NOTICE OF APPROVAL

CONDITIONS OF APPROVAL ATTACHED

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

NOTICE OF APPROVAL

NK 11/29/11

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE
170 South 500 East VERNAL, UT 84078 (435) 781-4400

CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	**Kerr McGee Oil & Gas Onshore**	**Location:**	**SWNW, Sec. 3, T10S, R22E**
Well No:	**NBU 1022-3E2AS**	**Lease No:**	**UTU-01191**
API No:	**43-047-52930**	**Agreement:**	**Natural Buttes**

OFFICE NUMBER: (435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

NOTIFICATION REQUIREMENTS

Location Construction (Notify Environmental Scientist)	-	Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	-	Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to: ut_vn_opreport@blm.gov.
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

SURFACE USE PROGRAM
CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.

- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO_x per horsepower-hour.

- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.

- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

Site Specific COA's

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horse power must not emit more than 2 grams of NOx per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.

- All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 grams of NOx per horsepower-hour.

- The following would be used as standard operating procedures: Green completion or controlled VOC emissions methods with 90% efficiency for Oil or Gas Atmospheric Storage Tanks, VOC Venting controls or flaring, Glycol Dehydration and Amine Unites, Well Completion, Re-Completion, Venting, and Planned Blowdown Emissions.

- All reclamation activities will comply with the Green River Reclamation Guidelines.

- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.

- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established.

- Noxious and invasive weeds will be controlled by the proponent throughout the area of project disturbance.

- Noxious weeds will be inventoried and reported to BLM in the annual reclamation report. Where an integrated pest management program is applicable, coordination has been undertaken with the state and local management program (if existing). A copy of the pest management plan will be submitted for each project.

- A pesticide use proposal (PUP) will be obtained for the project, by the proponent if applicable.

- A permitted paleontologist is to be present to monitor construction at all well pads during all surface disturbing actives: examples include the following; building of the well pad, access road, and pipelines.

To maintain compliance with current cactus survey protocols, the following measures will be required.

If construction does not occur within 4 years of the original survey date, new 100% clearance surveys will be required.

Prior to construction within 4 years of the original survey date, a spot check survey will be required during the year of construction. KMG and their respective 3rd party surveyor will refer to the current *Sclerocactus* Spot Check Survey Methods, to determine site specific survey distances and intensity levels.

Spot check reports will be reported to the BLM and the US Fish and Wildlife Service.

Construction will not commence until written approval is received from the BLM

Discovery Stipulation: Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for Uinta Basin hookless cactus is anticipated as a result of project activities.

- Construction or drilling is not allowed from January 1 – August 31 on the NBU 1022-3O pad to minimize impacts during golden eagle nesting.

- If it is anticipated that construction or drilling will occur during the given timing restriction, a BLM or qualified biologist shall be notified to conduct surveys for raptors. Depending upon the results of the surveys, permission to proceed may or may not be granted by the Authorized Officer.

- The best method to avoid entrainment is to pump from an off-channel location – one that does not connect to the river during high spring flows. An infiltration gallery constructed in a BLM and Service approved location is best.

- If the pump head is located in the river channel where larval fish are known to occur, the following measures apply:

    a. do not situate the pump in a low-flow or no-flow area as these habitats tend to concentrate larval fishes;

    b. limit the amount of pumping, to the greatest extent possible, during that period of the year when larval fish may be present (April 1 to August 31); and

    c. limit the amount of pumping, to the greatest extent possible, during the pre-dawn hours as larval drift studies indicate that this is a period of greatest daily activity.

- Screen all pump intakes with 3/32 inch mesh material.

- Approach velocities for intake structures will follow the National Marine Fisheries Service's document "Fish Screening Criteria for Anadromous Salmonids". For projects with an in-stream

intake that operate in stream reaches where larval fish may be present, the approach velocity will not exceed 0.33 feet per second (ft/s).

- Report any fish impinged on the intake screen to the Service (801.975.3330) and the Utah Division of Wildlife Resources:

  Northeastern Region
  152 East 100 North, Vernal, UT 84078
  Phone: (435) 781-9453

- Kerr McGee can only use the following water source:
  Permit # 49-2307 JD Field Services Green River-Section 15, T2N, R22E

DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)

SITE SPECIFIC DOWNHOLE COAs:

- Gamma ray Log shall be run from Total Depth to Surface.
- A CBL will be run from TD to TOC in the production casing.

Variances Granted:

Air Drilling

- Properly lubricated and maintained rotating head. Variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore. Variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for truck/trailer mounted air compressors located 40'from the well bore.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for the kill medium and will utilize a skid pump near the reserve pit to supply the water to the well bore if necessary.
- Automatic igniter. Variance granted for igniter due to there being no productive formations encountered while air drilling.
- FIT Test. Variance granted due to well-known geology and the problems that can occur with the FIT test.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a

test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.

- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.

- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.

- No aggressive/fresh hard-banded drill pipe shall be used within casing.

- **Cement baskets shall not be run on surface casing.**

- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.

- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.

- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.

- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.

- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

- **Please submit an electronic copy of all other logs run on this well in LAS format to UT_VN_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**

- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.

- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.

- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:

    - Operator name, address, and telephone number.

    - Well name and number.

    - Well location (¼¼, Sec., Twn, Rng, and P.M.).

    - Date well was placed in a producing status (date of first production for which royalty will be paid).

    - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).

    - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.

    - Unit agreement and/or participating area name and number, if applicable.

    - Communitization agreement number, if applicable.

- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.

- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.

- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.

- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.

- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.

- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.

- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.

- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Green River District
Vernal Field Office
170 South 500 East
http://www.blm.gov/ut/st/en/fo/vernal.html

August 22, 2012

In Reply Refer To:
3160
LLUTG01100

Kerr McGee Oil & Gas Onshore, LP
Attn: Julie Jacobson
1099 18th Street #1800
Denver, CO. 80202

Re: Application for Permit to Drill
Well No. NBU 1022-3E2AS
SWNW, Sec.3, T10S, R22E
Lease No. UTU-01191
Uintah County, Utah

Dear Ms. Jacobson:

Enclosed are two copies of the approved Application for Permit to Drill with attached Conditions of Approval for the above referenced well.

If you have any questions concerning APD processing, please contact Johnetta Magee at (435) 781-4429.

Sincerely,

Jerry Kenczka
Assistant Field Manager
Lands & Minerals Resources

Enclosures

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01191

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 1022-3E2AS

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

9. API NUMBER: 43047529300000

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: 1946 FNL 0504 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 03 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION

- ☐ NOTICE OF INTENT — Approximate date work will start:
- ☐ SUBSEQUENT REPORT — Date of Work Completion:
- ✓ SPUD REPORT — Date of Spud: 4/19/2013
- ☐ DRILLING REPORT — Report Date:

TYPE OF ACTION

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

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

THE WELL SPUD ON APRIL 19, 2013 AT 11:30. MIRU TRIPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CEMENT WITH 28 SACKS READY MIX. ANTICIPATE SURFACE RIG SPUD DATE ON JUNE 5, 2013 AND CASING CEMENT JUNE 5,2013 AT 08:00 HRS.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
April 23, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Teena Paulo	720 929-6236	Staff Regulatory Specialist
SIGNATURE N/A		**DATE** 4/23/2013

RECEIVED: Apr. 23, 2013

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01191

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 1022-3E2AS

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

9. API NUMBER: 43047529300000

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: 1946 FNL 0504 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 03 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: 6/3/2013	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

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

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
June 10, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Matthew P Wold	720 929-6993	Regulatory Analyst I

SIGNATURE	DATE
N/A	6/3/2013

RECEIVED: Jun. 03, 2013

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01191

SUNDRY NOTICES AND REPORTS ON WELLS

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PHONE NUMBER: 720 929-6515 EXT

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4. LOCATION OF WELL
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QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 03 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: 7/2/2013

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
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☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
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☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

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

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
July 10, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Matthew P Wold	720 929-6993	Regulatory Analyst I

SIGNATURE	DATE
N/A	7/2/2013

RECEIVED: Jul. 02, 2013

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01191

SUNDRY NOTICES AND REPORTS ON WELLS

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QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 03 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 8/5/2013	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

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

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
August 05, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Teena Paulo	720 929-6236	Staff Regulatory Specialist

SIGNATURE	DATE
N/A	8/5/2013

RECEIVED: Aug. 05, 2013

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01191

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 1022-3E2AS

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

9. API NUMBER: 43047529300000

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: 1946 FNL 0504 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 03 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: 9/5/2013

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.

Drilled to 2,465 ft. in August 2013.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
September 06, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Teena Paulo	720 929-6236	Staff Regulatory Specialist

SIGNATURE	DATE
N/A	9/5/2013

RECEIVED: Sep. 05, 2013

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01191

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 1022-3E2AS

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

9. API NUMBER: 43047529300000

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: 1946 FNL 0504 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 03 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: 10/4/2013	☐ 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.

Drilled to 8,910 ft. since last report.

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
October 08, 2013

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

RECEIVED: Oct. 04, 2013

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01191

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 1022-3E2AS

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

9. API NUMBER: 43047529300000

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: 1946 FNL 0504 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNW Section: 03 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: 12/5/2013

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 12/5/2013. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
December 10, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Teena Paulo	720 929-6236	Staff Regulatory Specialist

SIGNATURE	DATE
N/A	12/9/2013

RECEIVED: Dec. 09, 2013

API Well Number: 43047529300000

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. UTU01191

1a. Type of Well ☐ Oil Well ☒ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other _____

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No. UTU63047A

2. Name of Operator KERR-MCGEE OIL AND GAS ONSHORE LP
Contact: KAY KELLY
E-Mail: kay.kelly@anadarko.com

8. Lease Name and Well No. NBU 1022-3E2AS

3. Address P.O. BOX 173779 DENVER, CO 82017
3a. Phone No. (include area code) Ph: 720-929-6000

9. API Well No. 43-047-52930

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
At surface SWNW 1946FNL 504FWL 39.979925 N Lat, 109.433702 W Lon
At top prod interval reported below SWNW 1663FNL 610FWL
At total depth SWNW 1676FNL 621FWL

10. Field and Pool, or Exploratory NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey or Area Sec 3 T10S R22E Mer SLB

12. County or Parish UINTAH
13. State UT

14. Date Spudded 04/19/2013
15. Date T.D. Reached 10/01/2013
16. Date Completed ☐ D & A ☒ Ready to Prod. 12/05/2013
17. Elevations (DF, KB, RT, GL)* 5083 KB

18. Total Depth: MD 8910 TVD 8889
19. Plug Back T.D.: MD 8854 TVD 8833
20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
SD/DSN/ACTR-BHV-CBL/GR/CCL/TEMP

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 J-55	28.0	18	2445		1150		0	
7.875	4.500 I-80	11.6	18	8901		1712		1560	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	8349							

25. Producing Intervals

Formation	Top	Bottom
A) WASATCH	5581	6522
B) MESAVERDE	6745	8846
C)		
D)		

26. Perforation Record

Perforated Interval	Size	No. Holes	Perf. Status
5581 TO 6522	0.360	72	OPEN
6745 TO 8846	0.360	264	OPEN

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
5581 TO 8846	PUMP 14,506 BBLS SLICKWATER AND 305,931 LBS 30/50 MESH SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
12/05/2013	12/10/2013	24	→	0.0	1718.0	0.0			FLOWS FROM WELL

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
20/64	1565	2025.0	→	0	1718	0		PGW

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #231015 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

RECEIVED: Jan. 03, 2014

API Well Number: 43047529300000

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas*(Sold, used for fuel, vented, etc.)*
SOLD

30. 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.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
				GREEN RIVER	980
				BIRD'S NEST	1316
				MAHOGANY	1979
				WASATCH	4352
				MESAVERDE	6740

32. Additional remarks (include plugging procedure):
The first 200 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. DQX csg was run from surface to 5002 ft.; LTC csg was run from 5002 ft. to 8,901 ft. Attached is the chronological well history, perforation report & final survey.

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #231015 Verified by the BLM Well Information System.
For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal

Name *(please print)* KAY KELLY Title SR STAFF REGULATORY SPECIALIST

Signature (Electronic Submission) Date 01/03/2014

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

RECEIVED: Jan. 03, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No: SST 57/57, CAPSTAR 310/310
Event: DRILLING	Start Date: 8/8/2013	End Date:
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/24/2013	1:30 - 3:00	1.50	MIRU	01	E	P	58	TEAR DOWN AND PREPARE FOR TRUCKS.
	3:00 - 7:00	4.00	MIRU	01	C	P	58	CONDUCT JSA WITH TRUCKS TO SKID RIG / SKID RIG TO THE NBU 1022-3E2AS, WELL 3 OF 4. HOWCROFT FIELD SERVICES HAD 2 TRUCKS
	7:00 - 9:00	2.00	MIRU	01	B	P	58	WELD ON CONDUCTOR PIPE AND BOLT UP ROTATING HEAD / RIG UP FLOW LINE
	9:00 - 9:30	0.50	MIRU	01	G	P	58	RIG SERVICE.
	9:30 - 11:30	2.00	DRLSUR	13	A	P	58	FINISHED TOP CEMENT JOB ON 1022-3E4BS. COMPLETED LAST 2 TOP JOBS ON LAST WELL. CEMENTERS WERE BELOW RIG FLOOR SO RIG HANDS STOPPED OPERATIONS OF PICKING UP BHA.
	11:30 - 12:00	0.50	DRLSUR	23	A	P	58	CONDUCTED PRE SPUD SAFETY MEETING WITH RIG CREW AND SCIENTIFIC CREWS / REVIEW DIRECTIONAL PLANS WITH DIRECTIONAL DRILLERS
	12:00 - 12:30	0.50	DRLSUR	06	A	P	58	PICK UP 12 1/4" BIT AND 8" MUD MOTOR / TRIP IN HOLE
	12:30 - 16:00	3.50	DRLSUR	02	A	P	58	DRILL 12 1/4 SURFACE HOLE F/49' TO 200' , 151' @ 43 FPH WOB = 8 TO 12K ROTORY RPM = 60 / MUD MOTOR RPM = 115 / TOTAL = 175 PUMPING 670 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 800/600 TORQUE ON/OFF = 1950/740 PU = 58 / SO = 48 / ROT = 42 PEAK ON LINE MUD WT 8.4 NO HOLE ISSUES
	16:00 - 16:30	0.50	DRLSUR	06	A	P	209	TRIP OUT OF THE HOLE / LAY DOWN 12 1/4" BIT.
	16:30 - 17:00	0.50	DRLSUR	06	A	P	209	PICK UP 11" BIT & DIRECTIONAL ASSEMBLY, SCRIBE / TRIP IN HOLE.
	17:00 - 17:30	0.50	DRLSUR	08	A	X	209	*** RIG FAILURE - WORK ON RIG'S PIPE PICK UP BOOM. REPLACE HYDRAULIC CYLINDER ON TUBULAR CLAMP , ADJUSTED LINKAGE.
	17:30 - 19:30	2.00	DRLSUR	06	A	P	209	FINISHED PICKING UP 11" DIRECTIONAL ASSEMBLY / TRIP IN HOLE
	19:30 - 22:00	2.50	DRLSUR	02	A	P	209	DRILL 11" SURFACE HOLE F/200' TO 430' , 230' @ 92 FPH WOB = 12 TO 18K ROTORY RPM = 60 / MUD MOTOR RPM = 80 / TOTAL = 140 PUMPING 475 GPM @ 160 SPM STAND PIPE PRESSURE 0N/OFF = 890/690 TORQUE ON/OFF = 2,250/700 PU = 60 / SO = 52 / ROT = 58 MUD WT 8.4 HOLE ISSUES = LOST CIRCULATION @ 230'
	22:00 - 22:30	0.50	DRLSUR	07	C	P	439	CHANGE ROTATING HEAD RUBBER

RECEIVED: Jan. 03, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No: SST 57/57, CAPSTAR 310/310
Event: DRILLING	Start Date: 8/8/2013	End Date:
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	22:30 - 0:00	1.50	DRLSUR	02	B	P	439	DRILL 11" SURFACE HOLE F/430' TO 621', 191' @ 127.3 FPH WOB = 12 TO 18K ROTORY RPM = 60 / MUD MOTOR RPM = 80 / TOTAL = 140 PUMPING 475 GPM @ 160 SPM STAND PIPE PRESSURE 0N/OFF = 890/690 TORQUE ON/OFF = 2,250/700 PU = 60 / SO = 52 / ROT = 58 MUD WT 8.4 SLID 48' = 11.57% 6.37' HIGH & 1.33' LEFT OF THE LINE HOLE ISSUES = LOST CIRCULATION @ 230'
8/25/2013	0:00 - 6:00	6.00	DRLSUR	02	B	P	630	DRILL 11" SURFACE HOLE F/621' TO 1,265', 621' @ 103.5 FPH WOB = 12 TO 18K ROTORY RPM = 60 / MUD MOTOR RPM = 80 / TOTAL = 140 PUMPING 475 GPM @ 160 SPM STAND PIPE PRESSURE 0N/OFF = 890/690 TORQUE ON/OFF = 2,250/700 PU = 86 / SO = 66 / ROT = 69 CLEAN HARBORS ON LINE MUD WT 8.4 SLID 47' = 7.31% 7.52' HIGH & 2.13' LEFT OF THE LINE HOLE ISSUES = LOST CIRCULATION @ 230'
	6:00 - 10:00	4.00	DRLSUR	02	B	P	1274	DRILL 11" SURFACE HOLE F/ 1,265" TO 1,592', 327' @ 82 FPH WOB = 12 TO 18K ROTORY RPM = 60 / MUD MOTOR RPM = 80 / TOTAL = 140 PUMPING 475 GPM @ 160 SPM STAND PIPE PRESSURE 0N/OFF = 950/700 TORQUE ON/OFF = 2,850/850 PU = 88 / SO = 66 / ROT = 78 CLEAN HARBORS ON LINE MUD WT 8.4 SLID 15' = 4.49% 10.95' HIGH & 0.58' RIGHT OF THE LINE HOLE ISSUES = LOST CIRCULATION @ 230'
	10:00 - 10:30	0.50	DRLSUR	07	A	P	1601	RIG SERVICE
	10:30 - 18:00	7.50	DRLSUR	02	B	P	1601	DRILL 11" SURFACE HOLE F/ 1,592" TO 2,009', 417' @ 56 FPH WOB = 12 TO 18K ROTORY RPM = 60 / MUD MOTOR RPM = 70 / TOTAL = 130 PUMPING 415 GPM @ 140 SPM STAND PIPE PRESSURE 0N/OFF = 925/650 TORQUE ON/OFF = 2,600/800 PU = 90 / SO = 70 / ROT = 80 CLEAN HARBORS ON LINE MUD WT 8.4 SLID 47' = 11.27% 4.58' HIGH & 3.93' LEFT OF THE LINE HOLE ISSUES = LOST CIRCULATION @ 230'

RECEIVED: Jan. 03, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No: SST 57/57, CAPSTAR 310/310
Event: DRILLING	Start Date: 8/8/2013	End Date:
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLSUR	02	B	P	2018	DRILL 11" SURFACE HOLE F/ 2,009' TO 2,420, 411' @ 68.5 FPH WOB = 12 TO 18K ROTORY RPM = 60 / MUD MOTOR RPM = 70 / TOTAL = 130 PUMPING 415 GPM @ 140 SPM STAND PIPE PRESSURE 0N/OFF = 960/730 TORQUE ON/OFF = 3,100/1,100 PU = 92 / SO = 70 / ROT = 80 CLEAN HARBORS ON LINE MUD WT 8.4 SLID 93' = 22.99% 1.62' HIGH & 3.64' LEFT OF THE LINE HOLE ISSUES = LOST CIRCULATION @ 230'
8/26/2013	0:00 - 0:30	0.50	DRLSUR	02	B	P	2429	DRILL 11" SURFACE HOLE F/ 2,420' TO 2,465, 45' @ 90 FPH WOB = 12 TO 18K ROTORY RPM = 60 / MUD MOTOR RPM = 70 / TOTAL = 130 PUMPING 415 GPM @ 140 SPM STAND PIPE PRESSURE 0N/OFF = 1150/750 TORQUE ON/OFF = 3,100/1,200 PU = 93 / SO = 72 / ROT = 83 CLEAN HARBORS ON LINE MUD WT 8.4 SLID 93' = 22.99% 1.62' HIGH & 3.64' LEFT OF THE LINE HOLE ISSUES = LOST CIRCULATION @ 230'
	0:30 - 2:30	2.00	DRLSUR	05	C	P	2474	CIRCULATE AND CONDITION HOLE, WHILE RECIPROCATING PIPE / PUMPING 594 GPM @ 200 SPM / RETURNS CLEAN COMING OVER SHAKER / 3 400 BBL UPRIGHTS FULL / 3 400 BBL UPRIGHTS EMPTY / SPOT 130 BBL 11.2 # MUD ON BOTTOM
	2:30 - 5:00	2.50	DRLSUR	06	A	P	2474	LAY DOWN DRILL PIPE AND BHA.
	5:00 - 8:30	3.50	CSGSUR	12	C	P	2474	CONDUCT PJSM TO RUN CASING. RAN 55 JTS (2,437.60') OF 8 5/8", 28#, J-55, LT&C CASING WITH CTE FLOAT GUIDE SHOE AND BAFFLE PLATE LOCATED 1 JOINT ABOVE THE SHOE. 5 CENTRALIZERS SPACED 10' ABOVE THE SHOE, 2ND & 3RD COLLARS AND EVERY THIRD COLLAR TO 2078'. LANDED CASING SHOE AT 2,435'. BAFFLE PLATE @ 2,389'.
	8:30 - 9:00	0.50	CSGSUR	05	D	P	2474	FILL CASING WITH RIG PUMP & CIRCULATE / NO RETURNS

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Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No: SST 57/57, CAPSTAR 310/310
Event: DRILLING	Start Date: 8/8/2013	End Date:
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	9:00 - 11:00	2.00	CSGSUR	12	E	P	2474	PREJOB SAFETY WITH PRO PETRO CEMENTERS & RIG CREW. RAN 200' OF 1" PIPE DOWN BACKSIDE OF CASING TESTED LINES TO 2000 PSI PUMPED 140 BBLS FRESH WATER CLEARING SHOE MIXED AND PUMPED 20 BBL GELLED WATER FLUSH AHEAD OF CEMENT MIXED AND PUMPED 300 SX OF PREMIUM CEMENT WITH 2% CACL2 & 1/4 LB/SX FLOCELE. 61.4 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. DROP PLUG ON FLY. DISPLACE WITH 148 BBL FRESH WATER. NO RETURNS THROUGHT JOB. FINAL LIFT OF 250 PSI @ 3 BBL/MINUTE. BUMP PLUG WITH 800 PSI. HELD 800 PSI FOR 5 MINUTES. CHECK FLOAT. FLOAT HELD. NIPPLE DOWN CONDUCTOR PIPE AND CUT OFF CASING TOP JOB # 1: PUMP CEMENT DOWN 1" PIPE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE. 30.7 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO RETURNS RELEASE RIG @ 11:00, 8/26/2013. WAIT ON CEMENT 2 HRS TOP JOB # 2: CEMENT DOWN BACK SIDE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE. 30.7 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO RETURNS WAIT ON CEMENT 2 HRS TOP JOB # 3: CEMENT DOWN BACK SIDE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE. 30.7 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO RETURNS WAIT ON CEMENT 2 HRS TOP JOB # 4: CEMENT DOWN BACK SIDE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE. 30.7 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO RETURNS. WAIT ON CEMENT 2 HRS TOP JOB # 5: CEMENT DOWN BACK SIDE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE. 30.7 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX NO RETURNS. TOP JOB # 6: CEMENT DOWN BACK SIDE WITH 100 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, &

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Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No: SST 57/57, CAPSTAR 310/310
Event: DRILLING	Start Date: 8/8/2013	End Date:
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								1/4 LB/SX FLOCELE. 20.4 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX HOLE FILLED AND STOOD FULL.. RIG DOWN PRO PETRO CEMENTERS JOB FINISHED @ 22:45, 8/26/2013.
9/29/2013	8:00 - 9:00	1.00	RDMO	01	C	P		RIG DOWN - SKID RIG - RIG UP
	9:00 - 11:00	2.00	CSGSUR	14	A	P		NIPPLE UP BOP'S - CHOKE & KILL LINES / ROTATING HEAD - ALTER CHOKE LINE FOR 10' SPACING
	11:00 - 14:30	3.50	CSGSUR	15	A	P		HOLD SAFETY MEETING, RUN TEST ASSY, TEST BOP WITH A-1 TESTERS - TEST ANNULAR TO 250 PSI LOW/ 5 MIN 2500 PSI HIGH 10 MIN, PIPE & BLIND RAMS, FLOOR VALVES, IBOP, HCR VALVE, KILL LINE VALVES,TEST BOP'S, CHOKE MANIFOLD TO 250 PSI LOW/ 5 MIN - 5000 PSI HIGH 10 MIN, HOLD ACCUMULATOR FUNCTION TEST, TEST CSG 1500 PSI - 30 MIN, RIG DOWN
	14:30 - 15:00	0.50	CSGSUR	14	B	P		INSTALL WEAR BUSHING
	15:00 - 16:00	1.00	CSGSUR	09	A	P		SLIP & CUT 99' OF DRILLING LINE
	16:00 - 17:00	1.00	CSGSUR	06	J	P		PICK UP HUNTING 6 1/2", 1.5 BEND, HR, 7/8 LOBE, 3.5 STAGE 0.22 RPG MUD MOTOR, (SER #6281) - MAKE UP SMITH MDI616 PDC BIT, DRESSED WITH 6 X 15 JETS, (TFA = 1.035), SER #JH3787 - INSTALL MWD TOOL, ORIENT & SCRIBE TOOLS
	17:00 - 18:00	1.00	CSGSUR	06	A	P		TIH TO TOC AT 2360' / INSTALL ROTATING RUBBER
	18:00 - 19:00	1.00	CSGSUR	02	F	P		DRILL CEMENT & FLOAT EQUIPMENT, CLEAN OUT TO 2474'
	19:00 - 0:00	5.00	DRLPRL	02	D	P	2474	DIR DRILL FROM 2474' TO 3480' = 1006' = 201.2 FPH 18-25K ON BIT 105 SPM = 515 GPM - MOTOR = 113 RPM 40-75 RPM ON TOP DRIVE 4-10K FT/LBS TORQUE 1700 PSI ON BTM - 1250 PSI OFF BTM P/U = 120K - SO = 80K - ROT = 100K HOLE IN GOOD SHAPE SLIDE 12% OF TIME & 8% OF FOOTAGE BOS DEWATERING - RUNNING CENTRIFUGE - RUNNING MUD CLEANER - RUNNING MUD WT = 8.5 - VIS = 27
9/30/2013	0:00 - 8:00	8.00	DRLPRV	02	D	P	3480	DIR DRILL FROM 3480' TO 5177' = 1697' = 212.2 FPH 21-25K ON BIT 105 SPM = 515 GPM - MOTOR = 113 RPM 40-75 RPM ON TOP DRIVE 8-12K FT/LBS TORQUE 2100 PSI ON BTM - 1650 PSI OFF BTM P/U = 145K - SO = 100K - ROT = 120K HOLE IN GOOD SHAPE SLIDE 10% OF TIME & 6% OF FOOTAGE BOS DEWATERING - RUNNING CENTRIFUGE - RUNNING MUD CLEANER - RUNNING MUD WT = 8.5 - VIS = 27

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Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No: SST 57/57, CAPSTAR 310/310
Event: DRILLING	Start Date: 8/8/2013	End Date:
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 15:30	7.50	DRLPRV	02	D	P	5177	DIR DRILL FROM 5177' TO 6351' = 1174' = 156.5 FPH 21-27K ON BIT 105 SPM = 515 GPM - MOTOR = 113 RPM 40-75 RPM ON TOP DRIVE 8-12K FT/LBS TORQUE 2200 PSI ON BTM - 1700 PSI OFF BTM P/U = 160K - SO = 110K - ROT = 138K HOLE IN GOOD SHAPE SLIDE 12% OF TIME & 5% OF FOOTAGE BOS DEWATERING - RUNNING CENTRIFUGE - RUNNING MUD CLEANER - RUNNING MUD WT = 9.2 - VIS = 32
	15:30 - 16:00	0.50	DRLPRV	07	A	P		LUBRICATE RIG
	16:00 - 0:00	8.00	DRLPRV	02	D	P	6351	DIR DRILL FROM 6351' TO 7302' = 951' = 118.9 FPH 21-27K ON BIT 105 SPM = 515 GPM - MOTOR = 113 RPM 50-75 RPM ON TOP DRIVE 10-15K FT/LBS TORQUE 2200 PSI ON BTM - 1900 PSI OFF BTM P/U = 195K - SO = 135K - ROT = 165K HOLE IN GOOD SHAPE SLIDE 5% OF TIME & 2% OF FOOTAGE BOS DEWATERING - OFF CENTRIFUGE - RUNNING MUD CLEANER - RUNNING MUD WT = 9.2 - VIS = 32
10/1/2013	0:00 - 8:00	8.00	DRLPRV	02	D	P	7302	DIR DRILL FROM 7302' TO 8063' = 761' = 95.1 FPH 21-27K ON BIT 105 SPM = 515 GPM - MOTOR = 113 RPM 50-75 RPM ON TOP DRIVE 10-15K FT/LBS TORQUE 2200 PSI ON BTM - 1900 PSI OFF BTM P/U = 205K - SO = 140K - ROT = 170K HOLE IN GOOD SHAPE SLIDE 26% OF TIME & 13% OF FOOTAGE BOS DEWATERING - OFF CENTRIFUGE - RUNNING MUD CLEANER - RUNNING MUD WT = 9.3 - VIS = 33
	8:00 - 14:30	6.50	DRLPRV	02	D	P	8063	DIR DRILL FROM 8063' TO 8539' = 476' = 73.2 FPH 21-28K ON BIT 105 SPM = 515 GPM - MOTOR = 113 RPM 50-75 RPM ON TOP DRIVE 10-15K FT/LBS TORQUE 2400 PSI ON BTM - 2100 PSI OFF BTM P/U = 220K - SO = 155K - ROT = 185K HOLE IN GOOD SHAPE BOS DEWATERING - OFF CENTRIFUGE - OFF @ 8400' MUD CLEANER - RUNNING AT 8400' BEGIN DISPLACING LIGHT MUD WITH 11.3# MUD MUD WT = 10.9 - VIS = 37
	14:30 - 15:00	0.50	DRLPRV	07	A	P		LUBRICATE RIG

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Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No: SST 57/57, CAPSTAR 310/310
Event: DRILLING	Start Date: 8/8/2013	End Date:
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	15:00 - 20:00	5.00	DRLPRV	02	D	P	8539	DIR DRILL FROM 8539' TO 8910' = 371' = 73.2 FPH 21-28K ON BIT 105 SPM = 515 GPM - MOTOR = 113 RPM 50-75 RPM ON TOP DRIVE 10-15K FT/LBS TORQUE 2800 PSI ON BTM - 2500 PSI OFF BTM P/U = 225K - SO = 155K - ROT = 185K HOLE IN GOOD SHAPE BOS DEWATERING - OFF CENTRIFUGE - OFF @ 8400' MUD CLEANER - RUNNING MUD WT = 11.8 - VIS = 40
	20:00 - 21:30	1.50	DRLPRV	05	A	P		CONDITION MUD & CIRCULATE - PUMP HIGH VIS LCM SWEEP AROUND & OUT OF HOLE - BUILD PILL
	21:30 - 0:00	2.50	DRLPRV	06	E	P		PUMP PILL & BLOW DOWN TOP DRIVE - WIPER TRIP OUT OF HOLE TO CASING SHOE - HOLE IN GOOD SHAPE
10/2/2013	0:00 - 3:00	3.00	DRLPRV	06	E	P		WIPER TIP IN HOLE - BREAK CIRCULATION @ SHOE & 6000' - TAG BRIDGE @ 8280' - WASH THROUGH AND CONTINUE TO BTM - WASH LAST 80' TO BTM
	3:00 - 5:00	2.00	DRLPRV	05	A	P		CONDITION MUD & CIRCULATE - CIRCULATE @ 490 GPM WITH 2500 PSI - PUMP LCM SWEEP AROUND - BUILD PILL
	5:00 - 9:00	4.00	DRLPRV	06	A	P		PUMP PILL - BLOW DOWN TOP DRIVE - TRIP OUT OF HOLE FOR LOGS - LAY DOWN DIRECTIONAL TOOLS & MUD MOTOR - HOLE IN GOOD SHAPE - NO TIGHT SPOTS
	9:00 - 9:30	0.50	DRLPRV	14	B	P		PULL WEAR BUSHING
	9:30 - 14:30	5.00	EVALPR	11	D	P		HOLD SAFETY MEETING WITH HALLIBURTON LOGGING - RIG UP & RUN TRIPLE COMBO LOGS - LOGGERS TD = 8912'
	14:30 - 15:30	1.00	DRLPRV	12	A	P		HOLD SAFETY MEETING WITH WYOMING CASING - RIG UP CASING CREW & LAYDOWN TRUCK TO RUN 4 1/2 CASING - LAY DOWN TRUCK BROKE DOWN - PICKING UP CASING WITH AIR TUGGER UNTIL DIFFERENT TRUCK ARRIVES
	16:00 - 21:30	5.50	CSGPRO	12	C	P		RAN 87 JTS + MARKER JT 4 1/2", 11.6#. I80, LT&C CASING + 113 JTS + CROSSOVER + PUP JT, 4 1/2", 11.6#, I80/ DQX CASING, SHOE AT 8901.3', TOP FLOAT COLLAR AT 8853.91', RAN 15 CENT'S - TOP OF MESEVERDE MK JT 6796.36'
	21:30 - 23:00	1.50	CSGPRO	05	D	P		CIRCULATE / RIG DOWN WYOMING CASING SERVICE CASING TOOLS / RIG UP BAKER CEMENTING EQUIPMENT - CIRCULATE @ 105 SPM = 515 GPM @ 1170 PSI
	23:00 - 0:00	1.00	CSGPRO	12	E	P		CEMENT W/ BAKER - HOLD SAFETY MEETING - TEST LINES TO 4700 PSI - PUMP 25 BBLS WATER SPACER - 173 BBLS LEAD CEMENT 491 SKS @ 12.5 PPG W/ 1.98 YIELD, MIX & PUMP 287 BBLS TAIL CEMENT 1221 SKS @ 14.3 PPG W/ 1.32 YIELD - WASH UP LINES - DISPLACE W/ 137.2 BBLS WATER - BUMP PLUG TO 2800 PSI - HAD 2300 PSI LIFT PRESSURE PRIOR TO BUMP PLUG / GOOD RETURNS THROUGHOUT JOB - 5 BBLS WATER BACK TO SURFACE - RIG DOWN CEMENTERS

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Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No: SST 57/57, CAPSTAR 310/310
Event: DRILLING	Start Date: 8/8/2013	End Date:
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/3/2013	0:00 - 2:00	2.00	CSGPRO	12	E	P		CEMENT W/ BAKER - HOLD SAFETY MEETING - TEST LINES TO 4700 PSI - PUMP 25 BBLS WATER SPACER - 173 BBLS LEAD CEMENT 491 SKS @ 12.5 PPG W/ 1.98 YIELD, MIX & PUMP 287 BBLS TAIL CEMENT 1221 SKS @ 14.3 PPG W/ 1.32 YIELD - WASH UP LINES - DISPLACE W/ 137.2 BBLS WATER - BUMP PLUG TO 2800 PSI - HAD 2300 PSI LIFT PRESSURE PRIOR TO BUMP PLUG / GOOD RETURNS THROUGHOUT JOB - 5 BBLS WATER BACK TO SURFACE - RIG DOWN CEMENTERS
	2:00 - 3:00	1.00	CSGPRO	24	A	P		LAY DOWN LANDING JT / INSTALL PACK OFF
	3:00 - 4:00	1.00	CSGPRO	14	A	P		NIPPLE DOWN BOP'S / CLEAN MUD TANKS / RELEASE RIG @ 0400 HRS 10/3/2013

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API Well Number: 43047529300000

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-3E2AS BLUE	**Wellbore No.**	OH
Well Name	NBU 1022-3E2AS	**Wellbore Name**	NBU 1022-3E2AS
Report No.	1	**Report Date**	11/25/2013
Project	UTAH-UINTAH	**Site**	NBU 1022-03E PAD
Rig Name/No.		**Event**	COMPLETION
Start Date	11/19/2013	**End Date**	12/5/2013
Spud Date	8/24/2013	**Active Datum**	RKB @5,083.00usft (above Mean Sea Level)
UWI	SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0		

1.3 General

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

1.4 Initial Conditions

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

1.5 Summary

Gross Interval	5,581.0 (usft)-8,846.0 (usft	**Start Date/Time**	11/25/2013 12:00AM
No. of Intervals	83	**End Date/Time**	11/25/2013 12:00AM
Total Shots	336	**Net Perforation Interval**	108.00 (usft)
Avg Shot Density	3.11 (shot/ft)	**Final Surface Pressure**	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/25/2013 12:00AM	WASATCH/			5,581.0	5,582.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

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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
11/25/2013 12:00AM	WASATCH/			5,696.0	5,697.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	WASATCH/			5,728.0	5,730.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	WASATCH/			5,732.0	5,734.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	WASATCH/			5,772.0	5,774.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	WASATCH/			6,223.0	6,225.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/25/2013 12:00AM	WASATCH/			6,242.0	6,244.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/25/2013 12:00AM	WASATCH/			6,260.0	6,262.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/25/2013 12:00AM	WASATCH/			6,345.0	6,349.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	WASATCH/			6,518.0	6,522.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			6,745.0	6,746.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			6,768.0	6,769.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			6,885.0	6,887.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			6,902.0	6,904.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			6,913.0	6,915.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

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API Well Number: 43047529300000

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
11/25/2013 12:00AM	MESAVERDE/			6,970.0	6,972.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,014.0	7,016.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,112.0	7,114.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,124.0	7,126.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,156.0	7,157.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,165.0	7,166.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,225.0	7,226.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,235.0	7,236.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,250.0	7,251.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,297.0	7,298.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,335.0	7,336.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,359.0	7,360.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,364.0	7,365.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,371.0	7,372.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

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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
11/25/2013 12:00AM	MESAVERDE/			7,389.0	7,390.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,407.0	7,408.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,443.0	7,444.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,454.0	7,455.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,503.0	7,504.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,533.0	7,534.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,564.0	7,565.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,605.0	7,606.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,677.0	7,678.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,699.0	7,700.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,706.0	7,708.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,743.0	7,744.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,764.0	7,765.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,775.0	7,776.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

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API Well Number: 43047529300000

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
11/25/2013 12:00AM	MESAVERDE/			7,803.0	7,804.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,817.0	7,818.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,864.0	7,865.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,878.0	7,879.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,888.0	7,889.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,919.0	7,920.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,928.0	7,929.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,938.0	7,939.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,973.0	7,974.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			7,990.0	7,991.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,022.0	8,023.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,032.0	8,034.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,087.0	8,088.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,094.0	8,095.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

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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
11/25/2013 12:00AM	MESAVERDE/			8,105.0	8,106.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,120.0	8,121.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,130.0	8,131.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,140.0	8,141.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,163.0	8,165.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,211.0	8,212.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,217.0	8,218.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,231.0	8,232.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,242.0	8,243.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,247.0	8,248.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,256.0	8,257.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,295.0	8,296.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,336.0	8,337.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,379.0	8,380.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

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API Well Number: 43047529300000

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
11/25/2013 12:00AM	MESAVERDE/			8,396.0	8,397.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,420.0	8,421.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,431.0	8,432.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,440.0	8,441.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,484.0	8,485.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,567.0	8,568.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,605.0	8,606.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,713.0	8,714.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,728.0	8,729.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,774.0	8,776.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,791.0	8,793.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
11/25/2013 12:00AM	MESAVERDE/			8,844.0	8,846.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

3 Plots

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No:
Event: COMPLETION	Start Date: 11/19/2013	End Date: 12/5/2013
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/1/2013	-							
11/19/2013	9:00 - 10:00	1.00	SUBSPR	52	B	P		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST -51 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. PRESSURE TEST 8 5/8 X 4 1/2 TO 525 PSI HELD FOR 5 MIN LOST -80 PSI, BLED PSI OFF, REINSTALLED POP OFF SWIFN 100 PRESSURE ON SURFACE CASING FILLED SURFACE WITH 2 BBLS H2O
11/22/2013	7:00 - 8:00	1.00	SUBSPR	37		P		PERF STG 1)PU 3 1/8 EXP GUN, 19 GM, .40 HOLE SIZE. RIH PERFWELL, AS PER PERF DESIGN. POOH. SWIFW
11/24/2013	7:00 - 7:15	0.25	FRAC	48		P		HSM-JSA
	7:15 - 17:30	10.25	FRAC	36	H	P		FRAC STG #1) WHP 1505 PSI, BRK 3717 PSI @ 4.5 BPM. ISIP 2376 PSI, FG. 0.71 ISIP 2786 PSI, FG. 0.76, NPI 410 PSI, X/O TO WL. SET CBP & PERF STG #2 AS DESIGNED, X/O TO FRAC. FRAC STG #2) WHP 1659 PSI, BRK 3036 PSI @ 4.8 BPM. ISIP 2069 PSI, FG. 0.68 ISIP 2477 PSI, FG. 0.73, NPI 408 PSI, X/O TO WL. SET CBP & PERF STG #3 AS DESIGNED, X/O TO FRAC. FRAC STG #3) WHP 377 PSI, BRK 2326 PSI @ 5.1 BPM. ISIP 1042 PSI, FG. 0.56 ISIP 2252 PSI, FG. 0.71, NPI 1210 PSI, X/O TO WL. SET CBP & PERF STG #4 AS DESIGNED, X/O TO FRAC. FRAC STG #4) WHP 1505 PSI, BRK 2406 PSI @ 3.6 BPM. ISIP 1900 PSI, FG. 0.67 ISIP 2500 PSI, FG. 0.75, NPI 600 PSI, SWI, SDFN.
11/25/2013	6:45 - 7:00	0.25	FRAC	48		P		HSM-JSA

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Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No:
Event: COMPLETION	Start Date: 11/19/2013	End Date: 12/5/2013
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 18:00	11.00	FRAC	36	H	P		SET CBP & PERF STG #5 AS DESIGNED, X/O TO FRAC. FRAC STG #5) WHP 1161 PSI, BRK 2099 PSI @ 3.8 BPM. ISIP 1629 PSI, FG. 0.64 ISIP 2051 PSI, FG. 0.7, NPI 422 PSI, X/O TO WL. SET CBP & PERF STG #6 AS DESIGNED, X/O TO FRAC. FRAC STG #6) WHP 1535 PSI, BRK 1842 PSI @ 3.6 BPM. ISIP 1500 PSI, FG. 0.63 ISIP 2150 PSI, FG. 0.71, NPI 650 PSI, X/O TO WL. SET CBP & PERF STG #7 AS DESIGNED, X/O TO FRAC. FRAC STG #7) WHP 319 PSI, BRK 2523 PSI @ 5.2 BPM. ISIP 2145 PSI, FG. 0.72 ISIP 2346 PSI, FG. 0.75, NPI 201 PSI, X/O TO WL. SET CBP & PERF STG #8 AS DESIGNED, X/O TO FRAC. FRAC STG #8) WHP 780 PSI, BRK 1835 PSI @ 4.7 BPM. ISIP 1065 PSI, FG. 0.58 ISIP 2228 PSI, FG. 0.74, NPI 1163 PSI, X/O TO WL. SET CBP & PERF STG #9 AS DESIGNED, X/O TO FRAC. FRAC STG #9) WHP 1850 PSI, BRK 4428 PSI @ 4.5 BPM. ISIP 2215 PSI, FG. 0.75 ISIP 2305 PSI, FG. 0.76, NPI 90 PSI, SWI, SDFN.
11/26/2013	7:00 - 7:15	0.25	FRAC	48		P		HSM-JSA

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Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No:
Event: COMPLETION	Start Date: 11/19/2013	End Date: 12/5/2013
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 20:30	13.25	FRAC	36	H	P		SET CBP & PERF STG #10 AS DESIGNED, X/O TO FRAC. FRAC STG #10) WHP 1357 PSI, BRK 2316 PSI @ 3.6 BPM. ISIP 1327 PSI, FG. 0.63 ISIP 1908 PSI, FG. 0.71, NPI 581 PSI, X/O TO WL. SET CBP & PERF STG #11 AS DESIGNED, X/O TO FRAC. FRAC STG #11) WHP 1049 PSI, BRK 1708 PSI @ 3.2 BPM. ISIP 1225 PSI, FG. 0.62 ISIP 1977 PSI, FG. 0.73, NPI 752 PSI, X/O TO WL. SET CBP & PERF STG #12 AS DESIGNED, X/O TO FRAC. FRAC STG #12) WHP 661 PSI, BRK 1657 PSI @ 4.5 BPM. ISIP 1211 PSI, FG. 0.63 ISIP 1950 PSI, FG. 0.74, NPI 739 PSI, X/O TO WL. SET CBP & PERF STG #13 AS DESIGNED, X/O TO FRAC. FRAC STG #13) WHP 1584 PSI, BRK 2300 PSI @ 2.7 BPM. ISIP 1778 PSI, FG. 0.72 ISIP 2071 PSI, FG. 0.77, NPI 293 PSI, X/O TO WL. SET CBP & PERF STG #14 AS DESIGNED, X/O TO FRAC. FRAC STG #14) WHP 888 PSI, BRK 1664 PSI @ 2.5 BPM. ISIP 1042 PSI, FG. 0.62 ISIP 1453 PSI, FG. 0.69, NPI 411 PSI, X/O TO WL. SET KILL PLUG, RDMO WL & FRAC EQUIP. TOTAL CLN FLUID- 14506 BBLS TOTAL SAND- 305931 LBS
12/4/2013	7:00 - 7:15	0.25	DRLOUT	48		P		HSM, SLIPS, TRIPS & FALLS, SNOWY WEATHER DON'T GET IN A HURRY

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Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No:
Event: COMPLETION	Start Date: 11/19/2013	End Date: 12/5/2013
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 17:00	9.75	DRLOUT	31	I	P		2 OF 4, (MIRU, ND WH, NU BOP, RU FLOOR & TBG EQUIP, PU 3 7/8" BIT, POBS, 1.875" XN S/N, TALLY & PU TBG 12/3/13), TALLY & PU TBG TO KILL PLUG, RU P/S, FILL TBG & BREAK CIRC, P/T BOP TO 3,000 PSI, SURFACE CSG VALVE OPEN & LOCKED, D/O 9 CBP'S THRU BJD & HAL 9000 C/O 20' SAND, TAG 1ST PLUG @ 5,531', KICK 0 PSI ON VACUMN, NO FLOW W/O PUMP, RIH C/O 10' SAND, TAG 2ND PLUG @ 5,804', KICK 50 PSI, CSG PRESS 0 PSI, RIH C/O 20' SAND, TAG 3RD PLUG @ 6,292', KICK 100 PSI, CSG PRESS 150 PSI, RIH STARTED SELLING GAS C/O 30' SAND, TAG 4TH PLUG @ 6,552', KICK 100 PSI, CSG PRESS 250 PSI, RIH C/O 30' SAND, TAG 5TH PLUG @ 6,945', KICK 0 PSI, CSG PRESS 200 PSI, RIH C/O 30' SAND, TAG 6TH PLUG @ 7,146', KICK 300 PSI, CSG PRESS 150 PSI, RIH C/O 20' SAND, TAG 7TH PLUG @ 7,318', KICK 200 PSI, CSG PRESS 150 PSI, RIH C/O 15' SAND, TAG 8TH PLUG @ 7,485', KICK 100 PSI, CSG PRESS 200 PSI, RIH C/O 20' SAND, TAG 9TH PLUG @ 7,733', KICK 300 PSI, CSG PRESS 400 PSI LET WELL CLEAN UP, SWI, TARP, DRAIN & WINTERIZE EQUIP, D/O REMAINING 5 CBP'S IN AM, SDFN
12/5/2013	7:00 - 7:15	0.25	DRLOUT	48		P		HSM, SLIPS, TRIPS & FALLS, BLEEDING WELL DOWN, LANDING TBG

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-3E2AS BLUE	Spud Date: 8/24/2013	
Project: UTAH-UINTAH	Site: NBU 1022-03E PAD	Rig Name No:
Event: COMPLETION	Start Date: 11/19/2013	End Date: 12/5/2013
Active Datum: RKB @5,083.00usft (above Mean Sea Level)	UWI: SW/NW/0/10/S/22/E/3/0/0/26/PM/N/1946/W/0/504/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 15:00	7.75	DRLOUT	44	C	P		2 OF 4, SICP 2,450 PSI, BLEED DOWN THRU HAL 9000, SURFACE CSG VALVE OPEN & LOCKED, D/O 5 CBP'S THRU BJD & HAL 9000 C/O 30' SAND, TAG 10TH PLUG @ 7,902', KICK 200 PSI, CSG PRESS 400 PSI, RIH C/O 30' SAND, TAG 11TH PLUG @ 8,064', KICK 100 PSI, CSG PRESS 400 PSI, RIH C/O 30' SAND, TAG 12TH PLUG @ 8,178', KICK 300 PSI, CSG PRESS 400 PSI, RIH C/O 30' SAND, TAG 13TH PLUG @ 8,367', KICK 500 PSI, CSG PRESS 500 PSI, RIH C/O 60' SAND, TAG 14TH PLUG @ 8,636', KICK 800 PSI, CSG PRESS 500 PSI, NOTE: D/O THRU BIG JIM DANDY & (2) HAL 9000, SOLD THRU 2 SEPERATORS NBU 1022-3E2AS SOLD 58 MCF 12/4/13, SOLD 533 MCF 12/5/13 NBU 1022-3E4CS SOLD 12 MCF 12/4/13, SOLD 213 MCF 12/5/13, TOTAL GAS SOLD 816 MCF. PBTD @ 8,854', BTM PERF @ 8,846', RIH TAGGED @ 8,825', C/O TO 8,854' PBTD, 8' PAST BTM PERF W/ 285 JTS 2 3/8" L-80 & J-55 TBG, LD 16 JTS, PU & STRIP IN TBG HANGER & LAND TBG W/ 269 JTS 2 3/8", EOT 8,349.03'. RD P/S, FLOOR & TBG EQUIP, ND BOPS, NU WH, DROP BALL & SHEAR OFF BIT, P/T LINE FROM WH TO HAL 9000 TO 3,000 PSI, NO VISIBLE LEAKS, LET BIT FALL FOR 20 MIN. TURN OVER TO FLOW BACK CREW & SALES, RD & MOVE TO NEXT WELL ON PAD, SDFN. KB= 18' 4 1/16" CAMERON HANGER= .83' TBG DELIVERED 170 JTS L-80 119 JTS 2 3/8" L-80= 3,773.14' TBG DELIVERED 150 JTS J-55 1 - 6' PUP JT L-80= 6.10' TOTAL TBG= 320 JTS L-80 & J-55 150 JTS 2 3/8" J-55 = 4,548.76' TBG USED 269 JTS POBS= 2.20' TBG RETURNED 51 JTS L-80 EOT @ 8,349.03' TWTR= 14,506 BBLS TWR= 4,000 BBLS TWLTR= 10,506 BBLS

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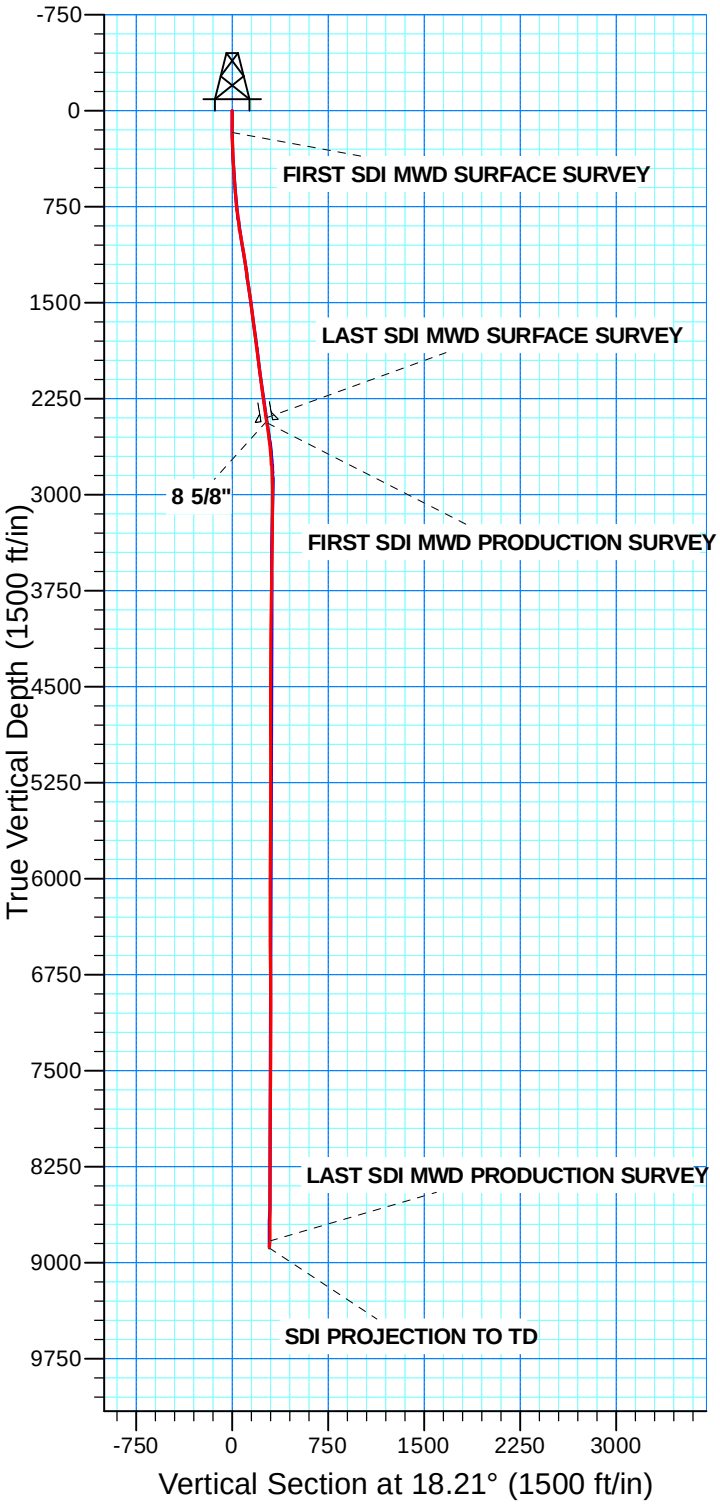
API Well Number: 43047529300000

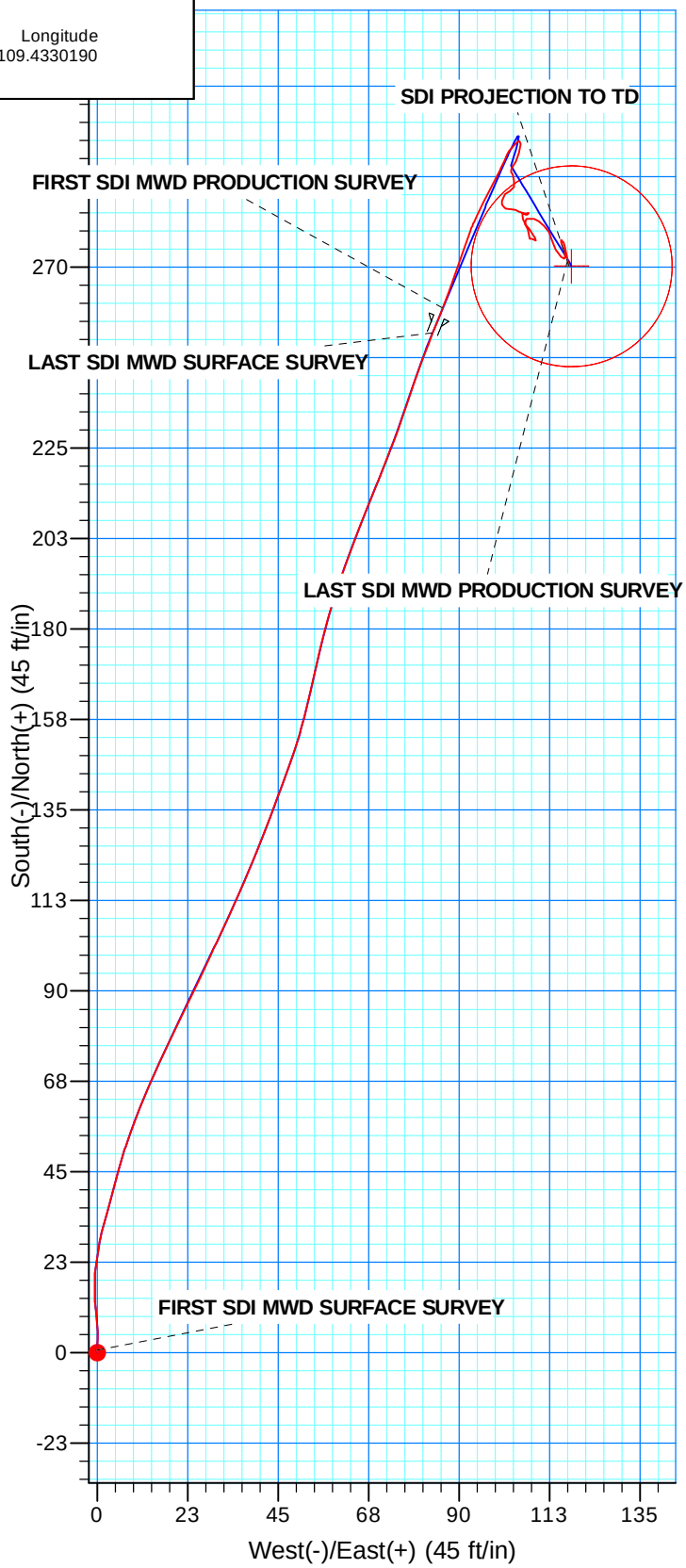
Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-3E PAD
Well: NBU 1022-3E2AS
Wellbore: OH

Anadarko Petroleum Corporation

WELL DETAILS: NBU 1022-3E2AS					
GL 5065 & KB 18 @ 5083.00ft (SST 57)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14522604.64	2079400.63	39.9799600	-109.4330190





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API Well Number: 43047529300000

Scientific Drilling

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022-3E PAD
NBU 1022-3E2AS

OH

Design: OH

Standard Survey Report

03 October, 2013

Anadarko Petroleum Corporation

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API Well Number: 43047529300000

Scientific Drilling

Scientific Drilling
Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-3E2AS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5065 & KB 18 @ 5083.00ft (SST 57)
Site:	NBU 1022-3E PAD	**MD Reference:**	GL 5065 & KB 18 @ 5083.00ft (SST 57)
Well:	NBU 1022-3E2AS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Denver Sales Office

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

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

Site NBU 1022-3E PAD, SECTION 3 T10S R22E

Site Position:		**Northing:**	14,522,611.69 usft	**Latitude:**	39.9799790
From:	Lat/Long	**Easting:**	2,079,407.51 usft	**Longitude:**	-109.4329940
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.01 °

Well NBU 1022-3E2AS, 1946 FNL 504 FWL

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,522,604.64 usft	**Latitude:**	39.9799600
	+E/-W	0.00 ft	**Easting:**	2,079,400.62 usft	**Longitude:**	-109.4330190
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,065.00 ft

Wellbore OH

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	BGGM2013	8/12/2013	10.84	65.80	52,036

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	18.21

Survey Program **Date** 10/3/2013

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
9.00	2,418.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1
2,461.00	8,910.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI 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 (°/100usft)**	**Build Rate (°/100usft)**	**Turn Rate (°/100usft)**
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00
170.00	0.41	351.07	170.00	0.57	-0.09	0.51	0.25	0.25	0.00
FIRST SDI MWD SURFACE SURVEY									
260.00	1.69	10.71	259.98	2.19	0.11	2.11	1.46	1.42	21.82
353.00	3.08	355.20	352.90	6.03	0.15	5.77	1.63	1.49	-16.68
447.00	4.38	353.00	446.70	12.11	-0.50	11.35	1.39	1.38	-2.34
542.00	5.03	4.48	541.38	19.86	-0.61	18.67	1.20	0.68	12.08
637.00	4.57	13.30	636.05	27.70	0.58	26.49	0.91	-0.48	9.28
731.00	5.45	15.77	729.69	35.64	2.66	34.68	0.96	0.94	2.63

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Scientific Drilling
Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-3E2AS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5065 & KB 18 @ 5083.00ft (SST 57)
Site:	NBU 1022-3E PAD	**MD Reference:**	GL 5065 & KB 18 @ 5083.00ft (SST 57)
Well:	NBU 1022-3E2AS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Denver Sales Office

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
825.00	6.42	14.68	823.18	45.02	5.20	44.39	1.04	1.03	-1.16
921.00	8.44	20.42	918.37	56.81	9.02	56.79	2.24	2.10	5.98
1,014.00	9.50	24.57	1,010.24	70.19	14.59	71.23	1.33	1.14	4.46
1,108.00	9.21	25.52	1,102.99	84.03	21.06	86.40	0.35	-0.31	1.01
1,201.00	9.67	25.61	1,194.73	97.79	27.64	101.53	0.49	0.49	0.10
1,295.00	8.71	24.20	1,287.52	111.40	33.97	116.44	1.05	-1.02	-1.50
1,390.00	9.15	22.18	1,381.37	124.96	39.77	131.13	0.57	0.46	-2.13
1,482.00	7.51	20.43	1,472.39	137.37	44.63	144.44	1.80	-1.78	-1.90
1,576.00	6.86	19.19	1,565.65	148.43	48.62	156.19	0.71	-0.69	-1.32
1,670.00	7.74	13.38	1,658.89	159.89	51.93	168.11	1.22	0.94	-6.18
1,764.00	7.83	12.69	1,752.03	172.29	54.81	180.79	0.14	0.10	-0.73
1,859.00	7.39	16.37	1,846.19	184.47	57.95	193.34	0.69	-0.46	3.87
1,952.00	6.77	20.42	1,938.48	195.34	61.55	204.79	0.86	-0.67	4.35
2,047.00	6.77	20.95	2,032.82	205.82	65.50	215.98	0.07	0.00	0.56
2,142.00	7.65	22.45	2,127.07	216.89	69.92	227.88	0.95	0.93	1.58
2,236.00	8.00	19.46	2,220.19	228.84	74.49	240.66	0.57	0.37	-3.18
2,331.00	8.27	18.73	2,314.24	241.55	78.88	254.10	0.30	0.28	-0.77
2,418.00	8.97	22.53	2,400.25	253.74	83.49	267.12	1.04	0.80	4.37
LAST SDI MWD SURFACE SURVEY									
2,445.00	8.64	21.66	2,426.94	257.56	85.05	271.24	1.33	-1.23	-3.20
8 5/8"									
2,461.00	8.44	21.12	2,442.76	259.78	85.91	273.61	1.33	-1.23	-3.40
FIRST SDI MWD PRODUCTION SURVEY									
2,493.00	8.04	19.91	2,474.43	264.07	87.52	278.20	1.36	-1.25	-3.78
2,588.00	6.93	18.68	2,568.62	275.75	91.62	290.57	1.18	-1.17	-1.29
2,683.00	5.39	27.35	2,663.07	285.14	95.51	300.71	1.89	-1.62	9.13
2,778.00	4.04	27.73	2,757.74	292.07	99.11	308.41	1.42	-1.42	0.40
2,873.00	2.64	23.49	2,852.58	297.04	101.54	313.89	1.50	-1.47	-4.46
2,968.00	1.82	42.09	2,947.51	300.16	103.43	317.45	1.14	-0.86	19.58
3,064.00	0.70	82.25	3,043.49	301.37	105.03	319.10	1.42	-1.17	41.83
3,159.00	1.06	200.06	3,138.48	300.62	105.30	318.48	1.60	0.38	124.01
3,253.00	1.67	185.56	3,232.45	298.44	104.87	316.27	0.74	0.65	-15.43
3,349.00	1.06	219.75	3,328.43	296.37	104.17	314.08	1.03	-0.64	35.61
3,444.00	1.32	204.72	3,423.41	294.70	103.15	312.18	0.43	0.27	-15.82
3,539.00	0.35	98.55	3,518.40	293.66	102.98	311.14	1.53	-1.02	-111.76
3,634.00	0.69	173.59	3,613.39	293.05	103.33	310.67	0.72	0.36	78.99
3,729.00	1.14	162.09	3,708.38	291.58	103.68	309.38	0.51	0.47	-12.11
3,824.00	0.98	202.40	3,803.37	289.93	103.66	307.81	0.78	-0.17	42.43
3,919.00	0.84	250.18	3,898.36	288.95	102.70	306.57	0.79	-0.15	50.29
4,015.00	0.97	222.56	3,994.34	288.11	101.49	305.40	0.47	0.14	-28.77
4,109.00	1.24	196.46	4,088.33	286.55	100.66	303.65	0.60	0.29	-27.77
4,204.00	0.44	88.62	4,183.32	285.57	100.74	302.75	1.51	-0.84	-113.52
4,299.00	0.53	185.91	4,278.32	285.14	101.06	302.44	0.77	0.09	102.41
4,394.00	0.77	106.92	4,373.31	284.52	101.62	302.03	0.89	0.25	-83.15

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Scientific Drilling

Scientific Drilling
Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-3E2AS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5065 & KB 18 @ 5083.00ft (SST 57)
Site:	NBU 1022-3E PAD	**MD Reference:**	GL 5065 & KB 18 @ 5083.00ft (SST 57)
Well:	NBU 1022-3E2AS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Denver Sales Office

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,489.00	0.73	81.84	4,468.31	284.42	102.83	302.31	0.35	-0.04	-26.40
4,584.00	0.66	110.57	4,563.30	284.31	103.94	302.56	0.37	-0.07	30.24
4,679.00	0.62	119.11	4,658.29	283.87	104.90	302.44	0.11	-0.04	8.99
4,774.00	0.51	106.06	4,753.29	283.50	105.76	302.36	0.18	-0.12	-13.74
4,869.00	0.52	121.43	4,848.28	283.16	106.53	302.27	0.15	0.01	16.18
4,964.00	0.26	25.16	4,943.28	283.13	106.99	302.39	0.64	-0.27	-101.34
5,059.00	0.28	53.20	5,038.28	283.47	107.27	302.79	0.14	0.02	29.52
5,154.00	0.26	259.21	5,133.28	283.57	107.24	302.88	0.55	-0.02	-162.10
5,249.00	0.30	254.39	5,228.28	283.46	106.79	302.64	0.05	0.04	-5.07
5,344.00	0.38	265.21	5,323.28	283.36	106.24	302.37	0.11	0.08	11.39
5,439.00	0.17	283.71	5,418.28	283.37	105.79	302.24	0.24	-0.22	19.47
5,534.00	0.72	169.89	5,513.28	282.82	105.76	301.70	0.85	0.58	-119.81
5,629.00	0.47	170.23	5,608.27	281.85	105.93	300.83	0.26	-0.26	0.36
5,724.00	0.82	140.63	5,703.26	280.94	106.42	300.12	0.50	0.37	-31.16
5,819.00	1.21	168.95	5,798.25	279.43	107.05	298.89	0.66	0.41	29.81
5,914.00	0.83	165.50	5,893.23	277.78	107.41	297.43	0.41	-0.40	-3.63
6,008.00	0.10	179.28	5,987.23	277.03	107.58	296.78	0.78	-0.78	14.66
6,103.00	0.21	47.73	6,082.23	277.07	107.71	296.85	0.30	0.12	-138.47
6,198.00	0.29	119.07	6,177.23	277.07	108.05	296.96	0.31	0.08	75.09
6,294.00	0.28	106.44	6,273.23	276.88	108.49	296.92	0.07	-0.01	-13.16
6,388.00	0.47	116.89	6,367.23	276.65	109.05	296.87	0.21	0.20	11.12
6,483.00	1.10	329.44	6,462.22	277.25	108.94	297.41	1.60	0.66	-155.21
6,579.00	1.27	322.24	6,558.20	278.89	107.82	298.62	0.24	0.18	-7.50
6,674.00	0.52	328.42	6,653.19	280.09	106.95	299.48	0.79	-0.79	6.51
6,769.00	0.24	253.05	6,748.19	280.40	106.53	299.65	0.54	-0.29	-79.34
6,864.00	0.44	14.59	6,843.19	280.69	106.43	299.90	0.63	0.21	127.94
6,960.00	0.64	15.46	6,939.18	281.57	106.67	300.80	0.21	0.21	0.91
7,055.00	0.17	82.82	7,034.18	282.10	106.95	301.39	0.63	-0.49	70.91
7,150.00	0.62	84.92	7,129.18	282.16	107.60	301.65	0.47	0.47	2.21
7,245.00	0.62	106.98	7,224.17	282.05	108.61	301.87	0.25	0.00	23.22
7,340.00	0.97	125.35	7,319.16	281.44	109.75	301.64	0.45	0.37	19.34
7,436.00	1.27	130.43	7,415.14	280.28	111.23	301.00	0.33	0.31	5.29
7,531.00	1.16	158.50	7,510.12	278.70	112.38	299.86	0.63	-0.12	29.55
7,626.00	1.35	161.32	7,605.10	276.75	113.09	298.23	0.21	0.20	2.97
7,721.00	1.67	152.62	7,700.07	274.46	114.08	296.36	0.41	0.34	-9.16
7,816.00	1.06	133.70	7,795.04	272.62	115.36	295.02	0.79	-0.64	-19.92
7,911.00	0.35	43.79	7,890.04	272.22	116.19	294.90	1.17	-0.75	-94.64
8,006.00	0.88	356.15	7,985.03	273.16	116.34	295.84	0.73	0.56	-50.15
8,101.00	1.24	337.09	8,080.01	274.83	115.90	297.29	0.53	0.38	-20.06
8,197.00	0.53	348.68	8,176.00	276.23	115.40	298.46	0.76	-0.74	12.07
8,295.00	0.10	58.74	8,274.00	276.72	115.39	298.92	0.52	-0.44	71.49
8,387.00	0.14	295.45	8,366.00	276.81	115.36	298.99	0.23	0.04	-134.01
8,482.00	0.44	124.39	8,461.00	276.65	115.55	298.91	0.61	0.32	-180.06

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Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1022-3E2AS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5065 & KB 18 @ 5083.00ft (SST 57)
Site:	NBU 1022-3E PAD	**MD Reference:**	GL 5065 & KB 18 @ 5083.00ft (SST 57)
Well:	NBU 1022-3E2AS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Denver Sales Office

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,577.00	0.40	153.86	8,556.00	276.15	116.00	298.57	0.23	-0.04	31.02
8,672.00	0.74	165.87	8,650.99	275.25	116.29	297.81	0.38	0.36	12.64
8,853.00	1.49	168.95	8,831.96	271.81	117.03	294.77	0.42	0.41	1.70
LAST SDI MWD PRODUCTION SURVEY									
8,910.00	1.49	168.95	8,888.94	270.36	117.31	293.48	0.00	0.00	0.00
SDI PROJECTION TO TD									

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 1022-3E2AS	0.00	0.00	8,890.00	270.25	117.96	14,522,876.92	2,079,513.82	39.9807020	-109.4325980
- actual wellpath misses target center by 1.25ft at 8910.00ft MD (8888.94 TVD, 270.36 N, 117.31 E)									
- Circle (radius 25.00)									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,445.00	2,426.94	8 5/8"	8.625	11.000

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
170.00	170.00	0.57	-0.09	FIRST SDI MWD SURFACE SURVEY
2,418.00	2,400.25	253.74	83.49	LAST SDI MWD SURFACE SURVEY
2,461.00	2,442.76	259.78	85.91	FIRST SDI MWD PRODUCTION SURVEY
8,853.00	8,831.96	271.81	117.03	LAST SDI MWD PRODUCTION SURVEY
8,910.00	8,888.94	270.36	117.31	SDI PROJECTION TO TD

Checked By: _____ Approved By: _____ Date: _____

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