API Well Number: 43047533550000

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 921-20L4CS

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)
UTU0575

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')
THE UTE INDIAN TRIBE

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	587 FSL 609 FWL	SWSW	20	9.0 S	21.0 E	S
Top of Uppermost Producing Zone	1406 FSL 818 FWL	NWSW	20	9.0 S	21.0 E	S
At Total Depth	1406 FSL 818 FWL	NWSW	20	9.0 S	21.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
818

23. NUMBER OF ACRES IN DRILLING UNIT
1600

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
252

26. PROPOSED DEPTH
MD: 11451 TVD: 11335

27. ELEVATION - GROUND LEVEL
4891

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 - 2890	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 - 11451	11.6	HCP-110 LT&C	12.5	Premium Lite High Strength	360	3.38	12.0
							50/50 Poz	1630	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 Cara Mahler | **TITLE** Regulatory Analyst I | **PHONE** 720 929-6029

SIGNATURE | **DATE** 11/27/2012 | **EMAIL** cara.mahler@anadarko.com

API NUMBER ASSIGNED
43047533550000

APPROVAL
Permit Manager

RECEIVED: December 10, 2012

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

NBU 921-20L4CS

Surface: 587 FSL / 609 FWL SWSW
BHL: 1406 FSL / 818 FWL NWSW

Section 20 T9S R21E

Unitah County, Utah
Mineral Lease: UTU 0575

ONSHORE ORDER NO. 1

DRILLING PROGRAM

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

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1,673'	
Birds Nest	1,931'	Water
Mahogany	2,441'	Water
Wasatch	5,041'	Gas
Mesaverde	8,060'	Gas
Sego	10,297'	Gas
Castlegate	10,367'	Gas
Blackhawk	10,735'	Gas
TVD =	11,335'	
TD =	11,451'	

2.c Kerr McGee Oil & Gas Onshore LP (Kerr McGee) may elect to drill to (i) the Blackhawk formation (part of the Mesaverde Group), (ii) to a shallower depth within the Mesaverde Group, or (iii) to the Wasatch Formation. If Kerr McGee drills to the Blackhawk formation, please refer to Blackhawk as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr-McGee drills to a shallower depth in the Mesaverde Group or to the Wasatch Formation, please refer to the attached Wasatch/Mesaverde Drilling Program which includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the shallower formations.

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

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

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

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

6. **Evaluation Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

7. **Abnormal Conditions:**

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7.a Blackhawk (Part of Mesaverde Group)

Maximum anticipated bottom hole pressure calculated at 11335' TVD, approximately equals 7,254 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,745 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))

7.b Wasach Formation/Mesaverde Group

Maximum anticipated bottom hole pressure calculated at 10297' TVD, approximately equals 6,281 psi (0.61 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 4,043 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 Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program Onshore Order #2 – Air Drilling Variance

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

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

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

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

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

Background

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

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may

RECEIVED: November 27, 2012

be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

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

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

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

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

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

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

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

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

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

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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 Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

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KerrMcGee

KERR-McGEE OIL & GAS ONSHORE LP

Blackhawk Drilling Program

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	July 13, 2012
WELL NAME	**NBU 921-20L4CS**	TD	11,335' TVD 11,451' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah FINISHED ELEVATION 4,891'
SURFACE LOCATION	SWSW 587 FSL 609 FWL Sec 20 T 9S R 21E		
	Latitude: 40.015863 Longitude: -109.582822 NAD 83		
BTM HOLE LOCATION	NWSW 1406 FSL 818 FWL Sec 20 T 9S R 21E		
	Latitude: 40.018112 Longitude: -109.582082 NAD 83		
OBJECTIVE ZONE(S)	BLACKHAWK (Part of the Mesaverde Group)		
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Indian Tribe (Surface), UDOGM Tri-County Health Dept.		

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			12-1/4	8-5/8", 28#, IJ-55, LTC	Air mist
		200'			
			11.00'	8-5/8", 28#, IJ-55, LTC	Air mist
	Green River @	1,673'			
	Top of Birds Nest @	1,931'			
	Mahogany @	2,441'			
	Preset f/ GL @	2,890' TVD			
	Wasatch @	5,041'			
Mud logging program TBD Cased hole logging program from TD - surf csg			7-7/8"	4-1/2" 11.6# HCP-110 Ultra DQX/LTC csg	Water / Fresh Water Mud 8.3-12.5 ppg
	Mesaverde @	8,060' TVD			
	Sego @	10,297' TVD			
	Castlegate @	10,367' TVD			
	Blackhawk	10,735' TVD			
Max anticipated Mud required 12.5 ppg	TD @	11,335' TVD 11,451' MD			

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

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.

KerrMcGee

KERR-McGEE OIL & GAS ONSHORE LP

Blackhawk Drilling Program

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	TENSION LTC	TENSION DQX
CONDUCTOR	14"	0-40'									
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,890	28.00	IJ-55	LTC	1.86	1.39	4.91	N/A
								10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0	to	5,000	11.60	HCP-110	DQX	1.19	1.17		3.42
	4-1/2"	5,000	to	11,451'	11.60	HCP-110	LTC	1.19	1.17	4.61	

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 @ 9000 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	2,390'	65/35 Poz + 6% Gel + 10 pps gilsonite	220	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	4,541'	Premium Lite II +0.25 pps	360	35%	12.00		3.38
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	6,910'	50/50 Poz/G + 10% salt + 2% gel	1,630	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 / Travis Hansell **DATE:**

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

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KERR-McGEE OIL & GAS ONSHORE LP

Wasatch/Mesaverde Drilling Program

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	July 13, 2012	
WELL NAME	**NBU 921-20L4CS**		TD	10,297' TVD	10,413' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah	FINISHED ELEVATION	4,891'
SURFACE LOCATION	SWSW 587 FSL 609 FWL Sec 20 T 9S R 21E				
	Latitude: 40.015863 Longitude: -109.582822 NAD 83				
BTM HOLE LOCATION	NWSW 1406 FSL 818 FWL Sec 20 T 9S R 21E				
	Latitude: 40.018112 Longitude: -109.582082 NAD 83				
OBJECTIVE ZONE(S)	Wasatch Formation/Mesaverde Group				
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Indian Tribe (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
All water flows encountered while drilling will be reported to the appropriate agencies.			11.00'	8-5/8", 28#, IJ-55, LTC	Air mist
	Green River @	1,673'			
	Top of Birds Nest @	1,931'			
	Mahogany @	2,441'			
	Preset f/ GL @	2,890' TVD			
	Wasatch @	5,041'			
Mud logging program TBD Cased hole logging program from TD - surf csg			7-7/8"	4-1/2" 11.6# I-80/HCP-110 Ultra DQX/LTC csg	Water / Fresh Water Mud 8.3-12.0 ppg
	Mesaverde @	8,060' TVD			
	Sego @	10,297' TVD			
Max anticipated Mud required 12.0 ppg	TD @	10,297' TVD 10,413' MD			

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.

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KerrMcGee

KERR-McGEE OIL & GAS ONSHORE LP

Wasatch/Mesaverde Drilling Program

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	TENSION LTC	TENSION DQX
CONDUCTOR	14"	0-40'									
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,890	28.00	IJ-55	LTC	1.86	1.39	4.91	N/A
								7,780	6,350		267,035
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	0.99		2.71
								10,690	8,650	223,000	
	4-1/2"	5,000	to	10,413'	11.60	HCP-110	LTC	1.53	1.35	4.35	

Surface Casing:

(Burst Assumptions: TD = 12.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

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

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

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.61 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	2,390'	65/35 Poz + 6% Gel + 10 pps gilsonite	220	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	4,533'	Premium Lite II +0.25 pps	350	35%	12.00		3.38
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	5,880'	50/50 Poz/G + 10% salt + 2% gel	1,390	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

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ADDITIONAL INFORMATION

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

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

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

DRILLING ENGINEER: _____ **DATE:** _____

Nick Spence / Danny Showers / Travis Hansell

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Kenny Gathings / Lovel Young

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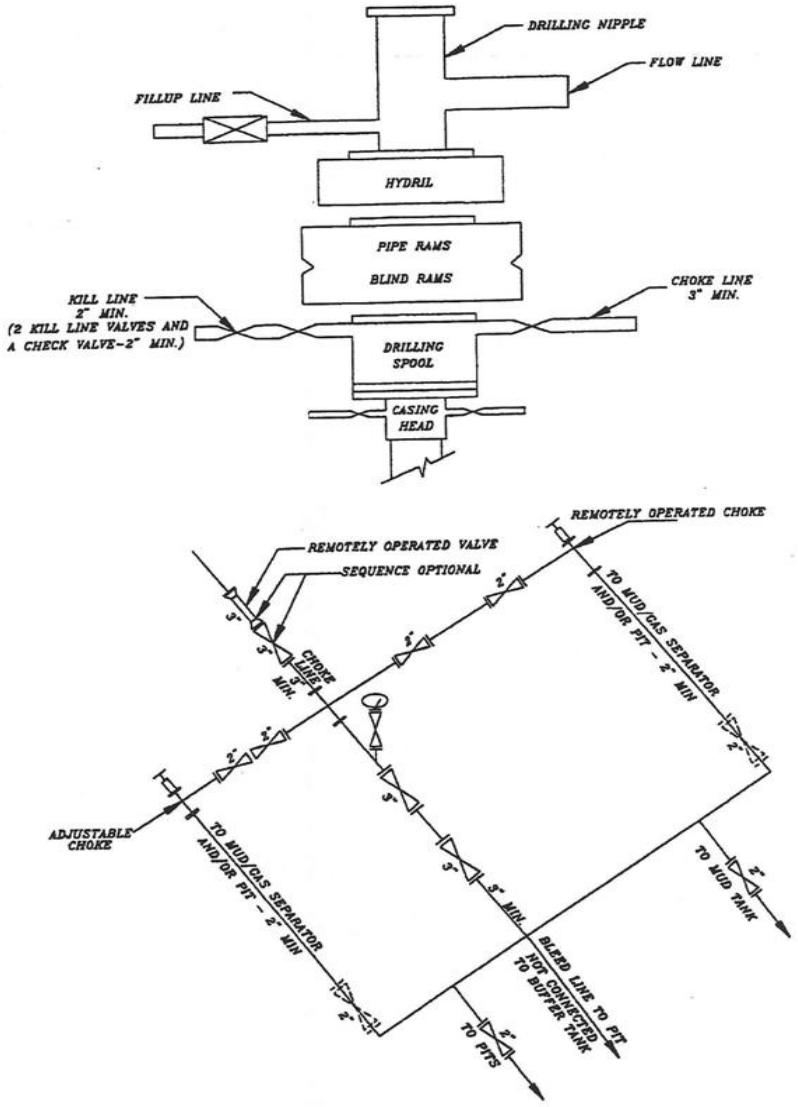
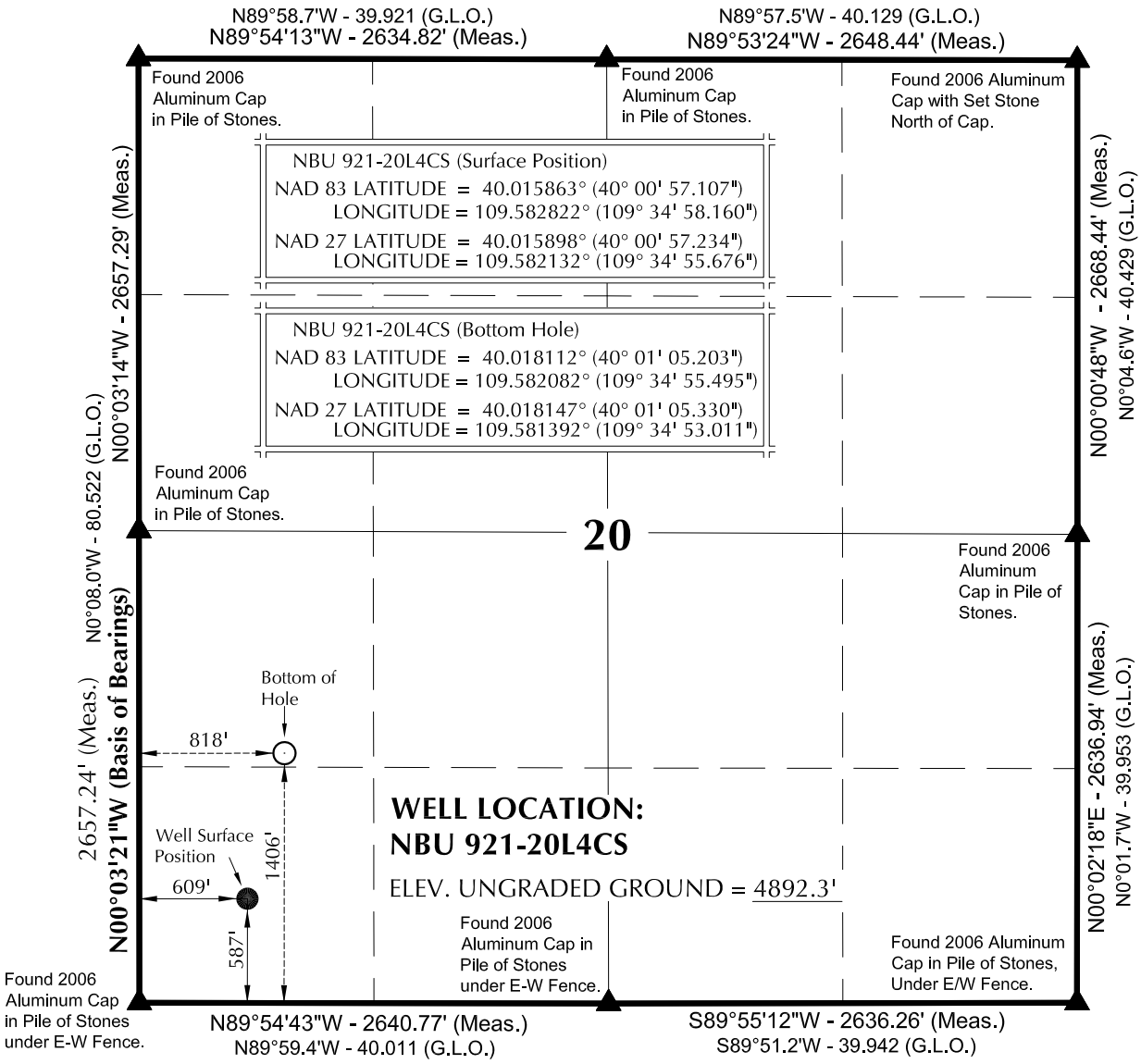
EXHIBIT A
NBU 921-20L4CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

RECEIVED: November 27, 2012

T9S, R21E, 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 N14°16'48"E 845.25' 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.

4-6-12

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 921-20M

NBU 921-20L4CS
WELL PLAT
1406' FSL, 818' FWL (Bottom Hole)
NW $\frac{1}{4}$ SW $\frac{1}{4}$ OF SECTION 20, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
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Sheridan WY 82801
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TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

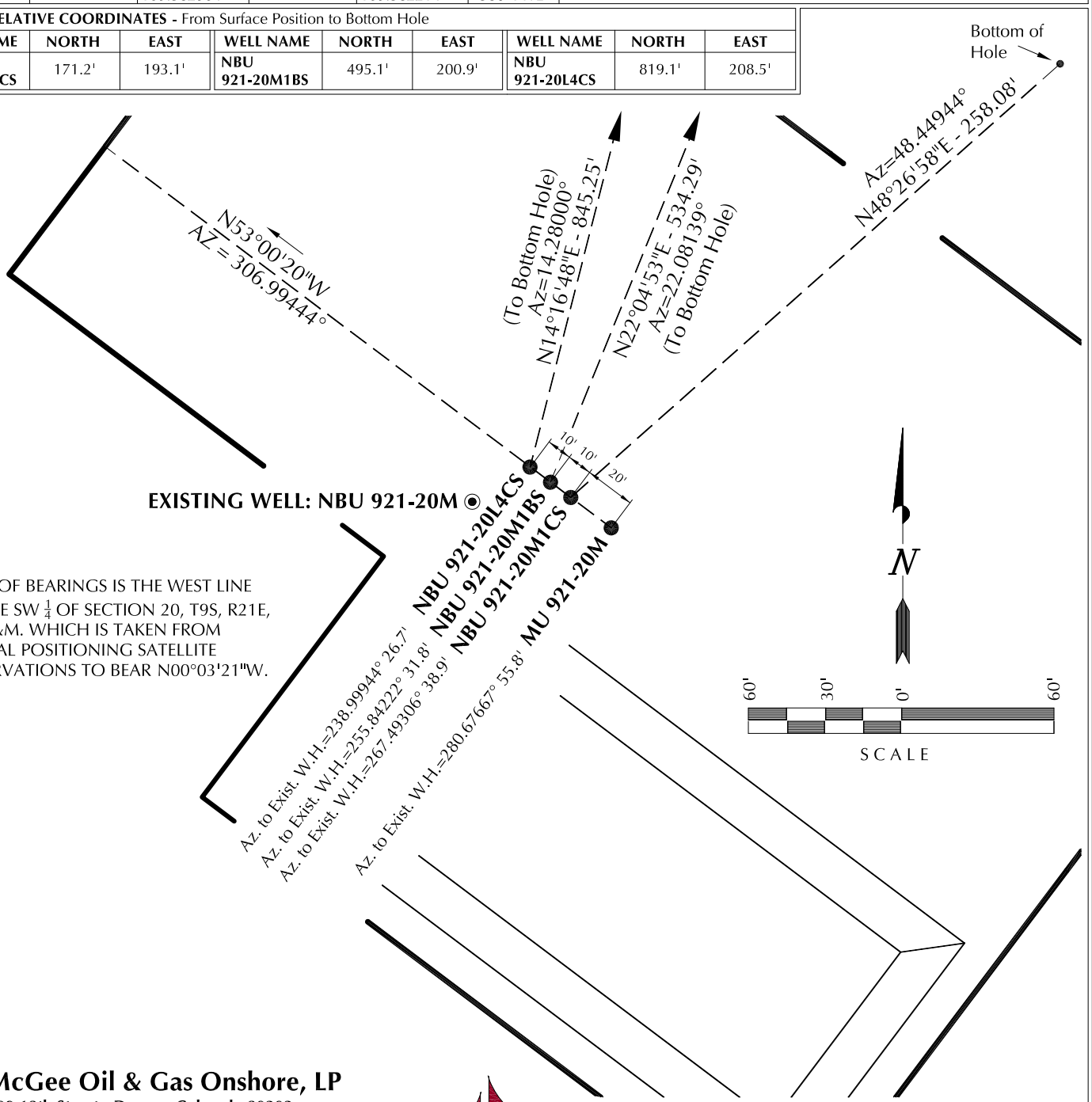
DATE SURVEYED: 3-19-12	SURVEYED BY: A.F.	SHEET NO: 4
DATE DRAWN: 3-22-12	DRAWN BY: T.J.R.	
SCALE: 1" = 1000'	Date Last Revised:	4 OF 16

API Well Number: 43047533550000

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
MU 921-20M	40°00'56.870" 40.015797°	109°34'57.749" 109.582708°	40°00'56.997" 40.015832°	109°34'55.266" 109.582018°	563' FSL 641' FWL					
NBU 921-20M1CS	40°00'56.988" 40.015830°	109°34'57.954" 109.582765°	40°00'57.115" 40.015865°	109°34'55.471" 109.582075°	575' FSL 625' FWL	40°00'58.682" 40.016301°	109°34'55.475" 109.582076°	40°00'58.809" 40.016336°	109°34'52.992" 109.581387°	746' FSL 818' FWL
NBU 921-20M1BS	40°00'57.048" 40.015847°	109°34'58.057" 109.582794°	40°00'57.175" 40.015882°	109°34'55.574" 109.582104°	581' FSL 617' FWL	40°01'01.943" 40.017206°	109°34'55.485" 109.582079°	40°01'02.070" 40.017242°	109°34'53.002" 109.581389°	1076' FSL 818' FWL
NBU 921-20L4CS	40°00'57.107" 40.015863°	109°34'58.160" 109.582822°	40°00'57.234" 40.015898°	109°34'55.676" 109.582132°	587' FSL 609' FWL	40°01'05.203" 40.018112°	109°34'55.495" 109.582082°	40°01'05.330" 40.018147°	109°34'53.011" 109.581392°	1406' FSL 818' FWL
NBU 921-20M	40°00'56.971" 40.015825°	109°34'58.453" 109.582904°	40°00'57.098" 40.015861°	109°34'55.970" 109.582214°	573' FSL 586' FWL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 921-20M1CS	171.2'	193.1'	NBU 921-20M1BS	495.1'	200.9'	NBU 921-20L4CS	819.1'	208.5'



BASIS OF BEARINGS IS THE WEST LINE OF THE SW $\frac{1}{4}$ OF SECTION 20, T9S, R21E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°03'21"W.

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

WELL PAD - NBU 921-20M

WELL PAD INTERFERENCE PLAT
WELLS - MU 921-20M, NBU 921-20M1CS, NBU 921-20M1BS & NBU 921-20L4CS LOCATED IN SECTION 20, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

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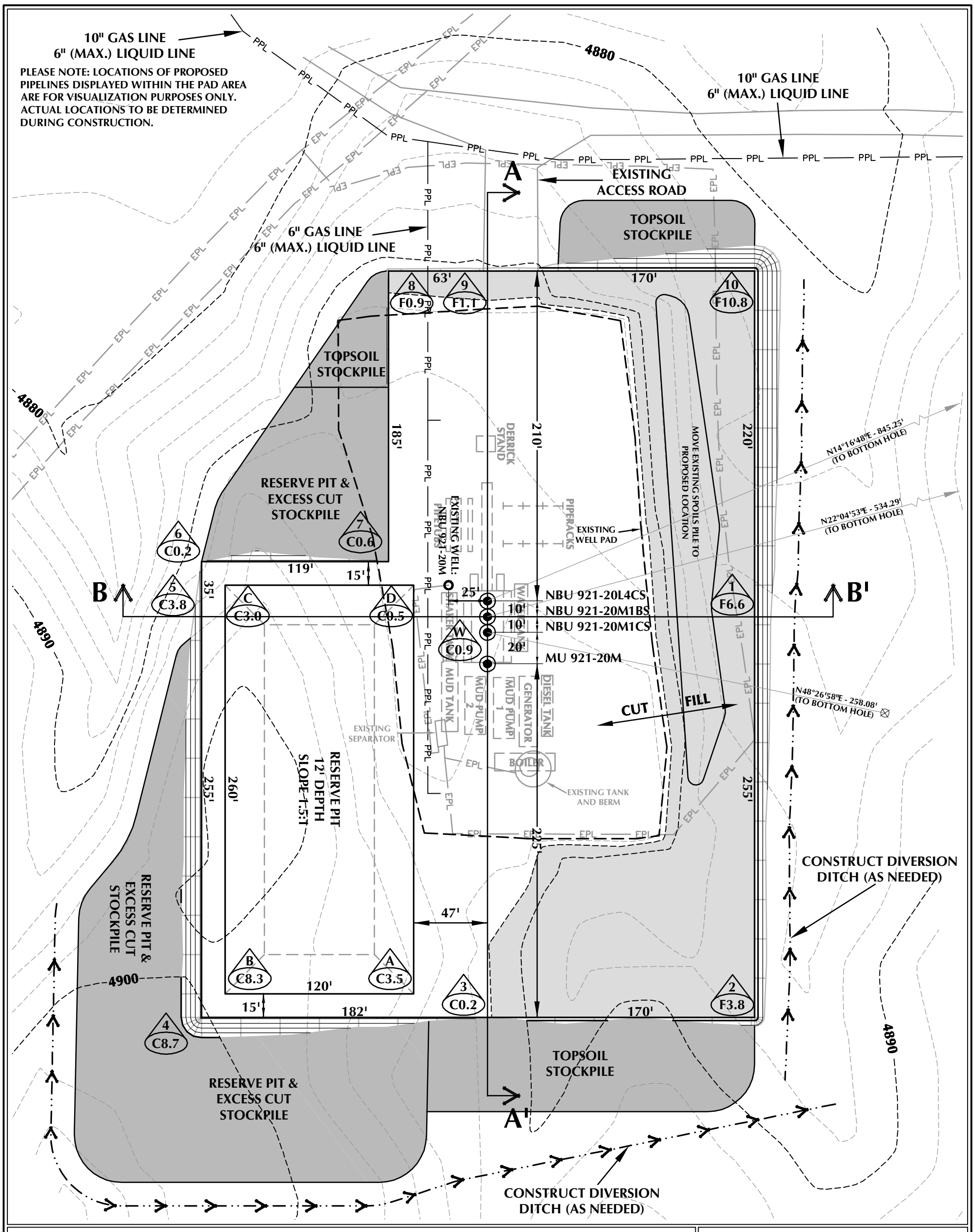
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 3-19-12	SURVEYED BY: A.F.	SHEET NO: 5
DATE DRAWN: 3-22-12	DRAWN BY: T.J.R.	5 OF 16
SCALE: 1" = 60'	Date Last Revised:	

RECEIVED: November 27, 2012



WELL PAD - NBU 921-20M DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 4892.3'
FINISHED GRADE ELEVATION = 4891.4'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.62 ACRES
TOTAL DISTURBANCE AREA = 4.98 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 9,952 C.Y.
TOTAL FILL FOR WELL PAD = 9,472 C.Y.
TOPSOIL @ 6" DEPTH = 1,924 C.Y.
EXCESS MATERIAL = 480 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

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

WELL PAD - NBU 921-20M

WELL PAD - LOCATION LAYOUT
MU 921-20M, NBU 921-20M1CS,
NBU 921-20M1BS & NBU 921-20L4CS
LOCATED IN SECTION 20, T9S, R21E,
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: 4/17/12	SHEET NO:
REVISED:	DJD 5/18/12	6 6 OF 16

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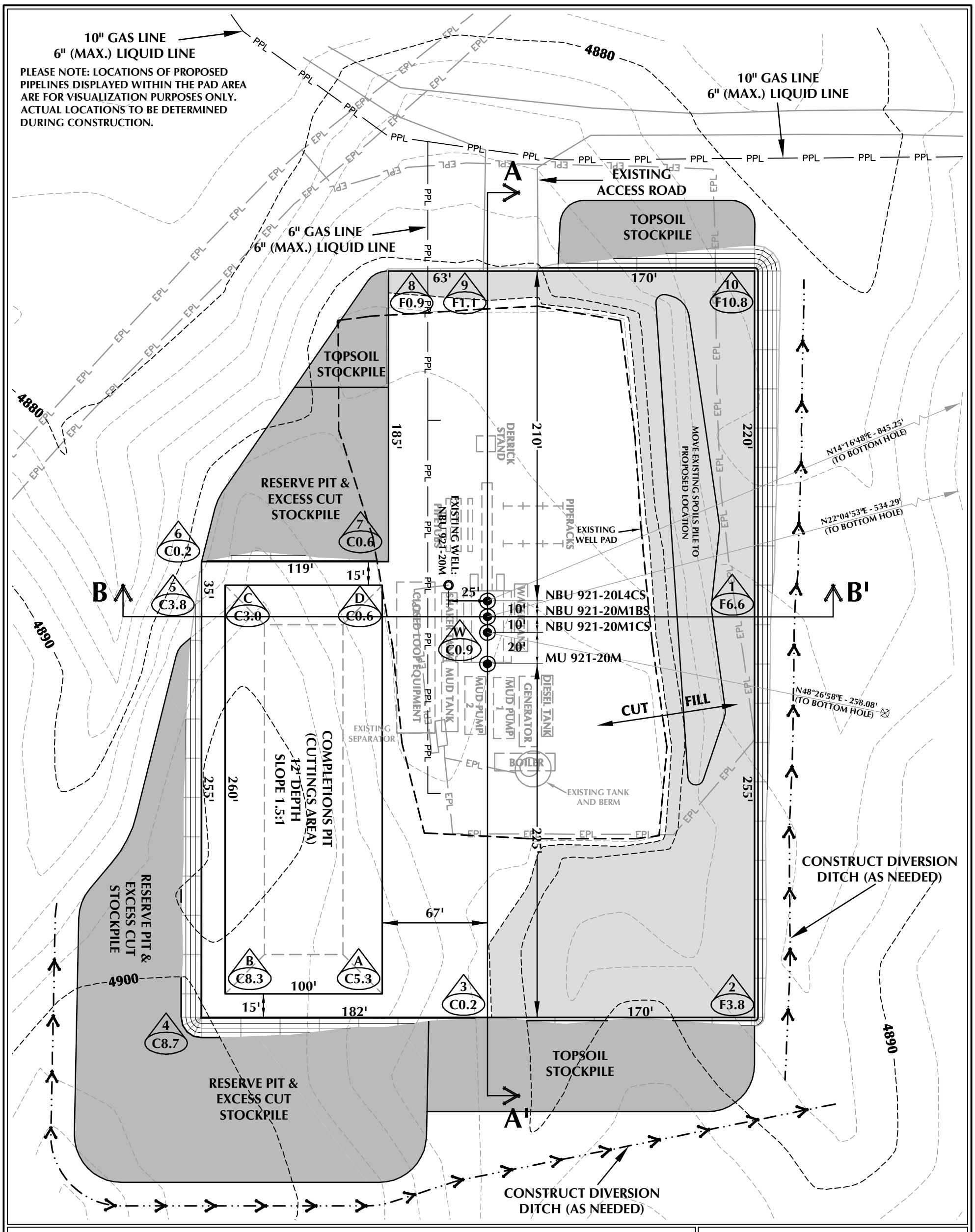

WELL PAD - NBU 921-20M (CLOSED LOOP) DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 4892.3'
FINISHED GRADE ELEVATION = 4891.4'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.62 ACRES
TOTAL DISTURBANCE AREA = 4.98 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

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

WELL PAD - NBU 921-20M

WELL PAD - LOCATION LAYOUT
MU 921-20M, NBU 921-20M1CS,
NBU 921-20M1BS & NBU 921-20L4CS
LOCATED IN SECTION 20, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

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Sheridan, WY 82801
Phone 307-674-0609
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WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 9,952 C.Y.
TOTAL FILL FOR WELL PAD = 9,472 C.Y.
TOPSOIL @ 6" DEPTH = 1,924 C.Y.
EXCESS MATERIAL = 480 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

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

SCALE: 1"=60'	DATE: 4/17/12	SHEET NO:
REVISED:	DJD 5/18/12	6B 6B OF 16

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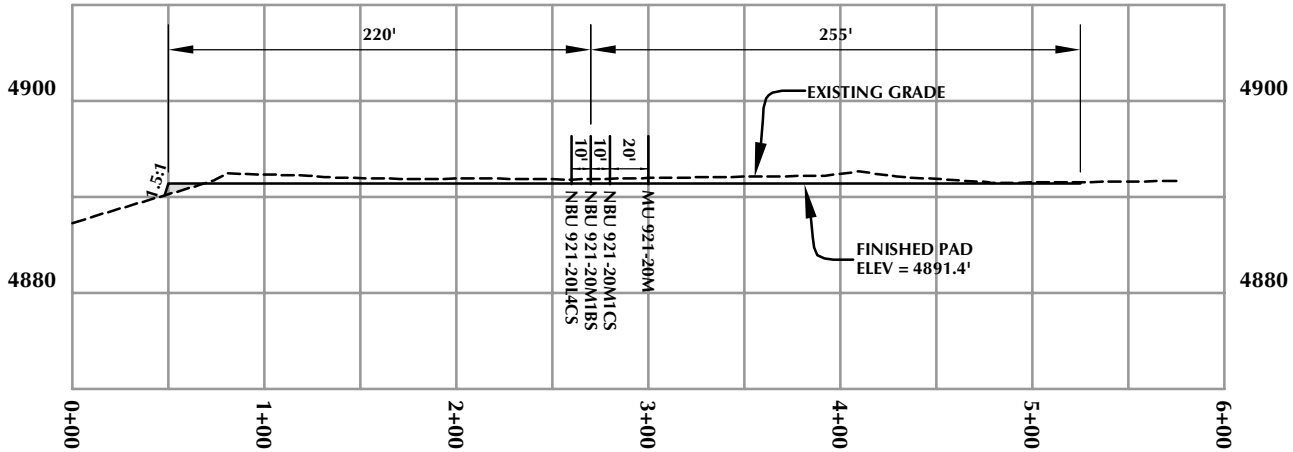
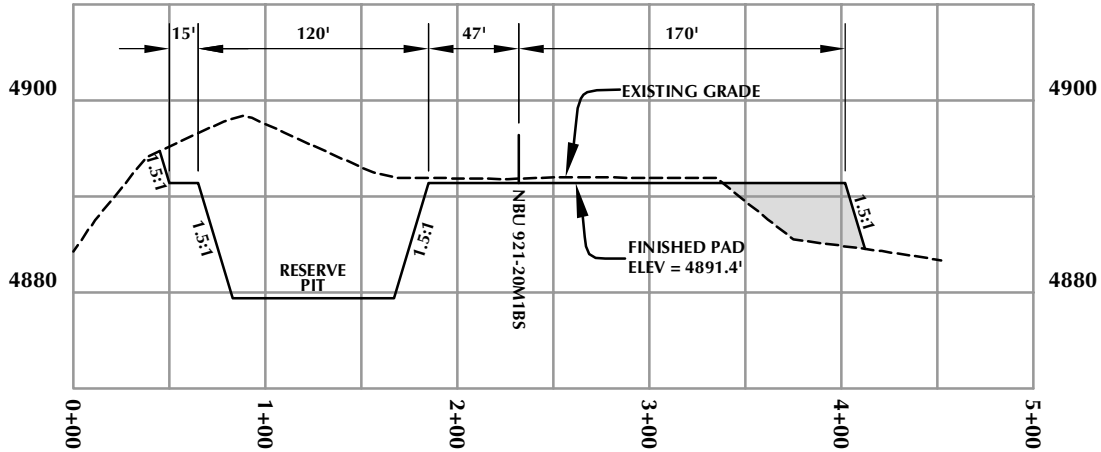


CROSS SECTION A-A'



CROSS SECTION B-B'

NOTE: CROSS SECTION B-B' DEPICTS MAXIMUM RESERVE PIT DEPTH.

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

WELL PAD - NBU 921-20M

WELL PAD - CROSS SECTIONS
MU 921-20M, NBU 921-20M1CS,
NBU 921-20M1BS & NBU 921-20L4CS
LOCATED IN SECTION 20, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

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

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209 NORTH 300 WEST - VERNAL, UTAH 84078

Scale: 1"=100' | Date: 4/17/12 | SHEET NO: 7
REVISED:
7 OF 16

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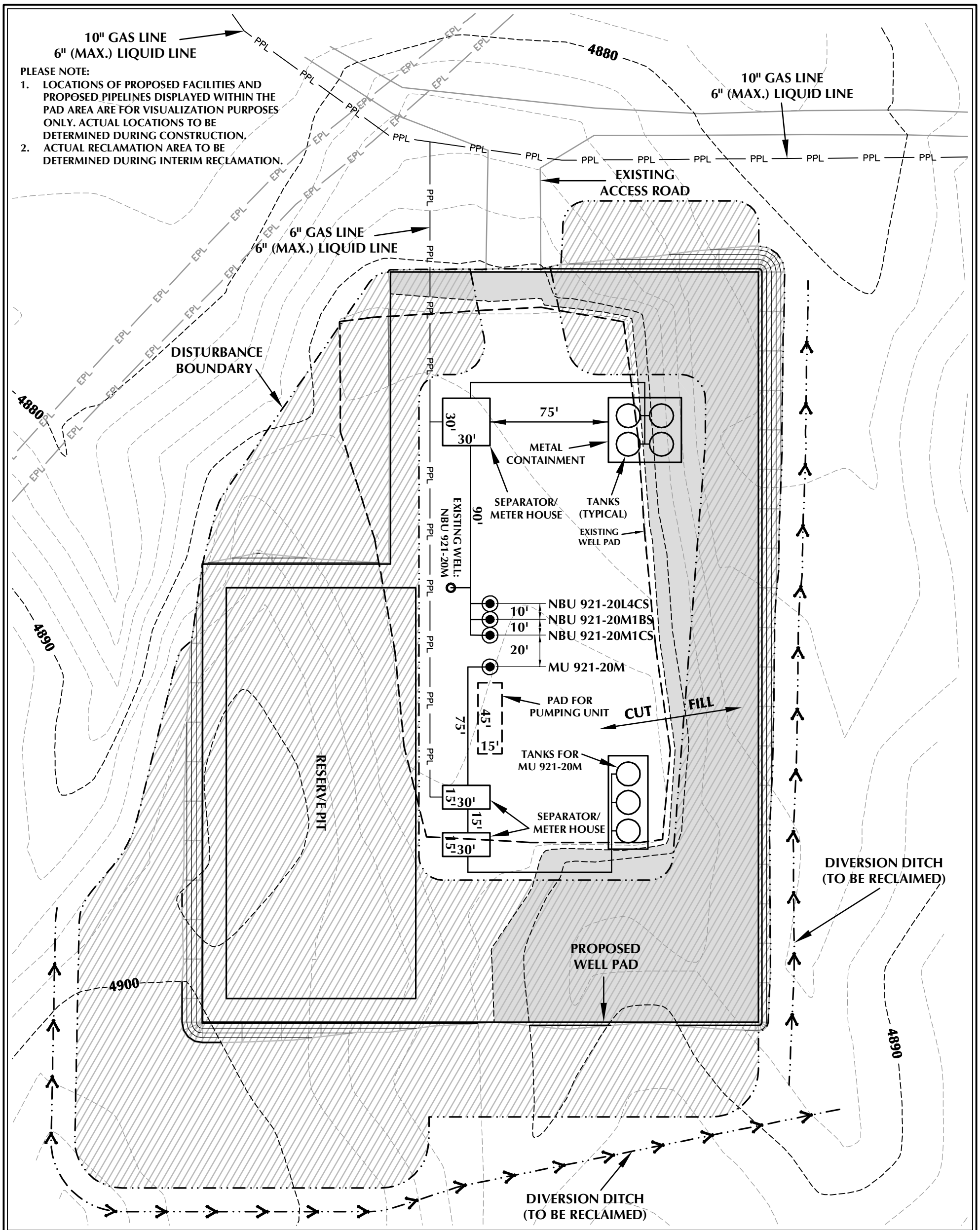

WELL PAD - NBU 921-20M DESIGN SUMMARY

TOTAL DISTURBANCE AREA = 4.98 ACRES (INCLUDING EXISTING)
RECLAMATION AREA = 3.64 ACRES
TOTAL WELL PAD AREA AFTER RECLAMATION = 1.34 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 921-20M

WELL PAD - RECLAMATION LAYOUT
MU 921-20M, NBU 921-20M1CS,
NBU 921-20M1BS & NBU 921-20L4CS
LOCATED IN SECTION 20, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

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209 NORTH 300 WEST - VERNAL, UTAH 84078

SCALE: 1"=60'	DATE: 4/17/12	SHEET NO:
REVISED:	DJD 5/18/12	8 8 OF 16

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RECEIVED: November 27, 2012

API Well Number: 43047533550000

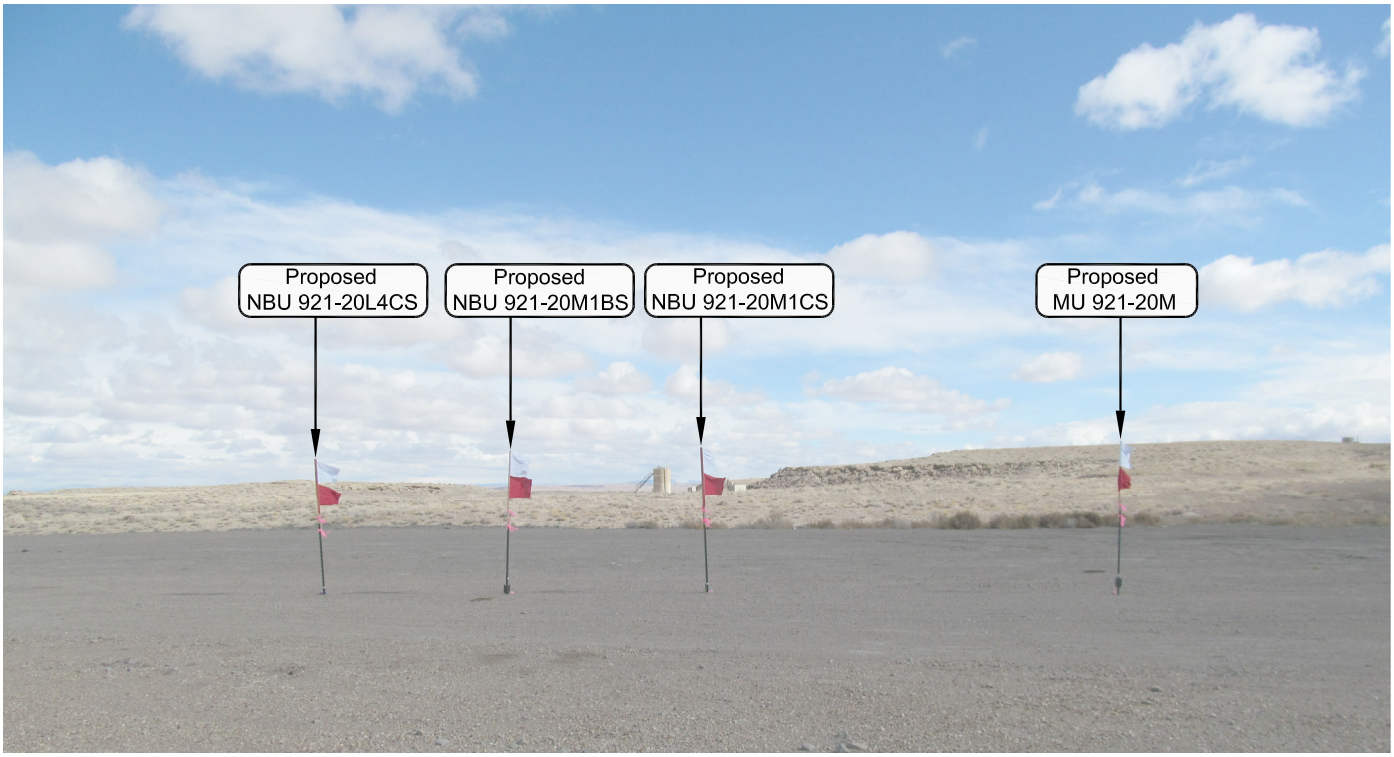

PHOTO VIEW: FROM CORNER #5 TO LOCATION STAKE **CAMERA ANGLE: NORTHEASTERLY**

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

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

WELL PAD - NBU 921-20M

LOCATION PHOTOS
MU 921-20M, NBU 921-20M1CS, NBU 921-20M1BS & NBU 921-20L4CS
LOCATED IN SECTION 20, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

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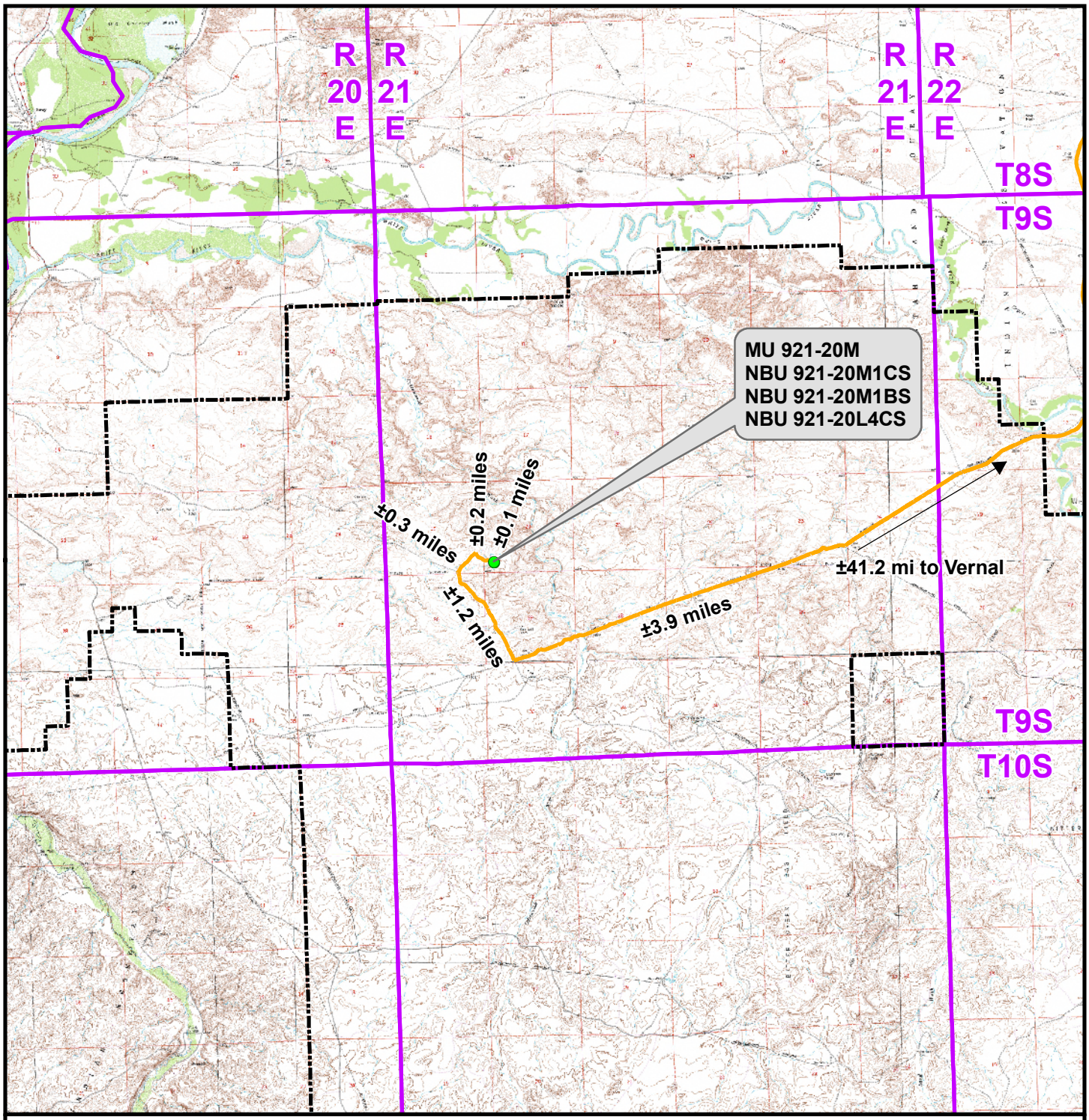
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 3-19-12	PHOTOS TAKEN BY: A.F.	SHEET NO:
DATE DRAWN: 3-22-12	DRAWN BY: T.J.R.	9
Date Last Revised:		9 OF 16

RECEIVED: November 27, 2012



Legend

Distance From Well Pad - NBU 921-20M To Unit Boundary: ±15,295ft

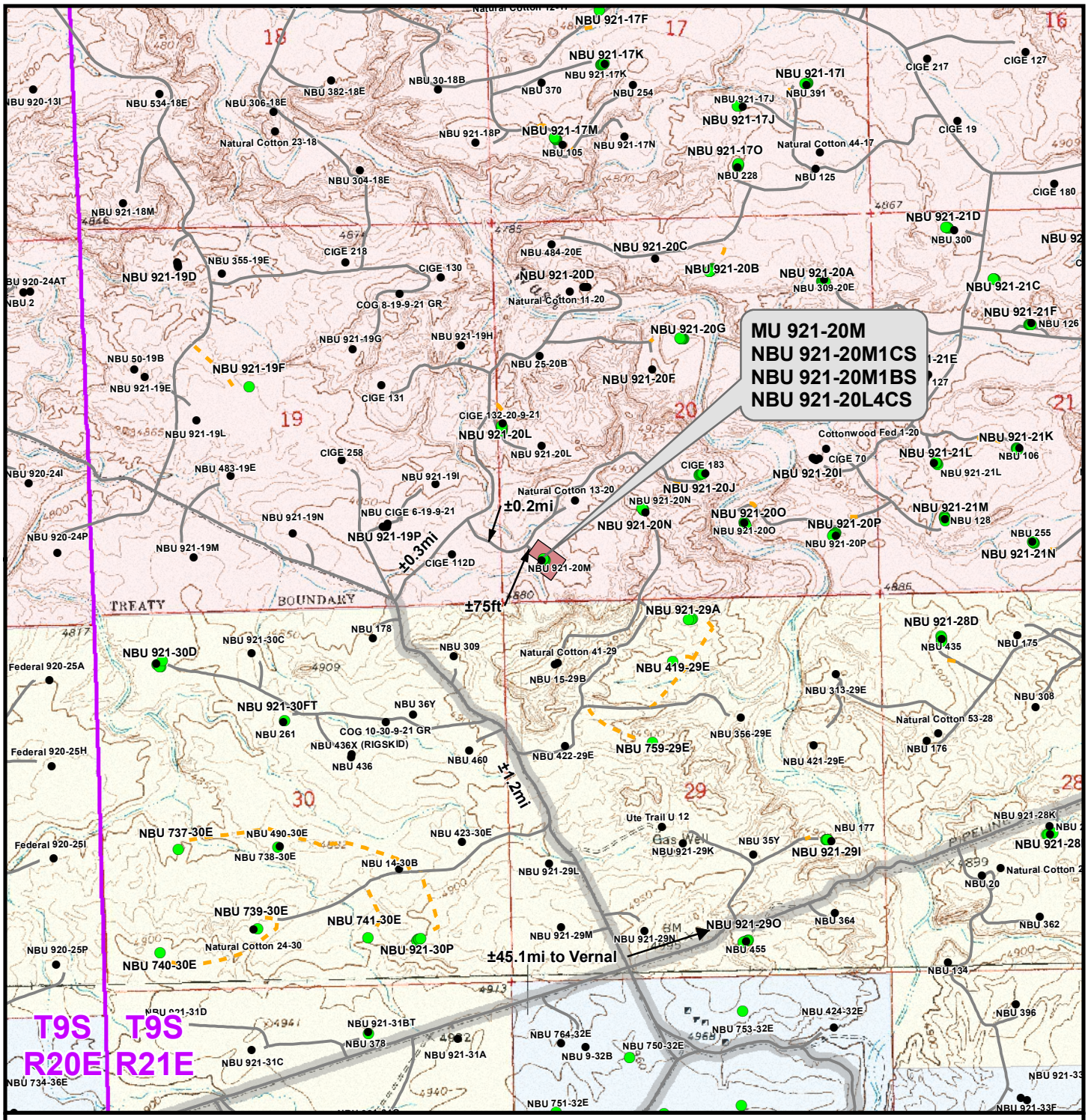
- Proposed Well Location
- Natural Buttes Unit Boundary
- Access Route - Proposed

WELL PAD - NBU 921-20M TOPO A MU 921-20M, NBU 921-20M1CS, NBU 921-20M1BS & NBU 921-20L4CS LOCATED IN SECTION 20, T9S, R21E, 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: 1:100,000	NAD83 USP Central	SHEET NO: 10
DRAWN: TL	DATE: 17 Apr 2012	10 OF 16
REVISED:	DATE:	

RECEIVED: November 27, 2012

API Well Number: 43047533550000



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 921-20M

TOPO B
MU 921-20M, NBU 921-20M1CS,
NBU 921-20M1BS & NBU 921-20L4CS
LOCATED IN SECTION 20, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

609 CONSULTING, LLC
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Sheridan, Wyoming 82801
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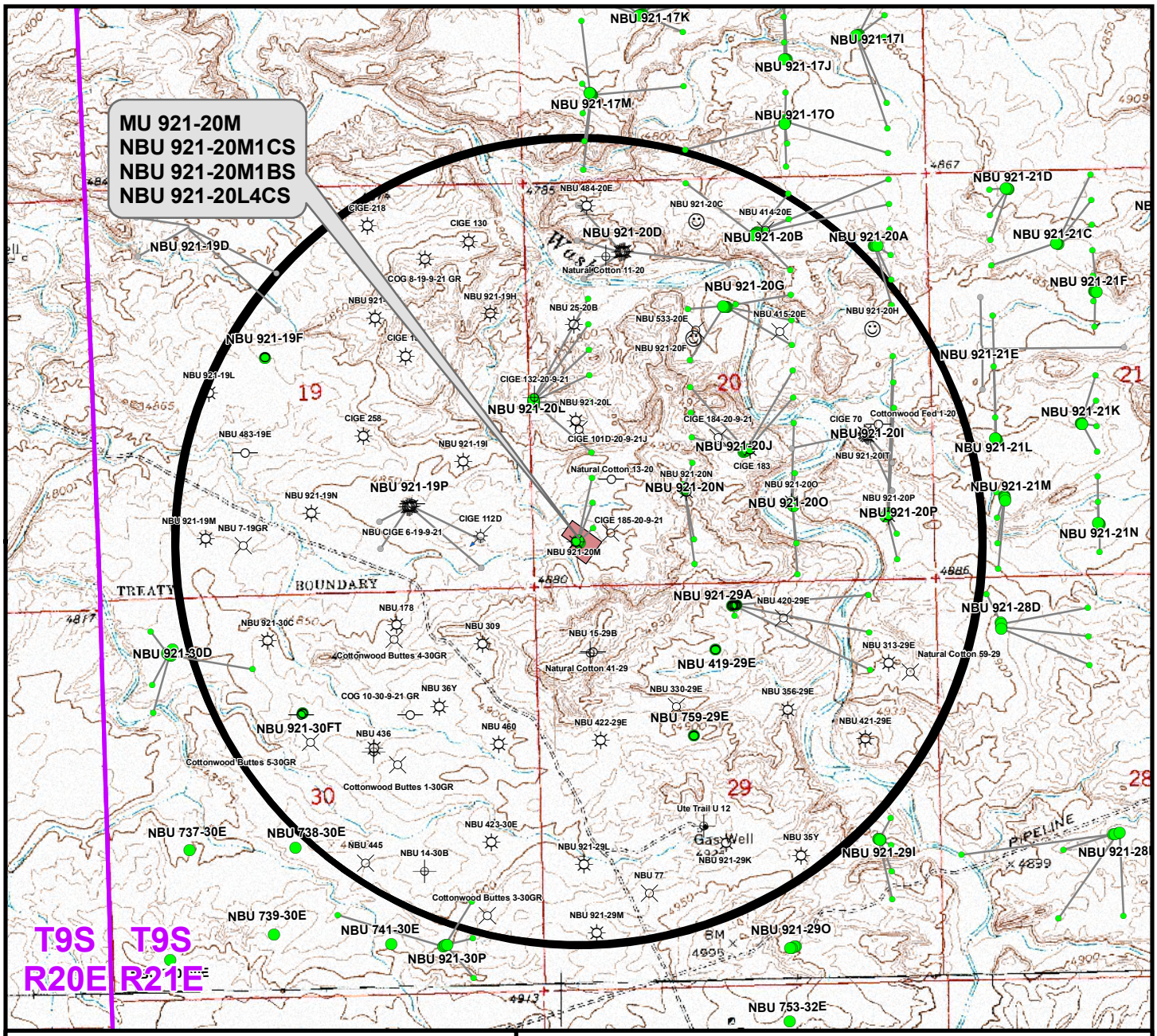
Fax 307-674-0182

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 11
DRAWN: TL	DATE: 17 Apr 2012	11 OF 16
REVISED:	DATE:	

RECEIVED: November 27, 2012

API Well Number: 43047533550000



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
MU 921-20M	NBU 921-20M	56ft
NBU 921-20M1CS	NBU 921-20M	289ft
NBU 921-20M1BS	Natural Cotton 13-20	401ft
NBU 921-20L4CS	Natural Cotton 13-20	252ft

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 921-20M

TOPO C
MU 921-20M, NBU 921-20M1CS, NBU 921-20M1BS & NBU 921-20L4CS
LOCATED IN SECTION 20, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

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Denver, Colorado 80202

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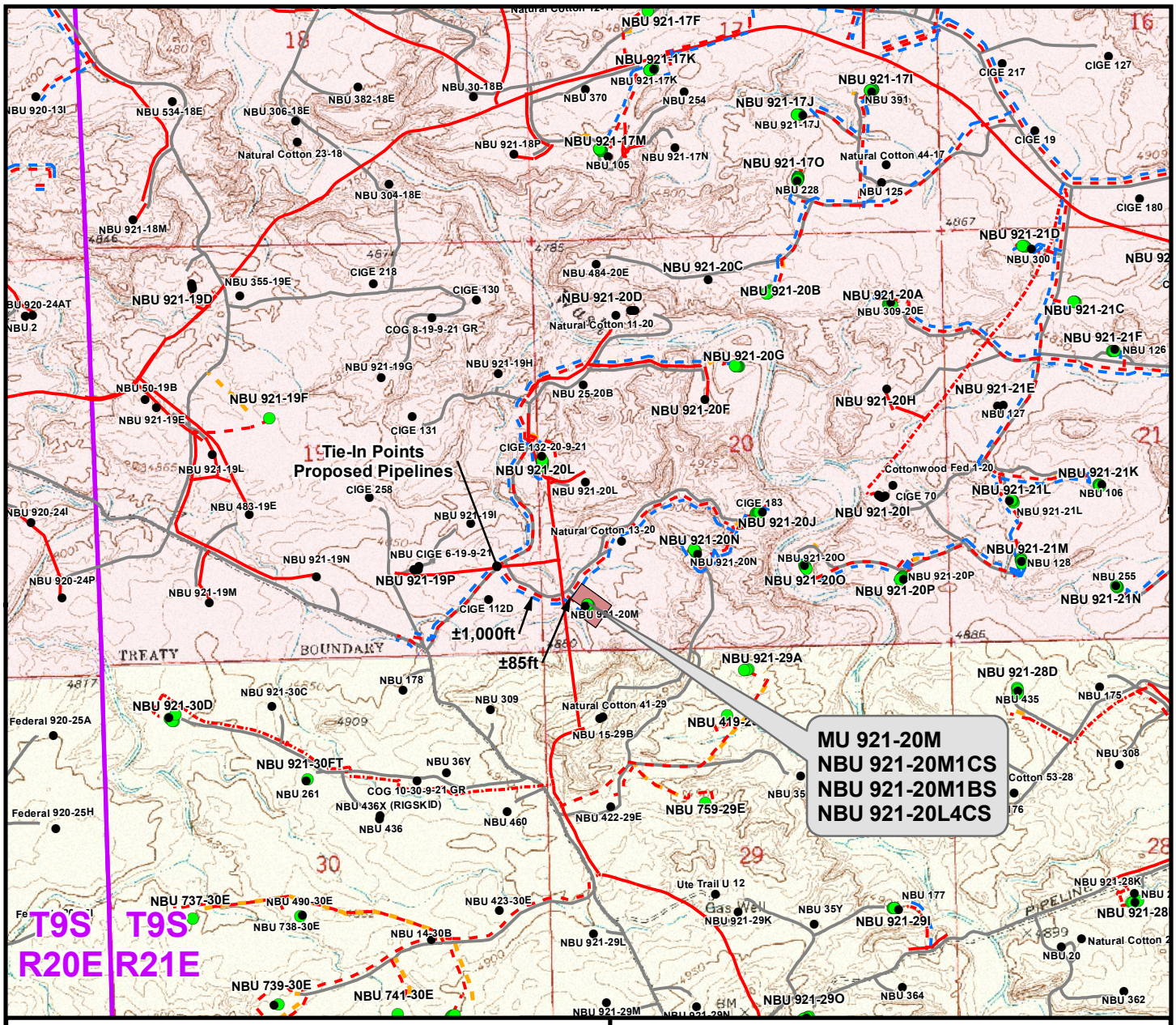
N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 12
DRAWN: TL	DATE: 17 Apr 2012	12 OF 16
REVISED:	DATE:	

RECEIVED: November 27, 2012



Proposed Liquid Pipeline	Length
Buried 6" (Max.) (Meter House to Edge of Pad)	±350ft
Buried 6" (Max.) (Edge of Pad to 20J Intersection)	±85ft
Buried 6" (Max.) (20J Intersection to 20L Intersection)	±1,000ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±1,435ft

Proposed Gas Pipeline	Length
Buried 6" (Meter House to Edge of Pad)	±350ft
Buried 6" (Edge of Pad to 20J Intersection)	±85ft
Buried 10" (20J Intersection to 20L Intersection)	±1,000ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±1,435ft

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 921-20M

TOPO D
MU 921-20M, NBU 921-20M1CS, NBU 921-20M1BS & NBU 921-20L4CS
LOCATED IN SECTION 20, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

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Denver, Colorado 80202

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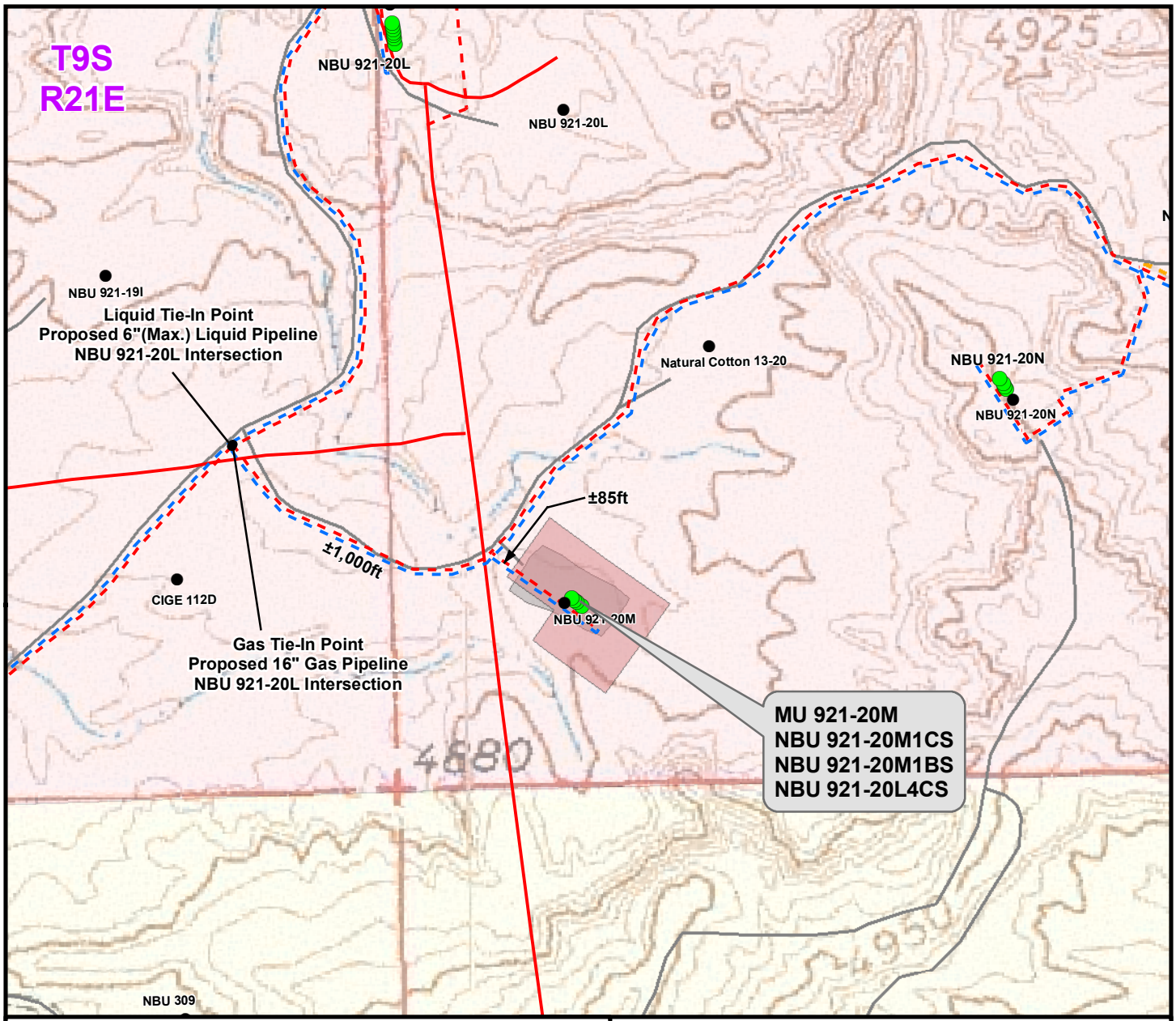
Fax 307-674-0182

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 13
DRAWN: TL	DATE: 17 Apr 2012	13 OF 16
REVISED:	DATE:	

RECEIVED: November 27, 2012

API Well Number: 43047533550000



Proposed Liquid Pipeline	Length
Buried 6"(Max.) (Meter House to Edge of Pad)	±350ft
Buried 6"(Max.) (Edge of Pad to 20J Intersection)	±85ft
Buried 6"(Max.) (20J Intersection to 20L Intersection)	±1,000ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±1,435ft

Proposed Gas Pipeline	Length
Buried 6" (Meter House to Edge of Pad)	±350ft
Buried 6" (Edge of Pad to 20J Intersection)	±85ft
Buried 10" (20J Intersection to 20L Intersection)	±1,000ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±1,435ft

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 921-20M

TOPO D2 (PAD & PIPELINE DETAIL)
MU 921-20M, NBU 921-20M1CS,
NBU 921-20M1BS & NBU 921-20L4CS
LOCATED IN SECTION 20, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

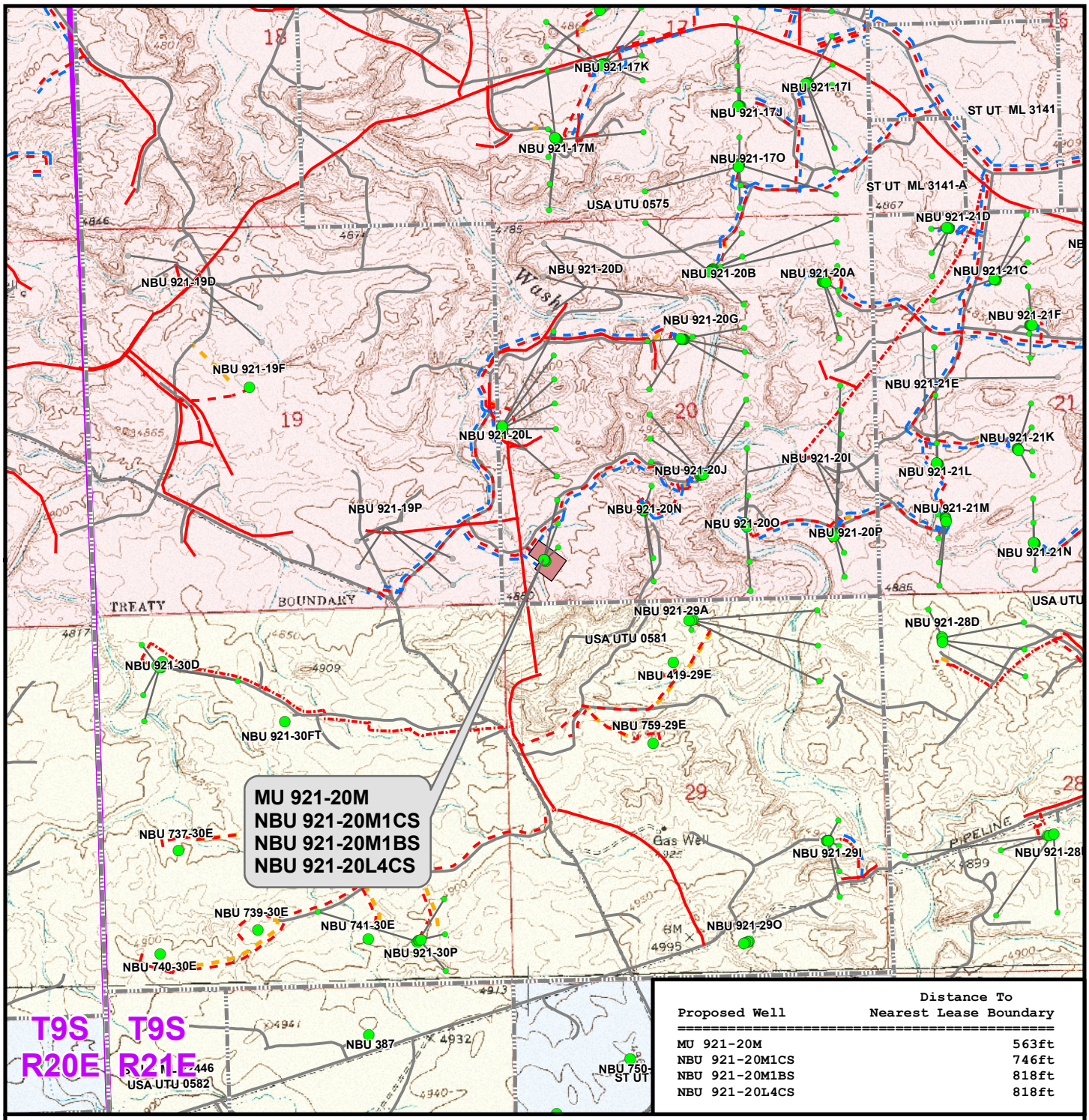
609 CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

N

SCALE: 1" = 500ft	NAD83 USP Central	SHEET NO: 14
DRAWN: TL	DATE: 17 Apr 2012	14 OF 16
REVISED:	DATE:	

RECEIVED: November 27, 2012

API Well Number: 43047533550000



Proposed Well	Distance To Nearest Lease Boundary
MU 921-20M	563ft
NBU 921-20M1CS	746ft
NBU 921-20M1BS	818ft
NBU 921-20L4CS	818ft

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 921-20M

TOPO E
MU 921-20M, NBU 921-20M1CS,
NBU 921-20M1BS & NBU 921-20L4CS
LOCATED IN SECTION 20, T9S, R21E,
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" = 2,000ft	NAD83 USP Central	SHEET NO:	15
DRAWN: TL	DATE: 17 Apr 2012		15 OF 16
REVISED:	DATE:		

RECEIVED: November 27, 2012

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD - NBU 921-20M
WELLS - MU 921-20M, NBU 921-20M1CS,
NBU 921-20M1BS & NBU 921-20L4CS
Section 20, T9S, R21E, 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 17.7 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly direction along the Class D County Road approximately 3.9 miles to a second Class D County Road to the northwest. Exit right and proceed in a northwesterly direction along the second Class D County Road approximately 1.2 miles to a Tribal Road to the northeast. Exit right and proceed in a northeasterly direction along the Tribal Road approximately 0.3 miles to a service road to the southeast. Exit right and proceed in a southeasterly, then northeasterly direction along the service road approximately 0.2 miles to the existing access road to the southeast. Exit right and proceed in a southeasterly direction along the existing access road approximately 75 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 46.8 miles in a southerly direction.

RECEIVED: November 27, 2012

API Well Number: 43047533550000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 921-20M PAD
Well: NBU 921-20L4CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

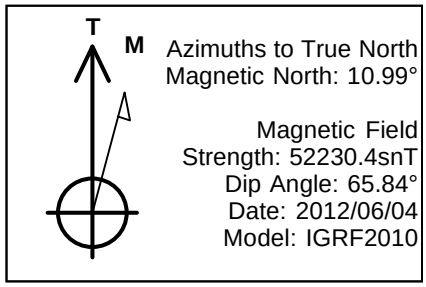
WELL DETAILS: NBU 921-20L4CS

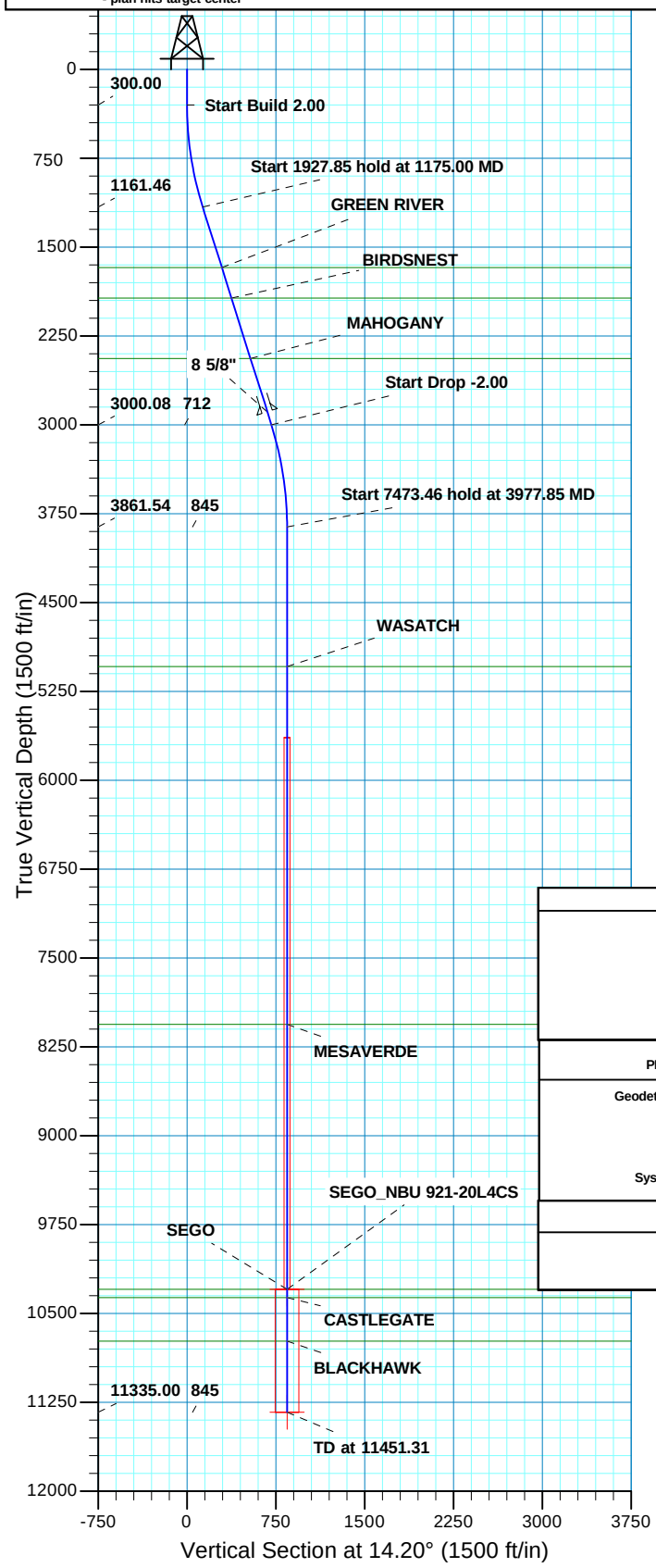
GL 4891 & KB 4 @ 4895.00ft (ASSUMED)

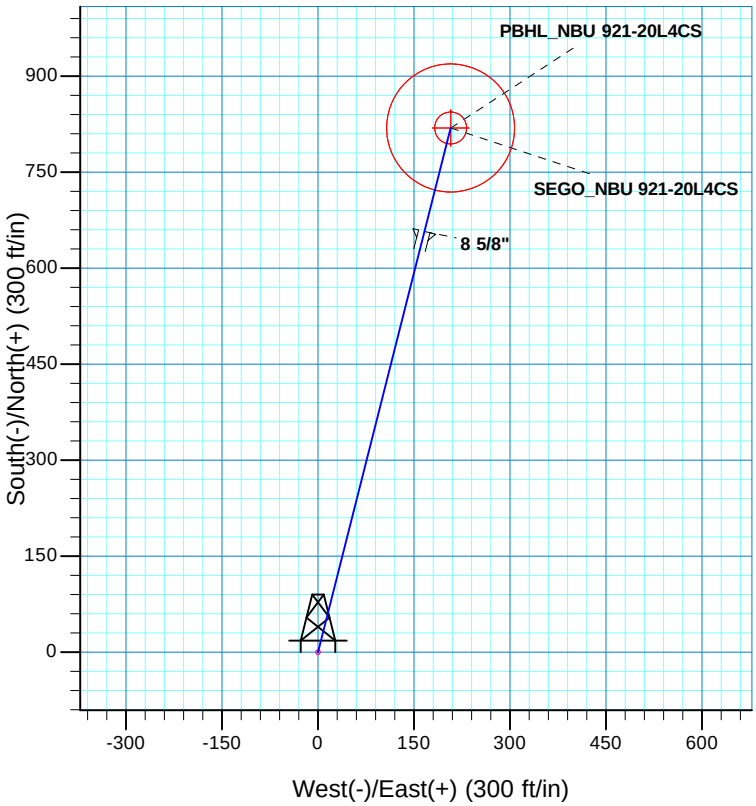
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14534992.27	2037417.38	40.015898	-109.582132

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	10297.00	819.09	207.23	14535814.55	2037611.54	40.018147	-109.581392	Circle (Radius: 25.00)
- plan hits target center								
PBHL	11335.00	819.09	207.23	14535814.55	2037611.54	40.018147	-109.581392	Circle (Radius: 100.00)
- plan hits target center								







SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
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	
1175.00	17.50	14.20	1161.46	128.54	32.52	2.00	14.20	132.59	
3102.85	17.50	14.20	3000.08	690.55	174.71	0.00	0.00	712.31	
3977.85	0.00	0.00	3861.54	819.09	207.23	2.00	180.00	844.90	
11451.31	0.00	0.00	11335.00	819.09	207.23	0.00	0.00	844.90	PBHL_NBU 921-20L4CS

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 20 T9S R21E
System Datum: Mean Sea Level

TVDPath	MDPath	Formation
1673.00	1711.37	GREEN RIVER
1931.00	1981.89	BIRDSNEST
2441.00	2516.64	MAHOGANY
5041.00	5157.31	WASATCH
8060.00	8176.31	MESAVERDE
10297.00	10413.31	SEGO
10367.00	10483.31	CASTLEGATE
10735.00	10851.31	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2891.00	2988.47	8 5/8"	8.625

Plan: PLAN #1 PRELIMINARY (NBU 921-20L4CS/OH)

Created By: RobertScott Date: 9:10, June 04 2012

RECEIVED:

API Well Number: 43047533550000

Scientific Drilling

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 921-20M PAD
NBU 921-20L4CS

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

04 June, 2012

Anadarko Petroleum Corporation

RECEIVED: November 27, 2012

Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 921-20L4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 4891 & KB 4 @ 4895.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 4891 & KB 4 @ 4895.00ft (ASSUMED)
Site:	NBU 921-20M PAD	**North Reference:**	True
Well:	NBU 921-20L4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

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

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

Site NBU 921-20M PAD, SECTION 20 T9S R21E

Site Position:		**Northing:**	14,534,980.51 usft	**Latitude:**	40.015865
From:	Lat/Long	**Easting:**	2,037,433.53 usft	**Longitude:**	-109.582075
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.91 °

Well NBU 921-20L4CS, 587 FSL 609 FWL

Well Position	**+N/-S**	12.02 ft	**Northing:**	14,534,992.28 usft	**Latitude:**	40.015898
	+E/-W	-15.96 ft	**Easting:**	2,037,417.38 usft	**Longitude:**	-109.582132
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	4,891.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2012/06/04	10.99	65.84	52,230

Design PLAN #1 PRELIMINARY

Audit Notes:

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

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	14.20

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,175.00	17.50	14.20	1,161.46	128.54	32.52	2.00	2.00	0.00	14.20	
3,102.85	17.50	14.20	3,000.08	690.55	174.71	0.00	0.00	0.00	0.00	
3,977.85	0.00	0.00	3,861.54	819.09	207.23	2.00	-2.00	0.00	180.00	
11,451.31	0.00	0.00	11,335.00	819.09	207.23	0.00	0.00	0.00	0.00	PBHL_NBU 921-20L4

RECEIVED: November 27, 2012

Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 921-20L4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 4891 & KB 4 @ 4895.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 4891 & KB 4 @ 4895.00ft (ASSUMED)
Site:	NBU 921-20M PAD	**North Reference:**	True
Well:	NBU 921-20L4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	14.20	399.98	1.69	0.43	1.75	2.00	2.00	0.00
500.00	4.00	14.20	499.84	6.77	1.71	6.98	2.00	2.00	0.00
600.00	6.00	14.20	599.45	15.21	3.85	15.69	2.00	2.00	0.00
700.00	8.00	14.20	698.70	27.03	6.84	27.88	2.00	2.00	0.00
800.00	10.00	14.20	797.47	42.19	10.67	43.52	2.00	2.00	0.00
900.00	12.00	14.20	895.62	60.69	15.35	62.60	2.00	2.00	0.00
1,000.00	14.00	14.20	993.06	82.50	20.87	85.10	2.00	2.00	0.00
1,100.00	16.00	14.20	1,089.64	107.59	27.22	110.98	2.00	2.00	0.00
1,175.00	17.50	14.20	1,161.46	128.54	32.52	132.59	2.00	2.00	0.00
Start 1927.85 hold at 1175.00 MD									
1,200.00	17.50	14.20	1,185.30	135.83	34.36	140.11	0.00	0.00	0.00
1,300.00	17.50	14.20	1,280.67	164.98	41.74	170.18	0.00	0.00	0.00
1,400.00	17.50	14.20	1,376.05	194.13	49.11	200.25	0.00	0.00	0.00
1,500.00	17.50	14.20	1,471.42	223.29	56.49	230.32	0.00	0.00	0.00
1,600.00	17.50	14.20	1,566.79	252.44	63.87	260.39	0.00	0.00	0.00
1,700.00	17.50	14.20	1,662.16	281.59	71.24	290.46	0.00	0.00	0.00
1,711.37	17.50	14.20	1,673.00	284.90	72.08	293.88	0.00	0.00	0.00
GREEN RIVER									
1,800.00	17.50	14.20	1,757.53	310.74	78.62	320.53	0.00	0.00	0.00
1,900.00	17.50	14.20	1,852.90	339.89	85.99	350.60	0.00	0.00	0.00
1,981.89	17.50	14.20	1,931.00	363.77	92.03	375.23	0.00	0.00	0.00
BIRDSNEST									
2,000.00	17.50	14.20	1,948.28	369.05	93.37	380.67	0.00	0.00	0.00
2,100.00	17.50	14.20	2,043.65	398.20	100.74	410.74	0.00	0.00	0.00
2,200.00	17.50	14.20	2,139.02	427.35	108.12	440.81	0.00	0.00	0.00
2,300.00	17.50	14.20	2,234.39	456.50	115.49	470.89	0.00	0.00	0.00
2,400.00	17.50	14.20	2,329.76	485.65	122.87	500.96	0.00	0.00	0.00
2,500.00	17.50	14.20	2,425.13	514.81	130.24	531.03	0.00	0.00	0.00
2,516.64	17.50	14.20	2,441.00	519.66	131.47	536.03	0.00	0.00	0.00
MAHOGANY									
2,600.00	17.50	14.20	2,520.51	543.96	137.62	561.10	0.00	0.00	0.00
2,700.00	17.50	14.20	2,615.88	573.11	144.99	591.17	0.00	0.00	0.00
2,800.00	17.50	14.20	2,711.25	602.26	152.37	621.24	0.00	0.00	0.00
2,900.00	17.50	14.20	2,806.62	631.41	159.75	651.31	0.00	0.00	0.00
2,988.47	17.50	14.20	2,891.00	657.21	166.27	677.91	0.00	0.00	0.00
8 5/8"									
3,000.00	17.50	14.20	2,901.99	660.57	167.12	681.38	0.00	0.00	0.00
3,100.00	17.50	14.20	2,997.36	689.72	174.50	711.45	0.00	0.00	0.00
3,102.85	17.50	14.20	3,000.08	690.55	174.71	712.31	0.00	0.00	0.00
Start Drop -2.00									
3,200.00	15.56	14.20	3,093.21	717.34	181.48	739.94	2.00	-2.00	0.00
3,300.00	13.56	14.20	3,190.00	741.71	187.65	765.08	2.00	-2.00	0.00
3,400.00	11.56	14.20	3,287.60	762.78	192.98	786.82	2.00	-2.00	0.00
3,500.00	9.56	14.20	3,385.90	780.54	197.47	805.14	2.00	-2.00	0.00
3,600.00	7.56	14.20	3,484.79	794.97	201.12	820.02	2.00	-2.00	0.00
3,700.00	5.56	14.20	3,584.13	806.04	203.92	831.43	2.00	-2.00	0.00
3,800.00	3.56	14.20	3,683.80	813.74	205.87	839.38	2.00	-2.00	0.00
3,900.00	1.56	14.20	3,783.70	818.06	206.97	843.84	2.00	-2.00	0.00

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Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 921-20L4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 4891 & KB 4 @ 4895.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 4891 & KB 4 @ 4895.00ft (ASSUMED)
Site:	NBU 921-20M PAD	**North Reference:**	True
Well:	NBU 921-20L4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,977.85	0.00	0.00	3,861.54	819.09	207.23	844.90	2.00	-2.00	0.00
Start 7473.46 hold at 3977.85 MD									
4,000.00	0.00	0.00	3,883.69	819.09	207.23	844.90	0.00	0.00	0.00
4,100.00	0.00	0.00	3,983.69	819.09	207.23	844.90	0.00	0.00	0.00
4,200.00	0.00	0.00	4,083.69	819.09	207.23	844.90	0.00	0.00	0.00
4,300.00	0.00	0.00	4,183.69	819.09	207.23	844.90	0.00	0.00	0.00
4,400.00	0.00	0.00	4,283.69	819.09	207.23	844.90	0.00	0.00	0.00
4,500.00	0.00	0.00	4,383.69	819.09	207.23	844.90	0.00	0.00	0.00
4,600.00	0.00	0.00	4,483.69	819.09	207.23	844.90	0.00	0.00	0.00
4,700.00	0.00	0.00	4,583.69	819.09	207.23	844.90	0.00	0.00	0.00
4,800.00	0.00	0.00	4,683.69	819.09	207.23	844.90	0.00	0.00	0.00
4,900.00	0.00	0.00	4,783.69	819.09	207.23	844.90	0.00	0.00	0.00
5,000.00	0.00	0.00	4,883.69	819.09	207.23	844.90	0.00	0.00	0.00
5,100.00	0.00	0.00	4,983.69	819.09	207.23	844.90	0.00	0.00	0.00
5,157.31	0.00	0.00	5,041.00	819.09	207.23	844.90	0.00	0.00	0.00
WASATCH									
5,200.00	0.00	0.00	5,083.69	819.09	207.23	844.90	0.00	0.00	0.00
5,300.00	0.00	0.00	5,183.69	819.09	207.23	844.90	0.00	0.00	0.00
5,400.00	0.00	0.00	5,283.69	819.09	207.23	844.90	0.00	0.00	0.00
5,500.00	0.00	0.00	5,383.69	819.09	207.23	844.90	0.00	0.00	0.00
5,600.00	0.00	0.00	5,483.69	819.09	207.23	844.90	0.00	0.00	0.00
5,700.00	0.00	0.00	5,583.69	819.09	207.23	844.90	0.00	0.00	0.00
5,800.00	0.00	0.00	5,683.69	819.09	207.23	844.90	0.00	0.00	0.00
5,900.00	0.00	0.00	5,783.69	819.09	207.23	844.90	0.00	0.00	0.00
6,000.00	0.00	0.00	5,883.69	819.09	207.23	844.90	0.00	0.00	0.00
6,100.00	0.00	0.00	5,983.69	819.09	207.23	844.90	0.00	0.00	0.00
6,200.00	0.00	0.00	6,083.69	819.09	207.23	844.90	0.00	0.00	0.00
6,300.00	0.00	0.00	6,183.69	819.09	207.23	844.90	0.00	0.00	0.00
6,400.00	0.00	0.00	6,283.69	819.09	207.23	844.90	0.00	0.00	0.00
6,500.00	0.00	0.00	6,383.69	819.09	207.23	844.90	0.00	0.00	0.00
6,600.00	0.00	0.00	6,483.69	819.09	207.23	844.90	0.00	0.00	0.00
6,700.00	0.00	0.00	6,583.69	819.09	207.23	844.90	0.00	0.00	0.00
6,800.00	0.00	0.00	6,683.69	819.09	207.23	844.90	0.00	0.00	0.00
6,900.00	0.00	0.00	6,783.69	819.09	207.23	844.90	0.00	0.00	0.00
7,000.00	0.00	0.00	6,883.69	819.09	207.23	844.90	0.00	0.00	0.00
7,100.00	0.00	0.00	6,983.69	819.09	207.23	844.90	0.00	0.00	0.00
7,200.00	0.00	0.00	7,083.69	819.09	207.23	844.90	0.00	0.00	0.00
7,300.00	0.00	0.00	7,183.69	819.09	207.23	844.90	0.00	0.00	0.00
7,400.00	0.00	0.00	7,283.69	819.09	207.23	844.90	0.00	0.00	0.00
7,500.00	0.00	0.00	7,383.69	819.09	207.23	844.90	0.00	0.00	0.00
7,600.00	0.00	0.00	7,483.69	819.09	207.23	844.90	0.00	0.00	0.00
7,700.00	0.00	0.00	7,583.69	819.09	207.23	844.90	0.00	0.00	0.00
7,800.00	0.00	0.00	7,683.69	819.09	207.23	844.90	0.00	0.00	0.00
7,900.00	0.00	0.00	7,783.69	819.09	207.23	844.90	0.00	0.00	0.00
8,000.00	0.00	0.00	7,883.69	819.09	207.23	844.90	0.00	0.00	0.00
8,100.00	0.00	0.00	7,983.69	819.09	207.23	844.90	0.00	0.00	0.00
8,176.31	0.00	0.00	8,060.00	819.09	207.23	844.90	0.00	0.00	0.00
MESAVERDE									
8,200.00	0.00	0.00	8,083.69	819.09	207.23	844.90	0.00	0.00	0.00
8,300.00	0.00	0.00	8,183.69	819.09	207.23	844.90	0.00	0.00	0.00
8,400.00	0.00	0.00	8,283.69	819.09	207.23	844.90	0.00	0.00	0.00
8,500.00	0.00	0.00	8,383.69	819.09	207.23	844.90	0.00	0.00	0.00
8,600.00	0.00	0.00	8,483.69	819.09	207.23	844.90	0.00	0.00	0.00

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SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 921-20L4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 4891 & KB 4 @ 4895.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 4891 & KB 4 @ 4895.00ft (ASSUMED)
Site:	NBU 921-20M PAD	**North Reference:**	True
Well:	NBU 921-20L4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,700.00	0.00	0.00	8,583.69	819.09	207.23	844.90	0.00	0.00	0.00
8,800.00	0.00	0.00	8,683.69	819.09	207.23	844.90	0.00	0.00	0.00
8,900.00	0.00	0.00	8,783.69	819.09	207.23	844.90	0.00	0.00	0.00
9,000.00	0.00	0.00	8,883.69	819.09	207.23	844.90	0.00	0.00	0.00
9,100.00	0.00	0.00	8,983.69	819.09	207.23	844.90	0.00	0.00	0.00
9,200.00	0.00	0.00	9,083.69	819.09	207.23	844.90	0.00	0.00	0.00
9,300.00	0.00	0.00	9,183.69	819.09	207.23	844.90	0.00	0.00	0.00
9,400.00	0.00	0.00	9,283.69	819.09	207.23	844.90	0.00	0.00	0.00
9,500.00	0.00	0.00	9,383.69	819.09	207.23	844.90	0.00	0.00	0.00
9,600.00	0.00	0.00	9,483.69	819.09	207.23	844.90	0.00	0.00	0.00
9,700.00	0.00	0.00	9,583.69	819.09	207.23	844.90	0.00	0.00	0.00
9,800.00	0.00	0.00	9,683.69	819.09	207.23	844.90	0.00	0.00	0.00
9,900.00	0.00	0.00	9,783.69	819.09	207.23	844.90	0.00	0.00	0.00
10,000.00	0.00	0.00	9,883.69	819.09	207.23	844.90	0.00	0.00	0.00
10,100.00	0.00	0.00	9,983.69	819.09	207.23	844.90	0.00	0.00	0.00
10,200.00	0.00	0.00	10,083.69	819.09	207.23	844.90	0.00	0.00	0.00
10,300.00	0.00	0.00	10,183.69	819.09	207.23	844.90	0.00	0.00	0.00
10,400.00	0.00	0.00	10,283.69	819.09	207.23	844.90	0.00	0.00	0.00
10,413.31	0.00	0.00	10,297.00	819.09	207.23	844.90	0.00	0.00	0.00
SEGO - SEGO_NBU 921-20L4CS									
10,483.31	0.00	0.00	10,367.00	819.09	207.23	844.90	0.00	0.00	0.00
CASTLEGATE									
10,500.00	0.00	0.00	10,383.69	819.09	207.23	844.90	0.00	0.00	0.00
10,600.00	0.00	0.00	10,483.69	819.09	207.23	844.90	0.00	0.00	0.00
10,700.00	0.00	0.00	10,583.69	819.09	207.23	844.90	0.00	0.00	0.00
10,800.00	0.00	0.00	10,683.69	819.09	207.23	844.90	0.00	0.00	0.00
10,851.31	0.00	0.00	10,735.00	819.09	207.23	844.90	0.00	0.00	0.00
BLACKHAWK									
10,900.00	0.00	0.00	10,783.69	819.09	207.23	844.90	0.00	0.00	0.00
11,000.00	0.00	0.00	10,883.69	819.09	207.23	844.90	0.00	0.00	0.00
11,100.00	0.00	0.00	10,983.69	819.09	207.23	844.90	0.00	0.00	0.00
11,200.00	0.00	0.00	11,083.69	819.09	207.23	844.90	0.00	0.00	0.00
11,300.00	0.00	0.00	11,183.69	819.09	207.23	844.90	0.00	0.00	0.00
11,400.00	0.00	0.00	11,283.69	819.09	207.23	844.90	0.00	0.00	0.00
11,451.31	0.00	0.00	11,335.00	819.09	207.23	844.90	0.00	0.00	0.00
PBHL_NBU 921-20L4CS									

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
SEGO_NBU 921-20L4C - plan hits target center - Circle (radius 25.00)	0.00	0.00	10,297.00	819.09	207.23	14,535,814.56	2,037,611.54	40.018147	-109.581392
PBHL_NBU 921-20L4C - plan hits target center - Circle (radius 100.00)	0.00	0.00	11,335.00	819.09	207.23	14,535,814.56	2,037,611.54	40.018147	-109.581392

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Scientific Drilling

SDI
Planning Report

Anadarko Petroleum Corporation

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 921-20L4CS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 4891 & KB 4 @ 4895.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 4891 & KB 4 @ 4895.00ft (ASSUMED)
Site:	NBU 921-20M PAD	**North Reference:**	True
Well:	NBU 921-20L4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,988.47	2,891.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,711.37	1,673.00	GREEN RIVER			
1,981.89	1,931.00	BIRDSNEST			
2,516.64	2,441.00	MAHOGANY			
5,157.31	5,041.00	WASATCH			
8,176.31	8,060.00	MESAVERDE			
10,413.31	10,297.00	SEGO			
10,483.31	10,367.00	CASTLEGATE			
10,851.31	10,735.00	BLACKHAWK			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,175.00	1,161.46	128.54	32.52	Start 1927.85 hold at 1175.00 MD
3,102.85	3,000.08	690.55	174.71	Start Drop -2.00
3,977.85	3,861.54	819.09	207.23	Start 7473.46 hold at 3977.85 MD
11,451.31	11,335.00	819.09	207.23	TD at 11451.31

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

NBU 921-20M Pad

API #		MU 921-20M		
	Surface:	563 FSL / 641 FWL	SWSW	Lot
	BHL:	563 FSL / 641 FWL	SWSW	Lot

API #		NBU 921-20L4CS		
	Surface:	587 FSL / 609 FWL	SWSW	Lot
	BHL:	1406 FSL / 818 FWL	NWSW	Lot

API #		NBU 921-20M1BS		
	Surface:	581 FSL / 617 FWL	SWSW	Lot
	BHL:	1076 FSL / 818 FWL	SWSW	Lot

API #		NBU 921-20M1CS		
	Surface:	575 FSL / 625 FWL	SWSW	Lot
	BHL:	746 FSL / 818 FWL	SWSW	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 May 8, 2012. Present were:

- David Gordon, Melissa Wardle, Tyler Cox - BLM;
- Bucky Secakuku - BIA;
- Brad Pinecoose - Ute Indian Tribe;
- Amy Ackman - Montgomery Archeological Consultants Inc.;
- Scott Carson - Smiling Lake Consulting;
- John Slaugh, Mitch Batty - Timberline Engineering & Land Surveying, Inc.;
- Danielle Piernot, Raleen White, Doyle Holmes, Rod Anderson, Charles Chase - Kerr-McGee
- Tim Horgan-Kobelski - Grasslands Consulting, Inc.
- Justin Strauss - SWCA Environmental Consultants

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.

RECEIVED: November 27, 2012

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.

B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BIA.

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.

RECEIVED: November 27, 2012

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

No new access road is proposed. Please refer to Topo B.

C. Location of Existing Wells:

A) Refer to Topo Map C.

D. Location of Existing and/or Proposed Facilities:

This pad will expand the existing pad for the NBU 921-20M, which is a producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records on June 28, 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 accommodate 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 (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 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 ±1,435' and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±1,435' (0.3 miles) – Section 20 and Section 19 T9S R21E– On-lease UTU0575 and UTU0581 Ute Indian Tribe Surface, New 6" and 10" buried gas gathering pipeline from the meter to the NBU 921-20L Pad intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

LIQUID GATHERING

Please refer to Topo D2- Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is ±1,435' and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±1,435' (0.3 miles) – Section 20 and Section 19 T9S R21E– On-lease UTU0575 and UTU0581 Ute Indian Tribe Surface, New 6" buried liquid gathering pipeline from the separator to the NBU 921-20L Pad intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

RECEIVED: November 27, 2012

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

RECEIVED: November 27, 2012

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

The Anadarko Completions Transportation System (ACTS) information:

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 discussed 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 of 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.

The collected hydrocarbons 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. 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 temporary ACTS lines will be permitted under a separate cover to the Ute Indian Tribe.

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, BIA considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BIA.

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 Tribal lands without prior approval from the BIA. 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 BIA.

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 BIA, 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 BIA, 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 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 BIA. 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 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 BIA.

RECEIVED: November 27, 2012

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 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:

RECEIVED: November 27, 2012

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:

ancillary facilities are

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 disturbance 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 BIA.

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.

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 BIA for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

RECEIVED: November 27, 2012

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 BIA 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 BIA/Tribe. 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 as proposed below in "Measures Common to Interim and Final Reclamation".

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

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.

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 BIA/Tribe or a specific seed mix will be proposed by Kerr-McGee to the BIA/Tribe 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”.

RECEIVED: November 27, 2012

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

Indian Ricegrass (Nezpar)	3
Sandberg Bluegrass	0.75
Bottlebrush Squirreltail	1
Great Basin Wildrye	0.5
Crested Wheatgrass	1.5
Winterfat	0.25
Shadscale	1.5
Four-wing Saltbrush	0.75
Forage Kochia	0.25
Total	9.5

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.

Weed Control

Noxious weeds will be controlled in akk orihect areas un accordance with all applicable rules and regulations.

K. Surface/Mineral Ownership:

Ute Indian Tribe	United States of America
P.O. Box 70	Bureau of Land Management
988 South 7500 East Annex Building	170 South 500 East
Fort Duschesne, UT 84026	Vernal, UT 84078
(435) 722-4307	(435)781-4400

L. Other Information:

Onsite Specifics:

- Construct diversion ditch behind stockpile near corner 4.
- Construct diversion ditch as needed near corners 2, 1 and 10.

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 BIA.

Resource Reports:

A Class I literature survey report was completed on May 21, 2012 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 12-152.

A paleontological reconnaissance survey was completed on April 10-16, 2012 by SWCA Environmental Consultants. For additional details please refer to report UT12-14314-102 and UT12-14314-122.

Biological field survey was completed on April 10-13, 2012 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-770 and GCI-776.

RECEIVED: November 27, 2012

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

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	15.68	16,547	0.09%
VOC	20	127,495	0.02%

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

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

Danielle Piernot
Regulatory Analyst II
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6156

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.

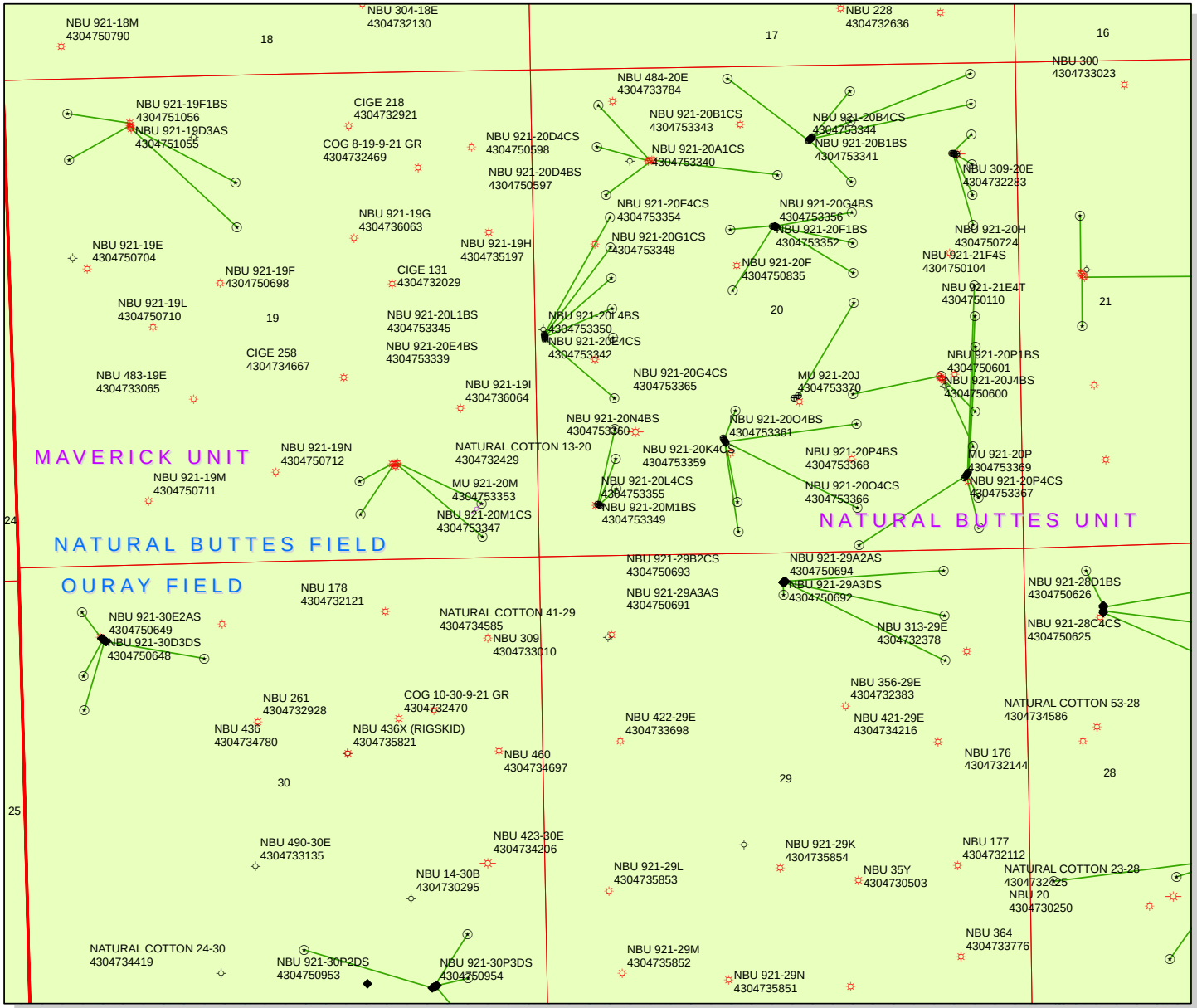
Danielle Piernot

Danielle Piernot

June 22, 2012

Date

API Well Number: 43047533550000



API Number: 4304753355

Well Name: NBU 921-20L4CS

Township T09.0S Range R21.0E Section 20

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: November 28, 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)

December 6, 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)		
NBU 921-20A PAD		
43-047-53330	NBU 921-20A4BS	Sec 20 T09S R21E 0947 FNL 0708 FEL
		BHL Sec 20 T09S R21E 0744 FNL 0491 FEL
43-047-53331	NBU 921-20A4CS	Sec 20 T09S R21E 0951 FNL 0678 FEL
		BHL Sec 20 T09S R21E 1075 FNL 0491 FEL
43-047-53334	NBU 921-20H1BS	Sec 20 T09S R21E 0950 FNL 0688 FEL
		BHL Sec 20 T09S R21E 1405 FNL 0491 FEL
43-047-53335	NBU 921-20H1CS	Sec 20 T09S R21E 0948 FNL 0698 FEL
		BHL Sec 20 T09S R21E 1736 FNL 0491 FEL
NBU 921-20L PAD		
43-047-53333	NBU 921-20E1BS	Sec 20 T09S R21E 2450 FSL 0075 FWL
		BHL Sec 20 T09S R21E 1571 FNL 0819 FWL
43-047-53336	NBU 921-20E1CS	Sec 20 T09S R21E 2440 FSL 0076 FWL
		BHL Sec 20 T09S R21E 1902 FNL 0819 FWL
43-047-53339	NBU 921-20E4BS	Sec 20 T09S R21E 2430 FSL 0077 FWL
		BHL Sec 20 T09S R21E 2233 FNL 0819 FWL
43-047-53342	NBU 921-20E4CS	Sec 20 T09S R21E 2420 FSL 0078 FWL
		BHL Sec 20 T09S R21E 2564 FNL 0819 FWL
43-047-53345	NBU 921-20L1BS	Sec 20 T09S R21E 2410 FSL 0079 FWL
		BHL Sec 20 T09S R21E 2396 FSL 0819 FWL
43-047-53350	NBU 921-20L4BS	Sec 20 T09S R21E 2401 FSL 0080 FWL
		BHL Sec 20 T09S R21E 1736 FSL 0818 FWL

RECEIVED: December 06, 2012

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

NBU 921-20B PAD

43-047-53337 NBU 921-20C1BS Sec 20 T09S R21E 0777 FNL 2269 FEL
BHL Sec 20 T09S R21E 0083 FNL 2136 FWL

43-047-53338 NBU 921-20A1BS Sec 20 T09S R21E 0745 FNL 2231 FEL
BHL Sec 20 T09S R21E 0083 FNL 0491 FEL

43-047-53340 NBU 921-20A1CS Sec 20 T09S R21E 0764 FNL 2253 FEL
BHL Sec 20 T09S R21E 0413 FNL 0491 FEL

43-047-53341 NBU 921-20B1BS Sec 20 T09S R21E 0751 FNL 2238 FEL
BHL Sec 20 T09S R21E 0248 FNL 1808 FEL

43-047-53343 NBU 921-20B1CS Sec 20 T09S R21E 0738 FNL 2223 FEL
BHL Sec 20 T09S R21E 0578 FNL 1808 FEL

43-047-53344 NBU 921-20B4CS Sec 20 T09S R21E 0771 FNL 2261 FEL
BHL Sec 20 T09S R21E 1240 FNL 1807 FEL

NBU 921-20G PAD

43-047-53346 NBU 921-20G1BS Sec 20 T09S R21E 1706 FNL 2606 FWL
BHL Sec 20 T09S R21E 1570 FNL 1807 FEL

43-047-53348 NBU 921-20G1CS Sec 20 T09S R21E 1712 FNL 2636 FWL
BHL Sec 20 T09S R21E 1901 FNL 1807 FEL

43-047-53352 NBU 921-20F1BS Sec 20 T09S R21E 1702 FNL 2587 FWL
BHL Sec 20 T09S R21E 1732 FNL 2126 FWL

43-047-53354 NBU 921-20F4CS Sec 20 T09S R21E 1704 FNL 2597 FWL
BHL Sec 20 T09S R21E 2399 FNL 2134 FWL

43-047-53356 NBU 921-20G4BS Sec 20 T09S R21E 1710 FNL 2626 FWL
BHL Sec 20 T09S R21E 2232 FNL 1806 FEL

NBU 921-20M PAD

43-047-53347 NBU 921-20M1CS Sec 20 T09S R21E 0575 FSL 0625 FWL
BHL Sec 20 T09S R21E 0746 FSL 0818 FWL

43-047-53349 NBU 921-20M1BS Sec 20 T09S R21E 0581 FSL 0617 FWL
BHL Sec 20 T09S R21E 1076 FSL 0818 FWL

43-047-53355 NBU 921-20L4CS Sec 20 T09S R21E 0587 FSL 0609 FWL
BHL Sec 20 T09S R21E 1406 FSL 0818 FWL

NBU 921-20N PAD

43-047-53351 NBU 921-20N4CS Sec 20 T09S R21E 1256 FSL 2008 FWL
BHL Sec 20 T09S R21E 0249 FSL 2132 FWL

43-047-53358 NBU 921-20J4CS Sec 20 T09S R21E 1239 FSL 2019 FWL
BHL Sec 20 T09S R21E 1407 FSL 1805 FEL

43-047-53359 NBU 921-20K4CS Sec 20 T09S R21E 1265 FSL 2003 FWL
BHL Sec 20 T09S R21E 1572 FSL 2133 FWL

43-047-53360 NBU 921-20N4BS Sec 20 T09S R21E 1248 FSL 2014 FWL
BHL Sec 20 T09S R21E 0579 FSL 2132 FWL

43-047-53361 NBU 921-20O4BS Sec 20 T09S R21E 1231 FSL 2024 FWL
BHL Sec 20 T09S R21E 0492 FSL 1810 FEL

RECEIVED: December 06, 2012

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
NBU 921-20P PAD		
43-047-53362	NBU 921-20H4CS	Sec 20 T09S R21E 0842 FSL 0606 FEL
		BHL Sec 20 T09S R21E 2397 FNL 0491 FEL
43-047-53363	NBU 921-20I1BS	Sec 20 T09S R21E 0850 FSL 0599 FEL
		BHL Sec 20 T09S R21E 2559 FSL 0491 FEL
43-047-53364	NBU 921-20I1CS	Sec 20 T09S R21E 0857 FSL 0593 FEL
		BHL Sec 20 T09S R21E 2229 FSL 0491 FEL
43-047-53366	NBU 921-20O4CS	Sec 20 T09S R21E 0819 FSL 0625 FEL
		BHL Sec 20 T09S R21E 0084 FSL 1804 FEL
43-047-53367	NBU 921-20P4CS	Sec 20 T09S R21E 0827 FSL 0618 FEL
		BHL Sec 20 T09S R21E 0249 FSL 0490 FEL
43-047-53368	NBU 921-20P4BS	Sec 20 T09S R21E 0834 FSL 0612 FEL
		BHL Sec 20 T09S R21E 0579 FSL 0490 FEL
NBU 921-20J PAD		
43-047-53365	NBU 921-20G4CS	Sec 20 T09S R21E 1726 FSL 2431 FEL
		BHL Sec 20 T09S R21E 2563 FNL 1806 FEL

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: 2012.12.06 09:34:53 -07'00'

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

MCoulthard:mc:12-6-12

RECEIVED: December 06, 2012

API Number	Well Name	Surface Location		
43-047-53330	NBU 921-20A4BS	Sec 20	T09S R21E	0947 FNL 0708 FEL
43-047-53331	NBU 921-20A4CS	Sec 20	T09S R21E	0951 FNL 0678 FEL
43-047-53333	NBU 921-20E1BS	Sec 20	T09S R21E	2450 FSL 0075 FWL
43-047-53334	NBU 921-20H1BS	Sec 20	T09S R21E	0950 FNL 0688 FEL
43-047-53335	NBU 921-20H1CS	Sec 20	T09S R21E	0948 FNL 0698 FEL
43-047-53336	NBU 921-20E1CS	Sec 20	T09S R21E	2440 FSL 0076 FWL
43-047-53337	NBU 921-20C1BS	Sec 20	T09S R21E	0777 FNL 2269 FEL
43-047-53338	NBU 921-20A1BS	Sec 20	T09S R21E	0745 FNL 2231 FEL
43-047-53339	NBU 921-20E4BS	Sec 20	T09S R21E	2430 FSL 0077 FWL
43-047-53340	NBU 921-20A1CS	Sec 20	T09S R21E	0764 FNL 2253 FEL
43-047-53341	NBU 921-20B1BS	Sec 20	T09S R21E	0751 FNL 2238 FEL
43-047-53342	NBU 921-20E4CS	Sec 20	T09S R21E	2420 FSL 0078 FWL
43-047-53343	NBU 921-20B1CS	Sec 20	T09S R21E	0738 FNL 2223 FEL
43-047-53344	NBU 921-20B4CS	Sec 20	T09S R21E	0771 FNL 2261 FEL
43-047-53345	NBU 921-20L1BS	Sec 20	T09S R21E	2410 FSL 0079 FWL
43-047-53346	NBU 921-20G1BS	Sec 20	T09S R21E	1706 FNL 2606 FWL
43-047-53347	NBU 921-20M1CS	Sec 20	T09S R21E	0575 FSL 0625 FWL
43-047-53348	NBU 921-20G1CS	Sec 20	T09S R21E	1712 FNL 2636 FWL
43-047-53349	NBU 921-20M1BS	Sec 20	T09S R21E	0581 FSL 0617 FWL
43-047-53350	NBU 921-20L4BS	Sec 20	T09S R21E	2401 FSL 0080 FWL
43-047-53351	NBU 921-20N4CS	Sec 20	T09S R21E	1256 FSL 2008 FWL
43-047-53352	NBU 921-20F1BS	Sec 20	T09S R21E	1702 FNL 2587 FWL
43-047-53354	NBU 921-20F4CS	Sec 20	T09S R21E	1704 FNL 2597 FWL
43-047-53355	NBU 921-20L4CS	Sec 20	T09S R21E	0587 FSL 0609 FWL
43-047-53356	NBU 921-20G4BS	Sec 20	T09S R21E	1710 FNL 2626 FWL
43-047-53358	NBU 921-20J4CS	Sec 20	T09S R21E	1239 FSL 2019 FWL
43-047-53359	NBU 921-20K4CS	Sec 20	T09S R21E	1265 FSL 2003 FWL
43-047-53360	NBU 921-20N4BS	Sec 20	T09S R21E	1248 FSL 2014 FWL
43-047-53361	NBU 921-20O4BS	Sec 20	T09S R21E	1231 FSL 2024 FWL
43-047-53362	NBU 921-20H4CS	Sec 20	T09S R21E	0842 FSL 0606 FEL
43-047-53363	NBU 921-20I1BS	Sec 20	T09S R21E	0850 FSL 0599 FEL
43-047-53364	NBU 921-20I1CS	Sec 20	T09S R21E	0857 FSL 0593 FEL
43-047-53365	NBU 921-20G4CS	Sec 20	T09S R21E	1726 FSL 2431 FEL
43-047-53366	NBU 921-20O4CS	Sec 20	T09S R21E	0819 FSL 0625 FEL
43-047-53367	NBU 921-20P4CS	Sec 20	T09S R21E	0827 FSL 0618 FEL
43-047-53368	NBU 921-20P4BS	Sec 20	T09S R21E	0834 FSL 0612 FEL

RECEIVED: December 06, 2012

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 11/27/2012
API NO. ASSIGNED: 43047533550000
WELL NAME: NBU 921-20L4CS
OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)
PHONE NUMBER: 720 929-6029
CONTACT: Cara Mahler

PROPOSED LOCATION: SWSW 20 090S 210E
Permit Tech Review: ✔

SURFACE: 0587 FSL 0609 FWL
Engineering Review: ✔

BOTTOM: 1406 FSL 0818 FWL
Geology Review: ✔

COUNTY: UINTAH
LATITUDE: 40.01581
LONGITUDE: -109.58268
UTM SURF EASTINGS: 620956.00
NORTHINGS: 4430474.00
FIELD NAME: NATURAL BUTTES
LEASE TYPE: 1 - Federal
LEASE NUMBER: UTU0575
PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE
SURFACE OWNER: 2 - Indian
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: December 10, 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 921-20L4CS
API Well Number: 43047533550000
Lease Number: UTU0575
Surface Owner: INDIAN
Approval Date: 12/10/2012

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
AUG 23 2012
BLM VERNAL, UTAH

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
UTU0575

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 921-20L4CS

2. Name of Operator
KERR MCGEE OIL&GAS ONSHORE, LP
Contact: DANIELLE PIERNOT
E-Mail: Danielle.Piernot@anadarko.com

9. API Well No.
43-047-53355.

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

3b. Phone No. (include area code)
Ph: 720-929-6156
Fx: 720-929-7156

10. Field and Pool, or Exploratory
NATURAL BUTTES

4. Location of Well (*Report location clearly and in accordance with any State requirements.**)
At surface SWSW 587FSL 609FWL 40.015863 N Lat, 109.582822 W Lon
At proposed prod. zone NWSW 1406FSL 818FWL 40.018112 N Lat, 109.582082 W Lon

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 20 T9S R21E Mer SLB

14. Distance in miles and direction from nearest town or post office*
APPROXIMATELY 47 MILES SOUTH OF VERNAL, UT

12. County or Parish
UINTAH COUNTY

13. State
UT

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
818'

16. No. of Acres in Lease
1600.00

17. Spacing Unit dedicated to this well

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
252'

19. Proposed Depth
11451 MD
11335 TVD

20. BLM/BIA Bond No. on file
WYB000291

21. Elevations (Show whether DF, KB, RT, GL, etc.
4891 GL

22. Approximate date work will start
02/01/2013

23. Estimated duration
60-90 DAYS

RECEIVED
MAY 03 2013
DIV. OF OIL, GAS & MINING

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)
DANIELLE PIERNOT Ph: 720-929-6156

Date
07/13/2012

Title
REGULATORY ANALYST II

Approved by (Signature)

Name (Printed/Typed) Jerry Kenczka

Date MAY 01 20

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. CONDITIONS OF APPROVAL 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)

Electronic Submission #142875 verified by the BLM Well Information System
For KERR MCGEE OIL&GAS ONSHORE, LP, sent to the Vernal

NOTICE OF APPROVAL

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

12PRH2778AE NOS-4/25/12

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, LP**	**Location:**	**SWSW, Sec. 20, T9S, R21E**
Well No:	**NBU 921-20L4CS**	**Lease No:**	**UTU-0575**
API No:	**43-047-53355**	**Agreement:**	**Natural Butte**

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: blm_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.
- Paint facilities "Shadow Gray."
- Conduct a raptor survey prior to construction operations if such activities would take place during raptor nesting season (January 1 through September 30). If active raptor nests are identified during the survey, operations should be conducted according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines.
- If construction operations are not initiated prior to April 19, 2013, an additional biological survey for Uinta Basin hookless cactus should be conducted prior to construction according to current USFWS protocol.
- Monitor construction with a permitted archaeologist.
- Construct diversion ditch on east side of well pad toward north side of pad from Corner #2 to Corner #10.
- Monitor, with a permitted paleontologist, where pipeline and road routes travel through high fossil potential areas: Sec. 19: SENE, NESE

DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)

SITE SPECIFIC DOWNHOLE COAs:

- Surface casing cement shall be brought to surface.
- Production casing cement shall be brought 200' up and into the surface casing.

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 CD (compact disc) format to the Vernal BLM Field Office. 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.

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU0575

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: THE UT

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 921-20L4CS

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

9. API NUMBER: 43047533550000

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: 0587 FSL 0609 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSW Section: 20 Township: 09.0S Range: 21.0E 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: 8/26/2013
- ☐ 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.

Spud well 08/26/2013 @ 11:00. Drill 24" conductor hole to 40', run 14" X .250 wall conductor pipe, cement with 81 sacks ready mix. Anticipated surface spud date and surface casing cement 09/06/2013.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
August 27, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Doreen Green	435 781-9758	Regulatory Analyst II

SIGNATURE	DATE
N/A	8/27/2013

RECEIVED: Aug. 27, 2013

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU0575

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: THE UT

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 921-20L4CS

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

9. API NUMBER: 43047533550000

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: 0587 FSL 0609 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSW Section: 20 Township: 09.0S Range: 21.0E 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 3,030 ft. since last report.

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

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# HP 318 Submitted By KENNY CRUTH Phone Number 435-828-0988/1544
Well Name/Number NBU 921-20L4CS
Qtr/Qtr NW/SW Section 20 Township 9S Range 21E
Lease Serial Number UTU 0575
API Number 4304753355

Casing – Time casing run starts, not cementing times.

☐ Production Casing
☐ Other

Date/Time _____ _____ AM ☐ PM ☐

BOPE
☒ Initial BOPE test at surface casing point
☐ Other

Date/Time 12/09/2013 09:00 AM ☒ PM ☐

RECEIVED
DEC 08 2013
DIV. OF OIL, GAS & MINING

Rig Move
Location To: _____

Date/Time _____ _____ AM ☐ PM ☐

Remarks TIME IS ESTIMATED

FORM 9

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

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU0575

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: THE UT

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 921-20L4CS

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

9. API NUMBER: 43047533550000

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

PHONE NUMBER: 720 929-6582

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0587 FSL 0609 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSW Section: 20 Township: 09.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
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	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 1/2/2014	☐ 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 10,415 ft. TD in Quarter 4 of 2013.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
January 03, 2014

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Kay E. Kelly	720 929 6582	Regulatory Analyst

SIGNATURE	DATE
N/A	1/2/2014

RECEIVED: Jan. 02, 2014

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU0575

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: UTE

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 921-20L4CS

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

9. API NUMBER: 43047533550000

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

PHONE NUMBER: 720 929-6100

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0587 FSL 0609 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSW Section: 20 Township: 09.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	✓ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 2/10/2014	☐ 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 2/10/2014. 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
February 11, 2014

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

SIGNATURE	DATE
N/A	2/11/2014

RECEIVED: Feb. 11, 2014

API Well Number: 43047533550000

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. UTU0575

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 921-20L4CS

3. Address P.O. BOX 173779
DENVER, CO 82017

3a. Phone No. (include area code) Ph: 720-929-6000

9. API Well No. 43-047-53355

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
At surface SWSW 587FSL 609FWL 40.015863 N Lat, 109.582822 W Lon
At top prod interval reported below NWSW 1412FSL 801FWL
At total depth NWSW 1404FSL 828FWL

10. Field and Pool, or Exploratory NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey or Area Sec 20 T9S R21E Mer SLB

12. County or Parish UINTAH

13. State UT

14. Date Spudded 08/26/2013

15. Date T.D. Reached 12/15/2013

16. Date Completed ☐ D & A ☒ Ready to Prod. 02/10/2014

17. Elevations (DF, KB, RT, GL)* 4915 KB

18. Total Depth: MD 10415 TVD 10296

19. Plug Back T.D.: MD 10344 TVD 10225

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
RADIAL 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
24.000	14.000 STL	36.7	0	40		81			
11.000	8.625 J55	28.0	24	3015		725		966	
7.875	4.500 I-80	11.6	24	4990		2162		180	
7.875	4.500 P-110	11.6	4990	10392					

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	9851							

25. Producing Intervals

Formation	Top	Bottom
A) WASATCH	5434	8078
B) MESAVERDE	8128	10286
C)		
D)		

26. Perforation Record

Perforated Interval	Size	No. Holes	Perf. Status
5434 TO 8078	0.410	168	OPEN
8128 TO 10286	0.410	192	OPEN

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

Depth Interval	Amount and Type of Material
5434 TO 10286	PUMP 16,167 BBLS SLICK H2O & 377,759 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
02/10/2014	02/21/2014	24	→	43.0	2322.0	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	1254	1.0	→	43	2322	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 #238414 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

RECEIVED: Mar. 11, 2014

API Well Number: 43047533550000

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	1678
				BIRD'S NEST	1982
				MAHOGANY	2522
				WASATCH	5151
				MESAVERDE	8092

32. Additional remarks (include plugging procedure):
The first 210 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. A DV tool was placed in the well from 5341 feet ? 5344 feet. DQX csg was run from surface to 4990 ft.; LTC csg was run from 4990 ft. to 10,392 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 #238414 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 03/11/2014

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: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/12/2013	19:30 - 23:30	4.00	MIRU2	01	C	P	64	RIG DOWN CEMENT CREW, RIG UP AND SKID TO NBU 921-20L4CS, PRE SPUD JOB SAFETY MEETING REVIEW DIRECTIONAL PLANS AND PLATS AND VERIFY LAT/LONGS AND WELL ORDER VERIFY DIRECTIONAL DRILLERS PLAN IS THE MOST RECENT AND APPROVED VERSION REFERENCE WELLBORE DIAGRAMS FOR EXACT CASING DESIGN AND GENERAL OVERVIEW OF WELLBORE, PRIOR TO SPUD.
	23:30 - 0:00	0.50	DRLSUR	02	B	P		PICK UP NOV 1.83 DEGREE BENT MOTOR (RUN # 2) .17 REV/GAL PICK UP 12 1/4 DRILL BIT FINISH PICKING UP BHA SPUD @ 09/12/2013 23:30. DRILL 12.25" HOLE 44' TO 100' (66' @ 132 FPH). WEIGHT ON BIT 5-15 K. STROKES PER MINUTE=120, GALLONS PER MINUTE=491. PRESSURE ON/OFF (BOTTOM) 650/450. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROTATE 21/20/20 K. DRAG 1 K. CIRCULATE CLOSED LOOP SYSTEM WITH 8.3# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS.
9/13/2013	0:00 - 1:00	1.00	DRLSUR	02	A	P	120	DRILL 12.25" HOLE 100' TO 210' (110' @ 110 FPH). WEIGHT ON BIT 5-15 K. STROKES PER MINUTE=120, GALLONS PER MINUTE=491. PRESSURE ON/OFF (BOTTOM) 650/450. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROTATE 21/20/20 K. DRAG 1 K. CIRCULATE CLOSED LOOP SYSTEM WITH 8.3# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS.
	1:00 - 3:30	2.50	DRLSUR	06	A	P	230	PRE JOB SAFETY MEETING, CIRC 15 MINUTES AND, TRIP OUT TO CHANGE ASSEMBLY. BREAK 12 1/4" BIT. MAKE UP REED 11" BIT. PICK UP 8" DIRECTIONAL ASSEMBLY SCIBE MOTOR. INSTALL EM TOOL, TRIP IN HOLE.

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	3:30 - 5:30	2.00	DRLSUR	02	B	P	230	DRILL 11" SURFACE HOLE FROM 210' TO 400' (190' @ 95 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1,420/1,200. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 82/60/70 K. DRAG 12 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 1.6' HIGH & 0.8' RIGHT OF THE LINE WITH 35' OF SLIDE @ 9.02%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 2 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	5:30 - 6:00	0.50	DRLSUR	23		P		HELD SAFETY MEETING WITH RIG CREW AND 3RD PARTY PERSONAL ON LOCATION TALKED ABOUT WALK AROUND AND LOOKING AND MAINTAINING THE RIG IN GOOD WORKING ORDER. EVERYONE'S RESPONSIBILITY.
	6:00 - 12:00	6.00	DRLSUR	02	B	P	420	DRILL 11" SURFACE HOLE FROM 400' TO 1,120' (720' @ 120 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1,180/950. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 60/50/55 K. DRAG 5 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 7.3' HIGH & 4.4' RIGHT OF THE LINE WITH 142' OF SLIDE @ 17.51%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	12:00 - 12:30	0.50	DRLSUR	07	A	P	1140	RIG SERVICE
	12:30 - 17:00	4.50	DRLSUR	02	B	P	1140	DRILL 11" SURFACE HOLE FROM 1,120' TO 1,510' (390' @ 86 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1,200/970. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 69/49/59 K. DRAG 10 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 8.0' HIGH & 4.3' RIGHT OF THE LINE WITH 6' OF SLIDE @ 2.22%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:00 - 0:00	7.00	DRLSUR	02	B	P	1530	DRILL 11" SURFACE HOLE FROM 1,510' TO 1,870' (360' @ 52 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1,200/970. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 75/50/62 K. DRAG 13 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 8.4' HIGH & 1.6' RIGHT OF THE LINE WITH 14' OF SLIDE @ 3.89%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
9/14/2013	0:00 - 6:00	6.00	DRLSUR	02	B	P	1890	DRILL 11" SURFACE HOLE FROM 1,870' TO 2,260' (390' @ 65 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1,260/1,050. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 81/56/67 K. DRAG 14 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 11.8' HIGH & 0.8' RIGHT OF THE LINE WITH 20' OF SLIDE @ 8.77%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	6:00 - 12:00	6.00	DRLSUR	02	B	P	2280	DRILL 11" SURFACE HOLE FROM 2,260' TO 2,590' (330' @ 55 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1,200/1,030. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 78/60/72 K. DRAG 6 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 8.2' HIGH & 1.1' LEFT OF THE LINE WITH 53' OF SLIDE @ 13.09%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	12:00 - 12:30	0.50	DRLSUR	07	A	P	2610	RIG SERVICE, CLEAN SHAKERS AND CHANGE A BROKEN SCREEN OUT.

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US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:30 - 21:00	8.50	DRLSUR	02	B	P	2610	DRILL 11" SURFACE HOLE FROM 2,590' TO 3,030' (440' @ 52 FPH). WEIGHT ON BIT 18-21 K. STROKES PER MINUTE=120. GALLONS PER MINUTE=491. PRESSURE ON/OFF(BOTTOM) 1,450/1,290. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROT 91/69/80 K. DRAG 11 K. FROM DIRECTIONAL PLAN WE ARE CURRENTLY 1.3' HIGH & 1.7' LEFT OF THE LINE WITH 110' OF SLIDE @ 26.44%. CIRCULATE CLOSED LOOP SYSTEM WITH 8.4# WATER. RUNNING VOLUME THROUGH 1 CENTRIFUGE DE WATERING AND, RUNNING VOLUME OVER BOTH SHAKERS. NO HOLE ISSUES.
	21:00 - 23:00	2.00	DRLSUR	05	C	P	3050	CIRCULATE AND CONDITION HOLE, VOLUME IS CLEAN COMING OVER SHAKERS, 3-400 BBL UPRIGHT'S FULL AND 3-400 BBL UPRIGHTS EMPTY, MUD TANKS FULL, FRAC TANKS FULL READY FOR CEMENT JOB.
	23:00 - 0:00	1.00	DRLSUR	06	D	P	3050	TRIP OUT OF HOLE, LAY DOWN DRILL STRING, BOTTOM HOLE ASSEMBLY, LAY DOWN DIRECTIONAL TOOLS, MOTOR AND, BIT. CLEAR TOOL AREA. SPOT SURFACE CASING TO RIH.
9/15/2013	0:00 - 3:30	3.50	CSGSUR	06	D	P	3050	TRIP OUT OF HOLE, LAY DOWN DRILL STRING, BOTTOM HOLE ASSEMBLY, LAY DOWN DIRECTIONAL TOOLS, MOTOR AND, BIT. CLEAR TOOL AREA. SPOT SURFACE CASING TO RIH.
	3:30 - 8:00	4.50	CSGSUR	12	C	P	3050	RUN 69 JOINTS OF 8-5/8". 28# J-55 LTC CASING. RAN 1 CENTRALIZER ON FIRST THREE JOINTS, AND EVERY OTHER JOINT FOR 2 JOINTS FOR A TOTAL OF 5 CENTRALIZERS. RUN A TOTAL OF 69 JOINTS. SET FLOAT SHOE @ 2,997.10' KB. SET TOP OF BAFFLE PLATE @ 2,958.35' PUMPED DOWN LAST JOINT TO BOTTOM.

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 10:00	2.00	DRLSUR	12	E	P	3050	PRE JOB SAFETY MEETING WITH PRO PETRO CEMENTERS. RAN 200' OF 1". PIPE DOWN BACK-SIDE OF CASING. PRESSURE TEST LINES TO 2,500PSI. PUMP 20.00 BBLS OF WATER AHEAD CLEARING SHOE. MIX AND PUMP 20 BBLS OF GEL WATER FLUSH AHEAD OF CEMENT. MIX AND PUMP 300 SX OF PREMIUM LEAD CEMENT WITH 16% GEL, 10 LB/SX GILSONITE, 2 LB/SX GR-3, 3% SALT, & 0.25 LB/SX FLOCELE. 152.8 BBLS OF SLURRY MIXED @ 12.0 PPG WITH YIELD OF 2.86 CF/SX. MIX & PUMP 175 SX OF PREMIUM TAIL CEMENT WITH 2% CACL2 & 0.25 LB/SX FLOCELE. 35.8 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. DROP PLUG ON FLY. DISPLACE WITH 184.6 BBLS OF FRESH WATER. PARTIAL RETURNS THROUGH OUT JOB. FINAL LIFT OF 800 PSI AT 3.5 BBL/MINUTE. BUMPED PLUG @ 800 PSI. HELD @ 1,100 PSI FOR 5 MINUTES WITHOUT BLEED OFF. TESTED FLOAT AND FLOAT HELD. RELEASE RIG @ 9/15/2013 10:00 HRS SHUT DOWN AND WASH UP TOP JOB # 1: PUMP CEMENT DOWN ONE INCH PIPE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2 & .25 LB/SX FLOCELE. 30.7 BBLS OF SLURRY MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. CEMENT RETURNS TO SURFACE FELL BACK 60'. WAIT 1.5 HOURS ON CEMENT, CEMENT DOWN BACKSIDE W/ 100 sx (20.4 bbls.) SAME CEMENT, 3 BBLS CEMENT RETURNS TO SURFACE. RIG DOWN CEMENTERS. (CEMENT JOB FINISHED @ 09/15/2013 12:10)
12/9/2013	10:00 - 12:00	2.00	RDMO	01	E	P	3050	NIPPLE DOWN BOPS, PJSM/ NIPPLE DOWN CHOKE LINE
	12:00 - 13:30	1.50	RDMO	01	E	P	3050	RIG DOWN PREPARE TO SKID RIG P/U BEAVER SLIDE,SCOPE SKID CYLINDERS CLEAN SKID RAIL & SOAP
	13:30 - 15:00	1.50	RDMO	01	C	P	3050	SKID RIG PJSM, OVER NEW WELL VERIFIED CENTER OF HOLE
	15:00 - 17:30	2.50	RDMO	14	A	P	3050	NIPPLE UP BOPS, CHOKE LINE MUD LINE FLOW LINE
	17:30 - 21:30	4.00	RDMO	15	A	P	3050	TEST BOPS A-1 TESTING PJSM RIG UP TESTER TEST IBOP, LOWER KELLY VALVE, FLOOR VALVE TIW VALVE LOW 5MINS.500 PSI HIGH 5,000 FOR 10 MINS ICED UP HAD THAW OUT VALVE
	21:30 - 22:00	0.50	RDMO	15	A	P	3050	TEST 8 5/8 CASING FOR 30 MINS
	22:00 - 23:00	1.00	RDMO	22	O	Z	3050	***UNTHAW A-1 TESTING HOSES INTERMITTENTLY BETWEEN TEST WHILE BEATING UP FLANGES
	23:00 - 0:00	1.00	RDMO	15			3050	TEST PIPE RAMS , HCR, CHOKE LINE , CHOKE MANIFOLD CHECK VALVE

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/10/2013	0:00 - 3:00	3.00	RDMO	15	A	P	3050	TEST BOPS LOW 500 PSI FOR 5 MINS HIGH FOR 10 MINS 5,000 PSI BLIND RAMS, WING VALVE, HCR, KILL LINE, CHOKE LINE, ANNULAR, 250LOW FOR 5MIN, 2500 HIGH FOR 10MIN,
	3:00 - 7:30	4.50	RDMO	15	A	Z	3050	***TEST SWACO LINE & ORBIT VALVE CHOKE LOW 500 HIGH 1000 FOR 10MIN ORBIT FROZE WILL NOT OPEN THAW OUT AIR LINES
	7:30 - 9:00	1.50	RDMO	15	A	Z	3050	*** UNTHAW CHOKE MANIFOLDS BLOW DOWN GAS BUSTER PANIC LINE ALL CLEAR, UNTHAW MANUAL CHOKE AND VENT LINE BACK TO MUD PIT AND WATERMELON FILLED CHOKE MANIFOLD AND CHOKE LINES HCR VALVE WITH METHANOL DRAIN STACK BLOW DOWN CHOKE LINE DOWN WITH AIR HAD METHANOL COME OUT OF TOWN AND FILLED CHOKE LINE AND MANIFOLD
	9:00 - 11:30	2.50	RDMO	15	A	Z	3050	**** TESTING WORKING ON SWACO ORBIT VALVE AND CHOKE TEST TO 1000 PSI AND BLOW DOWN WITH AIR/COULD NOT TEST SWACO ORBIT VALVE WOULD NOT HOLD PSI TALKED TO KENNY GATHING DECIDE TO GO WITH OUT SWACO THIS WELL
	11:30 - 12:00	0.50	RDMO	15	A	P	3050	RIG DOWN TEST EQUIPMENT-A-1 TESTING
	12:00 - 12:30	0.50	RDMO	23		P	3050	ANADARKO SAFETY MEETING (EYES ON) WITH KENNY GAITHINGS
	12:30 - 14:00	1.50	RDMO	15	A	P	3050	INSTALL WEAR BUSHING & TRIP NIPPLE /WEATHERFORD CLAMP IN-OP /CLAMPING MAN
	14:00 - 15:30	1.50	RDMO	09	A	P	3050	SLIP AND CUT DRILL LINE 40'
	15:30 - 16:00	0.50	RDMO	07	A	P	3050	RIG SER.GREASE TDS, CHANGE OIL IN TDS
	16:00 - 19:00	3.00	RDMO	06	A	P	3050	PICK UP BIT , MUD MOTOR, MWD TOOLS SCRIBE IN HOLE
	19:00 - 19:30	0.50	RDMO	23		P	3050	ANADARKO SAFETY MEETING (EYES ON) WITH KENNY GAITHINGS
	19:30 - 20:00	0.50	RDMO	06	A	P	3050	SCRIBE TOOL IN HOLE
	20:00 - 23:30	3.50	RDMO	06	A	P	3050	TRIP IN HOLE TAGED TOP CEMENT @ 2917'
	23:30 - 0:00	0.50	RDMO	02	F	P	3050	DRILL CEMENT OUT 2917 TO 3010
12/11/2013	0:00 - 1:00	1.00	DRLPRC	02	F	P	3050	DRILL SHOE TRACK 3010 TO 3050
	1:00 - 3:00	2.00	DRLPRC	08	B	Z	3050	*** HAD TO REPLACE SWIVEL PACKING ORINGS

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	3:00 - 6:00	3.00	DRLPRC	02	D	P	3050	DRILL (ROTATE/SLIDE) F/ 3050'-T/ 3326' RATE OF PENATRATION= 276' @ 92' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 1920 / 1570 TORQUE~ ON/OFF = 8000 / 3000 PICKUP/SLACK OFF/ROTATE= 107K / 85K / 96K MUD WEIGHT= 8.8# / VISCOSITY= 32 NOV DEWATERING. SWACO OFF LINE SLIDE= 25" / 0 HOUR / 33 MINS BIT POSITION= 91" WEST & 1.50' NORTH OF TARGET LINE LAST SURVEY= 3143', 16.35 DEG., 11.54 AZ., 3039.78' TVD 0 MUD LOST TO SEEPAGE
	6:00 - 10:30	4.50	DRLPRC	02	D	P	3326	DRILL (ROTATE/SLIDE) F/ 3326'-T/ 3765' RATE OF PENATRATION=439 ' @ 97.55' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2098 / 1670 TORQUE~ ON/OFF = 9000 / 4000 PICKUP/SLACK OFF/ROTATE= 120K / 96K / 109K MUD WEIGHT= 9.0# / VISCOSITY= 32 NOV DEWATERING. SWACO OFF LINE SLIDE= XX" / 0 HOUR / 0 MINS BIT POSITION= 29" EAST & 4.6' SOUTH OF TARGET LINE LAST SURVEY= 3803, 4.03 DEG., 10.94 AZ., 3684.96' TVD 0 MUD LOST TO SEEPAGE
	10:30 - 11:00	0.50	DRLPRC	02	D	Z	3765	*** REAM OUT DOG LEG

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	11:00 - 12:00	1.00	DRLPRC	02	D	P	3765	DRILL (ROTATE/SLIDE) F/ 3765'-T/ 3859' RATE OF PENATRATION=94 ' @ 97.55' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2098 / 1670 TORQUE~ ON/OFF = 9000 / 4000 PICKUP/SLACK OFF/ROTATE= 120K / 96K / 109K MUD WEIGHT= 9.0# / VISCOSITY= 32 NOV DEWATERING. SWACO OFF LINE SLIDE= XX" / 0 HOUR / 0 MINS BIT POSITION= 29" EAST & 4.65' NORTH OF TARGET LINE LAST SURVEY= 3803, 4.03 DEG., 10.94 AZ., 3684.96' TVD 0 MUD LOST TO SEEPAGE
	12:00 - 12:30	0.50	DRLPRC	06	A	Z	3859	***BACK REAM 3.8 DEGREE DOGLEG
	12:30 - 17:00	4.50	DRLPRC	02	B	P	3859	DRILL (ROTATE/SLIDE) F/ 3859'-T/ 4521 ' RATE OF PENATRATION= 662 ' @ 147.11' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2098 / 1670 TORQUE~ ON/OFF = 9000 / 4000 PICKUP/SLACK OFF/ROTATE= 120K / 96K / 109K MUD WEIGHT= 9.0# / VISCOSITY= 32 NOV DEWATERING. SWACO OFF LINE SLIDE= 44" / 0 HOUR / 40 MINS BIT POSITION= 16.56" WEST & 24.53' NORTH OF TARGET LINE LAST SURVEY=4464 , 1.34 DEG., 179.16 AZ., 4345.68' TVD 0 MUD LOST TO SEEPAGE
	17:00 - 17:30	0.50	DRLPRC	07	A	P	4521	RIG SER.
	17:30 - 18:00	0.50	DRLPRC	23		P	4521	HAD SAFETY TRAINING WITH KENNY GATHINGS EYES ON

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLPRC	02	B	P	4521	DRILL (ROTATE/SLIDE) F/ 4521'-T/ 5357 ' RATE OF PENATRATION= 836 ' @ 139.33' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2445 / 2000 TORQUE~ ON/OFF = 10000 / 6000 PICKUP/SLACK OFF/ROTATE= 154K / 110K / 127K MUD WEIGHT= 9.0# / VISCOSITY= 32 NOV DEWATERING. SWACO OFF LINE SLIDE= 15" / 0 HOUR / 20 MINS BIT POSITION= 15.78" WEST & 6.33' NORTH OF TARGET LINE LAST SURVEY=5312 , 1.29 DEG., 152.13 AZ., 5193.44' TVD 0 MUD LOST TO SEEPAGE
12/12/2013	0:00 - 6:00	6.00	DRLPRV	02	B	P	5357	DRILL (ROTATE/SLIDE) F/ 5357'-T/ 6156 ' RATE OF PENATRATION= 799 ' @ 133.16' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2445 / 2000 TORQUE~ ON/OFF = 10000 / 6000 PICKUP/SLACK OFF/ROTATE= 154K / 110K / 127K MUD WEIGHT= 9.0# / VISCOSITY= 32 NOV DEWATERING. SWACO OFF LINE SLIDE= 0" / 0 HOUR / 0 MINS BIT POSITION= 15.31" WEST & 6.19' NORTH OF TARGET LINE LAST SURVEY=5784 , 0.4 DEG., 297.1 AZ., 5665.42' TVD 75 MUD LOST TO SEEPAGE

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 12:00	6.00	DRLPRV	02	B	P	6156	DRILL (ROTATE/SLIDE) F/ 6156'-T/ 6795 ' RATE OF PENATRATION= 639 ' @ 106.5' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2725 / 2350 TORQUE~ ON/OFF = 11,000 / 8,000 PICKUP/SLACK OFF/ROTATE= 188K / 126K / 152K MUD WEIGHT= 9.0# / VISCOSITY= 32 NOV DEWATERING. SWACO OFF LINE SLIDE= 15'' / 0 HOUR / 42 MINS BIT POSITION= 14.6" WEST & 1.52' NORTH OF TARGET LINE LAST SURVEY=6634 , 0.93 DEG., 217.47AZ., 6515.39' TVD 0 MUD LOST TO SEEPAGE
	12:00 - 17:30	5.50	DRLPRV	02	B	P	6795	DRILL (ROTATE/SLIDE) F/ 6795'-T / 7164 ' RATE OF PENATRATION= 369 ' @ 67.09' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR =123 TOP DRIVE= 70 ~ TOTAL= 193 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2725 / 2350 TORQUE~ ON/OFF = 11,000 / 8,000 PICKUP/SLACK OFF/ROTATE= 188K / 126K / 152K MUD WEIGHT= 9.0# / VISCOSITY= 32 NOV DEWATERING. SWACO OFF LINE SLIDE= 22' / 1 HOUR / 32 MINS BIT POSITION= 13.79'' WEST & 1.52 NORTH OF TARGET LINE LAST SURVEY= 7012 , 0.84DEG., 131.35AZ.,'6893.38 TVD 0 MUD LOST TO SEEPAGE
	17:30 - 18:00	0.50	DRLPRV	07	A	P	7164	RIG SER.

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLPRV	02	B	P	7164	DRILL (ROTATE/SLIDE) F/ 7164'-T / 7520 ' RATE OF PENATRATION= 356 ' @ 59.33' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2350 / 2085 TORQUE~ ON/OFF = 13,000 / 11,000 PICKUP/SLACK OFF/ROTATE= 205K / 130K / 166K MUD WEIGHT= 9.1# / VISCOSITY= 32 NOV DEWATERING. SWACO OFF LINE SLIDE= 12' / 0 HOUR / 30 MINS BIT POSITION= 8.90" WEST & 3.82 NORTH OF TARGET LINE LAST SURVEY=7389 , 0.98DEG., 32.42AZ.,' 7270.34TVD 0 MUD LOST TO SEEPAGE
12/13/2013	0:00 - 6:00	6.00	DRLPRV	02	B	P	7520	DRILL (ROTATE/SLIDE) F/ 7520'-T /7760 ' RATE OF PENATRATION= 240 ' @ 40' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2350 / 2085 TORQUE~ ON/OFF = 13,000 / 11,000 PICKUP/SLACK OFF/ROTATE= 205K / 130K / 166K MUD WEIGHT= 9.1# / VISCOSITY= 32 NOV DEWATERING. SWACO OFF LINE SLIDE= 0' / 0 HOUR / 0 MINS BIT POSITION= 7.80" WEST & 4.58 NORTH OF TARGET LINE LAST SURVEY=7577 , 0.60 DEG., 68.65 AZ.,' 7458.33TVD 20 MUD LOST TO SEEPAGE

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 12:00	6.00	DRLPRV	02	B	P	7760	DRILL (ROTATE/SLIDE) F/ 7760'-T /8096 ' RATE OF PENATRATION= 336 ' @ 56' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2400 / 1900 TORQUE~ ON/OFF = 13,000 / 11,000 PICKUP/SLACK OFF/ROTATE= 213K / 141K / 170K MUD WEIGHT= 9.3# / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE= 12' / 1HOUR / 0 MINS BIT POSITION= 6.13" WEST & 8.7 NORTH OF TARGET LINE LAST SURVEY= 7955 , 0.81 DEG., 336.43 AZ.,' 7836.3TVD O MUD LOST TO SEEPAGE
	12:00 - 17:30	5.50	DRLPRV	02	B	P	8096	DRILL (ROTATE/SLIDE) F/ 8096'-T / 8390 ' RATE OF PENATRATION= 294 ' @ 53.45' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2400 / 1900 TORQUE~ ON/OFF = 13,000 / 11,000 PICKUP/SLACK OFF/ROTATE= 213K / 141K / 170K MUD WEIGHT= 9.5# / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE= 0' / 0HOUR / 0 MINS BIT POSITION= 4.71" WEST & 11.27 NORTH OF TARGET LINE LAST SURVEY= 8333 , 0.56 DEG., 59.26 AZ.,' 8214.27TVD O MUD LOST TO SEEPAGE
	17:30 - 18:00	0.50	DRLPRV	07	A	P	8390	RIG SER

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US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLPRV	02	B	P	8390	DRILL (ROTATE/SLIDE) F/ 8390'-T / 8710 ' RATE OF PENATRATION= 320 ' @ 53.33 ' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2700 / 2430 TORQUE~ ON/OFF = 14,000 / 13,000 PICKUP/SLACK OFF/ROTATE= 235K / 140K / 179K MUD WEIGHT= 9.5# / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE= 0' / 0HOUR / 0 MINS BIT POSITION= 2.49" WEST & 12.86 NORTH OF TARGET LINE LAST SURVEY=8616 , 0.78 DEG., 86.08 AZ.,' 8497.26TVD 50 MUD LOST TO SEEPAGE
12/14/2013	0:00 - 1:00	1.00	DRLPRV	02	B	P	8710	DRILL (ROTATE/SLIDE) F/ 8710'-T / 8768 ' RATE OF PENATRATION= 58 ' @ 58 ' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2700 / 2430 TORQUE~ ON/OFF = 14,000 / 13,000 PICKUP/SLACK OFF/ROTATE= 235K / 140K / 179K MUD WEIGHT= 9.5# / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE= 0' / 0HOUR / 0 MINS BIT POSITION= 2.49" WEST & 12.86 NORTH OF TARGET LINE LAST SURVEY=8616 , 0.78 DEG., 86.08 AZ.,' 8497.26TVD 50 MUD LOST TO SEEPAGE
	1:00 - 1:30	0.50	DRLPRV	22	L	Z	8768	*** HAD TO FIX WIRES THAT WER BROKE OFF WELL HEAD

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	1:30 - 6:00	4.50	DRLPRV	02	B	P	8768	DRILL (ROTATE/SLIDE) F/ 8768'-T / 8957 ' RATE OF PENATRATION= 189 ' @ 47.25 ' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2700 / 2430 TORQUE~ ON/OFF = 14,000 / 13,000 PICKUP/SLACK OFF/ROTATE= 235K / 140K / 179K MUD WEIGHT= 9.6# / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE= 0' / 0HOUR / 0 MINS BIT POSITION= .25" WEST & 11.80 NORTH OF TARGET LINE LAST SURVEY=8805 , 0.09 DEG., 266.59 AZ.,' 8686.25TVD MUD LOST TO SEEPAGE
	6:00 - 12:00	6.00	DRLPRV	02	B	P	8957	DRILL (ROTATE/SLIDE) F/ 8957'-T / 9300 ' RATE OF PENATRATION= 343 ' @57.16 ' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2920 / 22660 TORQUE~ ON/OFF = 15,000 / 15,000 PICKUP/SLACK OFF/ROTATE= 243K / 144K / 187K MUD WEIGHT= 9.6# / VISCOSITY= 34 NOV OFF LINE SWACO OFF LINE SLIDE= 0' / 0HOUR / 0 MINS BIT POSITION= ..4' EAST & 9.4 NORTH OF TARGET LINE LAST SURVEY= 9278.39 / .39DEG / 134.33 AZ. / 9159.24TVD MUD LOST TO SEEPAGE

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:00 - 17:30	5.50	DRLPRV	02	B	P	9300	DRILL (ROTATE/SLIDE) F/ 9300'-T / 9524 ' RATE OF PENATRATION= 224 ' @ 40.72 ' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 113 TOP DRIVE= 70 ~ TOTAL= 183 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2920 / 22660 TORQUE~ ON/OFF = 15,000 / 15,000 PICKUP/SLACK OFF/ROTATE= 243K / 144K / 187K MUD WEIGHT= 9.8# / VISCOSITY= 34 NOV OFF LINE SWACO OFF LINE SLIDE= 15' / 1HOUR / 20 MINS BIT POSITION= 1.56' EAST & 7.04 NORTH OF TARGET LINE LAST SURVEY= 9466 / 1.04DEG / 139.97 AZ. / 9347.23TVD MUD LOST TO SEEPAGE
	17:30 - 18:00	0.50	DRLPRV	07	A	P	9524	RIG SER.
	18:00 - 0:00	6.00	DRLPRV	02	B	P	9524	DRILL (ROTATE/SLIDE) F/ 9524'-T / 9807 ' RATE OF PENATRATION= 283 ' @ 47.16 ' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 103 TOP DRIVE= 80 ~ TOTAL= 184 GALLONS PER MINUTE = 495 STROKES PER MINUTE = 110 STAND PIPE PSI~0N/OFF = 2980 / 2780 TORQUE~ ON/OFF = 15,000 / 14,000 PICKUP/SLACK OFF/ROTATE= 265K / 152K / 193K MUD WEIGHT= 10.2# / VISCOSITY= 38 NOV OFF LINE SWACO OFF LINE SLIDE= 0' / 0HOUR / 0 MINS BIT POSITION= 5.25' EAST & 4.17 NORTH OF TARGET LINE LAST SURVEY= 9749 / 0.97DEG / 137.27 AZ. / 9630.18TVD MUD LOST TO SEEPAGE

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/15/2013	0:00 - 6:00	6.00	DRLPRV	02	B	P	9807	DRILL (ROTATE/SLIDE) F/ 9807'-T / 10089 ' RATE OF PENATRATION= 282 ' @ 47 ' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 103 TOP DRIVE= 80 ~ TOTAL= 184 GALLONS PER MINUTE = 495 STROKES PER MINUTE = 110 STAND PIPE PSI~0N/OFF = 2980 / 2780 TORQUE~ ON/OFF = 15,000 / 14,000 PICKUP/SLACK OFF/ROTATE= 265K / 152K / 193K MUD WEIGHT= 10.4# / VISCOSITY= 38 NOV OFF LINE SWACO OFF LINE SLIDE= 0' / 0HOUR / 0 MINS BIT POSITION= 6.70' EAST & 2.62 NORTH OF TARGET LINE LAST SURVEY= 9938 / 0.79 DEG / 174.00 AZ. / 9819.17TVD MUD LOST TO SEEPAGE
	6:00 - 12:00	6.00	DRLPRV	02	B	P	10,089	DRILL (ROTATE/SLIDE) F/ 10089'-T / 10300 ' RATE OF PENATRATION= 211 ' @35.16 ' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 85 TOP DRIVE= 60 ~ TOTAL= 145 GALLONS PER MINUTE = 405 STROKES PER MINUTE = 90 STAND PIPE PSI~0N/OFF = 2500 / 2150 TORQUE~ ON/OFF = 15,000 / 15,000 PICKUP/SLACK OFF/ROTATE= 265K / 160K / 200K MUD WEIGHT= 10.4# / VISCOSITY= 38 NOV OFF LINE SWACO OFF LINE SLIDE= 0' / 0HOUR / 0 MINS BIT POSITION= 6.70' EAST & 2.62 NORTH OF TARGET LINE LAST SURVEY= 10,126 / 0.87 DEG / 126.49 AZ. / 1007.15TVD MUD LOST TO SEEPAGE MUD UP TO 12.3 WT VIS 38
	12:00 - 12:30	0.50	DRLPRV	07	A	P	10,300	RIG SER.

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:30 - 15:00	2.50	DRLPRV	02	B	P	10,300	DRILL (ROTATE/SLIDE) F/ 10300'-T / 10415 RATE OF PENATRATION= ' @115 ' /HR 46 WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR 85 TOP DRIVE= 60 ~ TOTAL= 145 GALLONS PER MINUTE = 405 STROKES PER MINUTE = 90 STAND PIPE PSI~0N/OFF = 2500 / 2150 TORQUE~ ON/OFF = 15,000 / 15,000 PICKUP/SLACK OFF/ROTATE= 265K / 160K / 200K MUD WEIGHT= 10.4# / VISCOSITY= 38 NOV OFF LINE SWACO OFF LINE SLIDE= 0' / 0HOUR / 0 MINS BIT POSITION= 12.07' EAST & 1.37 NORTH OF TARGET LINE LAST SURVEY= 10252 / .72 DEG / 132.58 AZ. / 10133.14TVD MUD LOST TO SEEPAGE MUD UP
	15:00 - 18:30	3.50	DRLPRV	05	A	P	10,415	ICOND MUD FOR SHORT TRIP
	18:30 - 21:00	2.50	DRLPRV	06	E	P	10,415	SHORT TRIP 20 STAND (HOLE LOOKED GOOD)
	21:00 - 22:30	1.50	DRLPRV	05	C	P	10,415	CIRC OUT GAS , SPOT 150 BBLS 13.5 MUD ON BOTTOM 10415 TO 8547 1868'
	22:30 - 0:00	1.50	DRLPRV	06	A	P	10,415	TRIP OUT 20 STANDS TO GET ABOVE 13.5 MUD
12/16/2013	0:00 - 2:30	2.50	DRLPRV	05	A	P	10,415	CIRC BOTTOM UP @ 8453 FLOW CHECK / HAD FLOW 15 GALS PER MIN.
	2:30 - 3:00	0.50	DRLPRV	22	M	X	10,415	*** SHUT IN WELL HAD 50 PSI ON DRILL PIPE
	3:00 - 4:00	1.00	DRLPRV	06	A	X	10,415	*** TRIP IN HOLE TO 10,415
	4:00 - 9:00	5.00	DRLPRV	05	H	X	10,415	*** CIR COND MUD RAISE MUD WT. TO 12.7 40 VIS BUILDING 14.5 150 BBLS PILL TO SPOT ON BOTTOM
	9:00 - 10:00	1.00	DRLPRV	05	H	X	10,415	*** SPOT 14.5 WITH 40 VIS MUD ON BOTTOM FROM 10 415 TO
	10:00 - 12:00	2.00	DRLPRV	06	A	X	10,415	*** TRIP OUT ABOVE 14.5 MUD TO 7785
	12:00 - 13:00	1.00	DRLPRV	05	A	X	10,415	**** CIRC. BOTTOMS UP AT 7785
	13:00 - 13:30	0.50	DRLPRV	06	A	X	10,415	*** FLOW CHECK , NO FLOW
	13:30 - 14:00	0.50	DRLPRV	06	A	P	10,415	LAY DOWN 4.5 DRILL PIPE
	14:00 - 14:30	0.50	DRLPRV	07	A	P	10,415	RIG SER.
	14:30 - 0:00	9.50	DRLPRV	06	A	P	10,415	LAY DOWN 4.5 DRILL PIPE
12/17/2013	0:00 - 4:00	4.00	DRLPRV	06	A	P	10,415	LAY DOWN 4.5 DRILL PIPE
	4:00 - 5:30	1.50	DRLPRV	06	A	P	10,415	LAY DOWN MWD TOOLS
	5:30 - 6:00	0.50	DRLPRV	06	A	P	10,415	PULLED WEAR BUSHING
	6:00 - 7:00	1.00	DRLPRV	12	A	P	10,415	RIG UP CSING CREW PJSM
	7:00 - 16:30	9.50	DRLPRV	12	C	P	10,415	RUN 121 JTS 4.5 # 11.6 LT&C P110, & 112 JT . DQX 11.6 I-80 SHOE @ 10392,FLOAT COLLAR @ 10,346, MESAVERDE MARKER @ 8177 , D V TOOL @ 5343 , CROSS OVER JT. @ 4990'
	16:30 - 17:00	0.50	DRLPRV	05	A	P	10,415	CIRC 4.5 CASING RIG DOWN CASING CREW & RIG UP CEMENT CREW HELD PJSM
	17:00 - 22:30	5.50	DRLPRV	22	G	X	10,415	*** LOST CIRC , MIXING LCM , BUILDING VOLUME TOTAL LOSSE 8770 BBLS MUD
	22:30 - 23:30	1.00	DRLPRV	12	B	P	10,415	FINSH RIG UPCEMENT CREW

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	Start Date: 9/2/2013	End Date: 12/18/2013
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	23:30 - 0:00	0.50	DRLPRV	12	E	P	10,415	CEMENT FIRST STAGE 1201 SACKS (50:50 (FLY ASH) CLASS G CEMENT =0.05% BWOC STATIC FREE +10% BOWOW SODIUM CHLORIDE +0.55% BWOC R-3 +0.25 LBS/SACK CELLO FLAKE +0.002 GPS FP-6L +0.7%BWOC SODIUM METASILICATE+2%BWOC BENTONITE II+5LBS /SACK KOL-SEAL 50 LB BAG +0.5%BWOC EC-1
12/18/2013	0:00 - 2:00	2.00	CSGPRO	12	E	P	10,415	CEMENT FIRST STAGE 1201 SACKS (50:50 (FLY ASH) CLASS G CEMENT =0.05% BWOC STATIC FREE +10% BOWOW SODIUM CHLORIDE +0.55% BWOC R-3 +0.25 LBS/SACK CELLO FLAKE +0.002 GPS FP-6L +0.7%BWOC SODIUM METASILICATE+2%BWOC BENTONITE II+5LBS /SACK KOL-SEAL 50 LB BAG +0.5%BWOC EC-1 DISPLACED WITH 80 BARRLES MUD & 80 BARRL;ES WATER LIFT PSI 1626 BUMP PRESSURE 2256 DROPED BOMB LET FREE FAL 30 MINV PUMP TOOL OPEN WITH 640 PSI
	2:00 - 5:30	3.50	CSGPRO	05	A	P	10,415	CIRC BETWEEN STAGE HAD 25 BARRLES CEMENT TO SURFACE
	5:30 - 7:30	2.00	CSGPRO	12	E	P	10,415	PUMP SECOND STAGE CMT. /// SPACER 25 BBLS H20 /// 2nd LEAD CMT = 900sx(261 bbls) PREMIUM LITE II CMT @ 13.5# WT. & 1.58cf/sx YIELD +.05% BWOC STATIC FREE + 2% BWOC CALCIUM CHLORIDE + .25 lbs/sx CELLO FLAKE + 5 lbs/sx KOL-SEAL, 50LB BAG + .4% BWOCFL-52 + .4% BWOC SODIUM METASSILICATE + 6% BWOC BENTONITE II + 101.2% FRESH WATER /// TAIL CMT = 60sx (12.2 bbls) CLASS G CMT @15.8# WT & 1.16 cf/sx YIELD + 1%BWOC CALCIUM CHLORIDE + .4% BWOC SODIUM METASILICATE + 44.4% FRESH WATER /// DROP PLUG & DISPLACE W/ 83 BBLS WATER /// BUMP PLUG @ 07:12 12/18/2013 WITH 2876 PSI /// FINAL LIFT = 1278 PSI /// CHECK FLOATS- HELD WITH 1.25 BBLS BACK TO TRUCK /// 6 BBL'S CEMENT TO SURFACE /// ESTIMATED TOP OF TAIL @ 5088'
	7:30 - 9:00	1.50	CSGPRO	12	A	P	10,415	FLUSH BOPE, CEMENT LINES & RIG DOWN CEMENT LINES
	9:00 - 9:30	0.50	CSGPRO	14	B	P	10,415	SET PACK OFF AND LAY DOWN LANDIN G JOINT
	9:30 - 14:30	5.00	CSGPRO	14	A	P	10,415	NIPPLE DOWN BOPE, ORBIT VALVE, CHOKE LINES. AND FLOW LINES /// CLEAN PITS RELEASE RIG @ 14:30 12/18/2013

RECEIVED: Mar. 11, 2014

API Well Number: 43047533550000

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 921-20L4CS YELLOW	**Wellbore No.**	OH
Well Name	NBU 921-20L4CS	**Wellbore Name**	NBU 921-20L4CS
Report No.	1	**Report Date**	1/27/2014
Project	UTAH-UINTAH	**Site**	NBU 921-20M PAD
Rig Name/No.		**Event**	COMPLETION
Start Date	1/10/2014	**End Date**	2/10/2014
Spud Date	9/12/2013	**Active Datum**	RKB @4,915.00usft (above Mean Sea Level)
UWI	SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0		

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	5,434.0 (usft)-10,286.0 (us	**Start Date/Time**	1/27/2014 12:00AM
No. of Intervals	85	**End Date/Time**	1/27/2014 12:00AM
Total Shots	360	**Net Perforation Interval**	120.00 (usft)
Avg Shot Density	3.00 (shot/ft)	**Final Surface Pressure**	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/27/2014 12:00AM	WASATCH/			5,434.0	5,436.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	

RECEIVED: Mar. 11, 2014

API Well Number: 43047533550000

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
1/27/2014 12:00AM	WASATCH/			5,522.0	5,528.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			6,424.0	6,426.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			6,438.0	6,440.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			6,446.0	6,450.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			6,796.0	6,800.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			6,808.0	6,812.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,001.0	7,002.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,036.0	7,037.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,041.0	7,042.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,170.0	7,172.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,198.0	7,199.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,223.0	7,224.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,228.0	7,229.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,316.0	7,318.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,344.0	7,345.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,354.0	7,355.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,474.0	7,476.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,513.0	7,515.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,606.0	7,608.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,754.0	7,756.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,758.0	7,760.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	

RECEIVED: Mar. 11, 2014

API Well Number: 43047533550000

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
1/27/2014 12:00AM	WASATCH/			7,764.0	7,766.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			7,988.0	7,990.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			8,050.0	8,052.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			8,070.0	8,072.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	WASATCH/			8,076.0	8,078.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,128.0	8,130.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,312.0	8,314.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,322.0	8,324.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,378.0	8,380.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,526.0	8,527.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,570.0	8,571.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,592.0	8,593.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,624.0	8,625.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,644.0	8,645.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,658.0	8,659.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,684.0	8,685.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,694.0	8,695.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,764.0	8,765.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,774.0	8,775.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,828.0	8,829.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,844.0	8,845.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	

RECEIVED: Mar. 11, 2014

API Well Number: 43047533550000

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
1/27/2014 12:00AM	MESAVERDE/			8,908.0	8,909.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,938.0	8,939.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,950.0	8,951.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			8,971.0	8,972.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,154.0	9,155.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,284.0	9,285.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,302.0	9,303.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,312.0	9,313.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,326.0	9,327.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,399.0	9,400.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,414.0	9,415.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,424.0	9,425.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,483.0	9,484.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,499.0	9,500.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,508.0	9,509.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,516.0	9,517.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,550.0	9,551.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,604.0	9,605.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,618.0	9,619.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,628.0	9,629.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,660.0	9,661.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	

RECEIVED: Mar. 11, 2014

API Well Number: 43047533550000

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
1/27/2014 12:00AM	MESAVERDE/			9,682.0	9,683.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,698.0	9,699.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,718.0	9,719.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,764.0	9,765.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,784.0	9,785.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,796.0	9,797.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,830.0	9,831.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,863.0	9,864.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,878.0	9,879.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,926.0	9,927.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,942.0	9,943.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,950.0	9,951.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,956.0	9,957.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,975.0	9,976.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			9,996.0	9,997.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			10,146.0	10,147.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			10,156.0	10,157.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			10,184.0	10,185.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			10,200.0	10,201.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			10,270.0	10,272.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	
1/27/2014 12:00AM	MESAVERDE/			10,284.0	10,286.0	3.00		0.410	EXP/	3.125	120.00		19.00	PRODUCTION	

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 1/10/2014	End Date: 2/10/2014
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/10/2014	7:00 - 7:15	0.25	SUBSPR	48		P		JSA= EQUIP MAINT.
	7:15 - 18:30	11.25	SUBSPR	30		P		MIRU NU BOPS PU 3-7/8" BIT PU TUB RIH TAG FILL @ 5250' C/O TO D/V TOOL @ 5340' D/O DV TOOL CONTINUE TO RIH TAG 10278' C/O TO 10338' CIRC CLEAN POOH LD TUB TO BHA NUW/H RD RIG PREP TO MOVE SIW SDFW
1/11/2014	-							
1/14/2014	-							
1/22/2014	7:00 - 8:00	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 -30 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. PRESSURE TEST 8 5/8 X 4 1/2 TO 560 PSI HELD FOR 5 MIN LOST -151 PSI, BLED PSI OFF, REINSTALLED POP OFF SWIFN NO PRESSURE ON SURFACE CASING FILLED SURFACE WITH 1 BBL H2O
1/23/2014	11:00 - 12:30	1.50	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
1/28/2014	7:00 - 7:15	0.25	FRAC	48		P		HSM-JSA

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 1/10/2014	End Date: 2/10/2014
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 18:00	10.75	FRAC	36	H	P		FRAC STG #1) WHP 2003 PSI, BRK 3754 PSI @ 5 BPM. ISIP 3100 PSI, FG. 0.74 ISIP 3170 PSI, FG. 0.75, NPI 70 PSI, X/O TO WL. SET CBP & PERF STG #2 AS DESIGNED, X/O TO FRAC. FRAC STG #2) WHP 2330 PSI, BRK 4147 PSI @ 3.7 BPM. ISIP 3030 PSI, FG. 0.74 ISIP 3260 PSI, FG. 0.77, NPI 230 PSI, X/O TO WL. SET CBP & PERF STG #3 AS DESIGNED, X/O TO FRAC. FRAC STG #3) WHP 2080 PSI, BRK 3571 PSI @ 4.8 BPM. ISIP 2460 PSI, FG. 0.69 ISIP 3090 PSI, FG. 0.76, NPI 630 PSI, X/O TO WL. SET CBP & PERF STG #4 AS DESIGNED, X/O TO FRAC. FRAC STG #4) WHP 1815 PSI, BRK 4269 PSI @ 3.7 BPM. ISIP 2800 PSI, FG. 0.73 ISIP 2760 PSI, FG. 0.73, NPI -40 PSI, X/O TO WL. SET CBP & PERF STG #5 AS DESIGNED, SWI, SDFN.
1/29/2014	6:15 - 6:30	0.25	FRAC	48		P		HSM-JSA
	6:30 - 10:25	3.92	FRAC	36	H	P		FRAC STG #5) WHP 1673 PSI, BRK 3852 PSI @ 4 BPM. ISIP 2486 PSI, FG. 0.71 ISIP 3045 PSI, FG. 0.77, NPI 559 PSI, X/O TO WL. SET CBP & PERF STG #6 AS DESIGNED, X/O TO FRAC.
	10:25 - 10:45	0.33	FRAC	46	E	Z		GET CHEMICAL PUMP WORKING
	10:45 - 15:10	4.42	FRAC	36	H	P		FRAC STG #6) WHP 895 PSI, BRK 2742 PSI @ 4.2 BPM. ISIP 1915 PSI, FG. 0.65 ISIP 2928 PSI, FG. 0.77, NPI 1013 PSI, X/O TO WL. SET CBP & PERF STG #7 AS DESIGNED, X/O TO FRAC. FRAC STG #7) WHP 675 PSI, BRK 3038 PSI @ 5 BPM. ISIP 1925 PSI, FG. 0.66 ISIP 2820 PSI, FG. 0.77, NPI 895 PSI, X/O TO WL. SET CBP & PERF STG #8 AS DESIGNED, X/O TO FRAC.
	15:10 - 16:30	1.33	FRAC	46	E	Z		PUMP REPAIR
	16:30 - 18:30	2.00	FRAC	36	H	P		FRAC STG #8) WHP 1678 PSI, BRK 5934 PSI @ 5 BPM. ISIP 2520 PSI, FG. 0.74 ISIP 2813 PSI, FG. 0.78, NPI 293 PSI, X/O TO WL. SET CBP & PERF STG #9 AS DESIGNED, SWI, SDFN.
1/30/2014	6:30 - 6:45	0.25	FRAC	48		P		HSM-JSA

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 1/10/2014	End Date: 2/10/2014
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:45 - 20:00	13.25	FRAC	36	H	P		FRAC STG #9) WHP 1935 PSI, BRK 4103 PSI @ 4.2 BPM. ISIP 3100 PSI, FG. 0.82 ISIP 3150 PSI, FG. 0.83, NPI 50 PSI, X/O TO WL. SET CBP & PERF STG #10 AS DESIGNED, X/O TO FRAC. FRAC STG #10) WHP 942 PSI, BRK 2620 PSI @ 4.2 BPM. ISIP 2255 PSI, FG. 0.73 ISIP 2785 PSI, FG. 0.8, NPI 530 PSI, X/O TO WL. SET CBP & PERF STG #11 AS DESIGNED, X/O TO FRAC. FRAC STG #11) WHP 1290 PSI, BRK 3285 PSI @ 4.7 BPM. ISIP 1937 PSI, FG. 0.7 ISIP 2347 PSI, FG. 0.76, NPI 410 PSI, X/O TO WL. SET CBP & PERF STG #12 AS DESIGNED, X/O TO FRAC. FRAC STG #12) WHP 766 PSI, BRK 3174 PSI @ 4.8 BPM. ISIP 2215 PSI, FG. 0.75 ISIP 2075 PSI, FG. 0.73, NPI -140 PSI, X/O TO WL. SET CBP & PERF STG #13 AS DESIGNED, X/O TO FRAC. FRAC STG #13) WHP 1620 PSI, BRK 2696 PSI @ 3.4 BPM. ISIP 1802 PSI, FG. 0.7 ISIP 1877 PSI, FG. 0.71, NPI 75 PSI, X/O TO WL. SET CBP & PERF STG #14 AS DESIGNED, X/O TO FRAC. FRAC STG #14) WHP 410 PSI, BRK 1676 PSI @ 3.4 BPM. ISIP 1095 PSI, FG. 0.61 ISIP 1760 PSI, FG. 0.71, NPI 665 PSI, X/O TO WL. SET CBP & PERF STG #15 AS DESIGNED, X/O TO FRAC. FRAC STG #15) WHP 235 PSI, BRK 1309 PSI @ 3.4 BPM. ISIP 1030 PSI, FG. 0.63 ISIP 2100 PSI, FG. 0.82, NPI 1070 PSI, X/O TO WL. SET KILL PLUG RDMO WL & FRAC EQUIP. TOTAL CLN FLUID= 16167 BBLS TOTAL SAND= 377759 LBS
2/7/2014	7:00 - 7:15	0.25	DRLOUT	48		P		HSM, SLIPS, TRIPS & FALLS, RIGGING UP, PU TBG

RECEIVED: Mar. 11, 2014

API Well Number: 43047533550000

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 1/10/2014	End Date: 2/10/2014
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 15:00	7.75	DRLOUT	31	I	P		3 OF 3, MIRU, ND WH, NU BOP, RU FLOOR & TBG EQUIP, PU 3 7/8" BIT, POBS, 1.875" XN S/N, TALLY & PU TBG TO KILL PLUG, RU P/S, C/O PIPE RAM BLOCKS (LEAKING YESTERDAY WHEN LANDING TBG), PREP TO D/O ON MONDAY, SWI, TARP & WINTERIZE, SDFWE.
2/10/2014	7:00 - 7:15	0.25	DRLOUT	48		P		HSM, SLIPS, TRIPS & FALLS, P/T BOP, D/O CBP'S, LANDING TBG

RECEIVED: Mar. 11, 2014

US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 1/10/2014	End Date: 2/10/2014
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 17:30	10.25	DRLOUT	44	C	P		3 OF 3, FILL TBG & BREAK CIRC, P/T BOP TO 3,000 PSI GOOD, SURFACE CSG VALVE OPEN & LOCKED, D/O 15 CBP'S THRU BJD & HAL 9000 C/O 10' SAND, TAG 1ST PLUG @ 5384', KICK 300 PSI, CSG PRESS 0 PSI, RIH C/O 30' SAND, TAG 2ND PLUG @ 5558', KICK 0 PSI, CSG PRESS 150 PSI, RIH C/O 20' SAND, TAG 3RD PLUG @ 6480', KICK 100 PSI, CSG PRESS 50 PSI, RIH C/O 20' SAND, TAG 4TH PLUG @ 6842', KICK 200 PSI, CSG PRESS 0 PSI, RIH C/O 30' SAND, TAG 5TH PLUG @ 7259', KICK 200 PSI, CSG PRESS 0 PSI, RIH C/O 30' SAND, TAG 6TH PLUG @ 7545', KICK 400 PSI, CSG PRESS 0 PSI, RIH C/O 30' SAND, TAG 7TH PLUG @ 7796', KICK 700 PSI, CSG PRESS 50 PSI, RIH C/O 30' SAND, TAG 8TH PLUG @ 8108', KICK 800 PSI, CSG PRESS 100 PSI, RIH C/O 30' SAND, TAG 9TH PLUG @ 8395', KICK 600 PSI, CSG PRESS 200 PSI, RIH C/O 30' SAND, TAG 10TH PLUG @ 8710', KICK 300 PSI, CSG PRESS 200 PSI, RIH C/O 30' SAND, TAG 11TH PLUG @ 9002', KICK 400 PSI, CSG PRESS 500 PSI, RIH C/O 30' SAND, TAG 12TH PLUG @ 9438', KICK 700 PSI, CSG PRESS 500 PSI, RIH C/O 20' SAND, TAG 13TH PLUG @ 9649', KICK 400 PSI, CSG PRESS 500 PSI, RIH C/O 20' SAND, TAG 14TH PLUG @ 9846', KICK 600 PSI, CSG PRESS 600 PSI, RIH C/O 30' SAND, TAG 15TH PLUG @ 10027', KICK 100 PSI, CSG PRESS 600 PSI, PBTD @ 10344', BTM PERF @ 10286', RIH TAGGED @ 10315', C/O TO 10344' PBTD, 58' PAST BTM PERF W/ 328 JTS 2 3/8" J-55 & L-80 TBG, LD 16 JTS ((WET)), PU & STRIP IN TBG HANGER & LAND TBG W/ 312 JTS 2 3/8" TBG, EOT 9,850.61'. NOTE: D/O THRU BJD & (2) HAL 9000, SOLD THRU 2

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US ROCKIES REGION

Operation Summary Report

Well: NBU 921-20L4CS YELLOW	Spud Date: 9/12/2013	
Project: UTAH-UINTAH	Site: NBU 921-20M PAD	Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 1/10/2014	End Date: 2/10/2014
Active Datum: RKB @4,915.00usft (above Mean Sea Level)	UWI: SW/SW/0/9/S/21/E/20/0/0/26/PM/S/587/W/0/609/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								SEPERATORS NBU 921-20L4CS SOLD 340 MCF NBU 921-20M SOLD 346 MCF, TOTAL GAS SOLD 686 MCF. 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. TURN OVER TO FLOW BACK CREW & SALES, WINTERIZE EQUIP, RD TO MOVE TO NBU 921-20M (RTP) IN AM, SDFN. KB= 24' 4 1/16" CAMERON HANGER= .83' TBG DELIVERED 150 JTS J-55 162 JTS 2 3/8" L-80= 5,137.30' TBG DELIVERED 167 JTS L-80 1 - 6' PUP JT L-80= 6.10' TOTAL TBG= 317 JTS J-55 & L-80 150 JTS 2 3/8" J-55 = 4,680.18' TBG USED 312 JTS POBS= 2.20' TBG RETURNED 5 JTS L-80 EOT @ 9,850.61' TWTR= 16257 BBLS TWR= 4500 BBLS TWLTR= 11757 BBLS
	17:30 - 17:30	0.00	DRLOUT	50				WELL TURNED TO SALES @ 0800 HR ON 2/10/2014. 1025 MCFD, 1680 BWPD, FCP 2075#, FTP 1670#, 20/64" CK.

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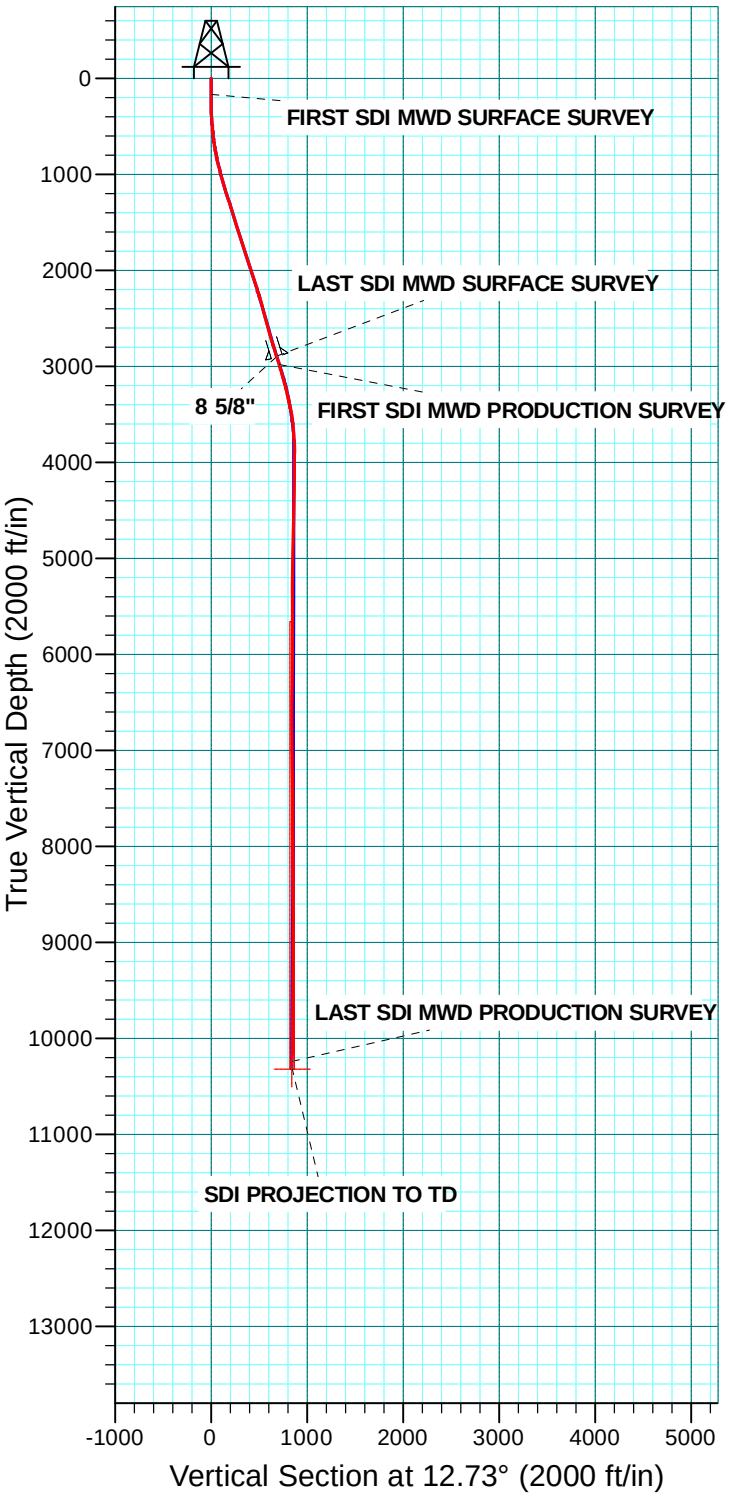
API Well Number: 43047533550000

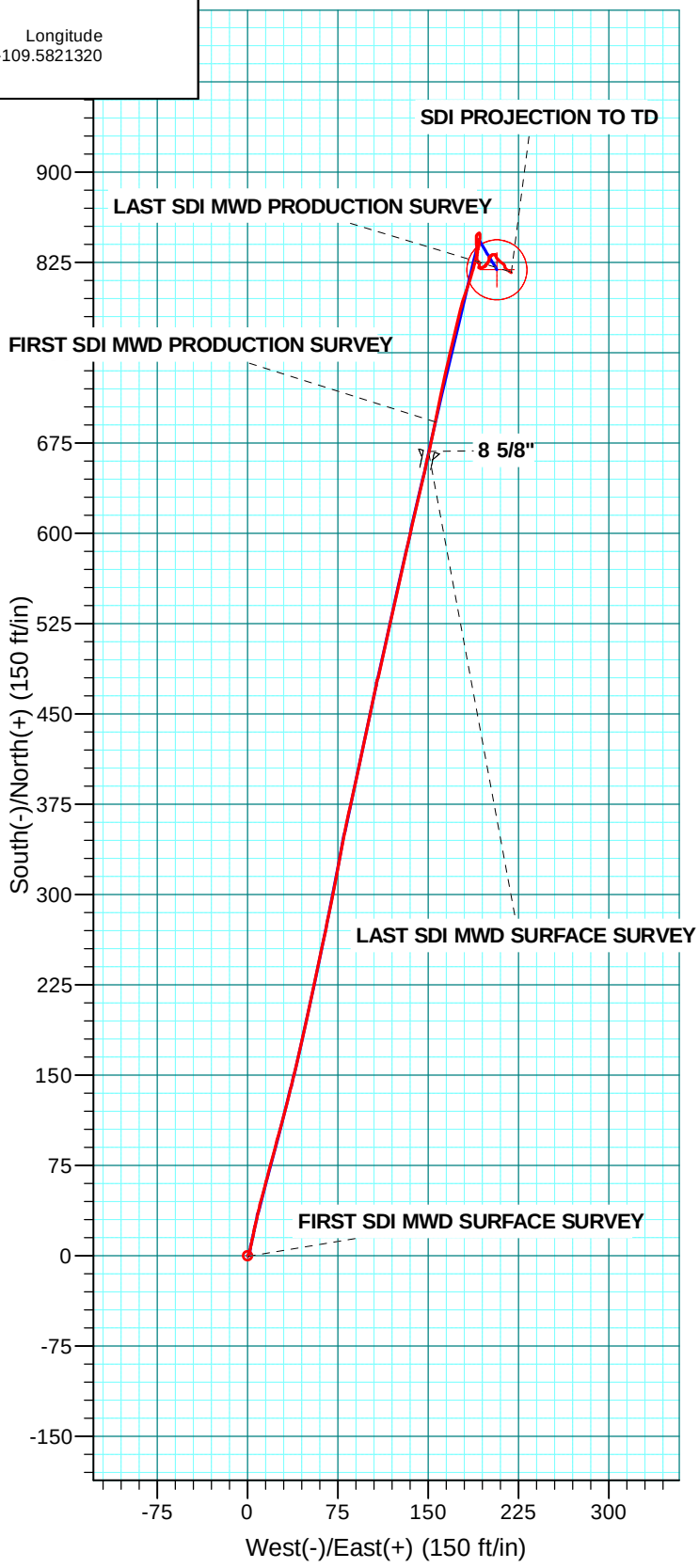
Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 921-20M PAD
Well: NBU 921-20L4CS
Wellbore: OH

Anadarko Petroleum Corporation

WELL DETAILS: NBU 921-20L4CS					
GL 4891 & KB 24 @ 4915.00ft (HP 318)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14534992.27	2037417.38	40.0158980	-109.5821320





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API Well Number: 43047533550000

Scientific Drilling

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 921-20M PAD
NBU 921-20L4CS

OH

Design: OH

Standard Survey Report

23 December, 2013

Anadarko Petroleum Corporation

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API Well Number: 43047533550000

Scientific Drilling

Scientific Drilling
Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 921-20L4CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 4891 & KB 24 @ 4915.00ft (HP 318)
Site:	NBU 921-20M PAD	**MD Reference:**	GL 4891 & KB 24 @ 4915.00ft (HP 318)
Well:	NBU 921-20L4CS	**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 921-20M PAD, SECTION 20 T9S R21E

Site Position:		**Northing:**	14,534,980.51 usft	**Latitude:**	40.0158650
From:	Lat/Long	**Easting:**	2,037,433.53 usft	**Longitude:**	-109.5820750
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.91 °

Well NBU 921-20L4CS, 587 FSL 609 FWL

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,534,992.28 usft	**Latitude:**	40.0158980
	+E/-W	0.00 ft	**Easting:**	2,037,417.38 usft	**Longitude:**	-109.5821320
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,891.00 ft

Wellbore OH

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	BGGM2013	10/30/2013	10.89	65.79	52,009

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	12.73

Survey Program **Date** 12/23/2013

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
20.00	2,990.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1
3,080.00	10,415.00	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
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
166.00	0.44	109.25	166.00	-0.18	0.53	-0.06	0.30	0.30	0.00
FIRST SDI MWD SURFACE SURVEY									
249.00	1.06	15.30	248.99	0.45	1.03	0.67	1.42	0.75	-113.19
305.00	2.17	19.60	304.97	1.95	1.53	2.24	1.99	1.98	7.68
389.00	3.08	9.50	388.88	5.67	2.43	6.07	1.21	1.08	-12.02
479.00	4.16	12.80	478.70	11.24	3.55	11.75	1.22	1.20	3.67
569.00	5.89	11.43	568.35	18.95	5.19	19.63	1.93	1.92	-1.52
659.00	7.91	13.01	657.70	29.51	7.50	30.44	2.25	2.24	1.76

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Scientific Drilling

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Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 921-20L4CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 4891 & KB 24 @ 4915.00ft (HP 318)
Site:	NBU 921-20M PAD	**MD Reference:**	GL 4891 & KB 24 @ 4915.00ft (HP 318)
Well:	NBU 921-20L4CS	**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)
749.00	10.11	13.81	746.58	43.22	10.78	44.53	2.45	2.44	0.89
839.00	11.93	15.27	834.92	59.87	15.12	61.72	2.05	2.02	1.62
929.00	13.95	14.99	922.63	79.32	20.37	81.86	2.25	2.24	-0.31
1,019.00	15.44	14.82	1,009.68	101.38	26.24	104.67	1.66	1.66	-0.19
1,109.00	16.82	14.88	1,096.13	125.55	32.65	129.66	1.53	1.53	0.07
1,199.00	17.58	12.98	1,182.11	151.38	39.05	156.26	1.05	0.84	-2.11
1,289.00	17.67	12.57	1,267.88	177.96	45.08	183.51	0.17	0.10	-0.46
1,379.00	17.90	12.59	1,353.58	204.79	51.06	211.00	0.26	0.26	0.02
1,469.00	17.32	11.96	1,439.37	231.39	56.85	238.23	0.68	-0.64	-0.70
1,559.00	17.23	11.70	1,525.31	257.55	62.33	264.95	0.13	-0.10	-0.29
1,649.00	16.88	11.52	1,611.35	283.41	67.65	291.35	0.39	-0.39	-0.20
1,739.00	17.15	10.90	1,697.41	309.24	72.76	317.67	0.36	0.30	-0.69
1,829.00	17.91	10.56	1,783.23	335.87	77.81	344.76	0.85	0.84	-0.38
1,919.00	18.73	12.14	1,868.67	363.60	83.38	373.04	1.07	0.91	1.76
2,009.00	17.50	12.40	1,954.20	390.95	89.33	401.02	1.37	-1.37	0.29
2,099.00	17.76	12.14	2,039.98	417.58	95.12	428.28	0.30	0.29	-0.29
2,189.00	18.47	11.52	2,125.52	444.97	100.86	456.26	0.82	0.79	-0.69
2,279.00	18.20	12.57	2,210.95	472.66	106.76	484.57	0.47	-0.30	1.17
2,369.00	15.74	12.93	2,297.02	498.28	112.55	510.83	2.74	-2.73	0.40
2,459.00	15.21	12.49	2,383.76	521.70	117.84	534.85	0.60	-0.59	-0.49
2,549.00	15.56	12.22	2,470.53	545.03	122.95	558.72	0.40	0.39	-0.30
2,639.00	15.74	12.75	2,557.20	568.73	128.20	583.00	0.26	0.20	0.59
2,729.00	16.00	12.93	2,643.77	592.73	133.66	607.61	0.29	0.29	0.20
2,819.00	16.36	12.40	2,730.20	617.20	139.16	632.69	0.43	0.40	-0.59
2,919.00	17.59	13.63	2,825.84	645.64	145.75	661.88	1.28	1.23	1.23
2,990.00	17.67	12.40	2,893.51	666.59	150.59	683.39	0.54	0.11	-1.73
LAST SDI MWD SURFACE SURVEY									
2,995.00	17.63	12.35	2,898.27	668.07	150.91	684.90	0.84	-0.78	-0.99
8 5/8"									
3,080.00	16.97	11.48	2,979.43	692.80	156.14	710.18	0.84	-0.78	-1.02
FIRST SDI MWD PRODUCTION SURVEY									
3,143.00	16.35	11.54	3,039.78	710.50	159.74	728.23	0.98	-0.98	0.10
3,237.00	15.66	13.16	3,130.14	735.82	165.28	754.15	0.87	-0.73	1.72
3,332.00	13.65	12.25	3,222.04	759.26	170.57	778.18	2.13	-2.12	-0.96
3,426.00	13.43	13.93	3,313.43	780.69	175.56	800.19	0.48	-0.23	1.79
3,521.00	11.80	19.13	3,406.14	800.58	181.39	820.87	2.09	-1.72	5.47
3,615.00	10.01	16.77	3,498.44	817.48	186.90	838.57	1.96	-1.90	-2.51
3,709.00	6.92	12.16	3,591.40	830.84	190.45	852.39	3.36	-3.29	-4.90
3,803.00	4.03	10.94	3,684.96	839.62	192.27	861.36	3.08	-3.07	-1.30
3,898.00	2.85	6.49	3,779.79	845.25	193.17	867.04	1.27	-1.24	-4.68
3,992.00	1.13	353.30	3,873.73	848.49	193.33	870.24	1.88	-1.83	-14.03
4,087.00	0.50	255.58	3,968.72	849.32	192.82	870.93	1.36	-0.66	-102.86
4,181.00	0.79	254.20	4,062.72	849.04	191.80	870.43	0.31	0.31	-1.47
4,275.00	0.75	217.74	4,156.71	848.38	190.80	869.57	0.51	-0.04	-38.79

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Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 921-20L4CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 4891 & KB 24 @ 4915.00ft (HP 318)
Site:	NBU 921-20M PAD	**MD Reference:**	GL 4891 & KB 24 @ 4915.00ft (HP 318)
Well:	NBU 921-20L4CS	**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)
4,370.00	0.93	190.16	4,251.70	847.13	190.28	868.23	0.46	0.19	-29.03
4,464.00	1.34	179.16	4,345.68	845.28	190.16	866.40	0.49	0.44	-11.70
4,559.00	0.75	163.84	4,440.67	843.57	190.35	864.78	0.68	-0.62	-16.13
4,652.00	1.14	189.83	4,533.65	842.07	190.36	863.32	0.61	0.42	27.95
4,747.00	1.11	166.54	4,628.64	840.25	190.42	861.55	0.48	-0.03	-24.52
4,841.00	1.93	179.28	4,722.60	837.78	190.65	859.20	0.94	0.87	13.55
4,935.00	1.50	193.79	4,816.56	835.00	190.38	856.43	0.65	-0.46	15.44
5,030.00	1.71	163.98	4,911.52	832.43	190.47	853.94	0.89	0.22	-31.38
5,124.00	1.52	189.15	5,005.49	829.85	190.66	851.47	0.77	-0.20	26.78
5,218.00	1.23	172.60	5,099.46	827.62	190.59	849.28	0.52	-0.31	-17.61
5,312.00	1.29	152.13	5,193.44	825.68	191.21	847.52	0.48	0.06	-21.78
5,407.00	0.23	174.63	5,288.43	824.55	191.73	846.53	1.14	-1.12	23.68
5,501.00	0.49	16.12	5,382.43	824.75	191.86	846.75	0.75	0.28	-168.63
5,595.00	0.34	322.71	5,476.43	825.36	191.80	847.33	0.42	-0.16	-56.82
5,690.00	0.52	102.55	5,571.43	825.49	192.05	847.52	0.85	0.19	147.20
5,784.00	0.40	297.10	5,665.42	825.54	192.18	847.60	0.97	-0.13	-176.01
5,879.00	0.31	277.69	5,760.42	825.73	191.63	847.66	0.16	-0.09	-20.43
5,973.00	0.33	307.14	5,854.42	825.93	191.16	847.75	0.17	0.02	31.33
6,068.00	0.64	141.48	5,949.42	825.68	191.27	847.53	1.01	0.33	-174.38
6,162.00	0.66	142.98	6,043.41	824.83	191.93	846.85	0.03	0.02	1.60
6,257.00	0.26	58.70	6,138.41	824.51	192.44	846.65	0.72	-0.42	-88.72
6,351.00	0.38	213.30	6,232.41	824.36	192.45	846.50	0.66	0.13	164.47
6,445.00	0.53	151.51	6,326.41	823.72	192.49	845.88	0.52	0.16	-65.73
6,540.00	0.86	173.77	6,421.40	822.62	192.77	844.88	0.44	0.35	23.43
6,634.00	0.93	217.47	6,515.39	821.31	192.39	843.52	0.71	0.07	46.49
6,729.00	0.52	90.01	6,610.39	820.70	192.35	842.91	1.38	-0.43	-134.17
6,823.00	0.24	247.04	6,704.39	820.63	192.59	842.89	0.79	-0.30	167.05
6,918.00	0.36	32.09	6,799.38	820.80	192.57	843.06	0.60	0.13	152.68
7,012.00	0.84	131.35	6,893.38	820.60	193.24	843.01	1.03	0.51	105.60
7,106.00	1.15	58.88	6,987.37	820.63	194.57	843.33	1.28	0.33	-77.10
7,200.00	0.52	72.08	7,081.36	821.25	195.78	844.20	0.70	-0.67	14.04
7,295.00	1.04	63.14	7,176.35	821.77	196.96	844.97	0.56	0.55	-9.41
7,389.00	0.98	32.42	7,270.34	822.83	198.15	846.27	0.57	-0.06	-32.68
7,483.00	0.38	23.33	7,364.33	823.80	198.71	847.34	0.65	-0.64	-9.67
7,577.00	0.60	68.65	7,458.33	824.26	199.29	847.92	0.46	0.23	48.21
7,672.00	0.64	19.39	7,553.32	824.94	199.93	848.72	0.55	0.04	-51.85
7,767.00	0.84	25.51	7,648.31	826.07	200.41	849.93	0.23	0.21	6.44
7,861.00	0.51	31.29	7,742.31	827.05	200.92	851.00	0.36	-0.35	6.15
7,955.00	0.81	338.43	7,836.30	828.03	200.89	851.94	0.69	0.32	-56.23
8,050.00	1.10	29.66	7,931.29	829.45	201.10	853.37	0.91	0.31	53.93
8,144.00	0.35	52.99	8,025.28	830.40	201.77	854.45	0.84	-0.80	24.82
8,238.00	0.21	106.02	8,119.28	830.53	202.17	854.66	0.30	-0.15	56.42
8,333.00	0.56	59.26	8,214.28	830.72	202.73	854.97	0.47	0.37	-49.22

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Scientific Drilling

Scientific Drilling
Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 921-20L4CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 4891 & KB 24 @ 4915.00ft (HP 318)
Site:	NBU 921-20M PAD	**MD Reference:**	GL 4891 & KB 24 @ 4915.00ft (HP 318)
Well:	NBU 921-20L4CS	**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)
8,427.00	0.50	28.72	8,308.27	831.31	203.33	855.68	0.30	-0.06	-32.49
8,522.00	0.18	71.79	8,403.27	831.72	203.67	856.16	0.41	-0.34	45.34
8,616.00	0.78	86.08	8,497.27	831.81	204.44	856.42	0.65	0.64	15.20
8,711.00	1.14	119.08	8,592.26	831.40	205.92	856.34	0.68	0.38	34.74
8,805.00	0.09	266.59	8,686.25	830.94	206.66	856.05	1.29	-1.12	156.93
8,900.00	0.20	303.41	8,781.25	831.02	206.45	856.09	0.15	0.12	38.76
8,994.00	0.48	163.68	8,875.25	830.74	206.42	855.80	0.69	0.30	-148.65
9,089.00	0.47	174.01	8,970.25	829.97	206.57	855.09	0.09	-0.01	10.87
9,183.00	0.51	153.60	9,064.24	829.21	206.80	854.40	0.19	0.04	-21.71
9,278.00	0.39	134.33	9,159.24	828.60	207.22	853.90	0.20	-0.13	-20.28
9,372.00	0.62	143.12	9,253.24	827.97	207.75	853.40	0.26	0.24	9.35
9,466.00	1.04	139.97	9,347.23	826.91	208.61	852.56	0.45	0.45	-3.35
9,560.00	0.78	111.54	9,441.21	826.03	209.75	851.94	0.55	-0.28	-30.24
9,655.00	1.16	135.30	9,536.20	825.11	211.03	851.33	0.57	0.40	25.01
9,749.00	0.97	137.27	9,630.19	823.84	212.24	850.36	0.21	-0.20	2.10
9,843.00	0.54	115.30	9,724.18	823.07	213.18	849.81	0.54	-0.46	-23.37
9,938.00	0.79	174.00	9,819.17	822.23	213.65	849.10	0.72	0.26	61.79
10,032.00	0.84	160.56	9,913.16	820.93	213.95	847.90	0.21	0.05	-14.30
10,126.00	0.87	126.49	10,007.15	819.86	214.75	847.03	0.53	0.03	-36.24
10,252.00	0.72	132.58	10,133.14	818.76	216.10	846.25	0.14	-0.12	4.83
10,358.00	1.56	123.46	10,239.12	817.51	217.80	845.41	0.81	0.79	-8.60
LAST SDI MWD PRODUCTION SURVEY									
10,415.00	1.56	123.46	10,296.10	816.65	219.09	844.86	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 921-20L4CS	0.00	0.00	10,317.00	819.09	207.23	14,535,814.56	2,037,611.54	40.0181470	-109.5813920

- actual wellpath misses target center by 24.16ft at 10415.00ft MD (10296.10 TVD, 816.65 N, 219.09 E)
- Circle (radius 25.00)

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,995.00	2,898.27	8 5/8"	8.625	11.000

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Scientific Drilling

Scientific Drilling

Survey Report

Anadarko Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 921-20L4CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 4891 & KB 24 @ 4915.00ft (HP 318)
Site:	NBU 921-20M PAD	**MD Reference:**	GL 4891 & KB 24 @ 4915.00ft (HP 318)
Well:	NBU 921-20L4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Denver Sales Office

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
166.00	166.00	-0.18	0.53	FIRST SDI MWD SURFACE SURVEY
2,990.00	2,893.51	666.59	150.59	LAST SDI MWD SURFACE SURVEY
3,080.00	2,979.43	692.80	156.14	FIRST SDI MWD PRODUCTION SURVEY
10,358.00	10,239.12	817.51	217.80	LAST SDI MWD PRODUCTION SURVEY
10,415.00	10,296.10	816.65	219.09	SDI PROJECTION TO TD

Checked By: _____ Approved By: _____ Date: _____

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