

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

FORM 3

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL		1. WELL NAME and NUMBER NBU 1022-7H4BS
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>		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) ML 23609	11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>	
12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		13. NAME OF SURFACE OWNER (if box 12 = 'fee')
14. SURFACE OWNER PHONE (if box 12 = 'fee')		15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')
16. SURFACE OWNER E-MAIL (if box 12 = 'fee')		17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')
18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	2361 FNL 1665 FEL	SWNE	7	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	2013 FNL 490 FEL	SENE	7	10.0 S	22.0 E	S
At Total Depth	2013 FNL 490 FEL	SENE	7	10.0 S	22.0 E	S

21. COUNTY UINTAH	22. DISTANCE TO NEAREST LEASE LINE (Feet) 490	23. NUMBER OF ACRES IN DRILLING UNIT 294
24. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 547	25. PROPOSED DEPTH MD: 10565 TVD: 10360	
26. ELEVATION - GROUND LEVEL 5289	27. BOND NUMBER 22013542	28. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE Permit #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 - 2470	28.0	J-55 LT&C	0.2	Type V	110	1.15	15.8
							Class G	160	1.15	15.8
Prod	7.875	4.5	0 - 10565	11.6	I-80 Buttress	12.0	Premium Lite High Strength	300	3.38	11.0
							50/50 Poz	1370	1.31	14.3

ATTACHMENTS

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

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP

NAME Andy Lytle	TITLE Regulatory Analyst	PHONE 720 929-6100
SIGNATURE	DATE 12/29/2010	EMAIL andrew.lytle@anadarko.com
API NUMBER ASSIGNED 43047514470000	APPROVAL  Permit Manager	

Kerr-McGee Oil & Gas Onshore. L.P.**NBU 1022-7H4BS**

Surface: 2361 FNL / 1665 FEL SWNE
 BHL: 2013 FNL / 490 FEL SENE

Section 7 T10S R22E

Unitah County, Utah
 Mineral Lease: UT ST ML 23609

ONSHORE ORDER NO. 1**DRILLING PROGRAM**

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

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1307	
Birds Nest	1658	Water
Mahogany	2020	Water
Wasatch	4533	Gas
Mesaverde	7096	Gas
MVU2	7980	Gas
MVL1	8579	Gas
Sego*	9208	
Castlegate*	9398	
MN5*	9852	
TVD	10360	
TD	10565	

* The Blackhawk formation is in the Mesaverde group

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

Please refer to the attached Drilling Program

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

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

Evaluation Program:

Please refer to the attached Drilling Program

7.

Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 10,360' TVD, approximately equals 6,885 psi (calculated at 0.66 psi/foot).

Maximum anticipated surface pressure equals approximately 4,606 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8.

Anticipated Starting Dates:

9.

Variances:

Please refer to the attached Drilling Program.

Onshore Order #2 – Air Drilling Variance

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

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

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

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

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

Background

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

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through

a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations. 3 of 4

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

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

Variance for BOPE Requirements

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

Variance for Mud Material Requirements

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

Variance for Special Drilling Operation (surface equipment placement) Requirements

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

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

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

350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie 4 of 4 line.

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

Conclusion

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

10.

Other Information:

Please refer to the attached Drilling Program.



KERR-McGEE OIL & GAS ONSHORE LP
DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'						
SURFACE	8-5/8"	0 to 2,470'	28.00	IJ-55	LTC	3,390	1,880	348,000
PRODUCTION	4-1/2"	0 to 10,565'	11.60	HCP-110	BTC	10,690	8,650	367,000
						4.60	1.24	3.74

*Burst on surface casing is controlled by fracture gradient as shoe with gas gradient above.

D.F. = 2.18

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 13.0 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

MASP 4,606 psi

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

(Burst Assumptions: TD = 13.0 ppg)

0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

MABHP 6,885 psi

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD	
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	110	60%	15.80	1.15	
	Option 1		+ 0.25 pps flocele					
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	160	0%	15.80	1.15	
			+ 2% CaCl + 0.25 pps flocele					
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized						
Option 2	LEAD	1,970'	65/35 Poz + 6% Gel + 10 pps gilsonite	110	35%	11.00	3.82	
			+ 0.25 pps Flocele + 3% salt BWOW					
	TAIL	500'	Premium cmt + 2% CaCl	100	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	4,025'	Premium Lite II + 3% KCl + 0.25 pps	300	20%	11.00	3.38	
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	6,540'	50/50 Poz/G + 10% salt + 2% gel	1,370	20%	14.30	1.31	
			+ 0.1% R-3					

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

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

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

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

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

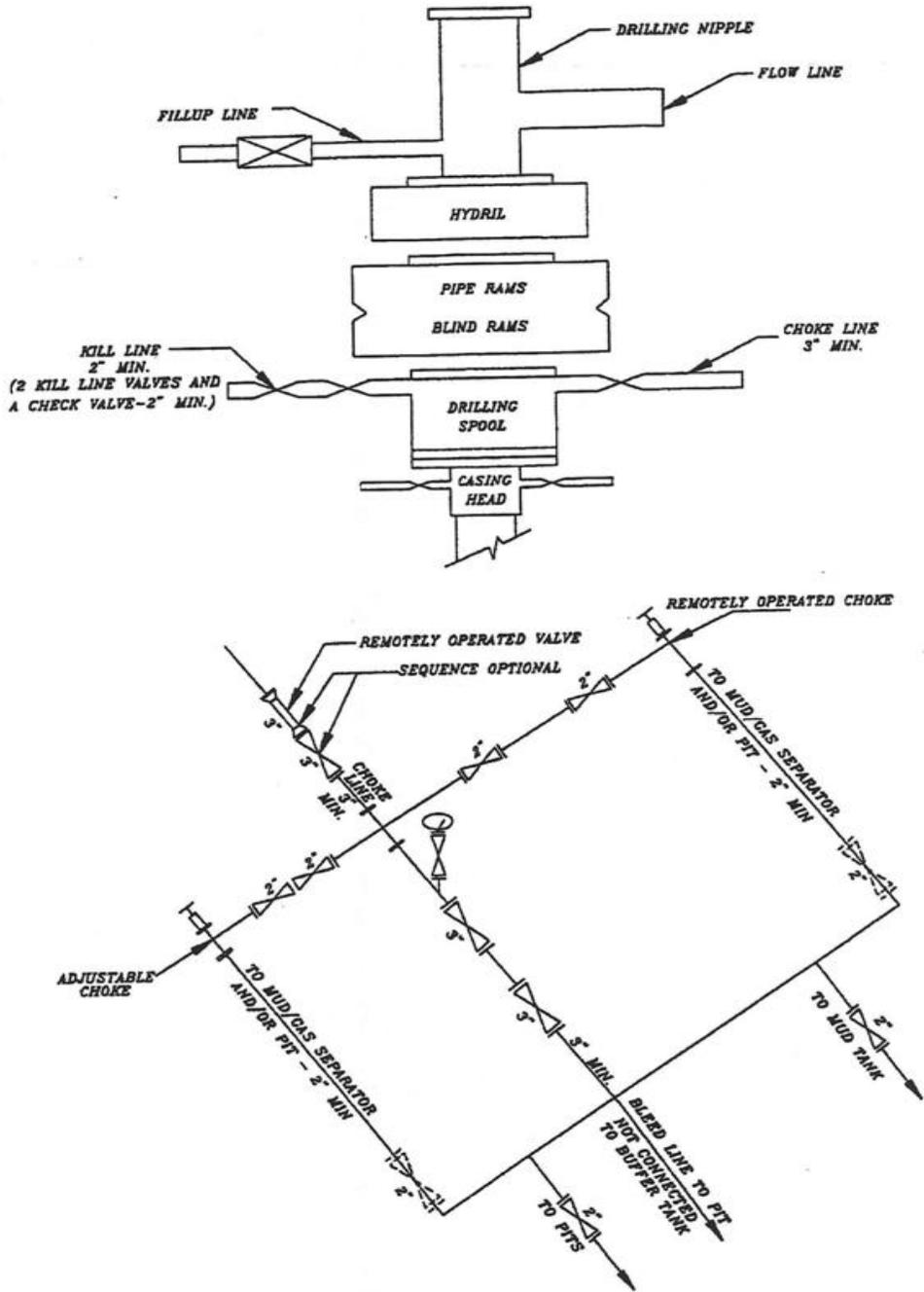
Surveys will be taken at 1,000' minimum intervals.

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

DRILLING ENGINEER: John Huycke / Emile Goodwin

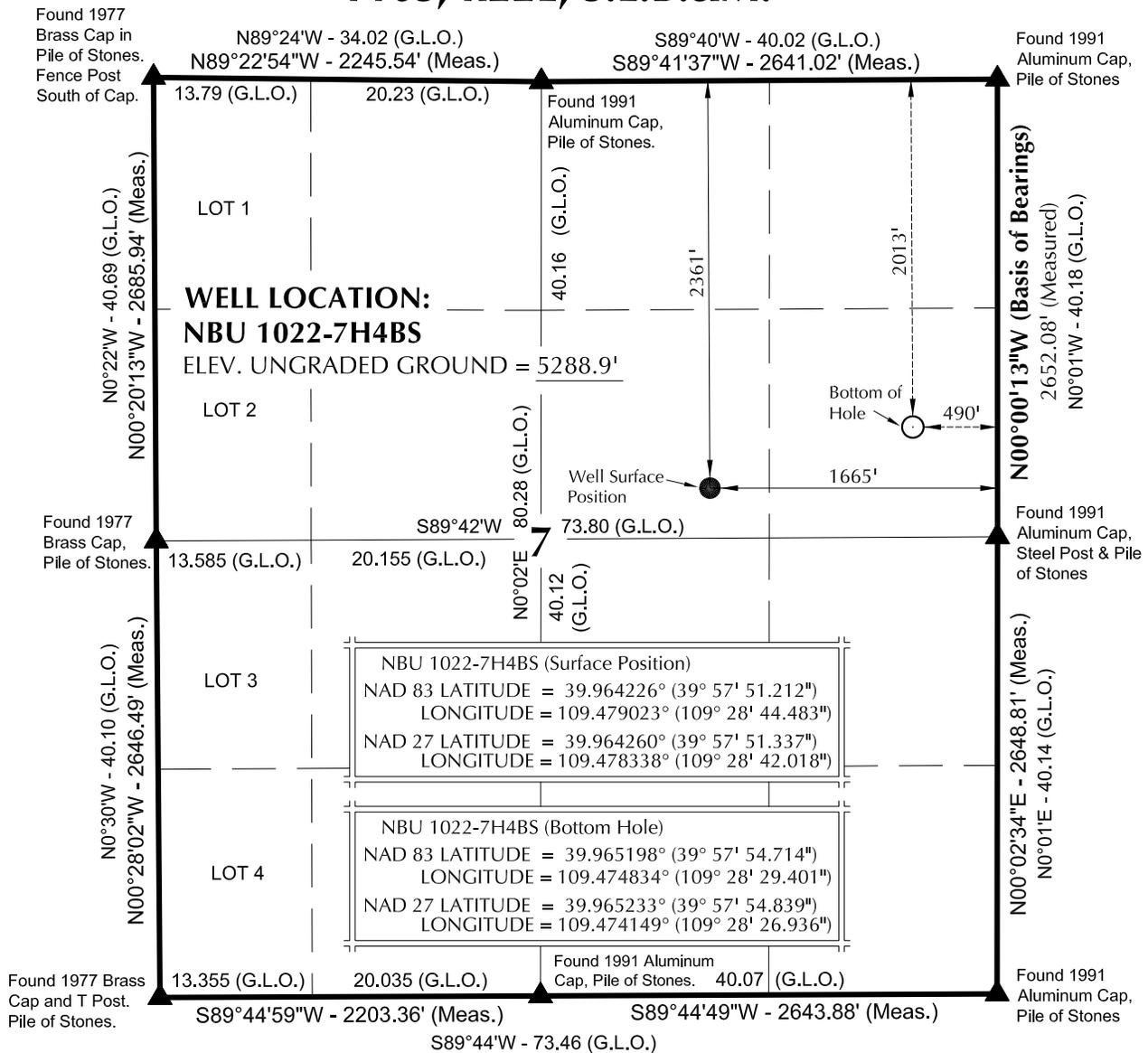
DRILLING SUPERINTENDENT: John Merkel / Lovel Young

EXHIBIT A NBU 1022-7H4BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

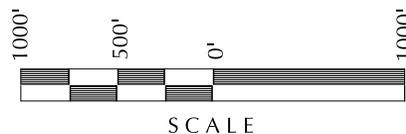
T10S, R22E, S.L.B.&M.



NOTES:

▲ = Section Corners Located

- Well footages are measured at right angles to the Section Lines.
- G.L.O. distances are shown in feet or chains.
1 chain = 66 feet.
- The Bottom of hole bears N73°13'13"E 1226.96' from the Surface Position.
- Bearings are based on Global Positioning Satellite observations.
- Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



SURVEYOR'S CERTIFICATE

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

John R. Haugh
 PROFESSIONAL LAND SURVEYOR
 REGISTRATION No. 6028691
 STATE OF UTAH

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

WELL PAD: NBU 1022-7G

NBU 1022-7H4BS
WELL PLAT
 2013' FNL, 490' FEL (Bottom Hole)
 SE ¼ NE ¼ OF SECTION 7, T10S, R22E,
 S.L.B.&M., UTAH COUNTY, UTAH.



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

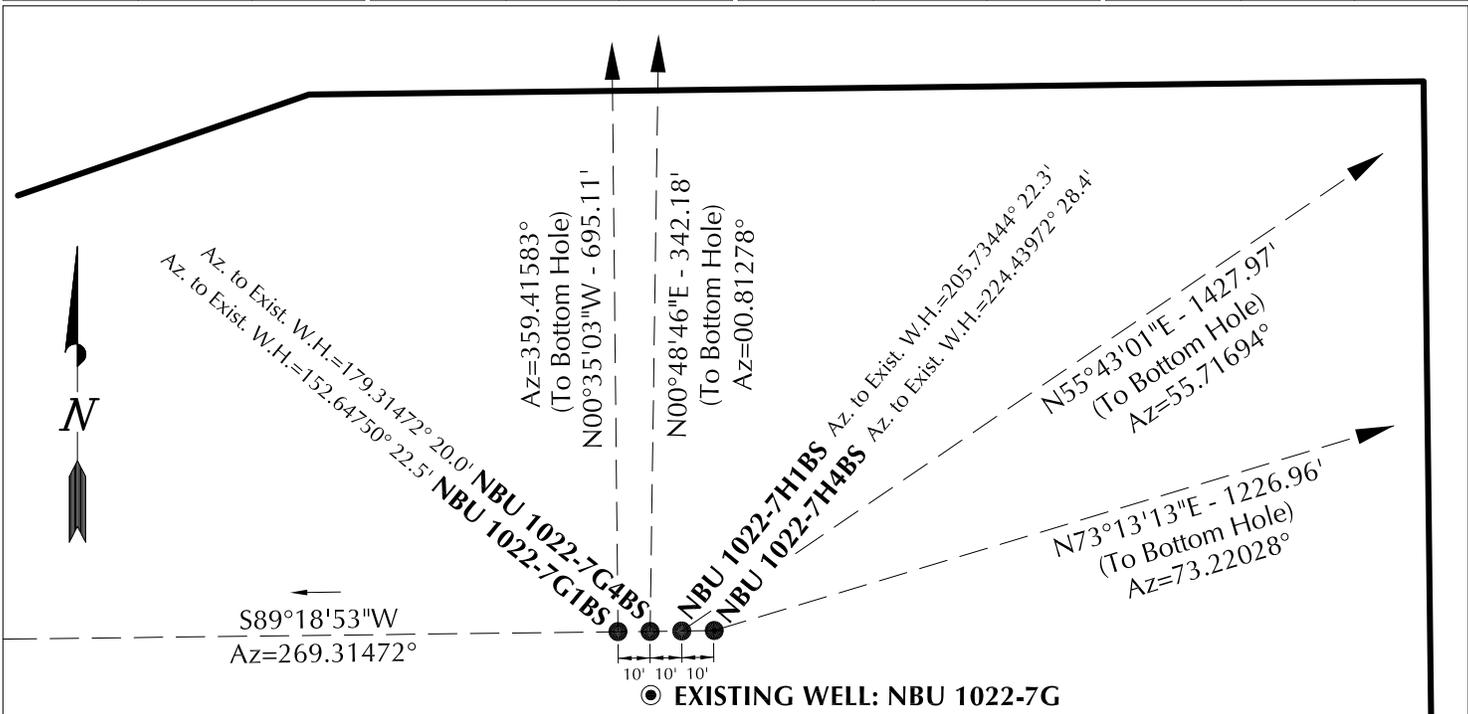
TIMBERLINE (435) 789-1365
 ENGINEERING & LAND SURVEYING, INC.
 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 10-21-10	SURVEYED BY: M.S.B.	SHEET NO: 1 1 OF 16
DATE DRAWN: 10-26-10	DRAWN BY: B.M.	
SCALE: 1" = 1000'	Date Last Revised: 12-14-10 E.M.S.	

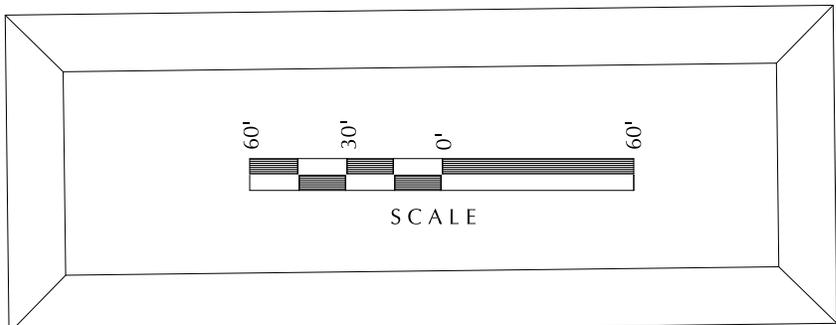
WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 1022-7H4BS	39°57'51.212" 39.964226°	109°28'44.483" 109.479023°	39°57'51.337" 39.964260°	109°28'42.018" 109.478338°	2361' FNL 1665' FEL	39°57'54.714" 39.965198°	109°28'29.401" 109.474834°	39°57'54.839" 39.965233°	109°28'26.936" 109.474149°	2013' FNL 490' FEL
NBU 1022-7H1BS	39°57'51.211" 39.964225°	109°28'44.614" 109.479059°	39°57'51.336" 39.964260°	109°28'42.149" 109.478375°	2361' FNL 1675' FEL	39°57'59.160" 39.966433°	109°28'29.466" 109.474852°	39°57'59.284" 39.966468°	109°28'27.001" 109.474167°	1563' FNL 495' FEL
NBU 1022-7G4BS	39°57'51.210" 39.964225°	109°28'44.742" 109.479095°	39°57'51.334" 39.964260°	109°28'42.277" 109.478410°	2361' FNL 1685' FEL	39°57'54.590" 39.965164°	109°28'44.680" 109.479078°	39°57'54.715" 39.965199°	109°28'42.215" 109.478393°	2019' FNL 1680' FEL
NBU 1022-7G1BS	39°57'51.209" 39.964225°	109°28'44.871" 109.479131°	39°57'51.334" 39.964259°	109°28'42.406" 109.478446°	2361' FNL 1695' FEL	39°57'58.076" 39.966132°	109°28'44.964" 109.479157°	39°57'58.201" 39.966167°	109°28'42.498" 109.478472°	1666' FNL 1702' FEL
NBU 1022-7G	39°57'51.012" 39.964170°	109°28'44.739" 109.479094°	39°57'51.137" 39.964205°	109°28'42.273" 109.478409°	2381' FNL 1685' FEL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1022-7H4BS	354.2'	1174.7'	NBU 1022-7H1BS	804.4'	1179.9'	NBU 1022-7G4BS	342.1'	4.9'	NBU 1022-7G1BS	695.1'	-7.1'



BASIS OF BEARINGS IS THE EAST LINE OF THE NE ¼ OF SECTION 7, T10S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°00'13\"/>



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

WELL PAD - NBU 1022-7G

WELL PAD INTERFERENCE PLAT
WELLS - NBU 1022-7H4BS, NBU 1022-7H1BS, NBU 1022-7G4BS & NBU 1022-7G1BS LOCATED IN SECTION 7, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.



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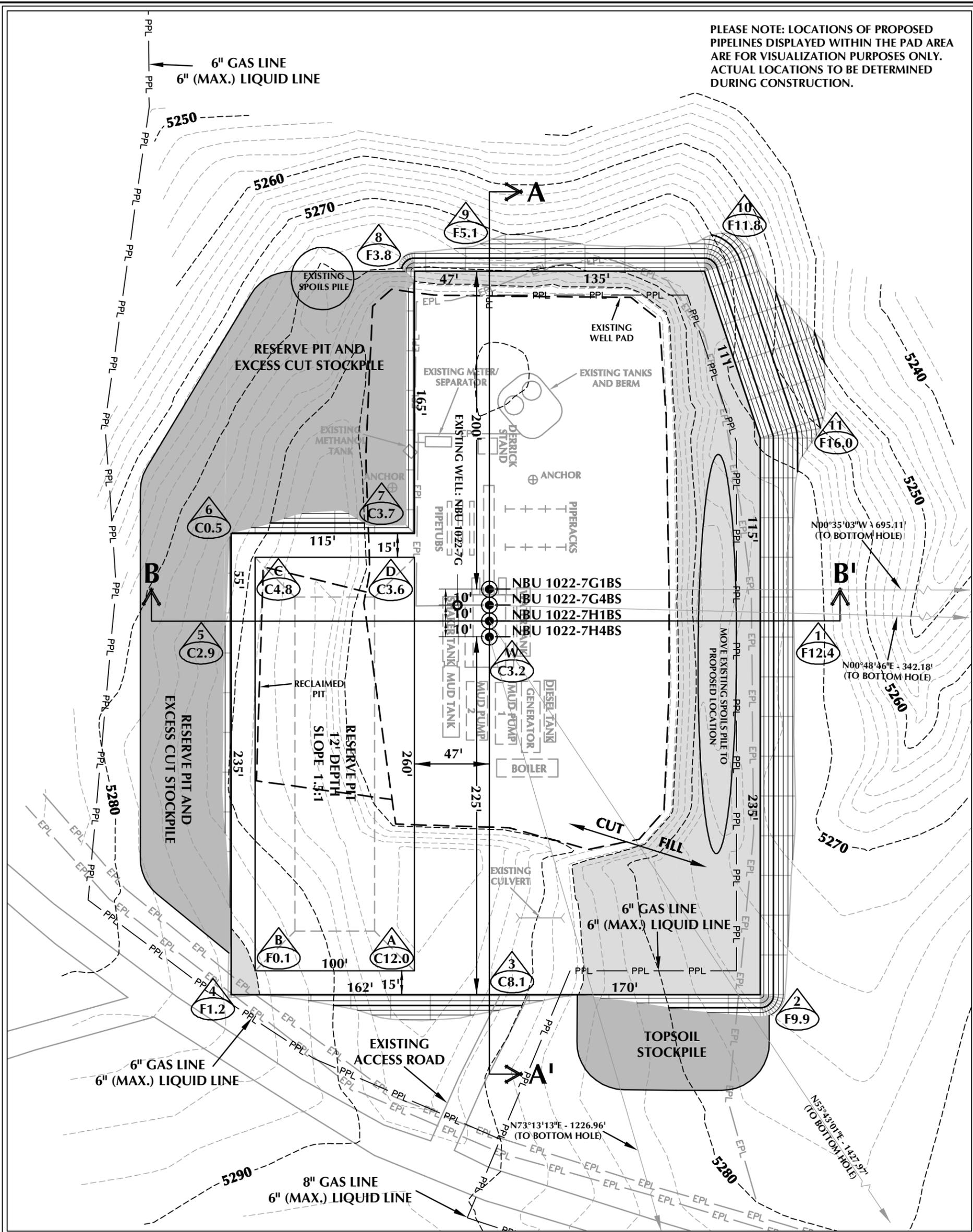
TIMBERLINE

(435) 789-1365

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

DATE SURVEYED: 10-21-10	SURVEYED BY: M.S.B.	SHEET NO: 5 5 OF 16
DATE DRAWN: 10-26-10	DRAWN BY: B.M.	
SCALE: 1" = 60'	Date Last Revised: 12-14-10 E.M.S.	

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



WELL PAD - NBU 1022-7G DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5288.7'
 FINISHED GRADE ELEVATION = 5285.5'
 CUT SLOPES = 1.5:1
 FILL SLOPES = 1.5:1
 TOTAL WELL PAD AREA = 3.49 ACRES
 TOTAL DAMAGE AREA = 6.00 ACRES
 SHRINKAGE FACTOR = 1.10
 SWELL FACTOR = 1.00

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

WELL PAD - NBU 1022-7G

WELL PAD - LOCATION LAYOUT
 NBU 1022-7H4BS, NBU 1022-7H1BS,
 NBU 1022-7G4BS & NBU 1022-7G1BS
 LOCATED IN SECTION 7, T10S, R22E,
 S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC
 2155 North Main Street
 Sheridan, WY 82801
 Phone 307-674-0609
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WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 18,031 C.Y.
 TOTAL FILL FOR WELL PAD = 14,262 C.Y.
 TOPSOIL @ 6" DEPTH = 1,733 C.Y.
 EXCESS MATERIAL = 3,769 C.Y.

RESERVE PIT QUANTITIES

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

WELL PAD LEGEND

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



HORIZONTAL 0 30' 60' 1" = 60'

2' CONTOURS

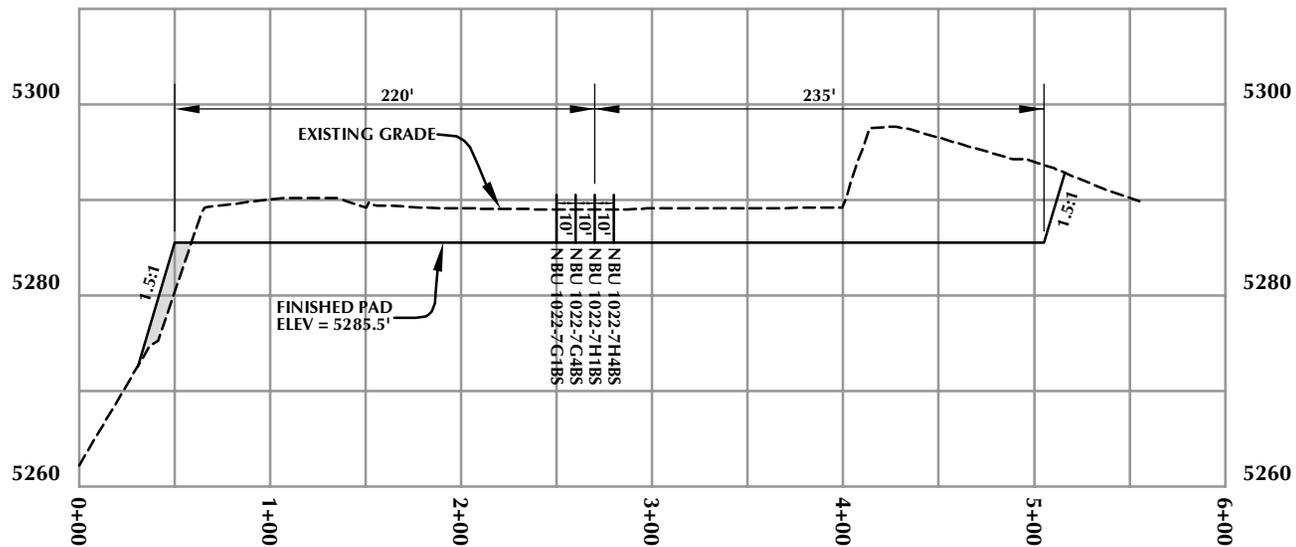
SCALE: 1"=60' DATE: 11/5/10 SHEET NO:

REVISED:

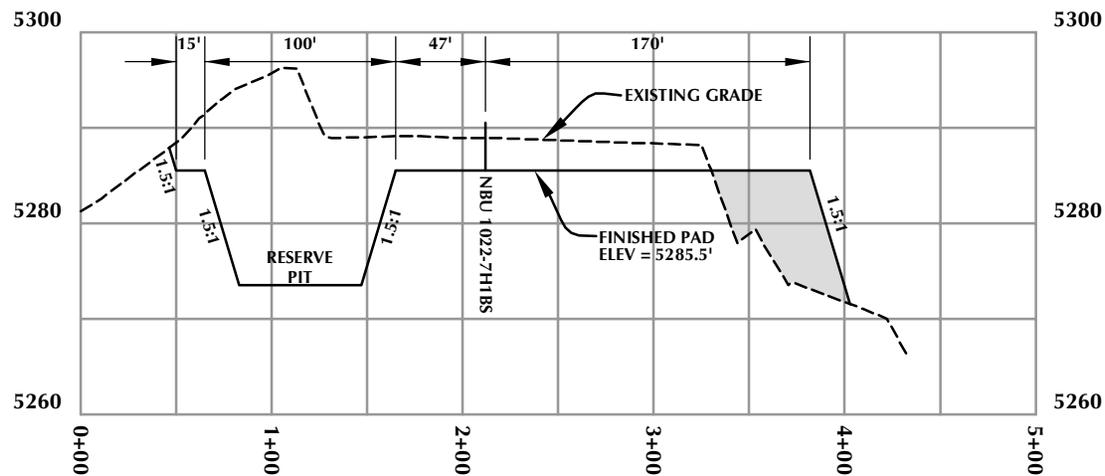
6

6 OF 16

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 209 NORTH 300 WEST - VERNAL, UTAH 84078



CROSS SECTION A-A'



CROSS SECTION B-B'

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

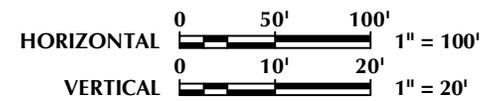
WELL PAD - NBU 1022-7G

WELL PAD - CROSS SECTIONS
NBU 1022-7H4BS, NBU 1022-7H1BS,
NBU 1022-7G4BS & NBU 1022-7G1BS
LOCATED IN SECTION 7, T10S, R22E,
S.L.B.&M., Uintah County, Utah



609
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Scale: 1"=100'	Date: 11/5/10	SHEET NO:
REVISED:		7 7 OF 16

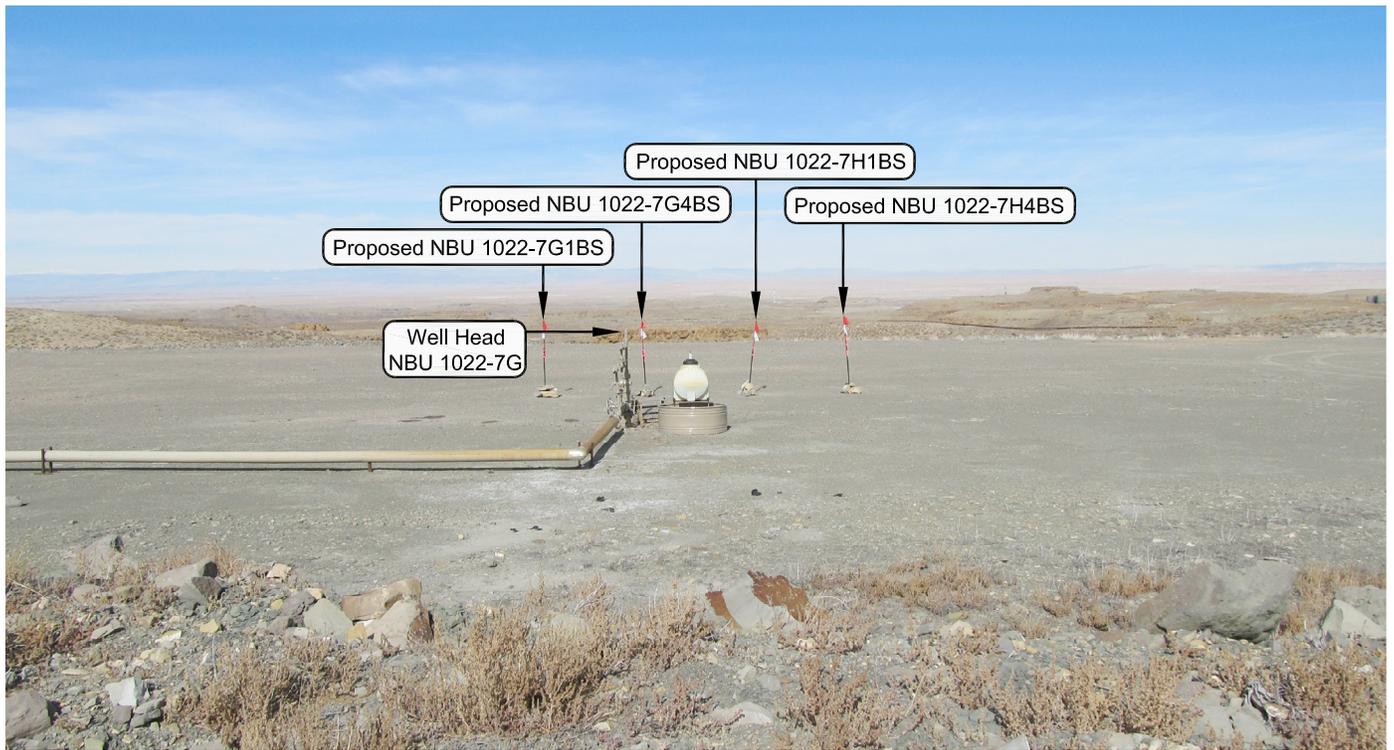


PHOTO VIEW: FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: WESTERLY

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

WELL PAD - NBU 1022-7G

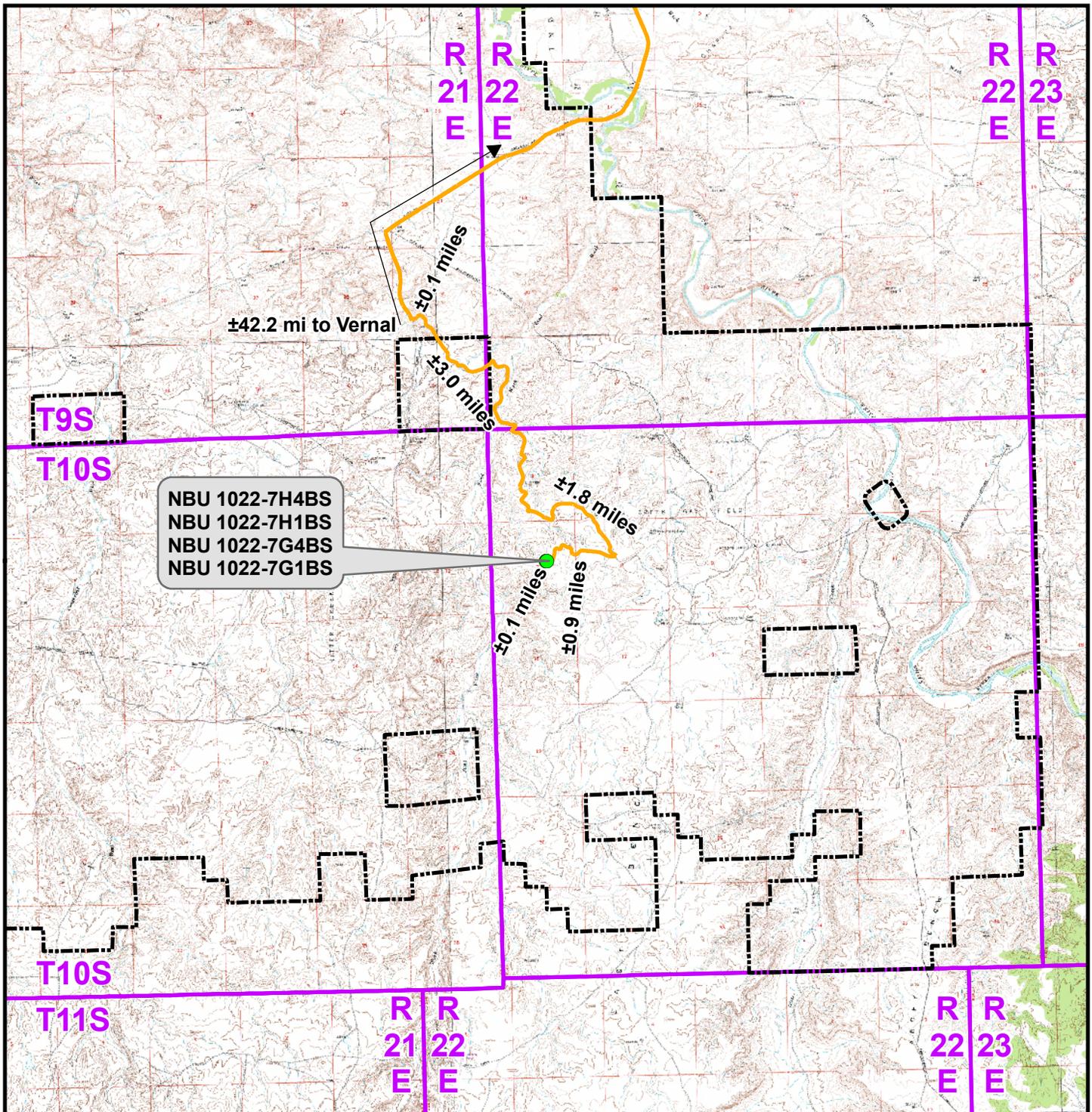
LOCATION PHOTOS
 NBU 1022-7H4BS, NBU 1022-7H1BS,
 NBU 1022-7G4BS & NBU 1022-7G1BS
 LOCATED IN SECTION 7, T10S, R22E,
 S.L.B.&M., UINTAH COUNTY, UTAH.



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

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

DATE PHOTOS TAKEN: 10-21-10	PHOTOS TAKEN BY: M.S.B.	SHEET NO: 9 9 OF 16
DATE DRAWN: 10-26-10	DRAWN BY: B.M.	
Date Last Revised:		



Legend

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

Distance From Well Pad - NBU 1022-7G To Unit Boundary: ±8,236ft

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

WELL PAD - NBU 1022-7G

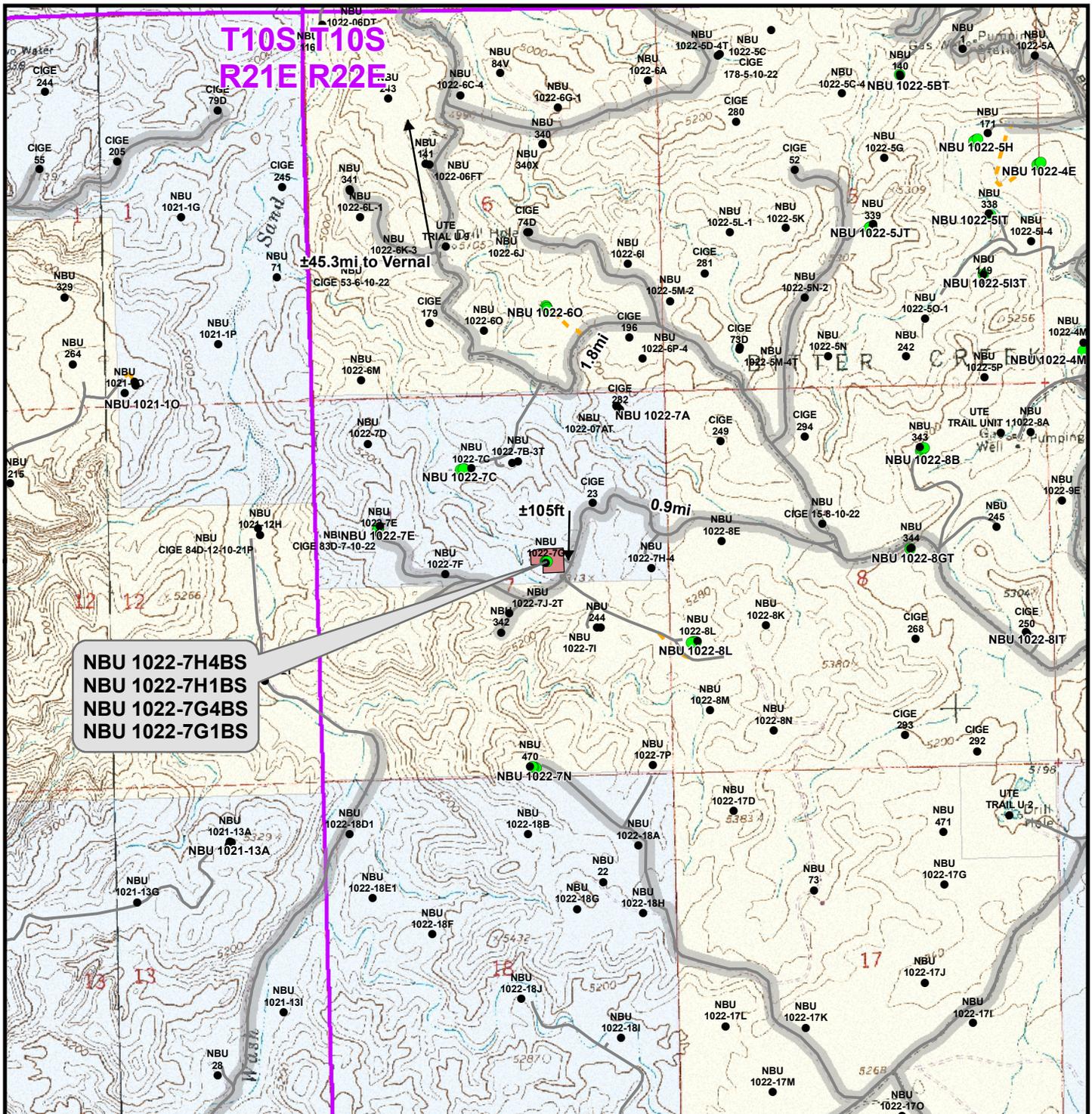
TOPO A
 NBU 1022-7H4BS, NBU 1022-7H1BS,
 NBU 1022-7G4BS & NBU 1022-7G1BS
 LOCATED IN SECTION 7, T10S, R22E,
 S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC
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Scale: 1:100,000	NAD83 USP Central	Sheet No:
Drawn: JFE	Date: 5 Nov 2010	10
Revised:	Date:	



**NBU 1022-7H4BS
 NBU 1022-7H1BS
 NBU 1022-7G4BS
 NBU 1022-7G1BS**

Legend

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

Total Proposed Road Length: ±0ft

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

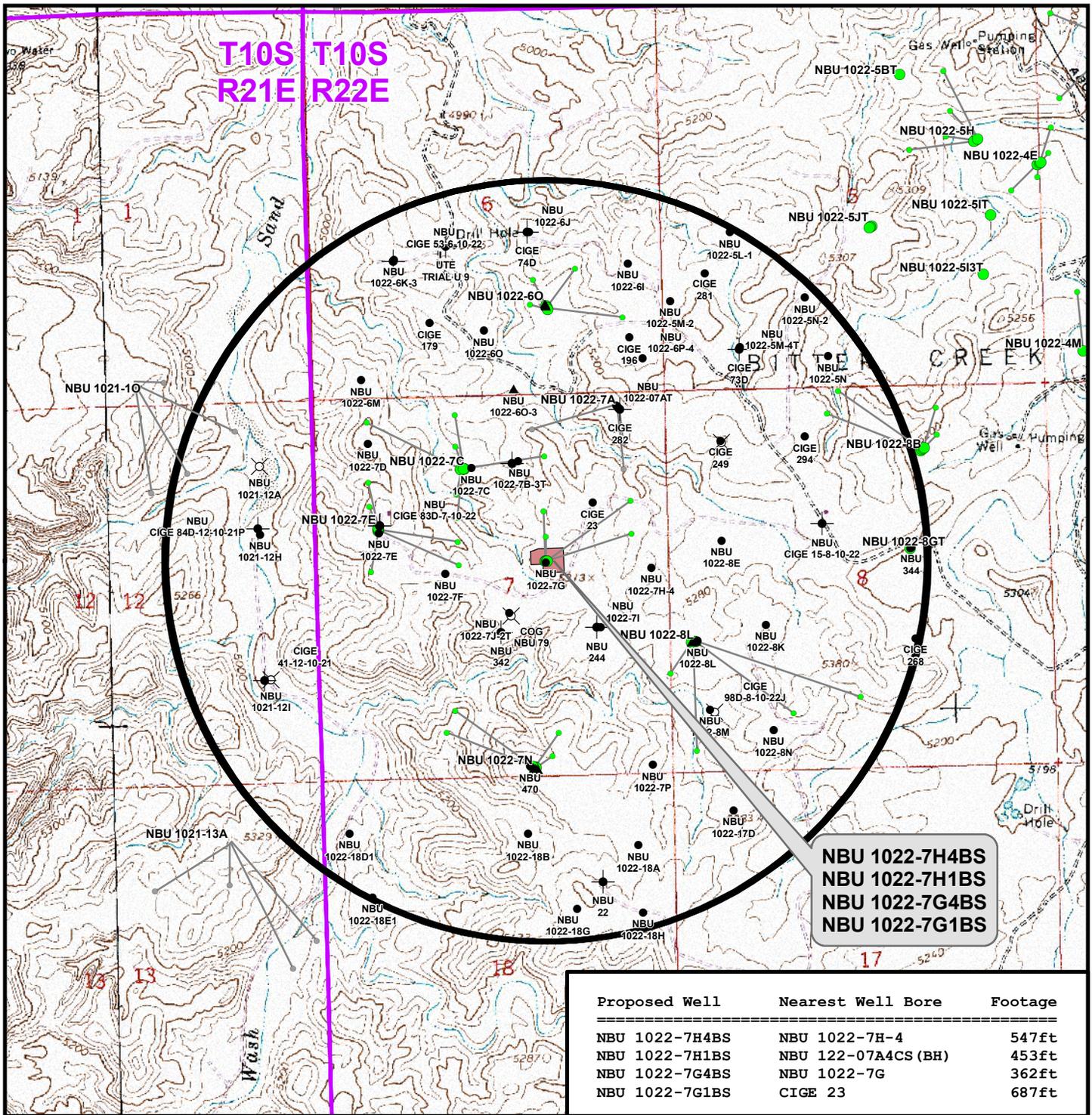
WELL PAD - NBU 1022-7G

TOPO B
 NBU 1022-7H4BS, NBU 1022-7H1BS,
 NBU 1022-7G4BS & NBU 1022-7G1BS
 LOCATED IN SECTION 7, T10S, R22E,
 S.L.B.&M., UTAH COUNTY, UTAH

609

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 2155 North Main Street
 Sheridan, WY 82801
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Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:	11
Drawn: JFE	Date: 5 Nov 2010	11 of 16	
Revised:	Date:		



NBU 1022-7H4BS
NBU 1022-7H1BS
NBU 1022-7G4BS
NBU 1022-7G1BS

Proposed Well	Nearest Well Bore	Footage
NBU 1022-7H4BS	NBU 1022-7H-4	547ft
NBU 1022-7H1BS	NBU 122-07A4CS (BH)	453ft
NBU 1022-7G4BS	NBU 1022-7G	362ft
NBU 1022-7G1BS	CIGE 23	687ft

Legend

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

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

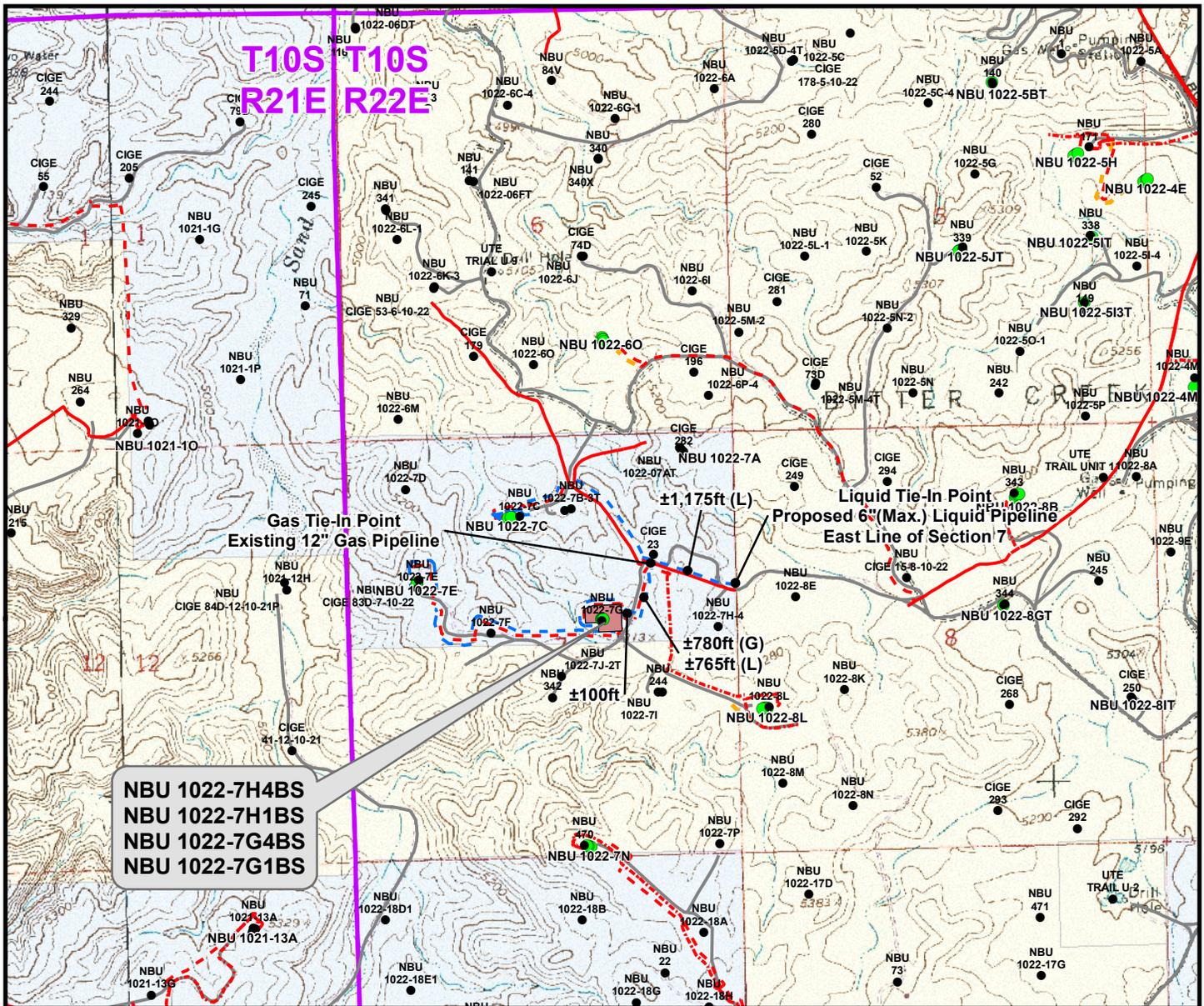
WELL PAD - NBU 1022-7G

TOPO C
NBU 1022-7H4BS, NBU 1022-7H1BS,
NBU 1022-7G4BS & NBU 1022-7G1BS
LOCATED IN SECTION 7, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

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Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: JFE	Date: 5 Nov 2010	12
Revised:	Date:	



**NBU 1022-7H4BS
NBU 1022-7H1BS
NBU 1022-7G4BS
NBU 1022-7G1BS**

Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±755ft
Proposed 6" (Max.) (Edge of Pad to 7E Intersection)	±100ft
Proposed 6" (Max.) (7E Intersection to 7C Intersection)	±765ft
Proposed 6" (Max.) (7C Intersection to East Line of Section 7)	±1,175ft
TOTAL PROPOSED LIQUID PIPELINE =	±2,795ft

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±755ft
Proposed 6" (Edge of Pad to 7E Intersection)	±100ft
Proposed 8" (7E Intersection to Existing 12" Pipeline)	±780ft
TOTAL PROPOSED GAS PIPELINE =	±1,635ft

Legend

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

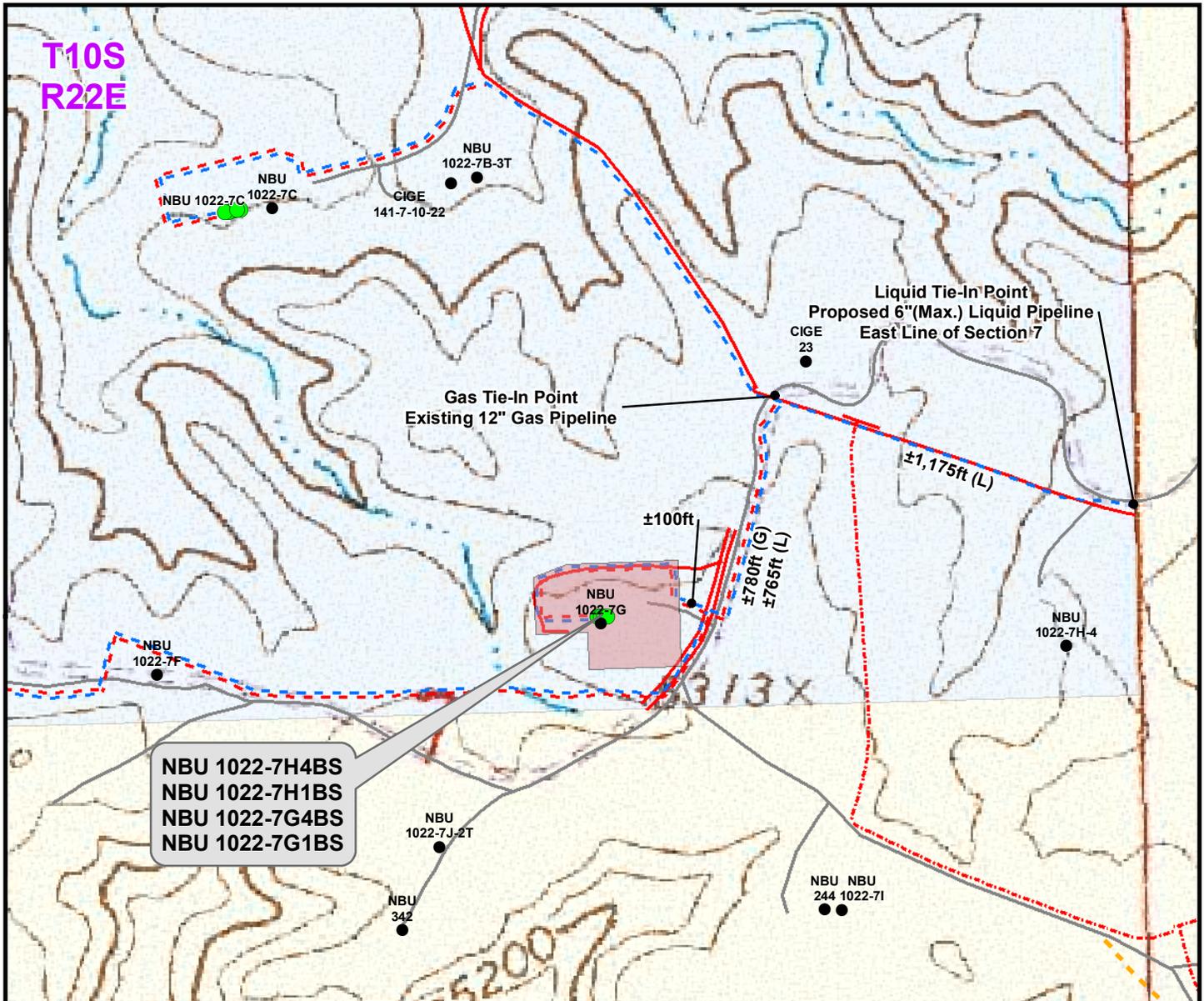
Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-7G

TOPO D
NBU 1022-7H4BS, NBU 1022-7H1BS,
NBU 1022-7G4BS & NBU 1022-7G1BS
LOCATED IN SECTION 7, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

CONSULTING, LLC
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Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 13
Drawn: JFE	Date: 5 Nov 2010	13 of 16
Revised:	Date:	



Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±755ft
Proposed 6" (Max.) (Edge of Pad to 7E Intersection)	±100ft
Proposed 6" (Max.) (7E Intersection to 7C Intersection)	±765ft
Proposed 6" (Max.) (7C Intersection to East Line of Section 7)	±1,175ft
TOTAL PROPOSED LIQUID PIPELINE =	±2,795ft

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±755ft
Proposed 6" (Edge of Pad to 7E Intersection)	±100ft
Proposed 8" (7E Intersection to Existing 12" Pipeline)	±780ft
TOTAL PROPOSED GAS PIPELINE =	±1,635ft

Legend

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

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

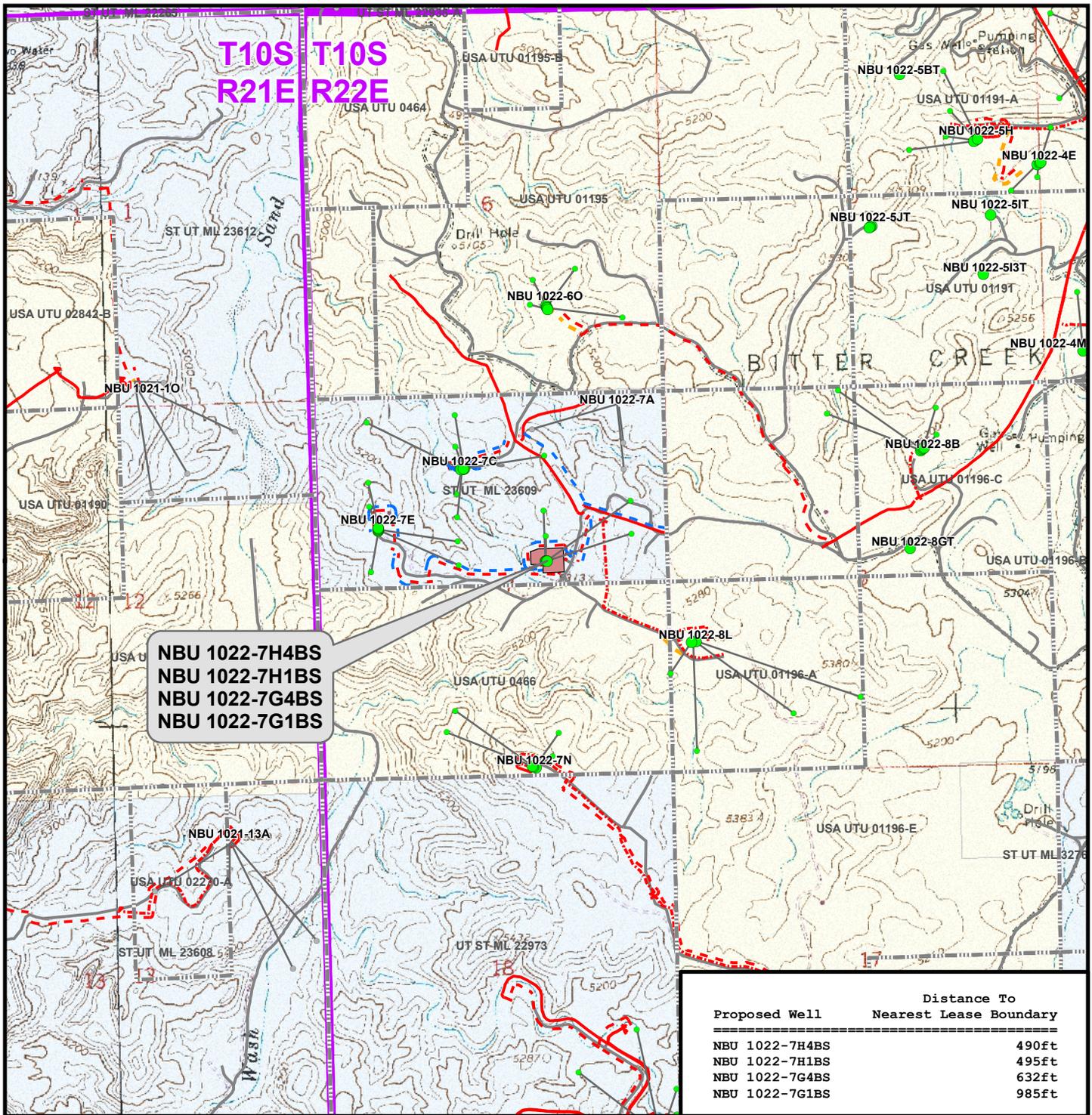
WELL PAD - NBU 1022-7G

TOPO D2 (PAD & PIPELINE DETAIL)
 NBU 1022-7H4BS, NBU 1022-7H1BS,
 NBU 1022-7G4BS & NBU 1022-7G1BS
 LOCATED IN SECTION 7, T10S, R22E,
 S.L.B.&M., UINTAH COUNTY, UTAH

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 CONSULTING, LLC
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Scale: 1" = 500ft	NAD83 USP Central	Sheet No:
Drawn: JFE	Date: 5 Nov 2010	14
Revised:	Date:	



**NBU 1022-7H4BS
NBU 1022-7H1BS
NBU 1022-7G4BS
NBU 1022-7G1BS**

Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-7H4BS	490ft
NBU 1022-7H1BS	495ft
NBU 1022-7G4BS	632ft
NBU 1022-7G1BS	985ft

Legend

- Well - Proposed (Green dot)
- Bottom Hole - Proposed (Grey dot)
- Bottom Hole - Existing (Black dot)
- Well Path (Black line)
- Well Pad (Red shaded area)
- Lease Boundary (Dashed grey line)
- Gas Pipeline - Proposed (Red dashed line)
- Gas Pipeline - To Be Upgraded (Red dotted line)
- Gas Pipeline - Existing (Red solid line)
- Liquid Pipeline - Proposed (Blue dashed line)
- Liquid Pipeline - To Be Upgraded (Blue dotted line)
- Liquid Pipeline - Existing (Blue solid line)
- Road - Proposed (Yellow dashed line)
- Road - Existing (Grey solid line)
- Bureau of Land Management (Yellow shaded area)
- Indian Reservation (Pink shaded area)
- State (Light blue shaded area)
- Private (White shaded area)

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

WELL PAD - NBU 1022-7G

TOPO E
NBU 1022-7H4BS, NBU 1022-7H1BS,
NBU 1022-7G4BS & NBU 1022-7G1BS
LOCATED IN SECTION 7, T10S, R22E,
S.L.B.&M., UTAH COUNTY, UTAH

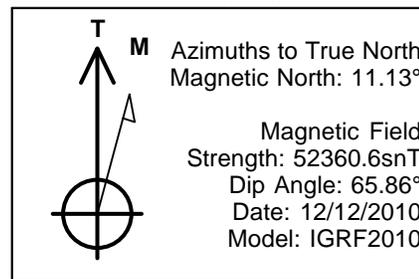
609
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: **15** of 16
 Drawn: JFE | Date: 5 Nov 2010
 Revised: | Date:

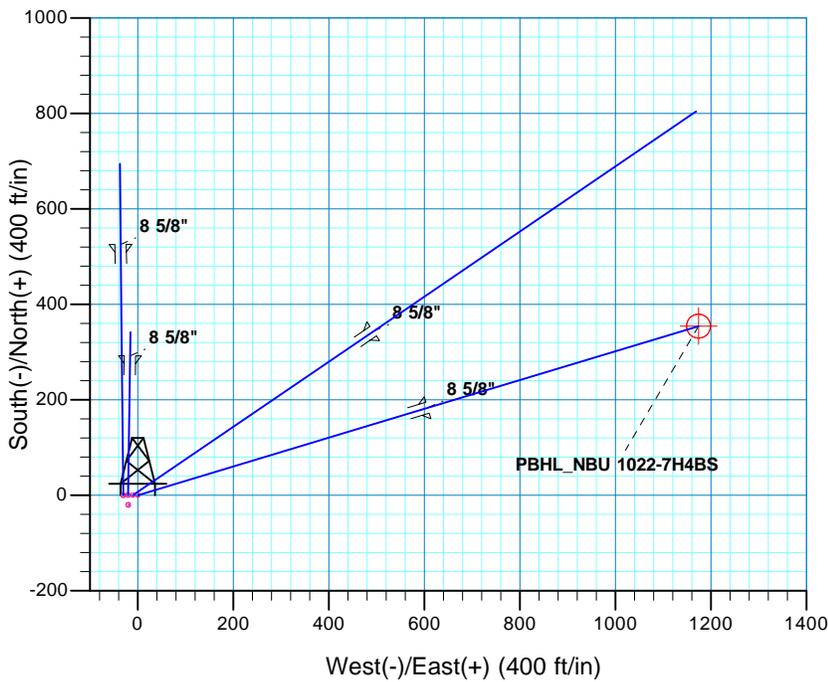
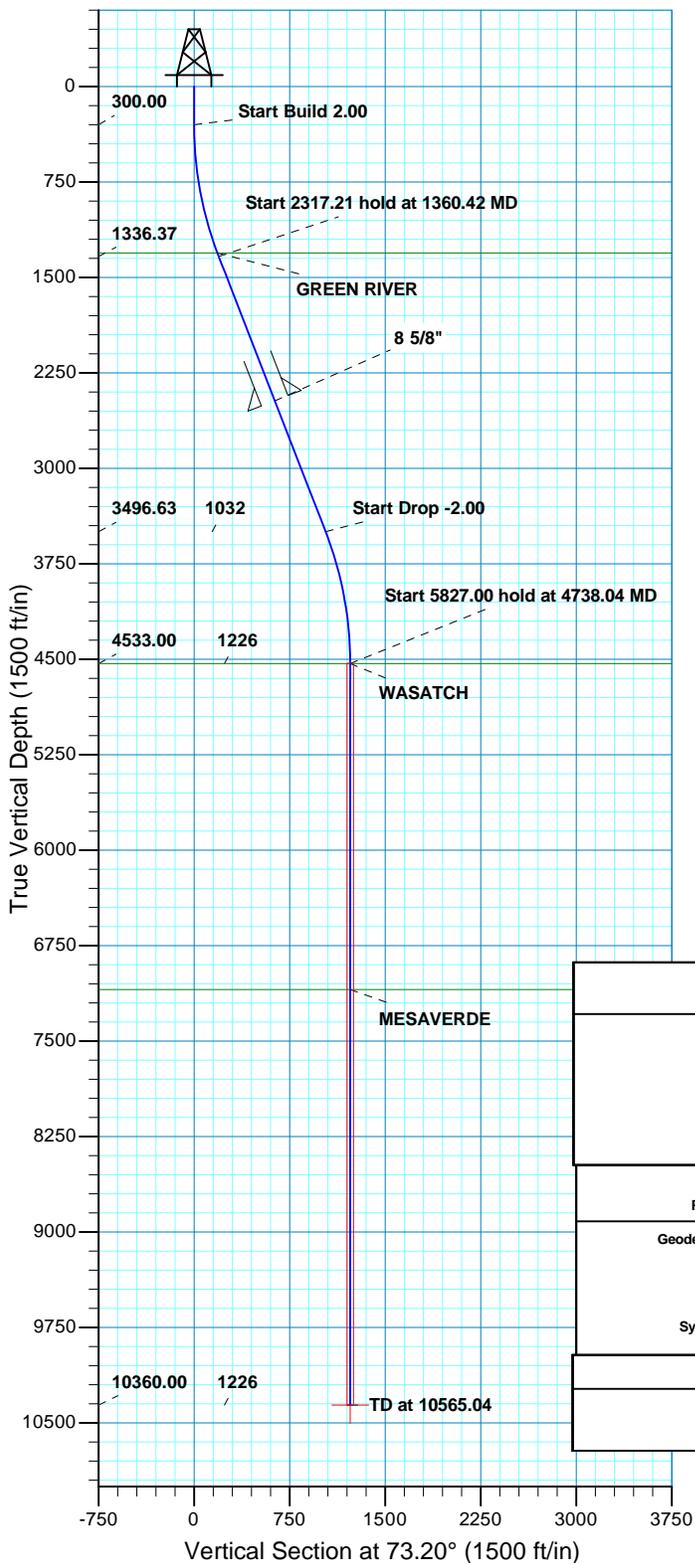
**Kerr-McGee Oil & Gas Onshore, LP
WELL PAD - NBU 1022-7G
WELLS – NBU 1022-7H4BS, NBU 1022-7H1BS,
NBU 1022-7G4BS & NBU 1022-7G1BS
Section 7, T10S, R22E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 18.7 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road to the southeast. Exit right and proceed in a southeasterly then easterly then southerly direction along the second Class D County Road approximately 3.0 miles to a third Class D County Road to the southeast. Exit left and proceed in a southeasterly then northeasterly then southeasterly direction along the third Class D County Road approximately 1.8 miles to a fourth Class D County Road to the west. Exit right and proceed in a westerly then southerly direction along the fourth Class D County Road approximately 0.9 miles to a service road to the northwest. Exit right and proceed in a northwesterly direction along the service road approximately 105 feet to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 48.0 miles in a southerly direction.



WELL DETAILS: P_NBU 1022-7H4BS					
WELL @ 5290.00ft (Original Well Elev)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14516667.47	2066801.71	39° 57' 51.336 N	109° 28' 42.017 W
DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL	10360.00	354.40	1174.01	14517041.85	2067969.49
- plan hits target center					
		Latitude	Longitude	Shape	
		39° 57' 54.839 N	109° 28' 26.936 W	Circle (Radius: 25.00)	



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1360.42	21.21	73.20	1336.37	56.07	185.75	2.00	73.20	194.03	
3677.62	21.21	73.20	3496.63	298.33	988.26	0.00	0.00	1032.30	
4738.04	0.00	0.00	4533.00	354.40	1174.01	2.00	180.00	1226.33	
10565.04	0.00	0.00	10360.00	354.40	1174.01	0.00	0.00	1226.33	PBHL_NBU 1022-7H4BS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N					FORMATION TOP DETAILS				
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 7 T10S R22E System Datum: Mean Sea Level					TVDPath: 1307.00 MDPath: 1328.98 Formation: GREEN RIVER 4533.00: 4738.04 7096.00: 7301.04 WASATCH MESAVERDE				
CASING DETAILS									
	TVD	MD	Name	Size					
	2470.00	2576.41	8 5/8"	8.625					

RECEIVED: Dec. 29, 2010



US ROCKIES REGION PLANNING

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

UINTAH_NBU 1022-7G PAD

P_NBU 1022-7H4BS

P_NBU 1022-7H4BS

Plan: PLAN #1 12-12-10 RHS

Standard Planning Report

16 December, 2010





Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 1022-7H4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5290.00ft (Original Well Elev)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	WELL @ 5290.00ft (Original Well Elev)
Site:	UINTAH_NBU 1022-7G PAD	North Reference:	True
Well:	P_NBU 1022-7H4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 1022-7H4BS		
Design:	PLAN #1 12-12-10 RHS		

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

Site	UINTAH_NBU 1022-7G PAD, SECTION 7 T10S R22E				
Site Position:	Northing:	14,516,667.48 usft	Latitude:	39° 57' 51.336 N	
From: Lat/Long	Easting:	2,066,801.70 usft	Longitude:	109° 28' 42.017 W	
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.98 °

Well	P_NBU 1022-7H4BS, 2361' FNL 1665' FEL			
Well Position	+N/-S	0.00 ft	Northing:	14,516,667.48 usft
	+E/-W	0.00 ft	Easting:	2,066,801.70 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Ground Level:	5,286.00 ft

Wellbore	P_NBU 1022-7H4BS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/12/2010	11.13	65.86	52,361

Design	PLAN #1 12-12-10 RHS			
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	73.20

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	
1,360.42	21.21	73.20	1,336.37	56.07	185.75	2.00	2.00	0.00	73.20	
3,677.62	21.21	73.20	3,496.63	298.33	988.26	0.00	0.00	0.00	0.00	
4,738.04	0.00	0.00	4,533.00	354.40	1,174.01	2.00	-2.00	0.00	180.00	
10,565.04	0.00	0.00	10,360.00	354.40	1,174.01	0.00	0.00	0.00	0.00	PBHL_NBU 1022-7H4



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 1022-7H4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5290.00ft (Original Well Elev)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	WELL @ 5290.00ft (Original Well Elev)
Site:	UINTAH_NBU 1022-7G PAD	North Reference:	True
Well:	P_NBU 1022-7H4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 1022-7H4BS		
Design:	PLAN #1 12-12-10 RHS		

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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00										
400.00	2.00	73.20	399.98	0.50	1.67	1.75	2.00	2.00	2.00	0.00
500.00	4.00	73.20	499.84	2.02	6.68	6.98	2.00	2.00	2.00	0.00
600.00	6.00	73.20	599.45	4.54	15.02	15.69	2.00	2.00	2.00	0.00
700.00	8.00	73.20	698.70	8.06	26.69	27.88	2.00	2.00	2.00	0.00
800.00	10.00	73.20	797.47	12.58	41.67	43.52	2.00	2.00	2.00	0.00
900.00	12.00	73.20	895.62	18.09	59.93	62.60	2.00	2.00	2.00	0.00
1,000.00	14.00	73.20	993.06	24.59	81.47	85.10	2.00	2.00	2.00	0.00
1,100.00	16.00	73.20	1,089.64	32.07	106.24	110.98	2.00	2.00	2.00	0.00
1,200.00	18.00	73.20	1,185.27	40.52	134.23	140.21	2.00	2.00	2.00	0.00
1,300.00	20.00	73.20	1,279.82	49.93	165.40	172.77	2.00	2.00	2.00	0.00
1,328.98	20.58	73.20	1,307.00	52.83	175.02	182.82	2.00	2.00	2.00	0.00
GREEN RIVER										
1,360.42	21.21	73.20	1,336.37	56.07	185.75	194.03	2.00	2.00	2.00	0.00
Start 2317.21 hold at 1360.42 MD										
1,400.00	21.21	73.20	1,373.27	60.21	199.46	208.35	0.00	0.00	0.00	0.00
1,500.00	21.21	73.20	1,466.50	70.67	234.09	244.52	0.00	0.00	0.00	0.00
1,600.00	21.21	73.20	1,559.72	81.12	268.72	280.70	0.00	0.00	0.00	0.00
1,700.00	21.21	73.20	1,652.95	91.58	303.36	316.88	0.00	0.00	0.00	0.00
1,800.00	21.21	73.20	1,746.18	102.03	337.99	353.05	0.00	0.00	0.00	0.00
1,900.00	21.21	73.20	1,839.40	112.48	372.62	389.23	0.00	0.00	0.00	0.00
2,000.00	21.21	73.20	1,932.63	122.94	407.25	425.40	0.00	0.00	0.00	0.00
2,100.00	21.21	73.20	2,025.86	133.39	441.89	461.58	0.00	0.00	0.00	0.00
2,200.00	21.21	73.20	2,119.09	143.85	476.52	497.76	0.00	0.00	0.00	0.00
2,300.00	21.21	73.20	2,212.31	154.30	511.15	533.93	0.00	0.00	0.00	0.00
2,400.00	21.21	73.20	2,305.54	164.76	545.78	570.11	0.00	0.00	0.00	0.00
2,500.00	21.21	73.20	2,398.77	175.21	580.42	606.29	0.00	0.00	0.00	0.00
2,576.41	21.21	73.20	2,470.00	183.20	606.88	633.93	0.00	0.00	0.00	0.00
8 5/8"										
2,600.00	21.21	73.20	2,491.99	185.67	615.05	642.46	0.00	0.00	0.00	0.00
2,700.00	21.21	73.20	2,585.22	196.12	649.68	678.64	0.00	0.00	0.00	0.00
2,800.00	21.21	73.20	2,678.45	206.58	684.31	714.81	0.00	0.00	0.00	0.00
2,900.00	21.21	73.20	2,771.68	217.03	718.95	750.99	0.00	0.00	0.00	0.00
3,000.00	21.21	73.20	2,864.90	227.49	753.58	787.17	0.00	0.00	0.00	0.00
3,100.00	21.21	73.20	2,958.13	237.94	788.21	823.34	0.00	0.00	0.00	0.00
3,200.00	21.21	73.20	3,051.36	248.39	822.84	859.52	0.00	0.00	0.00	0.00
3,300.00	21.21	73.20	3,144.58	258.85	857.48	895.69	0.00	0.00	0.00	0.00
3,400.00	21.21	73.20	3,237.81	269.30	892.11	931.87	0.00	0.00	0.00	0.00
3,500.00	21.21	73.20	3,331.04	279.76	926.74	968.05	0.00	0.00	0.00	0.00
3,600.00	21.21	73.20	3,424.27	290.21	961.37	1,004.22	0.00	0.00	0.00	0.00
3,677.62	21.21	73.20	3,496.63	298.33	988.26	1,032.30	0.00	0.00	0.00	0.00
Start Drop -2.00										
3,700.00	20.76	73.20	3,517.52	300.64	995.93	1,040.32	2.00	-2.00	0.00	0.00
3,800.00	18.76	73.20	3,611.63	310.41	1,028.29	1,074.12	2.00	-2.00	0.00	0.00
3,900.00	16.76	73.20	3,706.86	319.23	1,057.49	1,104.63	2.00	-2.00	0.00	0.00
4,000.00	14.76	73.20	3,803.09	327.08	1,083.50	1,131.79	2.00	-2.00	0.00	0.00
4,100.00	12.76	73.20	3,900.22	333.95	1,106.27	1,155.57	2.00	-2.00	0.00	0.00
4,200.00	10.76	73.20	3,998.12	339.84	1,125.78	1,175.96	2.00	-2.00	0.00	0.00
4,300.00	8.76	73.20	4,096.66	344.74	1,142.01	1,192.91	2.00	-2.00	0.00	0.00
4,400.00	6.76	73.20	4,195.74	348.64	1,154.94	1,206.41	2.00	-2.00	0.00	0.00



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 1022-7H4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5290.00ft (Original Well Elev)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	WELL @ 5290.00ft (Original Well Elev)
Site:	UINTAH_NBU 1022-7G PAD	North Reference:	True
Well:	P_NBU 1022-7H4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 1022-7H4BS		
Design:	PLAN #1 12-12-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.00	4.76	73.20	4,295.23	351.54	1,164.54	1,216.45	2.00	-2.00	0.00
4,600.00	2.76	73.20	4,395.01	353.44	1,170.82	1,223.01	2.00	-2.00	0.00
4,700.00	0.76	73.20	4,494.96	354.33	1,173.76	1,226.08	2.00	-2.00	0.00
4,738.04	0.00	0.00	4,533.00	354.40	1,174.01	1,226.33	2.00	-2.00	0.00
Start 5827.00 hold at 4738.04 MD - WASATCH									
4,800.00	0.00	0.00	4,594.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
4,900.00	0.00	0.00	4,694.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
5,000.00	0.00	0.00	4,794.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
5,100.00	0.00	0.00	4,894.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
5,200.00	0.00	0.00	4,994.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
5,300.00	0.00	0.00	5,094.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
5,400.00	0.00	0.00	5,194.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
5,500.00	0.00	0.00	5,294.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
5,600.00	0.00	0.00	5,394.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
5,700.00	0.00	0.00	5,494.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
5,800.00	0.00	0.00	5,594.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
5,900.00	0.00	0.00	5,694.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
6,000.00	0.00	0.00	5,794.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
6,100.00	0.00	0.00	5,894.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
6,200.00	0.00	0.00	5,994.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
6,300.00	0.00	0.00	6,094.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
6,400.00	0.00	0.00	6,194.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
6,500.00	0.00	0.00	6,294.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
6,600.00	0.00	0.00	6,394.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
6,700.00	0.00	0.00	6,494.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
6,800.00	0.00	0.00	6,594.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
6,900.00	0.00	0.00	6,694.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
7,000.00	0.00	0.00	6,794.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
7,100.00	0.00	0.00	6,894.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
7,200.00	0.00	0.00	6,994.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
7,300.00	0.00	0.00	7,094.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
7,301.04	0.00	0.00	7,096.00	354.40	1,174.01	1,226.33	0.00	0.00	0.00
MESAVERDE									
7,400.00	0.00	0.00	7,194.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
7,500.00	0.00	0.00	7,294.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
7,600.00	0.00	0.00	7,394.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
7,700.00	0.00	0.00	7,494.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
7,800.00	0.00	0.00	7,594.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
7,900.00	0.00	0.00	7,694.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
8,000.00	0.00	0.00	7,794.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
8,100.00	0.00	0.00	7,894.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
8,200.00	0.00	0.00	7,994.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
8,300.00	0.00	0.00	8,094.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
8,400.00	0.00	0.00	8,194.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
8,500.00	0.00	0.00	8,294.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
8,600.00	0.00	0.00	8,394.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
8,700.00	0.00	0.00	8,494.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
8,800.00	0.00	0.00	8,594.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
8,900.00	0.00	0.00	8,694.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
9,000.00	0.00	0.00	8,794.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
9,100.00	0.00	0.00	8,894.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
9,200.00	0.00	0.00	8,994.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
9,300.00	0.00	0.00	9,094.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 1022-7H4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5290.00ft (Original Well Elev)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	WELL @ 5290.00ft (Original Well Elev)
Site:	UINTAH_NBU 1022-7G PAD	North Reference:	True
Well:	P_NBU 1022-7H4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 1022-7H4BS		
Design:	PLAN #1 12-12-10 RHS		

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)
9,400.00	0.00	0.00	9,194.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
9,500.00	0.00	0.00	9,294.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
9,600.00	0.00	0.00	9,394.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
9,700.00	0.00	0.00	9,494.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
9,800.00	0.00	0.00	9,594.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
9,900.00	0.00	0.00	9,694.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
10,000.00	0.00	0.00	9,794.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
10,100.00	0.00	0.00	9,894.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
10,200.00	0.00	0.00	9,994.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
10,300.00	0.00	0.00	10,094.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
10,400.00	0.00	0.00	10,194.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
10,500.00	0.00	0.00	10,294.96	354.40	1,174.01	1,226.33	0.00	0.00	0.00
10,565.04	0.00	0.00	10,360.00	354.40	1,174.01	1,226.33	0.00	0.00	0.00

PBHL_NBU 1022-7H4BS

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 1022-7H4B: - hit/miss target - Shape - Circle (radius 25.00)	0.00	0.00	10,360.00	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,576.41	2,470.00	8 5/8"	8.625	11.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,328.98	1,307.00	GREEN RIVER			
4,738.04	4,533.00	WASATCH			
7,301.04	7,096.00	MESAVERDE			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
1,360.42	1,336.37	56.07	185.75	Start 2317.21 hold at 1360.42 MD	
3,677.62	3,496.63	298.33	988.26	Start Drop -2.00	
4,738.04	4,533.00	354.40	1,174.01	Start 5827.00 hold at 4738.04 MD	
10,565.04	10,360.00	354.40	1,174.01	TD at 10565.04	



US ROCKIES REGION PLANNING

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

UINTAH_NBU 1022-7G PAD

P_NBU 1022-7H4BS

P_NBU 1022-7H4BS

Plan: PLAN #1 12-12-10 RHS

Standard Planning Report - Geographic

16 December, 2010





Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 1022-7H4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5290.00ft (Original Well Elev)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	WELL @ 5290.00ft (Original Well Elev)
Site:	UINTAH_NBU 1022-7G PAD	North Reference:	True
Well:	P_NBU 1022-7H4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 1022-7H4BS		
Design:	PLAN #1 12-12-10 RHS		

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

Site	UINTAH_NBU 1022-7G PAD, SECTION 7 T10S R22E				
Site Position:	Northing:	14,516,667.48 usft	Latitude:	39° 57' 51.336 N	
From: Lat/Long	Easting:	2,066,801.70 usft	Longitude:	109° 28' 42.017 W	
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.98 °

Well	P_NBU 1022-7H4BS, 2361' FNL 1665' FEL				
Well Position	+N/-S	0.00 ft	Northing:	14,516,667.48 usft	
	+E/-W	0.00 ft	Easting:	2,066,801.70 usft	
Position Uncertainty	0.00 ft	Wellhead Elevation:		Ground Level:	5,286.00 ft

Wellbore	P_NBU 1022-7H4BS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/12/2010	11.13	65.86	52,361

Design	PLAN #1 12-12-10 RHS			
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	73.20

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	
1,360.42	21.21	73.20	1,336.37	56.07	185.75	2.00	2.00	0.00	73.20	
3,677.62	21.21	73.20	3,496.63	298.33	988.26	0.00	0.00	0.00	0.00	
4,738.04	0.00	0.00	4,533.00	354.40	1,174.01	2.00	-2.00	0.00	180.00	
10,565.04	0.00	0.00	10,360.00	354.40	1,174.01	0.00	0.00	0.00	0.00	PBHL_NBU 1022-7H4



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 1022-7H4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5290.00ft (Original Well Elev)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	WELL @ 5290.00ft (Original Well Elev)
Site:	UINTAH_NBU 1022-7G PAD	North Reference:	True
Well:	P_NBU 1022-7H4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 1022-7H4BS		
Design:	PLAN #1 12-12-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,516,667.48	2,066,801.70	39° 57' 51.336 N	109° 28' 42.017 W	
100.00	0.00	0.00	100.00	0.00	0.00	14,516,667.48	2,066,801.70	39° 57' 51.336 N	109° 28' 42.017 W	
200.00	0.00	0.00	200.00	0.00	0.00	14,516,667.48	2,066,801.70	39° 57' 51.336 N	109° 28' 42.017 W	
300.00	0.00	0.00	300.00	0.00	0.00	14,516,667.48	2,066,801.70	39° 57' 51.336 N	109° 28' 42.017 W	
Start Build 2.00										
400.00	2.00	73.20	399.98	0.50	1.67	14,516,668.01	2,066,803.37	39° 57' 51.341 N	109° 28' 41.995 W	
500.00	4.00	73.20	499.84	2.02	6.68	14,516,669.61	2,066,808.35	39° 57' 51.356 N	109° 28' 41.931 W	
600.00	6.00	73.20	599.45	4.54	15.02	14,516,672.27	2,066,816.65	39° 57' 51.381 N	109° 28' 41.824 W	
700.00	8.00	73.20	698.70	8.06	26.69	14,516,675.99	2,066,828.25	39° 57' 51.416 N	109° 28' 41.674 W	
800.00	10.00	73.20	797.47	12.58	41.67	14,516,680.76	2,066,843.15	39° 57' 51.460 N	109° 28' 41.482 W	
900.00	12.00	73.20	895.62	18.09	59.93	14,516,686.59	2,066,861.32	39° 57' 51.515 N	109° 28' 41.247 W	
1,000.00	14.00	73.20	993.06	24.59	81.47	14,516,693.46	2,066,882.74	39° 57' 51.579 N	109° 28' 40.970 W	
1,100.00	16.00	73.20	1,089.64	32.07	106.24	14,516,701.36	2,066,907.38	39° 57' 51.653 N	109° 28' 40.652 W	
1,200.00	18.00	73.20	1,185.27	40.52	134.23	14,516,710.28	2,066,935.22	39° 57' 51.737 N	109° 28' 40.293 W	
1,300.00	20.00	73.20	1,279.82	49.93	165.40	14,516,720.22	2,066,966.22	39° 57' 51.830 N	109° 28' 39.892 W	
1,328.98	20.58	73.20	1,307.00	52.83	175.02	14,516,723.29	2,066,975.79	39° 57' 51.858 N	109° 28' 39.769 W	
GREEN RIVER										
1,360.42	21.21	73.20	1,336.37	56.07	185.75	14,516,726.71	2,066,986.47	39° 57' 51.890 N	109° 28' 39.631 W	
Start 2317.21 hold at 1360.42 MD										
1,400.00	21.21	73.20	1,373.27	60.21	199.46	14,516,731.08	2,067,000.11	39° 57' 51.931 N	109° 28' 39.455 W	
1,500.00	21.21	73.20	1,466.50	70.67	234.09	14,516,742.13	2,067,034.55	39° 57' 52.034 N	109° 28' 39.010 W	
1,600.00	21.21	73.20	1,559.72	81.12	268.72	14,516,753.17	2,067,069.00	39° 57' 52.138 N	109° 28' 38.565 W	
1,700.00	21.21	73.20	1,652.95	91.58	303.36	14,516,764.22	2,067,103.45	39° 57' 52.241 N	109° 28' 38.120 W	
1,800.00	21.21	73.20	1,746.18	102.03	337.99	14,516,775.26	2,067,137.90	39° 57' 52.344 N	109° 28' 37.675 W	
1,900.00	21.21	73.20	1,839.40	112.48	372.62	14,516,786.30	2,067,172.35	39° 57' 52.448 N	109° 28' 37.230 W	
2,000.00	21.21	73.20	1,932.63	122.94	407.25	14,516,797.35	2,067,206.80	39° 57' 52.551 N	109° 28' 36.786 W	
2,100.00	21.21	73.20	2,025.86	133.39	441.89	14,516,808.39	2,067,241.25	39° 57' 52.654 N	109° 28' 36.341 W	
2,200.00	21.21	73.20	2,119.09	143.85	476.52	14,516,819.44	2,067,275.70	39° 57' 52.758 N	109° 28' 35.896 W	
2,300.00	21.21	73.20	2,212.31	154.30	511.15	14,516,830.48	2,067,310.15	39° 57' 52.861 N	109° 28' 35.451 W	
2,400.00	21.21	73.20	2,305.54	164.76	545.78	14,516,841.52	2,067,344.60	39° 57' 52.964 N	109° 28' 35.006 W	
2,500.00	21.21	73.20	2,398.77	175.21	580.42	14,516,852.57	2,067,379.04	39° 57' 53.068 N	109° 28' 34.561 W	
2,576.41	21.21	73.20	2,470.00	183.20	606.88	14,516,861.01	2,067,405.37	39° 57' 53.147 N	109° 28' 34.221 W	
8 5/8"										
2,600.00	21.21	73.20	2,491.99	185.67	615.05	14,516,863.61	2,067,413.49	39° 57' 53.171 N	109° 28' 34.116 W	
2,700.00	21.21	73.20	2,585.22	196.12	649.68	14,516,874.65	2,067,447.94	39° 57' 53.274 N	109° 28' 33.672 W	
2,800.00	21.21	73.20	2,678.45	206.58	684.31	14,516,885.70	2,067,482.39	39° 57' 53.378 N	109° 28' 33.227 W	
2,900.00	21.21	73.20	2,771.68	217.03	718.95	14,516,896.74	2,067,516.84	39° 57' 53.481 N	109° 28' 32.782 W	
3,000.00	21.21	73.20	2,864.90	227.49	753.58	14,516,907.79	2,067,551.29	39° 57' 53.584 N	109° 28' 32.337 W	
3,100.00	21.21	73.20	2,958.13	237.94	788.21	14,516,918.83	2,067,585.74	39° 57' 53.688 N	109° 28' 31.892 W	
3,200.00	21.21	73.20	3,051.36	248.39	822.84	14,516,929.87	2,067,620.19	39° 57' 53.791 N	109° 28' 31.447 W	
3,300.00	21.21	73.20	3,144.58	258.85	857.48	14,516,940.92	2,067,654.64	39° 57' 53.894 N	109° 28' 31.002 W	
3,400.00	21.21	73.20	3,237.81	269.30	892.11	14,516,951.96	2,067,689.09	39° 57' 53.998 N	109° 28' 30.557 W	
3,500.00	21.21	73.20	3,331.04	279.76	926.74	14,516,963.01	2,067,723.53	39° 57' 54.101 N	109° 28' 30.113 W	
3,600.00	21.21	73.20	3,424.27	290.21	961.37	14,516,974.05	2,067,757.98	39° 57' 54.204 N	109° 28' 29.668 W	
3,677.62	21.21	73.20	3,496.63	298.33	988.26	14,516,982.62	2,067,784.72	39° 57' 54.285 N	109° 28' 29.322 W	
Start Drop -2.00										
3,700.00	20.76	73.20	3,517.52	300.64	995.93	14,516,985.07	2,067,792.35	39° 57' 54.308 N	109° 28' 29.224 W	
3,800.00	18.76	73.20	3,611.63	310.41	1,028.29	14,516,995.39	2,067,824.55	39° 57' 54.404 N	109° 28' 28.808 W	
3,900.00	16.76	73.20	3,706.86	319.23	1,057.49	14,517,004.70	2,067,853.60	39° 57' 54.491 N	109° 28' 28.433 W	
4,000.00	14.76	73.20	3,803.09	327.08	1,083.50	14,517,012.99	2,067,879.46	39° 57' 54.569 N	109° 28' 28.099 W	
4,100.00	12.76	73.20	3,900.22	333.95	1,106.27	14,517,020.26	2,067,902.11	39° 57' 54.637 N	109° 28' 27.807 W	
4,200.00	10.76	73.20	3,998.12	339.84	1,125.78	14,517,026.48	2,067,921.52	39° 57' 54.695 N	109° 28' 27.556 W	
4,300.00	8.76	73.20	4,096.66	344.74	1,142.01	14,517,031.65	2,067,937.66	39° 57' 54.743 N	109° 28' 27.347 W	
4,400.00	6.76	73.20	4,195.74	348.64	1,154.94	14,517,035.78	2,067,950.52	39° 57' 54.782 N	109° 28' 27.181 W	



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 1022-7H4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5290.00ft (Original Well Elev)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	WELL @ 5290.00ft (Original Well Elev)
Site:	UINTAH_NBU 1022-7G PAD	North Reference:	True
Well:	P_NBU 1022-7H4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 1022-7H4BS		
Design:	PLAN #1 12-12-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
4,500.00	4.76	73.20	4,295.23	351.54	1,164.54	14,517,038.84	2,067,960.08	39° 57' 54.811 N	109° 28' 27.058 W	
4,600.00	2.76	73.20	4,395.01	353.44	1,170.82	14,517,040.84	2,067,966.32	39° 57' 54.829 N	109° 28' 26.977 W	
4,700.00	0.76	73.20	4,494.96	354.33	1,173.76	14,517,041.78	2,067,969.25	39° 57' 54.838 N	109° 28' 26.940 W	
4,738.04	0.00	0.00	4,533.00	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
Start 5827.00 hold at 4738.04 MD - WASATCH										
4,800.00	0.00	0.00	4,594.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
4,900.00	0.00	0.00	4,694.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
5,000.00	0.00	0.00	4,794.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
5,100.00	0.00	0.00	4,894.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
5,200.00	0.00	0.00	4,994.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
5,300.00	0.00	0.00	5,094.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
5,400.00	0.00	0.00	5,194.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
5,500.00	0.00	0.00	5,294.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
5,600.00	0.00	0.00	5,394.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
5,700.00	0.00	0.00	5,494.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
5,800.00	0.00	0.00	5,594.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
5,900.00	0.00	0.00	5,694.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
6,000.00	0.00	0.00	5,794.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
6,100.00	0.00	0.00	5,894.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
6,200.00	0.00	0.00	5,994.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
6,300.00	0.00	0.00	6,094.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
6,400.00	0.00	0.00	6,194.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
6,500.00	0.00	0.00	6,294.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
6,600.00	0.00	0.00	6,394.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
6,700.00	0.00	0.00	6,494.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
6,800.00	0.00	0.00	6,594.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
6,900.00	0.00	0.00	6,694.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
7,000.00	0.00	0.00	6,794.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
7,100.00	0.00	0.00	6,894.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
7,200.00	0.00	0.00	6,994.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
7,300.00	0.00	0.00	7,094.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
7,301.04	0.00	0.00	7,096.00	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
MESAVERDE										
7,400.00	0.00	0.00	7,194.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
7,500.00	0.00	0.00	7,294.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
7,600.00	0.00	0.00	7,394.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
7,700.00	0.00	0.00	7,494.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
7,800.00	0.00	0.00	7,594.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
7,900.00	0.00	0.00	7,694.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
8,000.00	0.00	0.00	7,794.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
8,100.00	0.00	0.00	7,894.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
8,200.00	0.00	0.00	7,994.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
8,300.00	0.00	0.00	8,094.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
8,400.00	0.00	0.00	8,194.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
8,500.00	0.00	0.00	8,294.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
8,600.00	0.00	0.00	8,394.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
8,700.00	0.00	0.00	8,494.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
8,800.00	0.00	0.00	8,594.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
8,900.00	0.00	0.00	8,694.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
9,000.00	0.00	0.00	8,794.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
9,100.00	0.00	0.00	8,894.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
9,200.00	0.00	0.00	8,994.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
9,300.00	0.00	0.00	9,094.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
9,400.00	0.00	0.00	9,194.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 1022-7H4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 5290.00ft (Original Well Elev)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	WELL @ 5290.00ft (Original Well Elev)
Site:	UINTAH_NBU 1022-7G PAD	North Reference:	True
Well:	P_NBU 1022-7H4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 1022-7H4BS		
Design:	PLAN #1 12-12-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,500.00	0.00	0.00	9,294.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
9,600.00	0.00	0.00	9,394.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
9,700.00	0.00	0.00	9,494.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
9,800.00	0.00	0.00	9,594.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
9,900.00	0.00	0.00	9,694.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
10,000.00	0.00	0.00	9,794.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
10,100.00	0.00	0.00	9,894.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
10,200.00	0.00	0.00	9,994.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
10,300.00	0.00	0.00	10,094.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
10,400.00	0.00	0.00	10,194.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
10,500.00	0.00	0.00	10,294.96	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	
10,565.04	0.00	0.00	10,360.00	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	

PBHL_NBU 1022-7H4BS

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PBHL_NBU 1022-7H4B: - hit/miss target - Shape - plan hits target center - Circle (radius 25.00)	0.00	0.00	10,360.00	354.40	1,174.01	14,517,041.86	2,067,969.49	39° 57' 54.839 N	109° 28' 26.936 W	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,576.41	2,470.00	8 5/8"	8.625	11.000		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,328.98	1,307.00	GREEN RIVER				
4,738.04	4,533.00	WASATCH				
7,301.04	7,096.00	MESAVERDE				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
1,360.42	1,336.37	56.07	185.75	Start 2317.21 hold at 1360.42 MD	
3,677.62	3,496.63	298.33	988.26	Start Drop -2.00	
4,738.04	4,533.00	354.40	1,174.01	Start 5827.00 hold at 4738.04 MD	
10,565.04	10,360.00	354.40	1,174.01	TD at 10565.04	

NBU 1022-7G1BS

Surface: 2361' FNL 1695' FEL (SW/4NE/4)
BHL: 1666' FNL 1702' FEL (SW/4NE/4)

NBU 1022-7G4BS

Surface: 2361' FNL 1685' FEL (SW/4NE/4)
BHL: 2019' FNL 1680' FEL (SW/4NE/4)

NBU 1022-7H1BS

Surface: 2361' FNL 1675' FEL (SW/4NE/4)
BHL: 1563' FNL 495' FEL (SE/4NE/4)

NBU 1022-7H4BS

Surface: 2361' FNL 1665' FEL (SW/4NE/4)
BHL: 2013' FNL 490' FEL (SE/4NE/4)

Pad: NBU 1022-7G Pad
Section 7 T10S R22E
Mineral Lease: ML 23609

Uintah County, Utah
Operator: Kerr-McGee Oil & Gas Onshore LP

MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)

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

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

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

A. Existing Roads:

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

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each

other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

B. Planned Access Roads:

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

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

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

C. Location of Existing and Proposed Facilities:

This pad will expand the existing pad for the NBU 1022-7G. The NBU 1022-7G well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of December 27, 2010.

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

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

Production 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 are not to be used for disposal of liquids from additional sources without prior approval of UDOGM.

Gathering facilities:

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

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is $\pm 1,635'$ and the individual segments are broken up as follows:

$\pm 755'$ (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad.

$\pm 100'$ (0.01 miles) –New 6" buried gas pipeline from the edge of pad to the NBU 1022-7G intersection.

±780' (0.1 miles)- New 8" buried gas pipeline the NBU 1022-7E intersection to existing 12" pipeline.

The total liquid gathering pipeline distance from the separator to the tie in point is ±2,795' and the individual segments are broken up as follows:

±755' (0.1 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad.

±100' (0.01 miles) –New 6" buried liquid pipeline from the edge of pad to the NBU 1022-7E intersection.

±765' (0.1 miles) –New 6" buried liquid pipeline from the NBU 1022-7E intersection to the NBU 1022-7C intersection.

±1,175' (0.2 miles) –New 6" buried liquid pipeline from the NBU 1022-7C intersection to East line of Section 7.

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

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

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

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

D. Location and Type of Water Supply:

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

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

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

No water well is to be drilled on this lease.

E. Source of Construction Materials:

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

F. Methods of Handling Waste Materials:

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

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

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

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be

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

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

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

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

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

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

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

Materials Management

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

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

G. Ancillary Facilities:

None are anticipated.

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

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

Coordinates are provided in the National Spatial Reference System, North American Datum, 1983 (NAD83) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

I. Plans for Reclamation of the Surface:

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

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

Interim Reclamation

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

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

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

Final Reclamation

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

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

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

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

Seeding and Measures Common to Interim and Final Reclamation

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

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

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

J. Surface/Mineral Ownership:

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

K. Other Information:

None

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

Andy Lytle
Regulatory Analyst I
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6100

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

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

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

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

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

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



Andy Lytle

December 13, 2010

Date



Kerr-McGee Oil & Gas Onshore LP
P.O. Box 173779
Denver, CO 80217-3779

November 22, 2010

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

Re: Directional Drilling R649-3-11
NBU 1022-7H4BS
T10S-R22E
Section 7: SENE
Surface: 2361' FNL, 1665' FEL
Bottom Hole: 2013' FNL, 490' FEL
Uintah County, Utah

Dear Ms. Mason:

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

- Kerr-McGee's NBU 1022-7H4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

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

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink that reads 'James C. Colligan III'.

James C. Colligan III
Landman

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)

January 3, 2011

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2011 within the Natural Buttes Unit, Uintah County, Utah.

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

NBU 1022-7C PAD

43-047-51433	NBU 1022-7B4BS	Sec 07 T10S R22E 1051 FNL 2093 FWL
	BHL	Sec 07 T10S R22E 0908 FNL 1672 FEL

43-047-51434	NBU 1022-7C1BS	Sec 07 T10S R22E 1053 FNL 2083 FWL
	BHL	Sec 07 T10S R22E 0312 FNL 1981 FWL

43-047-51435	NBU 1022-7C4BS	Sec 07 T10S R22E 1055 FNL 2073 FWL
	BHL	Sec 07 T10S R22E 0743 FNL 1976 FWL

43-047-51436	NBU 1022-7D1CS	Sec 07 T10S R22E 1061 FNL 2044 FWL
	BHL	Sec 07 T10S R22E 0402 FNL 0763 FWL

43-047-51437	NBU 1022-7F1BS	Sec 07 T10S R22E 1059 FNL 2054 FWL
	BHL	Sec 07 T10S R22E 1403 FNL 1976 FWL

43-047-51438	NBU 1022-7F1CS	Sec 07 T10S R22E 1057 FNL 2063 FWL
	BHL	Sec 07 T10S R22E 1733 FNL 1976 FWL

NBU 1022-7E PAD

43-047-51439	NBU 1022-7D4CS	Sec 07 T10S R22E 1864 FNL 0877 FWL
	BHL	Sec 07 T10S R22E 1237 FNL 0758 FWL

43-047-51440	NBU 1022-7E1BS	Sec 07 T10S R22E 1874 FNL 0878 FWL
	BHL	Sec 07 T10S R22E 1567 FNL 0758 FWL

RECEIVED: Jan. 04, 2011

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51441	NBU 1022-7E4CS	Sec 07 T10S R22E 1904 FNL 0880 FWL BHL Sec 07 T10S R22E 2475 FNL 0760 FWL
43-047-51442	NBU 1022-7F4BS	Sec 07 T10S R22E 1884 FNL 0878 FWL BHL Sec 07 T10S R22E 2064 FNL 1977 FWL
43-047-51443	NBU 1022-7F4CS	Sec 07 T10S R22E 1894 FNL 0879 FWL BHL Sec 07 T10S R22E 2394 FNL 1977 FWL

NBU 1022-7G PAD

43-047-51444	NBU 1022-7G1BS	Sec 07 T10S R22E 2361 FNL 1695 FEL BHL Sec 07 T10S R22E 1666 FNL 1702 FEL
43-047-51445	NBU 1022-7G4BS	Sec 07 T10S R22E 2361 FNL 1685 FEL BHL Sec 07 T10S R22E 2019 FNL 1680 FEL
43-047-51446	NBU 1022-7H1BS	Sec 07 T10S R22E 2361 FNL 1675 FEL BHL Sec 07 T10S R22E 1563 FNL 0495 FEL
43-047-51447	NBU 1022-7H4BS	Sec 07 T10S R22E 2361 FNL 1665 FEL BHL Sec 07 T10S R22E 2013 FNL 0490 FEL

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

Michael L. Coulthard

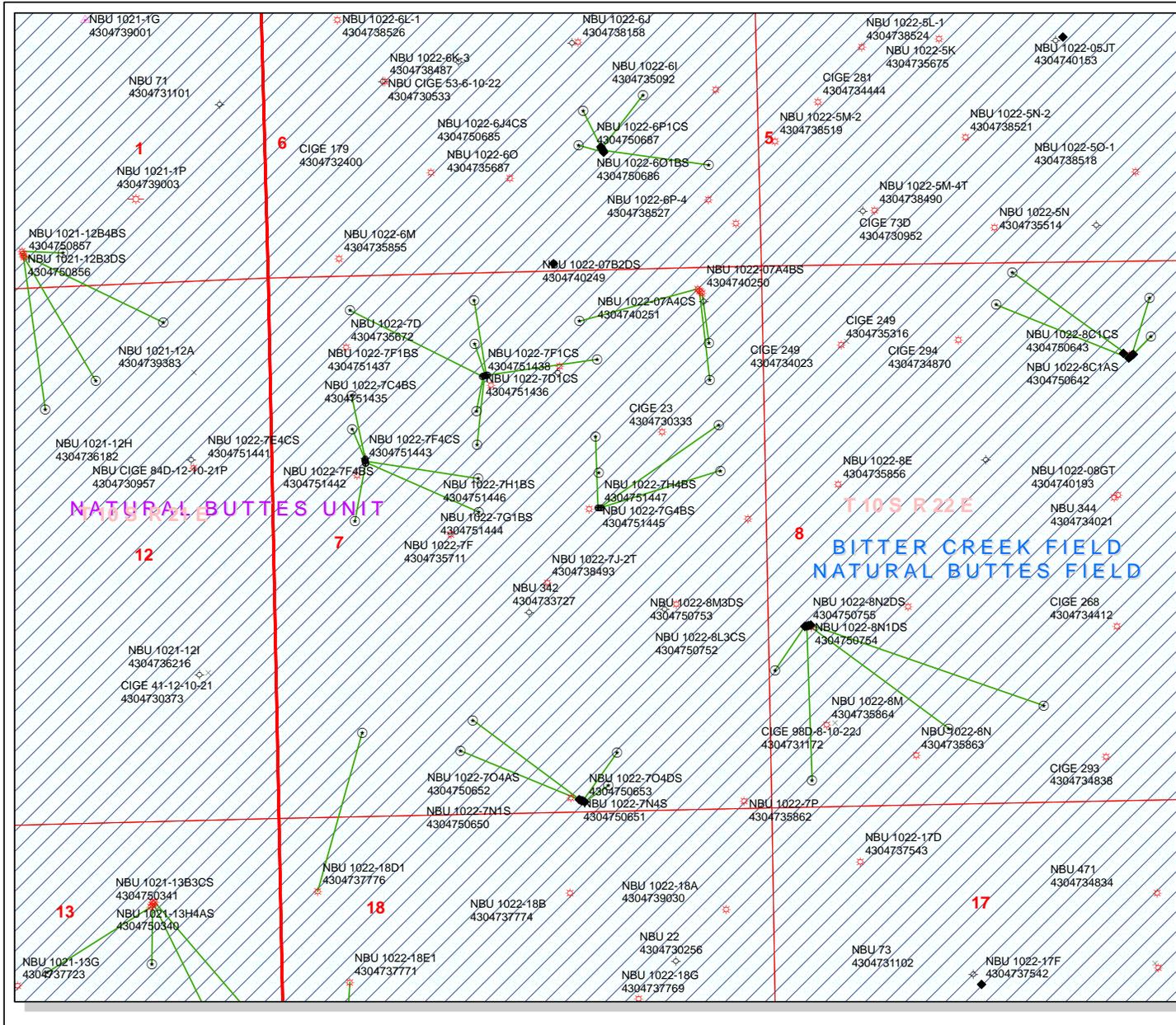
Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2011.01.03 11:20:53 -0700

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

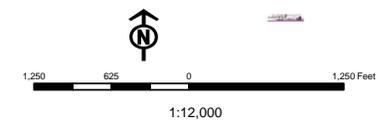
MCoulthard:mc:1-3-11

API Number: 4304751447
Well Name: NBU 1022-7H4BS
Township 10.0 S Range 22.0 E Section 07
Meridian: SLBM
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
 Map Produced by Diana Mason



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



From: Jim Davis
To: Bonner, Ed; Hill, Brad; Mason, Diana
CC: Garrison, LaVonne; andrew.lytle@anadarko.com; julie.jacobson@anadarko.com
Date: 1/12/2011 12:12 PM
Subject: Kerr Mc Gee approvals in 10S 22E Sec 7 (15)

The following APDs have been approved by SITLA under the following condition. Approval is granted under the condition that spot monitoring be conducted at the beginning of construction and thereafter as deemed needful by a registered paleontologist, as recommended in the paleo reports IPC #10-71 and IPC# 10-72. Arch clearance is granted without conditions.

4304751433 NBU 1022-7B4BS
4304751434 NBU 1022-7C1BS
4304751435 NBU 1022-7C4BS
4304751436 NBU 1022-7D1CS
4304751437 NBU 1022-7F1BS
4304751438 NBU 1022-7F1CS
4304751439 NBU 1022-7D4CS
4304751440 NBU 1022-7E1BS
4304751441 NBU 1022-7E4CS
4304751442 NBU 1022-7F4BS
4304751443 NBU 1022-7F4CS
4304751444 NBU 1022-7G1BS
4304751445 NBU 1022-7G4BS
4304751446 NBU 1022-7H1BS
4304751447 NBU 1022-7H4BS

Thanks.
-Jim Davis

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

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-7H4BS			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2371	10360		
Previous Shoe Setting Depth (TVD)	40	2371		
Max Mud Weight (ppg)	8.3	13.0		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	10690		
Operators Max Anticipated Pressure (psi)	6838	12.7		

Calculations	Surf String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	1027	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	742	NO <input type="text" value="air drill"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	505	NO <input type="text" value="OK"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	514	NO <input type="text" value="Reasonable depth in area"/>
Required Casing/BOPE Test Pressure=		2371	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient

Calculations	Prod String	4.500	"
Max BHP (psi)	.052*Setting Depth*MW=	7003	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	5760	NO <input type="text"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	4724	YES <input type="text" value="OK"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	5245	NO <input type="text" value="Reasonable"/>
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2371	psi *Assumes 1psi/ft frac gradient

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

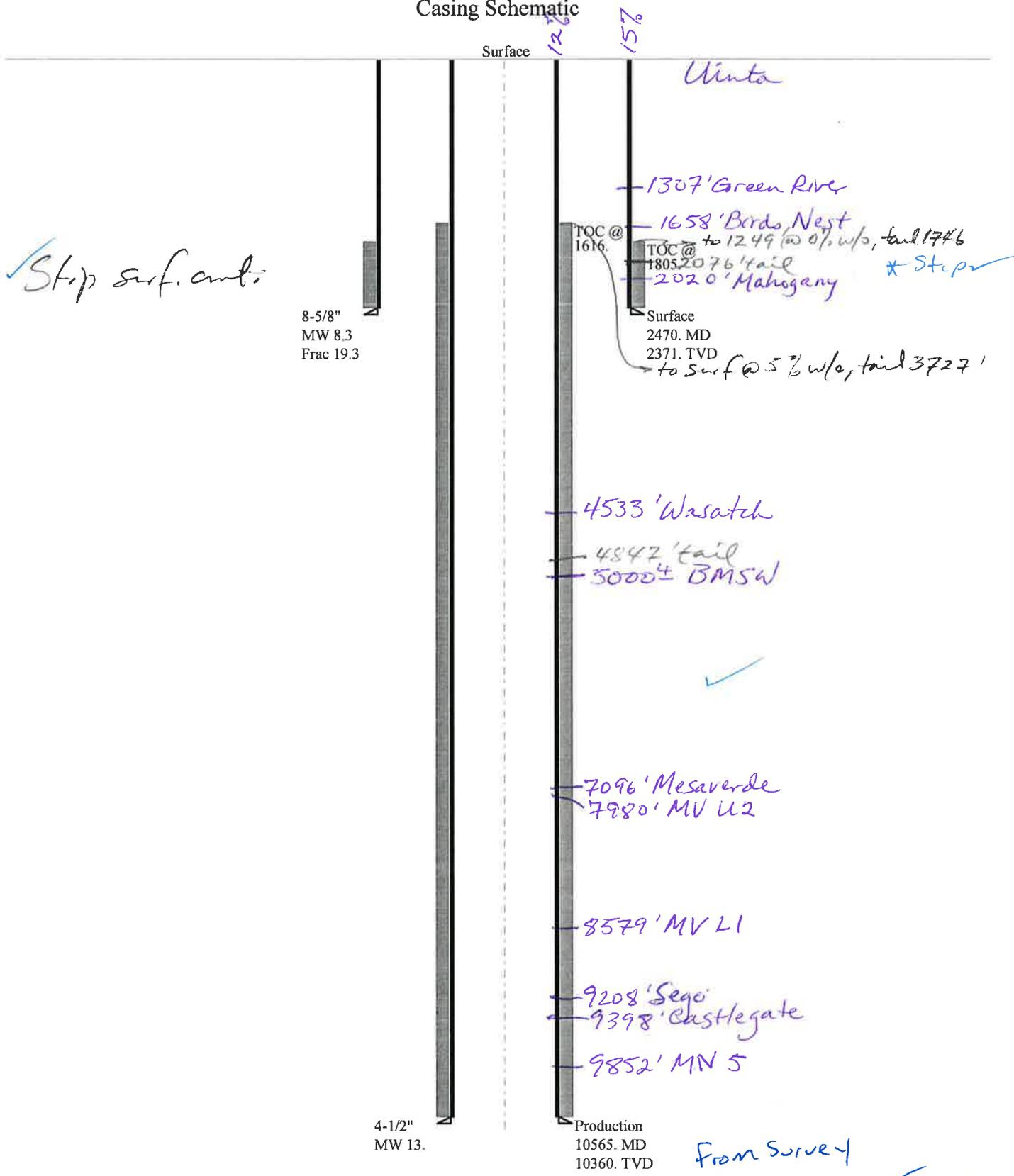
Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="text"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="text"/>
			*Can Full Expected Pressure Be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

API Well Number: 43047514470000

*Max Pressure Allowed @ Previous Casing Shoe=	<input type="text"/>	psi *Assumes 1psi/ft frac gradient
---	----------------------	------------------------------------

43047514470000 NBU 1022-7H4BS

Casing Schematic



Well name:	43047514470000 NBU 1022-7H4BS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Surface	Project ID:	43-047-51447
Location:	UINTAH COUNTY		

Design parameters:

Collapse

Mud weight: 8.330 ppg
 Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
 Surface temperature: 74 °F
 Bottom hole temperature: 107 °F
 Temperature gradient: 1.40 °F/100ft
 Minimum section length: 100 ft
 Cement top: 1,805 ft

Burst

Max anticipated surface pressure: 2,174 psi
 Internal gradient: 0.120 psi/ft
 Calculated BHP 2,458 psi

No backup mud specified.

Tension:

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

Tension is based on air weight.
 Neutral point: 2,158 ft

Directional Info - Build & Drop

Kick-off point 300 ft
 Departure at shoe: 595 ft
 Maximum dogleg: 2 °/100ft
 Inclination at shoe: 21.21 °

Re subsequent strings:

Next setting depth: 10,360 ft
 Next mud weight: 13.000 ppg
 Next setting BHP: 6,996 psi
 Fracture mud wt: 19.250 ppg
 Fracture depth: 2,470 ft
 Injection pressure: 2,470 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2470	8.625	28.00	I-55	LT&C	2371	2470	7.892	97812
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1026	1880	1.833	2458	3390	1.38	66.4	348	5.24 J

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

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

Date: January 31, 2011
 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2371 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

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

Well name:	43047514470000 NBU 1022-7H4BS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Production	Project ID:	43-047-51447
Location:	UINTAH COUNTY		

Design parameters:

Collapse

Mud weight: 13.000 ppg
 Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
 Surface temperature: 74 °F
 Bottom hole temperature: 219 °F
 Temperature gradient: 1.40 °F/100ft
 Minimum section length: 100 ft

Cement top: 1,616 ft

Burst

Max anticipated surface pressure: 4,717 psi
 Internal gradient: 0.220 psi/ft
 Calculated BHP 6,996 psi

No backup mud specified.

Tension:

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

Tension is based on air weight.
 Neutral point: 8,552 ft

Directional Info - Build & Drop

Kick-off point 300 ft
 Departure at shoe: 1226 ft
 Maximum dogleg: 2 °/100ft
 Inclination at shoe: 0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	10565	4.5	11.60	HCP-110	Buttress	10360	10565	3.875	54458
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	6996	8650	1.236	6996	10690	1.53	120.2	367.2	3.06 B

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

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

Date: January 31, 2011
 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 10360 ft, a mud weight of 13 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

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

ON-SITE PREDRILL EVALUATION

Utah Division of Oil, Gas and Mining

Operator KERR-MCGEE OIL & GAS ONSHORE, L.P.
Well Name NBU 1022-7H4BS
API Number 43047514470000 **APD No** 3357 **Field/Unit** NATURAL BUTTES
Location: 1/4,1/4 SWNE **Sec 7 Tw** 10.0S **Rng** 22.0E 2361 FNL 1665 FEL
GPS Coord (UTM) 629963 4424681 **Surface Owner**

Participants

See other comments:

Regional/Local Setting & Topography

This location is in the Natural Buttes Unit of Uintah County approximately 37 air miles and 48.0 road miles south of Vernal, Utah. It is accessed by existing State of Utah, Uintah County and oilfield development roads. No new road construction will be required.

The general area contains sub-drainages of lower Sand Wash. Sand Wash drainage enters the White River approximately 4 miles to the north of the site. The area is characterized by rolling benches to steep sided hills, which have exposed sand stone bedrock cliffs along the rims. All drainages are ephemeral. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle, sheep and antelope exists.

Four gas wells are proposed to be directionally drilled from this pad which extends the existing pad of the NBU 1022-7G producing gas well. The new wells are the NBU 1022-7G1BS, NBU 1022-7G4BS, NBU 1022-7H1BS and NBU 1022-7H4BS. The pad is laid out in an east to west direction and the existing pad will be primarily extended to the east and north. To obtain fill for the new pad extension, the surface of the existing pad will be lowered up to 3.2 feet. The location is along the top of a flattened ridge with no rises to obtain the needed fill. Significant drainages exist to the north and west and join near the northwest corner of the proposed pad. The drainage then continues approximately 1.1 miles westerly to Sand Wash. Location Corners 10-11 are on a steep slope above the drainage and will be angled to avoid excessive fill and this drainage. The selected site is the only location in the immediate area and should be suitable for drilling and operating the proposed wells.

Both the surface and minerals are owned by SITLA.

Surface Use Plan

Current Surface Use

Grazing
Wildlfe Habitat
Existing Well Pad

New Road Miles	Well Pad	Src Const Material	Surface Formation
0	Width 317 Length 455	Onsite	UNTA

Ancillary Facilities N

Waste Management Plan Adequate?

Environmental Parameters

Affected Floodplains and/or Wetlands N

Flora / Fauna

Vegetation is a sparse salt desert shrub type. About 8 inches of snow covered the area. Principal species expected include shadscale, cheatgrass, halogeton, pepper grass, annuals weeds and curly mesquite grass.

Antelope and small mammals and birds.

Soil Type and Characteristics

Soils are a shallow and rocky.

Erosion Issues N

Sedimentation Issues N

Site Stability Issues N

Drainage Diverson Required? N

Berm Required? N

Erosion Sedimentation Control Required? N

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

Reserve Pit

Site-Specific Factors

Site Ranking

Distance to Groundwater (feet)	100 to 200	5
Distance to Surface Water (feet)	>1000	0
Dist. Nearest Municipal Well (ft)	>5280	0
Distance to Other Wells (feet)		20
Native Soil Type	Mod permeability	10
Fluid Type	Fresh Water	5
Drill Cuttings	Normal Rock	0
Annual Precipitation (inches)		0
Affected Populations		
Presence Nearby Utility Conduits	Not Present	0
	Final Score	40

1 Sensitivity Level

Characteristics / Requirements

The reserve pit is planned in an area of cut in the southeast corner of the location. Dimensions are 100' x 260' x 12' deep with 2' of freeboard and a 15' outer bench. Kerr McGee proposed to line the pit with a 30-mil liner and 2 layers of felt.

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

Other Observations / Comments

Floyd Bartlett (DOGM), Sheila Wopsock, Clay Einerson, Charles Chase, Grizz Oleen, Andy Lytle, Matt Palmer, Roger Perry, Julie Jacobson and Duane Holmes (Kerr McGee), Mitch.Batty, John Slaugh, (Timberline Engineering and Land Surveying) and Jim Davis (SITLA).

Floyd Bartlett

1/11/2011

Evaluator

Date / Time

Application for Permit to Drill Statement of Basis

3/28/2011

Utah Division of Oil, Gas and Mining

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APD No	API WellNo	Status	Well Type	Surf Owner	CBM
3357	43047514470000	LOCKED	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.		Surface Owner-APD		
Well Name	NBU 1022-7H4BS		Unit	NATURAL BUTTES	
Field	NATURAL BUTTES		Type of Work	DRILL	
Location	SWNE 7 10S 22E S 2361 FNL 1665 FEL GPS Coord (UTM)			629967E	4424690N

Geologic Statement of Basis

Kerr McGee proposes to set 2,470' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 5,000'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 7. The well is owned by the BLM, has a depth of 1,850 feet, and its listed use is for stock watering. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill
APD Evaluator

1/24/2011
Date / Time

Surface Statement of Basis

This location is in the Natural Buttes Unit of Uintah County approximately 37 air miles and 48.0 road miles south of Vernal, Utah. It is accessed by existing State of Utah, Uintah County and oilfield development roads. No new road construction will be required.

The general area contains sub-drainages of lower Sand Wash. Sand Wash drainage enters the White River approximately 4 miles to the north of the site. The area is characterized by rolling benches to steep sided hills, which have exposed sand stone bedrock cliffs along the rims. All drainages are ephemeral. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle, sheep and antelope exists.

Four gas wells are proposed to be directionally drilled from this pad which extends the existing pad of the NBU 1022-7G producing gas well. The new wells are the NBU 1022-7G1BS, NBU 1022-7G4BS, NBU 1022-7H1BS and NBU 1022-7H4BS. The pad is laid out in an east to west direction and the existing pad will be primarily extended to the east and north. To obtain fill for the new pad extension, the surface of the existing pad will be lowered up to 3.2 feet. The location is along the top of a flattened ridge with no rises to obtain the needed fill. Significant drainages exist to the north and west and join near the northwest corner of the proposed pad. The drainage then continues approximately 1.1 miles westerly to Sand Wash. Location Corners 10-11 are on a steep slope above the drainage and will be angled to avoid excessive fill and this drainage. The selected site is the only location in the immediate area and should be suitable for drilling and operating the proposed wells.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA attended the site evaluation and had no concerns with the proposal. Kerr McGee was told to consult with SITLA for reclamation standards including seeding mixes to be used.

Alex Hansen and Ben Williams of the Utah Division of Wildlife Resources were invited to attend. They stated they had a previously scheduled meeting for this date and neither attended.

Application for Permit to Drill Statement of Basis

3/28/2011

Utah Division of Oil, Gas and Mining

Page 2

Floyd Bartlett
Onsite Evaluator

1/11/2011
Date / Time

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 30 mils with a double felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.
Surface	The well site shall be bermed to prevent fluids from leaving the pad.

WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 12/29/2010**API NO. ASSIGNED:** 43047514470000**WELL NAME:** NBU 1022-7H4BS**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)**PHONE NUMBER:** 720 929-6100**CONTACT:** Andy Lytle**PROPOSED LOCATION:** SWNE 07 100S 220E**Permit Tech Review:** **SURFACE:** 2361 FNL 1665 FEL**Engineering Review:** **BOTTOM:** 2013 FNL 0490 FEL**Geology Review:** **COUNTY:** UINTAH**LATITUDE:** 39.96427**LONGITUDE:** -109.47829**UTM SURF EASTINGS:** 629967.00**NORTHINGS:** 4424690.00**FIELD NAME:** NATURAL BUTTES**LEASE TYPE:** 3 - State**LEASE NUMBER:** ML 23609**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE**SURFACE OWNER:** 3 - State**COALBED METHANE:** NO**RECEIVED AND/OR REVIEWED:**

- PLAT**
- Bond:** STATE/FEE - 22013542
- Potash**
- Oil Shale 190-5**
- Oil Shale 190-3**
- Oil Shale 190-13**
- Water Permit:** Permit #43-8496
- RDCC Review:**
- Fee Surface Agreement**
- Intent to Commingle**

Commingling Approved**LOCATION AND SITING:**

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

Comments: Presite Completed

Stipulations:

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



GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: NBU 1022-7H4BS
API Well Number: 43047514470000
Lease Number: ML 23609
Surface Owner: STATE
Approval Date: 3/28/2011

Issued to:

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

Authority:

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

Duration:

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

Commingle:

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

General:

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

Conditions of Approval:

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

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

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

Surface casing shall be cemented to the surface.

Additional Approvals:

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

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

Contact Information:

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
801-231-8956 - after office hours

Reporting Requirements:

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

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

Approved By:



For John Rogers
Associate Director, Oil & Gas

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 23609
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:
1. TYPE OF WELL Gas Well		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		8. WELL NAME and NUMBER: NBU 1022-7H4BS
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		9. API NUMBER: 43047514470000
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2361 FNL 1665 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNE Section: 07 Township: 10.0S Range: 22.0E Meridian: S		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
		COUNTY: UINTAH
		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 4/23/2011	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CMT W/ 28 SX READY MIX. SPUD WELL LOCATION ON APRIL 23, 2011 AT 08:00 HRS.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY		
NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE		DATE
N/A		4/26/2011

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
 Submitted By ANDY LYTLE Phone Number 720.929.6100
 Well Name/Number NBU 1022-7H4BS
 Qtr/Qtr SWNE Section 7 Township 10S Range 22E
 Lease Serial Number ML 23609
 API Number 4304751447

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

Date/Time 04/23/2011 08:00 HRS AM PM

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

- Surface Casing
 Intermediate Casing
 Production Casing
 Liner
 Other

Date/Time 04/29/2011 08:00 HRS AM PM

BOPE

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

Date/Time _____ AM PM

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT

435.828.0986 OR LOVEL YOUNG AT 435.781.7051

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 23609
SUNDRY NOTICES AND REPORTS ON WELLS		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well		8. WELL NAME and NUMBER: NBU 1022-7H4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		9. API NUMBER: 43047514470000
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: 2361 FNL 1665 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNE Section: 07 Township: 10.0S Range: 22.0E Meridian: S		COUNTY: UINTAH
		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 5/1/2011 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	
	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
<p>Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests to change the total depth (TD) in the subject well. The TD will still reside in the Blackhawk formation, which is in the Mesaverde group for this well. Please see attached for additional details. Please contact the undersigned if you have any questions and/or comments. Thank you.</p>		
		<p>Approved by the Utah Division of Oil, Gas and Mining</p> <p>Date: <u>05/10/2011</u></p> <p>By: <u><i>Derek Duff</i></u></p>
NAME (PLEASE PRINT) Andy Lytle	PHONE NUMBER 720 929-6100	TITLE Regulatory Analyst
SIGNATURE N/A		DATE 4/29/2011



KERR-McGEE OIL & GAS ONSHORE LP
DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	BTC
								TENSION	
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,480	28.00	IJ-55	LTC	2.18	1.62	5.72	N/A
PRODUCTION	4-1/2"	0 to 10,405	11.60	HCP-110	LTC or BTC	10,690	8,650	279,000	367,000
						1.19	1.25	2.88	3.79

Surface casing:

(Burst Assumptions: TD = 13.0 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 @ 9000 psi) 0.66 psi/ft = bottomhole gradient

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

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized					
Option 2	LEAD	1,980'	65/35 Poz + 6% Gel + 10 pps gilsonite	180	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	4,045'	Premium Lite II +0.25 pps	300	20%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,360'	50/50 Poz/G + 10% salt + 2% gel	1,500	35%	14.30	1.31
			+ 0.1% R-3				

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

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

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

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

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

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

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

DRILLING ENGINEER:

Nick Spence / Emile Goodwin

DATE:

DRILLING SUPERINTENDENT:

Kenny Gathings / Lovel Young

DATE:

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 23609
SUNDRY NOTICES AND REPORTS ON WELLS		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well		8. WELL NAME and NUMBER: NBU 1022-7H4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		9. API NUMBER: 43047514470000
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: 2361 FNL 1665 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNE Section: 07 Township: 10.0S Range: 22.0E Meridian: S		COUNTY: UINTAH
		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 5/7/2011	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER
		OTHER: <input type="text"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
MIRU AIR RIG ON MAY 4, 2011. DRILLED SURFACE HOLE TO 2600'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY		
NAME (PLEASE PRINT) Andy Lytle	PHONE NUMBER 720 929-6100	TITLE Regulatory Analyst
SIGNATURE N/A		DATE 5/9/2011

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

FORM 6

ENTITY ACTION FORM

Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995
 Address: P.O. Box 173779
city DENVER
state CO zip 80217 Phone Number: (720) 929-6100

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751447	NBU 1022-7H4BS		SWNE	7	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	4/23/2011			4/28/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 4/23/2011 AT 08:00 HRS. <i>BHL = SENE</i>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751446	NBU 1022-7H1BS		<i>SWNE</i> SENE	7	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	4/23/2011			4/28/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 4/23/2011 AT 10:30 HRS. <i>BHL = SESE</i>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751445	NBU 1022-7G4BS		SWNE	7	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	4/23/2011			4/28/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 4/23/2011 AT 13:00 HRS. <i>BHL = SWNE</i>							

ACTION CODES:

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

ANDY LYTLE

Name (Please Print)

Signature

REGULATORY ANALYST

Title

4/26/2011

Date

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APR 26 2011

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 139
Submitted By KENNY MORRIS Phone Number
435- 828-0984
Well Name/Number NBU 1022-7H4BS
Qtr/Qtr SWNE Section 35⁰⁷ Township 9^{10S} Range 21^{33E}
Lease Serial Number ML23609
API Number 43047514470000

Casing – Time casing run starts, not cementing times.

- Production Casing
- Other

Date/Time _____ AM PM

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DIV. OF OIL, GAS & MINING

BOPE

- Initial BOPE test at surface casing point
- Other

Date/Time 6/15/2011 08:00 AM PM

Rig Move

Location To: NBU 1022-7G PAD

Date/Time 6/13/2011 07:00 AM PM

Remarks NBU 1022-7G PAD BOP TEST ON 1 OF 4 WELLS
ON WEDNESDAY 6/15/2011

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 23609
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 1022-7H4BS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047514470000	
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: 2361 FNL 1665 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNE Section: 07 Township: 10.0S Range: 22.0E Meridian: S	COUNTY: UINTAH	
		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 6/24/2011	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	
	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
MIRU ROTARY RIG. FINISHED DRILLING FROM 2600' TO 10,408' ON JUNE 21, 2011. RAN 4-1/2" 11.6# P-110 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED ENSIGN RIG 139 ON JUNE 24, 2011 @ 04:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY		
NAME (PLEASE PRINT) Andy Lytle	PHONE NUMBER 720 929-6100	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 6/24/2011	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 23609
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 1022-7H4BS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047514470000	
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: 2361 FNL 1665 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNE Section: 07 Township: 10.0S Range: 22.0E Meridian: S	COUNTY: UINTAH	
		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/6/2011	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER	
		<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 09/06/2011 AT 7:00 PM. 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		
NAME (PLEASE PRINT) Sheila Wopsock	PHONE NUMBER 435 781-7024	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 9/7/2011	

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

AMENDED REPORT FORM 8
(highlight changes)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> DRY <input type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 23609	
b. TYPE OF WORK: NEW WELL <input checked="" type="checkbox"/> HORIZ. LATS. <input type="checkbox"/> DEEP-EN <input type="checkbox"/> RE-ENTRY <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> OTHER _____		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR: KERR MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME UTU63047A	
3. ADDRESS OF OPERATOR: P.O. BOX 173779 CITY DENVER STATE CO ZIP 80217		8. WELL NAME and NUMBER: NBU 1022-7H4BS	
PHONE NUMBER: (720) 929-6100		9. API NUMBER: 4304751447	
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: SWNE 2361 FNL 1665 FEL S7, T10S, R22E		10 FIELD AND POOL, OR WILDCAT NATURAL BUTTES	
AT TOP PRODUCING INTERVAL REPORTED BELOW: SENE 1990 FNL 500 FEL S7, T10S, R22E		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWNE 7 10S 22E S	
AT TOTAL DEPTH: SENE 2020 FNL 458 FEL S7, T10S, R22E		12. COUNTY UINTAH	13. STATE UTAH

14. DATE SPUDDED: 4/23/2011		15. DATE T.D. REACHED: 6/21/2011		16. DATE COMPLETED: 9/6/2011		ABANDONED <input type="checkbox"/> READY TO PRODUCE <input checked="" type="checkbox"/>		17. ELEVATIONS (DF, RKB, RT, GL): GL 5286	
18. TOTAL DEPTH: MD 10,408 TVD 10,198		19. PLUG BACK T.D.: MD 10,335 TVD 10,125		20. IF MULTIPLE COMPLETIONS, HOW MANY? *		21. DEPTH BRIDGE MD PLUG SET: TVD			
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) BHV-TRIPLE COMBO-SCMT-CBL					23. WAS WELL CORED? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit analysis) WAS DST RUN? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit report) DIRECTIONAL SURVEY? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (Submit copy)				

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

HOLE SIZE	SIZE/GRADE	WEIGHT (#/R.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#		40		28			
11"	8 5/8" IJ-55	28#		2,582		500		0	
7 7/8"	4 1/2" P110	11.6#		10,379		1,839		100	

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	10,015							

26. PRODUCING INTERVALS					27. PERFORATION RECORD				
FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS	
(A) MESAVERDE	7,534	10,124			7,534 10,124	0.36	168	Open <input checked="" type="checkbox"/>	Squeezed <input type="checkbox"/>
(B) <i>WSDMP</i>								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
7534 - 10124	PUMP 11,813 BBLS SLICK H2O & 209,142 LBS SAND

29. ENCLOSED ATTACHMENTS:					30. WELL STATUS:	
<input type="checkbox"/> ELECTRICAL/MECHANICAL LOGS	<input type="checkbox"/> GEOLOGIC REPORT	<input type="checkbox"/> DST REPORT	<input checked="" type="checkbox"/> DIRECTIONAL SURVEY	PROD		
<input type="checkbox"/> SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION	<input type="checkbox"/> CORE ANALYSIS	<input type="checkbox"/> OTHER: _____				

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OCT 25 2011

31. INITIAL PRODUCTION

INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED: 9/6/2011		TEST DATE: 9/18/2011		HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL - BBL: 0	GAS - MCF: 2,696	WATER - BBL: 214	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 1,950	CSG. PRESS. 2,700	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL: 0	GAS - MCF: 2,696	WATER - BBL: 214	INTERVAL STATUS: PROD

INTERVAL B (As shown in Item #26)

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

INTERVAL C (As shown in Item #26)

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

INTERVAL D (As shown in Item #26)

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

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

33. SUMMARY OF POROUS ZONES (Include Aquifers):

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

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
GREEN RIVER	1,344				
BIRD'S NEST	1,720				
MAHOGANY	2,109				
WASATCH	4,755	7,307			
MESAVERDE	7,307	10,408	TD		

34. FORMATION (Log) MARKERS:

35. ADDITIONAL REMARKS (Include plugging procedure)

The first 210' of the surface hole was drilled with a 12 1/4" bit.

The remainder of surface hole was drilled with an 11" bit. Attached is the chronological well history, perforation report and final survey.

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

NAME (PLEASE PRINT) JAIME SCHARNOWSKE

TITLE REGULATORY ANALYST

SIGNATURE *Jaime Scharnowske*

DATE 10/6/2011

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top - Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340
Fax: 801-359-3940

**US ROCKIES REGION
Operation Summary Report**

Well: NBU 1022-7H4BS RED		Spud Conductor: 4/23/2011		Spud Date: 5/5/2011	
Project: UTAH-UINTAH		Site: NBU 1022-7G PAD		Rig Name No: ENSIGN 139/139, PROPETRO 11/11	
Event: DRILLING		Start Date: 4/11/2011		End Date:	
Active Datum: RKB @5,300.01ft (above Mean Sea Level)			UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
5/4/2011	14:00 - 18:00	4.00	MIRU	01	A	P		MOVE RIG AND EQUIPMENT ONTO LOCATION
	18:00 - 23:00	5.00	MIRU	01	B	P		DRESS TOP OF CONDUCTOR. INSTALL DIVERTER HEAD AND BOWME LINE. BUILD DITCH. MOVE RIG OVER HOLE AND RIG UP. SET CATWALK AND PIPE RACKS. RIG UP AND PRIME PIT PUMP AND MUD PUMP.
	23:00 - 23:30	0.50	PRSPD	01	B	P		P/U 1.83 DEG BENT HOUSING HUNTING MTR SN 8014 . 7/8 LOBE .17 RPM. M/U 12.25" Q507 SN 71
5/5/2011	23:30 - 0:00	0.50	MAINT	08	B	Z		2ND RUN, W/ 7-18'S. INSTALL RUBBER REPAIR HIGH PRESSURE HOSES ON MUD PUMP
	0:00 - 0:30	0.50	MAINT	08	B	Z		REPLACE HIGH PRESSURE HOSES ON MUD PUMP
	0:30 - 1:30	1.00	DRLSUR	02	A	P		SPUD SURFACE 05/04/2011 @ 00:30 HRS. DRILL 12.25" SURFACE HOLE F/40'-210' (170' @ 170'/HR) PSI ON/ OFF 690/410, UP/ DOWN/ ROT 27/22/25. 500 GPM, 45 RPM ON TOP DRIVE, 15-18K WOB
	1:30 - 4:30	3.00	DRLSUR	06	A	P		TOOH, PU AND ORIENT DIR TOOLS, TIH T/210' LD 12.25" BIT, PU 11" HUGHES, SN 7023549 2ND RUN
	4:30 - 9:00	4.50	DRLSUR	02	A	P		DRILL/ SLIDE 11" SURFACE HOLE F/ 210'-610' (400' @ 88'/HR) PSI ON/ OFF 1390/780, UP/ DOWN/ ROT 32/28/30. 136 SPM, 553 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT
	9:00 - 11:00	2.00	MAINT	08	B	Z		TROUBLE SHOOT MUD PUMP, REPAIR LINER SEAL
	11:00 - 0:00	13.00	DRLSUR	02	C	P		DRILL/ SLIDE 11" SURFACE HOLE F/ 610'-1890' (1210' @ 98'/HR) PSI ON/ OFF 1420/1270, UP/ DOWN/ ROT 72/55/62. 136 SPM, 553 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT
5/6/2011	0:00 - 10:00	10.00	DRLSUR	02	C	P		DRILL/ SLIDE 11" SURFACE HOLE F/ 1890'-2600' (710' @ 71'/HR) PSI ON/ OFF 1650/1490, UP/ DOWN/ ROT 90/60/70. 136 SPM, 553 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT
	10:00 - 11:30	1.50	DRLSUR	05	F	P		CIRC AND COND HOLE CLEAN
	11:30 - 16:30	5.00	DRLSUR	06	A	P		TOOH, LDDS AND DIR BHA, BROKE DOWN BHA TO BE CHECKED
	16:30 - 17:00	0.50	CSG	12	A	P		RIG UP TO RUN SURFACE CSG, MOVE CATWALK & PIPE RACKS, MOVE CSG OVER TO WORK AREA
	17:00 - 21:00	4.00	CSG	12	C	P		HELD SAFETY MEETING, RUN CSG. RAN 58JTS OF 8-5/8", 28#, J-55, 8 RND CSG W/ LTC THREADS. LANDED FLOAT SHOE @ 2571.62' KB. RAN BAFFLE PLATE IN TOP OF SHOE JT LANDED 2525.42' KB. FILL CSG @ 500', 1500', AND 2570'. RUN 200' OF 1" DOWN BACK SIDE.

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Project: UTAH-UINTAH		Site: NBU 1022-7G PAD		Rig Name No: ENSIGN 139/139, PROPETRO 11/11	
Event: DRILLING		Start Date: 4/11/2011		End Date:	
Active Datum: RKB @5,300.01ft (above Mean Sea Level)		UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	21:00 - 0:00	3.00	CSG	12	B	P		<p>HOLD SAFETY MEETING. INSTALL CEMENT HEAD. PSI TEST TO 2000 PSI. PUMP 150 BBLS OF 8.3# H2O AHEAD. PUMP 20 BBLS OF 8.4# GEL WATER AHEAD. PUMP 200 SX(136.1 BBLS) 11# 3.82 YIELD LEAD CEMENT, PUMP 200 SX (42 BBLS) OF 15.8# 1.15 YIELD TAIL(2% CALC, 1/4# /SK OF FLOCELE). FULL CIRC. DROP PLUG ON FLY AND DISPLACE W/157.6 BBLS OF 8.3# H2O. LIFT PRESSURE WAS 500 PSI, BUMP PLUG AND HOLD 700 PSI FOR 5 MIN. FLOAT HELD.</p> <p>TOP OUT, PUMP 100 SX (20 BBLS) OF 15.8# 1.15 YIELD TAIL(4 % CALC, 1/4# /SK OF FLOCELE) DOWN 1". 20 BBLS TO PIT, CMT STAYED AT SURFACE. RIG DOWN CEMENTERS AND RELEASE RIG AND CEMENTERS 00:00 HRS ON 5/7/11.</p> <p>CONDUCTOR CASING: Cond. Depth set:40' Cement sx used:28</p> <p>SPUD DATE/TIME:05/04/2011 @ 00:30 HRS.</p> <p>SURFACE HOLE: Surface From depth:40' Surface To depth:2,600 Total SURFACE hours:29.5 Surface Casing size:8.625" # of casing joints ran:58 Casing set MD:2571.62' # sx of cement:200/200/100 Cement blend (ppg):11/15.8/15.8 Cement yield (ft3/sk):3.82/1.15/1.15 # of bbls to surface:20 Describe cement issues:NONE Describe hole issues:NONE</p>
6/13/2011	0:00 - 0:00	24.00	RDMO	01	E	P		RDRT PREP F/MOVE 12 MILES TO NEW PAD,MOVED HOUSES,PIPE TUBS,CATWALK,TANKS
6/14/2011	0:00 - 7:00	7.00	RDMO	01	E	P		RDRT,PREP F/ MOVE
	7:00 - 17:00	10.00	MIRU	01	A	P		SAFETY MEET W/ RW JONES & RIG CREWS,HAUL RIG 12 MILES TO NBU 1022-7H4BS- BLACKHAWK WELL ON 7G PAD
	17:00 - 0:00	7.00	MIRU	01	B	P		5 HAUL ,4 BED,2-FORKS,2-TRUCK PUSHERS,2-FLAG ESCORTS,11 ENSIGN HANDS
6/15/2011	0:00 - 8:00	8.00	MIRU	01	B	P		STRING UP,R/U RAISE DERRICK 20:00 R/U BOARD, FLOW,,FLOOR,BACKYARD
	8:00 - 9:00	1.00	PRPSPD	14	A	P		FINISH RURT,PRE SPUD INSPECTION
	9:00 - 13:30	4.50	PRPSPD	15	A	P		NUBOP,R/U HYDRALIC LINES,FUNCTION TEST BOP
								TEST BOP,ANNULAR
								2.5K,RAMS,CHOKE,MANIFOLD,KILLINE,FLOORVAL VES 5K,CSG 1500 F/30 MIN,250 LOWS

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Project: UTAH-UINTAH		Site: NBU 1022-7G PAD		Rig Name No: ENSIGN 139/139, PROPETRO 11/11	
Event: DRILLING		Start Date: 4/11/2011		End Date:	
Active Datum: RKB @5,300.01ft (above Mean Sea Level)		UVM: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	13:30 - 20:00	6.50	PRSPD	06	A	P		INSTALL WEARRING,P/U BHA#1SCRIBE DIR TOOLS,TIH,LEVEL DERRICK,INSTALL ROT RUBBER,@ 2390
	20:00 - 22:00	2.00	PRSPD	02	F	P		DRILL CEMENT & FE F/2390 TO 2610
	22:00 - 0:00	2.00	DRLPRO	02	D	P		SPUD NEW 7.875 HOLE @22:00 6/15/2011,DIRDRILL F/2610 TO 2800=190 AVG 95 ,WOB 20,RPM 40/126,GPM 520,STKS 106,PSI 900/1300,TORQ 4/6K,SLIDE 40' 20%
6/16/2011	0:00 - 11:30	11.50	DRLPRO	02	D	P		DIR DRILL F/2800 TO 3981= 1181 AVG 103 WOB 20,RPM 40/126,GPM 550,STKS 110,PSI 1000/1400,TORQ 4/6K,SLIDE 18%,CIRC RES PIT RIG SERVICE
	11:30 - 12:00	0.50	DRLPRO	07	A	P		
	12:00 - 0:00	12.00	DRLPRO	02	D	P		DIR DRILL F/3981 TO 5220=1239 AVG103 WOB 20,RPM 40/126,GPM 550,STKS 110,PSI 1350/1650,TORQ 5/7K,SLIDE 18%,CIRC RES PIT,WT 8.4/27
6/17/2011	0:00 - 10:30	10.50	DRLPRO	02	D	P		DIR DRILL F/5220 TO 6335=1115 AVG 106 WOB 20,RPM 40/126,GPM 550,STKS 110,PSI,1600/2000,TORQ 7/10K, SLIDE 8 %,CIRC RES PIT,WT 8.4/27
	10:30 - 11:00	0.50	DRLPRO	07	A	P		DAILY RIG SERVICE
	11:00 - 0:00	13.00	DRLPRO	02	D	P		DIR DRILL F/6335 TO 7225 =890 AVG 68 WOB 20,RPM 40/126,GPM 550,STKS 110,PSI,1600/2000,TORQ 8/11K, SLIDE 10%,LT MUD UP 7000',WT 9.3/36
6/18/2011	0:00 - 10:30	10.50	DRLPRO	02	D	P		DIR DRILL F/7225 TO 7737 =512 AVG 48 WOB 20,RPM 40/126,GPM 550,STKS 110,PSI,1600/1850,TORQ 8/11K, SLIDE 10%,WT 9.5/36
	10:30 - 11:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	11:00 - 20:30	9.50	DRLPRO	02	D	P		DIR DRILL F/7737 TO 8234=497, AVG 54 WOB 20,RPM 40/120,GPM 490,STKS 100,PSI,1600/2000,TORQ 9/13K, SLIDE 5%,WT 10.4/38
	20:30 - 0:00	3.50	DRLPRO	08	A	Z		REPAIR HYD ON TOPDRIVE,ELEVATOR SYSTEM
6/19/2011	0:00 - 10:00	10.00	DRLPRO	02	D	P		DIR DRILL F/8234 TO 8687 =453 , Avg 45 WOB 20,RPM 40/120,GPM 440,STKS 90,PSI,1600/2000,TORQ 11/14K, SLIDE 2%,WT 10.9/38
	10:00 - 10:30	0.50	DRLPRO	07	A	P		RIG SERVICE, FUNCTION BOP
	10:30 - 0:00	13.50	DRLPRO	02	D	P		DIR DRILL F/8687 TO 9225 = 538, Avg 40 WOB 20,RPM 40/120,GPM 440,STKS 90,PSI,1900/2200,TORQ 12/15K, SLIDE 0%,WT 11.6/40,ST WT 280/200/185
6/20/2011	0:00 - 12:30	12.50	DRLPRO	02	D	P		DIR DRILL F/9225 TO 9683 =458 ,AVG 36 WOB 20,RPM 40/120,GPM 440,STKS 90,PSI,1900/2200,TORQ 12/15K, SLIDE 0%,WT 11.7/40,ST WT 280/200/185
	12:30 - 13:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	13:00 - 0:00	11.00	DRLPRO	02	D	P		DIR DRILL F/9683 TO 9985=302 ,AVG 32 WOB 20,RPM 40/120,GPM 440,STKS 90,PSI,1900/2200,TORQ 12/15K, SLIDE 0%,WT 11.8/40,ST WT 290/210/180

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Project: UTAH-UINTAH		Site: NBU 1022-7G PAD		Rig Name No: ENSIGN 139/139, PROPETRO 11/11	
Event: DRILLING		Start Date: 4/11/2011		End Date:	
Active Datum: RKB @5,300.01ft (above Mean Sea Level)			UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
6/21/2011	0:00 - 14:00	14.00	DRLPRO	02	D	P		DIR DRILL F/9985 TO 10408=423 ,AVG 30 WOB 22,RPM 40/120,GPM 440,STKS 90,PSI,1900/2200,TORQ 12/15K, SLIDE 0%,WT 12.3/40 14% LCM,ST WT 290/210/180
	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	14:30 - 15:30	1.00	DRLPRO	05	C	P		CIRC BTMS UP F/ WIPER TRIP TO SHOE
	15:30 - 18:00	2.50	DRLPRO	06	E	P		PUMP OUT 15,@280K,WELL FLOWING
	18:00 - 20:00	2.00	DRLPRO	05	B	S		CIRC RAISE MUD WT F/12.3 TO 12.6#,FLOW CHECK NO FLOW
	20:00 - 0:00	4.00	DRLPRO	06	E	P		PUMP OUT TO 8800',PUMP DRY PILL,TOOH,WORK THRU TIGHT HOLE @8658'
6/22/2011	0:00 - 4:00	4.00	DRLPRO	06	E	P		FINISH TOOH F/SHORTTRIP
	4:00 - 11:00	7.00	DRLPRO	06	E	P		WIPER TRIP TO SHOE (TIGHT SPOT @ 6664 & 4415) - T.I.H TIGHT SPOT @ 9774
	11:00 - 14:30	3.50	DRLPRO	03	E	P		TIGHT SPOT @ 9774 - WASH F/ 9774 TO 10408 (NO FILL)
	14:30 - 16:30	2.00	DRLPRO	05	A	P		CIRC BTM UP TWICE
	16:30 - 0:00	7.50	DRLPRO	06	B	P		T.O.H F/ LOGS (PUMP OUT 20 STANDS & PUMP DRY JOB) CONT T.O.H.
6/23/2011	0:00 - 2:00	2.00	DRLPRO	06	A	P		FINISH T.O.H & L/D MOTOR BIT & PULL WEAR BUSHING
	2:00 - 8:30	6.50	DRLPRO	11	E	P		HELD S/M R/U HALLIBURTON LOGGERS & RUN TRIPLE COMBO TO 10,416
	8:30 - 20:00	11.50	DRLPRO	12	C	P		HELD S/M R/U FRANKS CASING & RUN 252 JTS OF P-110 - PLUS 2 MARKERS - SHOE SET @ 10,378 & F/C @ 10,335
	20:00 - 21:00	1.00	DRLPRO	05	D	P		CIRC BTM UP
	21:00 - 0:00	3.00	DRLPRO	12	E	P		HELD S/M & R/U BJ SER & TESTED LINES 5,000 PSI & PUMP 40 BBLS SPACER,559 SKS LEAD #12.6 - 1.93 YLD,1280 SKS TAIL #14.3 - 1.31 YLD ,DISPLACE 160.4 BBLS CLAYFIX,FINAL LIFT PRESSURE 2600 PSI,BUMP PLUG 500 OVER,FLOATS HELD & GOT BACK TO PIT 15 BBLS WATER
6/24/2011	0:00 - 4:00	4.00	DRLPRO	14	A	P		N/D & SET C-22 SLIPS - W/ 105K & CUT OFF & WASH CLEAN OUT PITS & RELEASED RIG @ 04:00 ON 6/24/2011

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Project: UTAH-UINTAH		Site: NBU 1022-7G PAD	Rig Name No: ENSIGN 139/139, PROPETRO 11/11
Event: DRILLING		Start Date: 4/11/2011	End Date:
Active Datum: RKB @5,300.01ft (above Mean Sea Level)		UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	4:00 - 4:00	0.00	DRLPRO					<p>CONDUCTOR CASING: Cond. Depth set:40 Cement sx used:28</p> <p>SPUD DATE/TIME:5/4/2011 0:30</p> <p>SURFACE HOLE: Surface From depth:40 Surface To depth:2,600 Total SURFACE hours:29.50 Surface Casing size:8 5/8 # of casing joints ran:58 Casing set MD:2,571.0 # sx of cement:500 Cement blend (ppg):15.8 Cement yield (ft3/sk):1.15 # of bbls to surface:20 Describe cement issues:NONE Describe hole issues:NONE</p> <p>PRODUCTION: Rig Move/Skid start date/time:6/12/2011 23:59 Rig Move/Skid finish date/time:6/14/2011 17:00 Total MOVE hours:41.0 Prod Rig Spud date/time:6/15/2011 20:00 Rig Release date/time:6/24/2011 4:00 Total SPUD to RR hours:200.0 Planned depth MD10,408 Planned depth TVD10,200 Actual MD:10,408 Actual TVD:10,198 Open Wells \$: AFE \$: Open wells \$/ft:</p> <p>PRODUCTION HOLE: Prod. From depth:2,610 Prod. To depth:10,408 Total PROD hours: 130 Log Depth:10416 Float Collar Top Depth:10350 Production Casing size:4 1/2 # of casing joints ran:254 Casing set MD:10,392.0 Stage 1 # sx of cement:1,839 Cement density (ppg):12.6/14.3 Cement yield (ft3/sk):1.93/1.31 Stage 2 # sx of cement: Cement density (ppg): Cement yield (ft3/sk): Top Out Cmt # sx of cement: Cement density (ppg): Cement yield (ft3/sk):</p>

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Project: UTAH-UINTAH		Site: NBU 1022-7G PAD	Rig Name No: ENSIGN 139/139, PROPETRO 11/11
Event: DRILLING		Start Date: 4/11/2011	End Date:
Active Datum: RKB @5,300.01ft (above Mean Sea Level)		UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
								Est. TOC (Lead & Tail) or 2 Stage : Describe cement issues: Describe hole issues: DIRECTIONAL INFO: KOP:273 Max angle:23.83@ 1949' Departure:1250@TD Max dogleg MD:2.75@3787

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-7H4BS RED	Wellbore No.	OH
Well Name	NBU 1022-7H4BS	Wellbore Name	NBU 1022-7H4BS
Report No.	1	Report Date	8/19/2011
Project	UTAH-UINTAH	Site	NBU 1022-7G PAD
Rig Name/No.		Event	COMPLETION
Start Date	8/19/2011	End Date	9/6/2011
Spud Date	5/5/2011	Active Datum	RKB @5,300.01ft (above Mean Sea Level)
UWI	SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0		

1.3 General

Contractor	CASEDHOLE SOLUTIONS	Job Method	PERFORATE	Supervisor	DAVE DANIELS
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

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	7,534.0 (ft)-10,124.0 (ft)	Start Date/Time	8/22/2011 12:00AM
No. of Intervals	21	End Date/Time	8/22/2011 12:00AM
Total Shots	168	Net Perforation Interval	44.00 (ft)
Avg Shot Density	3.82 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

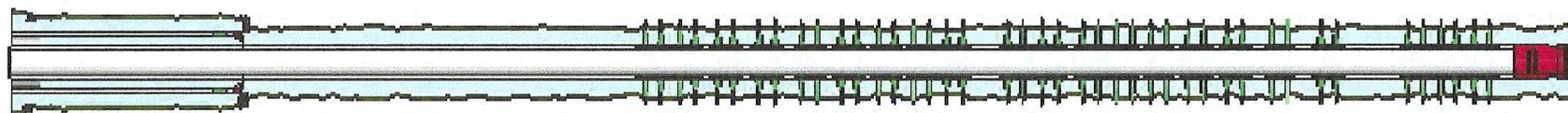
Date	Formation/Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
8/22/2011 12:00AM	MESAVERDE/			7,534.0	7,536.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
8/22/2011 12:00AM	MESAVERDE/			7,572.0	7,574.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			7,665.0	7,667.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			7,792.0	7,795.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			7,936.0	7,939.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,040.0	8,041.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,118.0	8,120.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,160.0	8,162.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,189.0	8,190.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,565.0	8,568.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,610.0	8,613.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,731.0	8,732.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,762.0	8,763.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,806.0	8,808.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,876.0	8,877.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			8,976.0	8,977.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			9,150.0	9,152.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			9,370.0	9,374.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			10,068.0	10,072.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			10,096.0	10,098.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
8/22/2011 12:00AM	MESAVERDE/			10,122.0	10,124.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

3 Plots

3.1 Wellbore Schematic



**US ROCKIES REGION
Operation Summary Report**

Well: NBU 1022-7H4BS RED		Spud Conductor: 4/23/2011	Spud Date: 5/5/2011
Project: UTAH-UINTAH		Site: NBU 1022-7G PAD	Rig Name No: MILES 2/2
Event: COMPLETION		Start Date: 8/19/2011	End Date: 9/6/2011
Active Datum: RKB @5,300.01ft (above Mean Sea Level)		UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/19/2011	7:00 - 15:00	8.00	COMP	33	C	P		<p>FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 15 PSI.</p> <p>PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 42 PSI.</p> <p>1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 388 PSI.</p> <p>2ND PSI TEST T/ 9000 PSI. HELD FOR 30 MIN. LOST 330 PSI</p> <p>3RD.PSI TEST T/ 9000 PSI. HELD FOR 30 MIN. LOST 303 PSI</p> <p>CALL BJ BRAITHWAITE OKAYED BY COMPLETION ENGINEER</p> <p>WELL HAS COMMUNICATION WITH SURFACE FLOWED 39 OUNCES EVERY 10 MIN FROM SURFACE</p> <p>TEST CSG TO 5000 PSI FOR 30 MIN LOST 208 PSI WITH NO COMMUNICATION</p> <p>TEST CSG TO 9000 PSI FOR 30 MIN LOST 545 PSI WITH COMMUNICATION WITH SURFACE. FILLED 39 OUNCE CUP EVERY 10 MIN LET BJ BRAITHWAITH KNOW SAID OK</p> <p>IT WAS OKAYED BY COMPLETION ENGINEER ON 08-17-11</p> <p>BLEED OFF PSI. SWIFWE</p>
8/22/2011	7:00 - 11:30	4.50	COMP	48		P		<p>HSM, R/U, MIRU SUPERIOR EQUIP & CASED HOLE SOLUTIONS</p>
	11:30 - 17:00	5.50	COMP	36	E	P		<p>PERF & FRAC FOLLOWING WELL AS PER DESIGN W/ 30/50 MESH SAND & SLK WTR.</p> <p>ALL CBP'S ARE HALIBURTON 8K CBP'S.</p> <p>REFER TO STIM PJR FOR FLUID, SAND AND CHEMICAL VOLUME PUM'D</p> <p>PERF STG #1 MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW.</p> <p>FRAC STG #1] WHP=815#, BRK DN PERFS=4,645#, @=4.7 BPM, INJ RT=50.2, INJ PSI=6,416#, INITIAL ISIP=3,8772#, INITIAL FG=.82, FINAL ISIP=3,485#, FINAL FG=.78, AVERAGE RATE=50.3, AVERAGE PRESSURE=6,113#, MAX RATE=50.9, MAX PRESSURE=7,160#, NET PRESSURE INCREASE=-387#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,404', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW.</p>
8/23/2011	6:45 - 7:00	0.25	COMP	48		P		<p>HSM, HIGH PRESSURE AROUND WIRELINE</p>

**US ROCKIES REGION
Operation Summary Report**

Well: NBU 1022-7H4BS RED		Spud Conductor: 4/23/2011	Spud Date: 5/5/2011
Project: UTAH-UINTAH		Site: NBU 1022-7G PAD	Rig Name No: MILES 2/2
Event: COMPLETION		Start Date: 8/19/2011	End Date: 9/6/2011
Active Datum: RKB @5,300.01ft (above Mean Sea Level)		UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 17:30	10.50	COMP	36	E	P		<p>PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,404', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. SWMFN.</p> <p>FRAC STG #2] WHP=815#, BRK DN PERFS=5,958#, @=4.9 BPM, INJ RT=50.2, INJ PSI=5,805#, INITIAL ISIP=4,215#, INITIAL FG=.89, FINAL ISIP=2,601#, FINAL FG=.72, AVERAGE RATE=40.4, AVERAGE PRESSURE=5,728#, MAX RATE=50.8, MAX PRESSURE=6,163#, NET PRESSURE INCREASE=-1,614#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,007', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #3] WHP=440#, BRK DN PERFS=2801#, @=4.5 BPM, INJ RT=50.5, INJ PSI=5,974#, INITIAL ISIP=1,653#, INITIAL FG=.63, FINAL ISIP=2,662#, FINAL FG=.74, AVERAGE RATE=49.8, AVERAGE PRESSURE=5,523#, MAX RATE=51, MAX PRESSURE=6,296#, NET PRESSURE INCREASE=1,009#, 17/24 69% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,643', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #4] WHP=1,088#, BRK DN PERFS=2,866#, @=4.8 BPM, INJ RT=46.2, INJ PSI=6,000#, INITIAL ISIP=2,287#, INITIAL FG=.70, FINAL ISIP=2,558#, FINAL FG=.74, AVERAGE RATE=47.2, AVERAGE PRESSURE=5,704#, MAX RATE=51.3, MAX PRESSURE=6,315#, NET PRESSURE INCREASE=271#, 16/24 68% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,220', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #5] WHP=1,655#, BRK DN PERFS=3,887#, @=4.8 BPM, INJ RT=50.7, INJ PSI=5,155#, INITIAL ISIP=2,291#, INITIAL FG=.72, FINAL ISIP=2,410#, FINAL FG=.74, AVERAGE RATE=50.8, AVERAGE PRESSURE=5,064#, MAX RATE=51.1, MAX PRESSURE=5,688#, NET PRESSURE INCREASE=119#, 23/24 96% CALC PERFS OPEN. X OVER TO WIRE LINE</p>

**US ROCKIES REGION
Operation Summary Report**

Well: NBU 1022-7H4BS RED		Spud Conductor: 4/23/2011	Spud Date: 5/5/2011
Project: UTAH-UINTAH		Site: NBU 1022-7G PAD	Rig Name No: MILES 2/2
Event: COMPLETION		Start Date: 8/19/2011	End Date: 9/6/2011
Active Datum: RKB @5,300.01ft (above Mean Sea Level)		UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/24/2011	6:45 - 7:00	0.25	COMP	48		P		PERF STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,969', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
	7:00 - 12:00	5.00	COMP	36	E	P		FRAC STG #6] WHP=805#, BRK DN PERFS=3,026#, @=4.7 BPM, INJ RT=55.9, INJ PSI=6,025#, INITIAL ISIP=2,282#, INITIAL FG=.73, FINAL ISIP=2,234#, FINAL FG=.72, AVERAGE RATE=51.2, AVERAGE PRESSURE=4,592#, MAX RATE=56, MAX PRESSURE=6,077#, NET PRESSURE INCREASE=-48#, 21/24 86% CALC PERFS OPEN. X OVER TO WIRE LINE SWMFN. HSM, R/D/ PINCH POINTS
								PERF STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,697', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #7] WHP=233#, BRK DN PERFS=3,330#, @=4.6 BPM, INJ RT=50.7, INJ PSI=4,528#, INITIAL ISIP=1,677#, INITIAL FG=.66, FINAL ISIP=2,095#, FINAL FG=.71, AVERAGE RATE=50.7, AVERAGE PRESSURE=3,910#, MAX RATE=51.1, MAX PRESSURE=4,916#, NET PRESSURE INCREASE=418#, 22/24 93% CALC PERFS OPEN. X OVER TO WIRE LINE
								P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=7,484'
								TOTAL FLUID PUMP'D=11,813 TOTAL SAND PUMP'D=209,142#
8/30/2011	12:00 - 15:30	3.50	COMP	33		P		MIRU, NDWH, NU BOP'S, RU TO TEST CSG FOR LEAK, SWMFN
8/31/2011	7:00 - 7:30	0.50	COMP	48		P		PRESSURE TESTING

**US ROCKIES REGION
Operation Summary Report**

Well: NBU 1022-7H4BS RED		Spud Conductor: 4/23/2011	Spud Date: 5/5/2011
Project: UTAH-UINTAH		Site: NBU 1022-7G PAD	Rig Name No: MILES 2/2
Event: COMPLETION		Start Date: 8/19/2011	End Date: 9/6/2011
Active Datum: RKB @5,300.01ft (above Mean Sea Level)		UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:30 - 7:30	0.00	COMP	33		P		PU PACKER, TIH TO 240', SET PACKER, TEST FOR COMMUNICATION BETWEEN 4.5" CSG AND SURFACE CSG, FAILED, PU TO 128', TEST OK TO SURFACE, TEST TO 800', FAILED, TEST BELOW 2381.31', OK AT 1500#, P00H TO 2064', OK, 1748' OK, 1434' OK, 1118' 128' ABOVE OK, BELOW FAILED DEPTH COMMUNICATION 2381.31' NONE 2064.76' NONE 1748.52' NONE 1434.69' NONE 1118.00' NONE 960.00' YES 928.00' YES 991.51' YES 1054.70' YES 1086.40' YES COLLAR AT 1114' FAILED COLLAR AT 1156' OK AT 121', ABOVE PACKER OK, BELOW FAILED, AT 240' BOTH ABOVE AND BELOW FAILED, RIG DWN B&C, WEATHERFORD, SWM FN PRESSURE TESTING
9/1/2011	7:00 - 7:30	0.50	COMP	48		P		ISOLATE AND TEST CSG COLLARS FOR LEAKAGE FROM 121' TO 1118', 25 COLLARS TOTAL. RU WEATHERFORD WITH RBP AND PACKER TO ISOLATE COLLARS, RU B&C QUICK TEST TO PRESSURE TEST COLLARS.
	7:30 - 17:00	9.50	COMP	33		P		COLLAR DEPTH COMMUNICATION PSI JTS TBG 127' YES 1000# 4-3 169' NO 1000# 5-4 208' NO 1000# 7-6 248' YES 1000# 8-7 288' YES 1000# 9-8 CONT IN AM SWM FN TESTING CSG COLLARS
9/2/2011	7:00 - 7:30	0.50	COMP	48		P		

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-7H4BS RED		Spud Conductor: 4/23/2011		Spud Date: 5/5/2011	
Project: UTAH-UINTAH		Site: NBU 1022-7G PAD		Rig Name No: MILES 2/2	
Event: COMPLETION		Start Date: 8/19/2011		End Date: 9/6/2011	
Active Datum: RKB @5,300.01ft (above Mean Sea Level)			UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0		

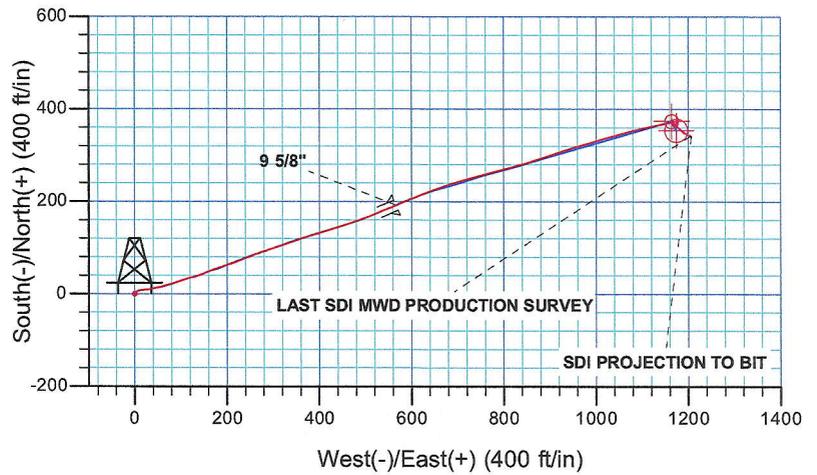
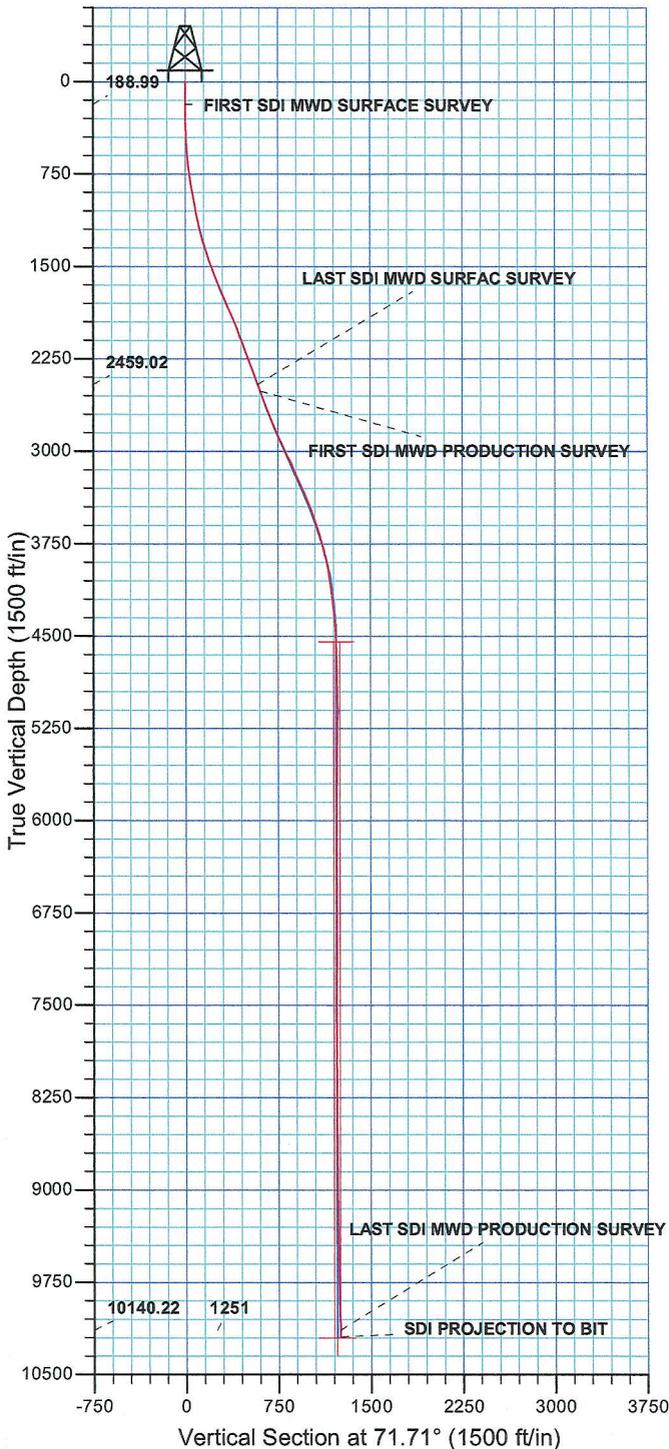
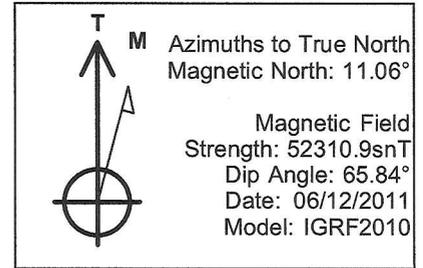
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation																																																																																																																														
	7:30 - 18:00	10.50	COMP	33		P		<p>CONT TESTING CSG COLLARS.</p> <p>TEST AT 1500# FOR 5 MIN KB 14' TOOLS 10' 4 1/2" CSG OPEN SURFACE CSG OPEN, BOTH FULL OF WTR, TEST DWN TBG</p> <table border="1"> <thead> <tr> <th>DEPTH</th> <th>COMMUNICATION</th> <th>PSI LOSS</th> </tr> </thead> <tbody> <tr> <td>JTS TBG</td> <td>PLUG--PACKER</td> <td></td> </tr> <tr> <td>329'</td> <td>YES</td> <td>102#</td> </tr> <tr> <td>11-10</td> <td>345'-300'</td> <td></td> </tr> <tr> <td>369'</td> <td>NO</td> <td>75#</td> </tr> <tr> <td>12-11</td> <td>390'-361'</td> <td></td> </tr> <tr> <td>409'</td> <td>YES</td> <td>130#</td> </tr> <tr> <td>13-12</td> <td>426'-397'</td> <td></td> </tr> <tr> <td>448'</td> <td>YES</td> <td>150#</td> </tr> <tr> <td>14-13</td> <td>458'-428'</td> <td></td> </tr> <tr> <td>490'</td> <td>NO</td> <td>111#</td> </tr> <tr> <td>16-15</td> <td>521'-458'</td> <td></td> </tr> <tr> <td>531'</td> <td>NO</td> <td>70#</td> </tr> <tr> <td>17-16</td> <td>553'-521'</td> <td></td> </tr> <tr> <td>573'</td> <td>YES</td> <td>92#</td> </tr> <tr> <td>18-17</td> <td>587'-553'</td> <td></td> </tr> <tr> <td>615'</td> <td>NO</td> <td>75#</td> </tr> <tr> <td>19-18</td> <td>651'-584'</td> <td></td> </tr> <tr> <td>657'</td> <td>YES</td> <td>113#</td> </tr> <tr> <td>21-20</td> <td>679'-651'</td> <td></td> </tr> <tr> <td>698'</td> <td>YES</td> <td>43#</td> </tr> <tr> <td>22-21</td> <td>711'-679'</td> <td></td> </tr> <tr> <td>740'</td> <td>YES</td> <td>792# RETEST</td> </tr> <tr> <td>23-22</td> <td>773'-711'</td> <td></td> </tr> <tr> <td>780'</td> <td>YES</td> <td>975# RETEST</td> </tr> <tr> <td>25-24</td> <td>805'-774'</td> <td></td> </tr> <tr> <td colspan="3">POOH LAY DWN BP AND PACKER, PU NEW BP AND PACKER, TRIP IN HOLE TO 740', SET PLUG AND PACKER, CONT TEST</td> </tr> <tr> <td>821'</td> <td>YES</td> <td>132#</td> </tr> <tr> <td>26-25</td> <td>837'-805'</td> <td></td> </tr> <tr> <td>863'</td> <td>YES</td> <td>60#</td> </tr> <tr> <td>27-26</td> <td>900'-837'</td> <td></td> </tr> <tr> <td>904'</td> <td>YES</td> <td>134#</td> </tr> <tr> <td>28-27</td> <td>932'-900'</td> <td></td> </tr> <tr> <td>946'</td> <td>YES</td> <td>134#</td> </tr> <tr> <td>30-29</td> <td>963'-932'</td> <td></td> </tr> <tr> <td>987'</td> <td>YES</td> <td>124#</td> </tr> <tr> <td>31-30</td> <td>1023'-963'</td> <td></td> </tr> <tr> <td>1029'</td> <td>YES</td> <td>800#</td> </tr> <tr> <td>32-31</td> <td>1055'-1023'</td> <td></td> </tr> <tr> <td>1071'</td> <td>NO</td> <td>108#</td> </tr> <tr> <td>33-32</td> <td>1086'-1055'</td> <td></td> </tr> <tr> <td colspan="3">COLLAR LEAKAGE FOR THE MAJORITY OF THE COLLARS WAS SLIGHT DRILLING PLUGS</td> </tr> </tbody> </table>	DEPTH	COMMUNICATION	PSI LOSS	JTS TBG	PLUG--PACKER		329'	YES	102#	11-10	345'-300'		369'	NO	75#	12-11	390'-361'		409'	YES	130#	13-12	426'-397'		448'	YES	150#	14-13	458'-428'		490'	NO	111#	16-15	521'-458'		531'	NO	70#	17-16	553'-521'		573'	YES	92#	18-17	587'-553'		615'	NO	75#	19-18	651'-584'		657'	YES	113#	21-20	679'-651'		698'	YES	43#	22-21	711'-679'		740'	YES	792# RETEST	23-22	773'-711'		780'	YES	975# RETEST	25-24	805'-774'		POOH LAY DWN BP AND PACKER, PU NEW BP AND PACKER, TRIP IN HOLE TO 740', SET PLUG AND PACKER, CONT TEST			821'	YES	132#	26-25	837'-805'		863'	YES	60#	27-26	900'-837'		904'	YES	134#	28-27	932'-900'		946'	YES	134#	30-29	963'-932'		987'	YES	124#	31-30	1023'-963'		1029'	YES	800#	32-31	1055'-1023'		1071'	NO	108#	33-32	1086'-1055'		COLLAR LEAKAGE FOR THE MAJORITY OF THE COLLARS WAS SLIGHT DRILLING PLUGS		
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US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-7H4BS RED		Spud Conductor: 4/23/2011	Spud Date: 5/5/2011
Project: UTAH-UINTAH		Site: NBU 1022-7G PAD	Rig Name No: MILES 2/2
Event: COMPLETION		Start Date: 8/19/2011	End Date: 9/6/2011
Active Datum: RKB @5,300.01ft (above Mean Sea Level)		UWI: SW/NE/0/10/S/22/E/7/0/0/26/PM/N/2361/E/0/1665/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:30 - 18:30	11.00	COMP	44		P		PU TBG, TIH TO 7484', RU PWR SWIVEL, DRILL 7 CBP'S, PLUG# 1 7484' 20' SAND 5 MIN 100# KICK PLUG# 2 7697' 20' SAND 5 MIN 100# KICK PLUG# 3 7969' 30' SAND 8 MIN 200# KICK PLUG# 4 8220' 30' SAND 8 MIN 300# KICK PLUG# 5 8643' 20' SAND 7 MIN 200# KICK PLUG# 6 9007' 50' SAND 8 MIN 200# KICK PLUG# 7 9404' 20' SAND 5 MIN 200# KICK TOP PERF 7534' BTM PERF 1024' CLEAN OUT TO PBTD, 10348', POOH LAY DWN 11 JTS TO 10009', LAND TBG, ND BOP'S, NUWH, POBS 30 BBLs, TURN TO FBC, RDMO TO NBU 1022-7G. FRAC WTR 11813 BBLs WRVD 3200 BBLs LTR 8613 BBLs TBG 317 JTS L-80 9998.19' HANGER .83 XNSN 2.20' KB 14.00' EOT 10,015.22'
9/7/2011	7:00 -			33	A			7 AM FLBK REPORT: CP 2650#, TP 2125#, 20/64" CK, 44 BWPH, LIGHT SAND, 1944 GAS TTL BBLs RECOVERED: 3854 BBLs LEFT TO RECOVER: 7959
9/8/2011	7:00 -			33	A			7 AM FLBK REPORT: CP 3025#, TP 2150#, 20/64" CK, 27 BWPH, light SAND, 2616 GAS TTL BBLs RECOVERED: 4705 BBLs LEFT TO RECOVER: 7108
9/9/2011	7:00 -			33	A			7 AM FLBK REPORT: CP 2850#, TP 2025#, 20/64" CK, 20 BWPH, light SAND, 2551 GAS TTL BBLs RECOVERED: 5267 BBLs LEFT TO RECOVER: 6546
9/10/2011	7:00 -			33	A			7 AM FLBK REPORT: CP 2700#, TP 1950#, 20/64" CK, 18 BWPH, LIGHT SAND, 2505 GAS TTL BBLs RECOVERED: 5721 BBLs LEFT TO RECOVER: 6092
9/18/2011	7:00 -			50				WELL IP'D ON 9/18/11- 2696 MCFD, 0 BOPD, 214 BWPD, CP 2700#, FTP 1950#, CK 20/64", LP 118#, 24 HRS

WELL DETAILS: NBU 1022-7H4BS					
GL 5286' & RKB 14' @ 5300.00ft (ENSGIN 139)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14516667.47	2066801.71	39° 57' 51.336 N	109° 28' 42.017 W



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 7 T10S R22E
System Datum: Mean Sea Level



Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

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

UINTAH_NBU 1022-7G PAD

NBU 1022-7H4BS

OH

Design: OH

Standard Survey Report

13 July, 2011

Anadarko 
Petroleum Corporation

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-7G PAD
Well: NBU 1022-7H4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-7H4BS
TVD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSIGN 139)
MD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSIGN 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM5000-RobertS-Local

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

Site	UINTAH_NBU 1022-7G PAD, SECTION 7 T10S R22E				
Site Position:		Northing:	14,516,667.48 usft	Latitude:	39° 57' 51.336 N
From:	Lat/Long	Easting:	2,066,801.70 usft	Longitude:	109° 28' 42.017 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.98 °

Well	NBU 1022-7H4BS, 2361' FNL 1665' FEL				
Well Position	+N/-S	0.00 ft	Northing:	14,516,667.48 usft	Latitude: 39° 57' 51.336 N
	+E/-W	0.00 ft	Easting:	2,066,801.70 usft	Longitude: 109° 28' 42.017 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level: 5,286.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	06/12/2011	11.06	65.84	52,311

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	71.71	

Survey Program	Date	07/13/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
10.00	2,555.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,610.00	10,408.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

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	
10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	
189.00	0.79	333.65	188.99	1.11	-0.55	-0.17	0.44	0.44	0.00	
FIRST SDI MWD SURFACE SURVEY										
273.00	0.70	357.19	272.99	2.14	-0.83	-0.12	0.38	-0.11	28.02	
359.00	1.93	53.00	358.97	3.53	0.30	1.39	1.91	1.43	64.90	
419.00	2.73	62.94	418.92	4.79	2.38	3.76	1.49	1.33	16.57	
509.00	4.22	67.16	508.75	7.05	7.34	9.18	1.68	1.66	4.69	
599.00	5.36	82.71	598.44	8.87	14.56	16.61	1.91	1.27	17.28	
689.00	6.60	87.11	687.94	9.67	23.90	25.72	1.47	1.38	4.89	

Company: US ROCKIES REGION PLANNING
 Project: UTAH - UTM (feet), NAD27, Zone 12N
 Site: UINTAH_NBU 1022-7G PAD
 Well: NBU 1022-7H4BS
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well NBU 1022-7H4BS
 TVD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSIGN 139)
 MD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSIGN 139)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000-RobertS-Local

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)
779.00	7.83	80.60	777.23	10.93	35.11	36.77	1.64	1.37	-7.23
869.00	9.23	78.05	866.23	13.42	48.22	50.00	1.61	1.56	-2.83
959.00	10.29	73.92	954.93	17.14	63.01	65.21	1.41	1.18	-4.59
1,049.00	11.96	72.43	1,043.24	22.19	79.62	82.56	1.88	1.86	-1.66
1,139.00	13.45	72.60	1,131.03	28.13	98.50	102.36	1.66	1.66	0.19
1,229.00	14.60	73.22	1,218.35	34.54	119.35	124.16	1.29	1.28	0.69
1,319.00	16.44	71.02	1,305.06	41.95	142.26	148.24	2.15	2.04	-2.44
1,409.00	17.50	71.02	1,391.14	50.50	167.10	174.50	1.18	1.18	0.00
1,499.00	19.35	69.00	1,476.53	60.24	193.82	202.93	2.17	2.06	-2.24
1,589.00	21.02	69.00	1,561.00	71.37	222.81	233.95	1.86	1.86	0.00
1,679.00	22.60	68.30	1,644.55	83.55	253.95	267.34	1.78	1.76	-0.78
1,769.00	22.51	72.16	1,727.67	95.22	286.42	301.83	1.65	-0.10	4.29
1,859.00	22.25	71.64	1,810.89	105.87	318.99	336.10	0.36	-0.29	-0.58
1,949.00	23.83	70.67	1,893.71	117.25	352.32	371.32	1.81	1.76	-1.08
2,039.00	22.34	73.22	1,976.50	128.21	385.85	406.60	1.99	-1.66	2.83
2,129.00	21.81	72.34	2,059.91	138.22	418.16	440.41	0.69	-0.59	-0.98
2,309.00	20.49	71.46	2,227.78	158.38	479.89	505.36	0.75	-0.73	-0.49
2,399.00	20.05	69.26	2,312.21	168.86	509.26	536.52	0.98	-0.49	-2.44
2,489.00	19.52	66.98	2,396.89	180.20	537.52	566.92	1.04	-0.59	-2.53
2,555.00	19.96	67.33	2,459.02	188.85	558.07	589.14	0.69	0.67	0.53
LAST SDI MWD SURFAC SURVEY									
2,610.00	20.05	67.40	2,510.70	196.09	575.43	607.90	0.17	0.16	0.13
FIRST SDI MWD PRODUCTION SURVEY									
2,701.00	21.19	67.84	2,595.87	208.29	605.07	639.87	1.26	1.25	0.48
2,791.00	22.11	68.24	2,679.52	220.71	635.86	673.00	1.04	1.02	0.44
2,882.00	22.65	71.39	2,763.66	232.65	668.38	707.62	1.45	0.59	3.46
2,972.00	23.30	74.87	2,846.53	242.83	701.98	742.73	1.67	0.72	3.87
3,063.00	24.62	74.43	2,929.69	252.61	737.62	779.63	1.46	1.45	-0.48
3,153.00	24.71	74.87	3,011.47	262.55	773.84	817.14	0.23	0.10	0.49
3,244.00	25.06	74.43	3,094.03	272.69	810.76	855.38	0.44	0.38	-0.48
3,334.00	25.15	73.46	3,175.52	283.25	847.46	893.54	0.47	0.10	-1.08
3,425.00	24.38	72.16	3,258.15	294.51	883.87	931.65	1.04	-0.85	-1.43
3,516.00	22.91	71.05	3,341.51	306.02	918.51	968.14	1.69	-1.62	-1.22
3,606.00	21.46	72.50	3,424.85	316.66	950.78	1,002.12	1.72	-1.61	1.61
3,697.00	20.93	73.46	3,509.69	326.29	982.24	1,035.01	0.70	-0.58	1.05
3,787.00	18.47	74.17	3,594.42	334.76	1,011.37	1,065.33	2.75	-2.73	0.79
3,878.00	16.53	74.26	3,681.20	342.20	1,037.70	1,092.66	2.13	-2.13	0.10
3,968.00	14.86	75.57	3,767.84	348.55	1,061.20	1,116.97	1.90	-1.86	1.46
4,059.00	12.40	76.45	3,856.27	353.75	1,082.00	1,138.35	2.71	-2.70	0.97
4,149.00	10.38	76.54	3,944.50	357.90	1,099.28	1,156.07	2.24	-2.24	0.10
4,240.00	8.97	77.51	4,034.20	361.34	1,114.18	1,171.29	1.56	-1.55	1.07
4,330.00	7.45	76.72	4,123.28	364.20	1,126.71	1,184.09	1.69	-1.69	-0.88
4,421.00	7.03	77.86	4,213.55	366.73	1,137.90	1,195.50	0.49	-0.46	1.25

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-7G PAD
Well: NBU 1022-7H4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-7H4BS
TVD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSIGN 139)
MD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSIGN 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM5000-RobertS-Local

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,511.00	5.72	76.01	4,302.99	368.97	1,147.63	1,205.45	1.47	-1.46	-2.06
4,601.00	4.31	79.97	4,392.65	370.64	1,155.32	1,213.27	1.61	-1.57	4.40
4,692.00	3.17	83.31	4,483.45	371.53	1,161.18	1,219.12	1.27	-1.25	3.67
4,782.00	2.02	73.11	4,573.36	372.28	1,165.17	1,223.14	1.37	-1.28	-11.33
4,873.00	1.67	75.49	4,664.31	373.08	1,167.99	1,226.07	0.39	-0.38	2.62
4,963.00	1.67	79.09	4,754.27	373.66	1,170.55	1,228.68	0.12	0.00	4.00
5,054.00	1.26	70.66	4,845.24	374.24	1,172.79	1,230.99	0.51	-0.45	-9.26
5,144.00	1.41	82.43	4,935.22	374.71	1,174.83	1,233.07	0.35	0.17	13.08
5,235.00	0.62	140.17	5,026.20	374.48	1,176.25	1,234.35	1.32	-0.87	63.45
5,325.00	0.97	154.41	5,116.20	373.42	1,176.89	1,234.63	0.44	0.39	15.82
5,416.00	0.88	228.24	5,207.19	372.26	1,176.70	1,234.08	1.22	-0.10	81.13
5,506.00	0.97	231.67	5,297.18	371.33	1,175.59	1,232.73	0.12	0.10	3.81
5,597.00	0.97	221.38	5,388.16	370.27	1,174.48	1,231.34	0.19	0.00	-11.31
5,687.00	0.88	209.34	5,478.15	369.10	1,173.63	1,230.18	0.24	-0.10	-13.38
5,778.00	0.79	212.33	5,569.14	367.96	1,172.96	1,229.17	0.11	-0.10	3.29
5,868.00	0.70	207.06	5,659.13	366.95	1,172.38	1,228.30	0.13	-0.10	-5.86
5,959.00	0.53	174.71	5,750.13	366.03	1,172.16	1,227.81	0.42	-0.19	-35.55
6,049.00	0.62	170.23	5,840.12	365.14	1,172.28	1,227.65	0.11	0.10	-4.98
6,140.00	0.88	163.11	5,931.12	363.98	1,172.57	1,227.56	0.30	0.29	-7.82
6,230.00	0.62	207.15	6,021.11	362.89	1,172.55	1,227.19	0.68	-0.29	48.93
6,321.00	0.62	313.41	6,112.11	362.79	1,171.96	1,226.61	1.09	0.00	116.77
6,412.00	0.53	311.30	6,203.10	363.41	1,171.29	1,226.16	0.10	-0.10	-2.32
6,502.00	0.44	290.38	6,293.10	363.80	1,170.65	1,225.68	0.22	-0.10	-23.24
6,593.00	0.26	17.74	6,384.10	364.12	1,170.39	1,225.53	0.55	-0.20	96.00
6,683.00	1.41	348.74	6,474.09	365.40	1,170.24	1,225.79	1.32	1.28	-32.22
6,773.00	1.49	347.95	6,564.06	367.63	1,169.78	1,226.05	0.09	0.09	-0.88
6,864.00	1.49	345.57	6,655.03	369.93	1,169.23	1,226.26	0.07	0.00	-2.62
6,954.00	1.41	345.13	6,745.00	372.14	1,168.66	1,226.40	0.09	-0.09	-0.49
7,045.00	1.49	313.93	6,835.97	374.04	1,167.52	1,225.92	0.86	0.09	-34.29
7,135.00	1.55	319.11	6,925.94	375.77	1,165.88	1,224.91	0.17	0.07	5.76
7,226.00	0.44	298.38	7,016.92	376.87	1,164.77	1,224.19	1.26	-1.22	-22.78
7,316.00	0.97	195.81	7,106.92	376.30	1,164.25	1,223.53	1.28	0.59	-113.97
7,407.00	1.14	175.59	7,197.90	374.66	1,164.11	1,222.88	0.45	0.19	-22.22
7,497.00	1.41	162.23	7,287.88	372.71	1,164.52	1,222.65	0.44	0.30	-14.84
7,588.00	1.20	160.68	7,378.86	370.74	1,165.18	1,222.66	0.23	-0.23	-1.70
7,679.00	0.79	152.48	7,469.84	369.29	1,165.78	1,222.78	0.48	-0.45	-9.01
7,769.00	0.47	155.15	7,559.84	368.40	1,166.22	1,222.92	0.36	-0.36	2.97
7,860.00	0.49	188.99	7,650.84	367.68	1,166.32	1,222.79	0.31	0.02	37.19
7,950.00	0.59	155.03	7,740.83	366.88	1,166.46	1,222.66	0.37	0.11	-37.73
8,041.00	0.62	113.98	7,831.83	366.25	1,167.10	1,223.08	0.47	0.03	-45.11
8,131.00	0.88	111.17	7,921.82	365.81	1,168.19	1,223.98	0.29	0.29	-3.12
8,222.00	0.44	137.01	8,012.81	365.30	1,169.08	1,224.66	0.57	-0.48	28.40
8,312.00	0.26	123.65	8,102.81	364.93	1,169.49	1,224.93	0.22	-0.20	-14.84
8,403.00	0.26	89.90	8,193.81	364.82	1,169.87	1,225.25	0.17	0.00	-37.09

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Survey Calculation Method: Minimum Curvature
Database: EDM5000-RobertS-Local

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)
8,493.00	0.26	58.26	8,283.81	364.93	1,170.24	1,225.65	0.16	0.00	-35.16
8,584.00	0.62	94.21	8,374.81	365.00	1,170.91	1,226.30	0.48	0.40	39.51
8,674.00	0.53	98.78	8,464.80	364.90	1,171.81	1,227.12	0.11	-0.10	5.08
8,765.00	0.62	135.43	8,555.80	364.48	1,172.57	1,227.72	0.41	0.10	40.27
8,855.00	0.53	117.85	8,645.79	363.94	1,173.28	1,228.22	0.22	-0.10	-19.53
8,946.00	0.83	116.01	8,736.79	363.46	1,174.24	1,228.98	0.33	0.33	-2.02
9,036.00	0.70	111.70	8,826.78	362.97	1,175.34	1,229.87	0.16	-0.14	-4.79
9,127.00	0.79	121.80	8,917.77	362.43	1,176.39	1,230.70	0.17	0.10	11.10
9,218.00	0.97	127.69	9,008.76	361.63	1,177.53	1,231.53	0.22	0.20	6.47
9,308.00	0.97	130.77	9,098.75	360.67	1,178.71	1,232.35	0.06	0.00	3.42
9,399.00	1.23	141.14	9,189.73	359.40	1,179.91	1,233.09	0.36	0.29	11.40
9,489.00	1.41	128.75	9,279.71	357.96	1,181.38	1,234.03	0.37	0.20	-13.77
9,580.00	1.49	133.58	9,370.68	356.44	1,183.11	1,235.20	0.16	0.09	5.31
9,670.00	1.41	133.67	9,460.65	354.87	1,184.76	1,236.27	0.09	-0.09	0.10
9,761.00	1.49	126.90	9,551.62	353.39	1,186.51	1,237.47	0.21	0.09	-7.44
9,852.00	1.76	124.79	9,642.58	351.88	1,188.61	1,238.99	0.30	0.30	-2.32
9,942.00	1.93	124.79	9,732.54	350.23	1,190.99	1,240.73	0.19	0.19	0.00
10,033.00	2.20	122.95	9,823.48	348.40	1,193.71	1,242.74	0.31	0.30	-2.02
10,123.00	2.29	121.01	9,913.41	346.54	1,196.70	1,245.00	0.13	0.10	-2.16
10,214.00	2.46	118.20	10,004.33	344.68	1,199.98	1,247.53	0.23	0.19	-3.09
10,304.00	2.29	116.79	10,094.25	342.95	1,203.29	1,250.13	0.20	-0.19	-1.57
10,350.00	2.29	116.71	10,140.22	342.13	1,204.93	1,251.42	0.01	0.00	-0.17
LAST SDI MWD PRODUCTION SURVEY									
10,408.00	2.29	116.71	10,198.17	341.08	1,207.00	1,253.06	0.00	0.00	0.00
SDI PROJECTION TO BIT									

Measured Depth (ft)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Comment
189.00	188.99	1.11	-0.55	FIRST SDI MWD SURFACE SURVEY
2,555.00	2,459.02	188.85	558.07	LAST SDI MWD SURFAC SURVEY
2,610.00	2,510.70	196.09	575.43	FIRST SDI MWD PRODUCTION SURVEY
10,350.00	10,140.22	342.13	1,204.93	LAST SDI MWD PRODUCTION SURVEY
10,408.00	10,198.17	341.08	1,207.00	SDI PROJECTION TO BIT

Checked By: _____ Approved By: _____ Date: _____



Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

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

UINTAH_NBU 1022-7G PAD

NBU 1022-7H4BS

OH

Design: OH

Survey Report - Geographic

13 July, 2011



SDI
Survey Report - Geographic



Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-7G PAD
Well: NBU 1022-7H4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-7H4BS
TVD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSIGN 139)
MD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSIGN 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM5000-RobertS-Local

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

Site	UINTAH_NBU 1022-7G PAD, SECTION 7 T10S R22E				
Site Position:		Northing:	14,516,667.48 usft	Latitude:	39° 57' 51.336 N
From:	Lat/Long	Easting:	2,066,801.70 usft	Longitude:	109° 28' 42.017 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.98 °

Well	NBU 1022-7H4BS, 2361' FNL 1665' FEL				
Well Position	+N/-S	0.00 ft	Northing:	14,516,667.48 usft	Latitude: 39° 57' 51.336 N
	+E/-W	0.00 ft	Easting:	2,066,801.70 usft	Longitude: 109° 28' 42.017 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level: 5,286.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	06/12/2011	11.06	65.84	52,311

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	71.71	

Survey Program	Date	07/13/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
10.00	2,555.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,610.00	10,408.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,516,667.48	2,066,801.70	39° 57' 51.336 N	109° 28' 42.017 W
10.00	0.00	0.00	10.00	0.00	0.00	14,516,667.48	2,066,801.70	39° 57' 51.336 N	109° 28' 42.017 W
189.00	0.79	333.65	188.99	1.11	-0.55	14,516,668.57	2,066,801.14	39° 57' 51.347 N	109° 28' 42.024 W
FIRST SDI MWD SURFACE SURVEY									
273.00	0.70	357.19	272.99	2.14	-0.83	14,516,669.60	2,066,800.84	39° 57' 51.357 N	109° 28' 42.027 W
359.00	1.93	53.00	358.97	3.53	0.30	14,516,671.02	2,066,801.94	39° 57' 51.371 N	109° 28' 42.013 W
419.00	2.73	62.94	418.92	4.79	2.38	14,516,672.31	2,066,804.00	39° 57' 51.383 N	109° 28' 41.986 W
509.00	4.22	67.16	508.75	7.05	7.34	14,516,674.65	2,066,808.92	39° 57' 51.406 N	109° 28' 41.923 W
599.00	5.36	82.71	598.44	8.87	14.56	14,516,676.60	2,066,816.11	39° 57' 51.424 N	109° 28' 41.830 W
689.00	6.60	87.11	687.94	9.67	23.90	14,516,677.55	2,066,825.43	39° 57' 51.432 N	109° 28' 41.710 W
779.00	7.83	80.60	777.23	10.93	35.11	14,516,679.00	2,066,836.62	39° 57' 51.444 N	109° 28' 41.566 W

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-7G PAD
Well: NBU 1022-7H4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-7H4BS
TVD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSGN 139)
MD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSGN 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
869.00	9.23	78.05	866.23	13.42	48.22	14,516,681.72	2,066,849.69	39° 57' 51.469 N	109° 28' 41.397 W
959.00	10.29	73.92	954.93	17.14	63.01	14,516,685.70	2,066,864.41	39° 57' 51.505 N	109° 28' 41.207 W
1,049.00	11.96	72.43	1,043.24	22.19	79.62	14,516,691.02	2,066,880.94	39° 57' 51.555 N	109° 28' 40.994 W
1,139.00	13.45	72.60	1,131.03	28.13	98.50	14,516,697.29	2,066,899.71	39° 57' 51.614 N	109° 28' 40.752 W
1,229.00	14.60	73.22	1,218.35	34.54	119.35	14,516,704.05	2,066,920.45	39° 57' 51.677 N	109° 28' 40.484 W
1,319.00	16.44	71.02	1,305.06	41.95	142.26	14,516,711.85	2,066,943.22	39° 57' 51.751 N	109° 28' 40.189 W
1,409.00	17.50	71.02	1,391.14	50.50	167.10	14,516,720.82	2,066,967.92	39° 57' 51.835 N	109° 28' 39.870 W
1,499.00	19.35	69.00	1,476.53	60.24	193.82	14,516,731.02	2,066,994.46	39° 57' 51.931 N	109° 28' 39.527 W
1,589.00	21.02	69.00	1,561.00	71.37	222.81	14,516,742.64	2,067,023.26	39° 57' 52.041 N	109° 28' 39.155 W
1,679.00	22.60	68.30	1,644.55	83.55	253.95	14,516,755.35	2,067,054.19	39° 57' 52.162 N	109° 28' 38.755 W
1,769.00	22.51	72.16	1,727.67	95.22	286.42	14,516,767.57	2,067,086.45	39° 57' 52.277 N	109° 28' 38.338 W
1,859.00	22.25	71.64	1,810.89	105.87	318.99	14,516,778.77	2,067,118.84	39° 57' 52.382 N	109° 28' 37.919 W
1,949.00	23.83	70.67	1,893.71	117.25	352.32	14,516,790.73	2,067,151.97	39° 57' 52.495 N	109° 28' 37.491 W
2,039.00	22.34	73.22	1,976.50	128.21	385.85	14,516,802.25	2,067,185.31	39° 57' 52.603 N	109° 28' 37.060 W
2,129.00	21.81	72.34	2,059.91	138.22	418.16	14,516,812.81	2,067,217.44	39° 57' 52.702 N	109° 28' 36.645 W
2,309.00	20.49	71.46	2,227.78	158.38	479.89	14,516,834.03	2,067,278.82	39° 57' 52.901 N	109° 28' 35.852 W
2,399.00	20.05	69.26	2,312.21	168.86	509.26	14,516,845.00	2,067,308.00	39° 57' 53.005 N	109° 28' 35.475 W
2,489.00	19.52	66.98	2,396.89	180.20	537.52	14,516,856.82	2,067,336.07	39° 57' 53.117 N	109° 28' 35.112 W
2,555.00	19.96	67.33	2,459.02	188.85	558.07	14,516,865.83	2,067,356.47	39° 57' 53.203 N	109° 28' 34.848 W
LAST SDI MWD SURFAC SURVEY									
2,610.00	20.05	67.40	2,510.70	196.09	575.43	14,516,873.36	2,067,373.71	39° 57' 53.274 N	109° 28' 34.625 W
FIRST SDI MWD PRODUCTION SURVEY									
2,701.00	21.19	67.84	2,595.87	208.29	605.07	14,516,886.06	2,067,403.13	39° 57' 53.395 N	109° 28' 34.245 W
2,791.00	22.11	68.24	2,679.52	220.71	635.86	14,516,899.00	2,067,433.71	39° 57' 53.518 N	109° 28' 33.849 W
2,882.00	22.65	71.39	2,763.66	232.65	668.38	14,516,911.50	2,067,466.01	39° 57' 53.636 N	109° 28' 33.431 W
2,972.00	23.30	74.87	2,846.53	242.83	701.98	14,516,922.24	2,067,499.44	39° 57' 53.736 N	109° 28' 33.000 W
3,063.00	24.62	74.43	2,929.69	252.61	737.62	14,516,932.64	2,067,534.90	39° 57' 53.833 N	109° 28' 32.544 W
3,153.00	24.71	74.87	3,011.47	262.55	773.84	14,516,943.20	2,067,570.95	39° 57' 53.931 N	109° 28' 32.077 W
3,244.00	25.06	74.43	3,094.03	272.69	810.76	14,516,953.96	2,067,607.69	39° 57' 54.031 N	109° 28' 31.602 W
3,334.00	25.15	73.46	3,175.52	283.25	847.46	14,516,965.15	2,067,644.20	39° 57' 54.136 N	109° 28' 31.131 W
3,425.00	24.38	72.16	3,258.15	294.51	883.87	14,516,977.03	2,067,680.42	39° 57' 54.247 N	109° 28' 30.663 W
3,516.00	22.91	71.05	3,341.51	306.02	918.51	14,516,989.12	2,067,714.85	39° 57' 54.361 N	109° 28' 30.218 W
3,606.00	21.46	72.50	3,424.85	316.66	950.78	14,517,000.31	2,067,746.94	39° 57' 54.466 N	109° 28' 29.804 W
3,697.00	20.93	73.46	3,509.69	326.29	982.24	14,517,010.48	2,067,778.23	39° 57' 54.561 N	109° 28' 29.400 W
3,787.00	18.47	74.17	3,594.42	334.76	1,011.37	14,517,019.44	2,067,807.21	39° 57' 54.645 N	109° 28' 29.026 W
3,878.00	16.53	74.26	3,681.20	342.20	1,037.70	14,517,027.33	2,067,833.41	39° 57' 54.718 N	109° 28' 28.687 W
3,968.00	14.86	75.57	3,767.84	348.55	1,061.20	14,517,034.08	2,067,856.80	39° 57' 54.781 N	109° 28' 28.385 W
4,059.00	12.40	76.45	3,856.27	353.75	1,082.00	14,517,039.64	2,067,877.51	39° 57' 54.832 N	109° 28' 28.118 W
4,149.00	10.38	76.54	3,944.50	357.90	1,099.28	14,517,044.08	2,067,894.72	39° 57' 54.873 N	109° 28' 27.896 W
4,240.00	8.97	77.51	4,034.20	361.34	1,114.18	14,517,047.78	2,067,909.56	39° 57' 54.907 N	109° 28' 27.705 W
4,330.00	7.45	76.72	4,123.28	364.20	1,126.71	14,517,050.85	2,067,922.04	39° 57' 54.936 N	109° 28' 27.544 W
4,421.00	7.03	77.86	4,213.55	366.73	1,137.90	14,517,053.57	2,067,933.18	39° 57' 54.961 N	109° 28' 27.400 W
4,511.00	5.72	76.01	4,302.99	368.97	1,147.63	14,517,055.97	2,067,942.87	39° 57' 54.983 N	109° 28' 27.275 W
4,601.00	4.31	79.97	4,392.65	370.64	1,155.32	14,517,057.78	2,067,950.53	39° 57' 54.999 N	109° 28' 27.176 W
4,692.00	3.17	83.31	4,483.45	371.53	1,161.18	14,517,058.77	2,067,956.38	39° 57' 55.008 N	109° 28' 27.101 W
4,782.00	2.02	73.11	4,573.36	372.28	1,165.17	14,517,059.59	2,067,960.35	39° 57' 55.016 N	109° 28' 27.050 W
4,873.00	1.67	75.49	4,664.31	373.08	1,167.99	14,517,060.43	2,067,963.16	39° 57' 55.023 N	109° 28' 27.014 W
4,963.00	1.67	79.09	4,754.27	373.66	1,170.55	14,517,061.05	2,067,965.70	39° 57' 55.029 N	109° 28' 26.981 W
5,054.00	1.26	70.66	4,845.24	374.24	1,172.79	14,517,061.67	2,067,967.94	39° 57' 55.035 N	109° 28' 26.952 W
5,144.00	1.41	82.43	4,935.22	374.71	1,174.83	14,517,062.18	2,067,969.96	39° 57' 55.040 N	109° 28' 26.926 W
5,235.00	0.62	140.17	5,026.20	374.48	1,176.25	14,517,061.97	2,067,971.39	39° 57' 55.037 N	109° 28' 26.908 W
5,325.00	0.97	154.41	5,116.20	373.42	1,176.89	14,517,060.92	2,067,972.05	39° 57' 55.027 N	109° 28' 26.899 W
5,416.00	0.88	228.24	5,207.19	372.26	1,176.70	14,517,059.76	2,067,971.88	39° 57' 55.015 N	109° 28' 26.902 W
5,506.00	0.97	231.67	5,297.18	371.33	1,175.59	14,517,058.81	2,067,970.79	39° 57' 55.006 N	109° 28' 26.916 W
5,597.00	0.97	221.38	5,388.16	370.27	1,174.48	14,517,057.74	2,067,969.69	39° 57' 54.996 N	109° 28' 26.930 W

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-7G PAD
Well: NBU 1022-7H4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-7H4BS
TVD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSGN 139)
MD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSGN 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,687.00	0.88	209.34	5,478.15	369.10	1,173.63	14,517,056.55	2,067,968.87	39° 57' 54.984 N	109° 28' 26.941 W
5,778.00	0.79	212.33	5,569.14	367.96	1,172.96	14,517,055.40	2,067,968.21	39° 57' 54.973 N	109° 28' 26.950 W
5,868.00	0.70	207.06	5,659.13	366.95	1,172.38	14,517,054.37	2,067,967.65	39° 57' 54.963 N	109° 28' 26.957 W
5,959.00	0.53	174.71	5,750.13	366.03	1,172.16	14,517,053.45	2,067,967.45	39° 57' 54.954 N	109° 28' 26.960 W
6,049.00	0.62	170.23	5,840.12	365.14	1,172.28	14,517,052.56	2,067,967.58	39° 57' 54.945 N	109° 28' 26.959 W
6,140.00	0.88	163.11	5,931.12	363.98	1,172.57	14,517,051.41	2,067,967.89	39° 57' 54.934 N	109° 28' 26.955 W
6,230.00	0.62	207.15	6,021.11	362.89	1,172.55	14,517,050.32	2,067,967.89	39° 57' 54.923 N	109° 28' 26.955 W
6,321.00	0.62	313.41	6,112.11	362.79	1,171.96	14,517,050.21	2,067,967.31	39° 57' 54.922 N	109° 28' 26.963 W
6,412.00	0.53	311.30	6,203.10	363.41	1,171.29	14,517,050.81	2,067,966.62	39° 57' 54.928 N	109° 28' 26.971 W
6,502.00	0.44	290.38	6,293.10	363.80	1,170.65	14,517,051.20	2,067,965.98	39° 57' 54.932 N	109° 28' 26.979 W
6,593.00	0.26	17.74	6,384.10	364.12	1,170.39	14,517,051.51	2,067,965.71	39° 57' 54.935 N	109° 28' 26.983 W
6,683.00	1.41	348.74	6,474.09	365.40	1,170.24	14,517,052.79	2,067,965.53	39° 57' 54.948 N	109° 28' 26.985 W
6,773.00	1.49	347.95	6,564.06	367.63	1,169.78	14,517,055.01	2,067,965.03	39° 57' 54.970 N	109° 28' 26.991 W
6,864.00	1.49	345.57	6,655.03	369.93	1,169.23	14,517,057.30	2,067,964.45	39° 57' 54.992 N	109° 28' 26.998 W
6,954.00	1.41	345.13	6,745.00	372.14	1,168.66	14,517,059.50	2,067,963.84	39° 57' 55.014 N	109° 28' 27.005 W
7,045.00	1.49	313.93	6,835.97	374.04	1,167.52	14,517,061.38	2,067,962.67	39° 57' 55.033 N	109° 28' 27.020 W
7,135.00	1.55	319.11	6,925.94	375.77	1,165.88	14,517,063.09	2,067,961.00	39° 57' 55.050 N	109° 28' 27.041 W
7,226.00	0.44	298.38	7,016.92	376.87	1,164.77	14,517,064.16	2,067,959.87	39° 57' 55.061 N	109° 28' 27.055 W
7,316.00	0.97	195.81	7,106.92	376.30	1,164.25	14,517,063.59	2,067,959.37	39° 57' 55.055 N	109° 28' 27.062 W
7,407.00	1.14	175.59	7,197.90	374.66	1,164.11	14,517,061.94	2,067,959.25	39° 57' 55.039 N	109° 28' 27.063 W
7,497.00	1.41	162.23	7,287.88	372.71	1,164.52	14,517,060.00	2,067,959.69	39° 57' 55.020 N	109° 28' 27.058 W
7,588.00	1.20	160.68	7,378.86	370.74	1,165.18	14,517,058.05	2,067,960.38	39° 57' 55.000 N	109° 28' 27.050 W
7,679.00	0.79	152.48	7,469.84	369.29	1,165.78	14,517,056.60	2,067,961.01	39° 57' 54.986 N	109° 28' 27.042 W
7,769.00	0.47	155.15	7,559.84	368.40	1,166.22	14,517,055.72	2,067,961.47	39° 57' 54.977 N	109° 28' 27.036 W
7,860.00	0.49	188.99	7,650.84	367.68	1,166.32	14,517,055.00	2,067,961.58	39° 57' 54.970 N	109° 28' 27.035 W
7,950.00	0.59	155.03	7,740.83	366.88	1,166.46	14,517,054.20	2,067,961.73	39° 57' 54.962 N	109° 28' 27.033 W
8,041.00	0.62	113.98	7,831.83	366.25	1,167.10	14,517,053.59	2,067,962.39	39° 57' 54.956 N	109° 28' 27.025 W
8,131.00	0.88	111.17	7,921.82	365.81	1,168.19	14,517,053.16	2,067,963.48	39° 57' 54.952 N	109° 28' 27.011 W
8,222.00	0.44	137.01	8,012.81	365.30	1,169.08	14,517,052.67	2,067,964.38	39° 57' 54.947 N	109° 28' 27.000 W
8,312.00	0.26	123.65	8,102.81	364.93	1,169.49	14,517,052.31	2,067,964.79	39° 57' 54.943 N	109° 28' 26.994 W
8,403.00	0.26	89.90	8,193.81	364.82	1,169.87	14,517,052.20	2,067,965.17	39° 57' 54.942 N	109° 28' 26.990 W
8,493.00	0.26	58.26	8,283.81	364.93	1,170.24	14,517,052.32	2,067,965.55	39° 57' 54.943 N	109° 28' 26.985 W
8,584.00	0.62	94.21	8,374.81	365.00	1,170.91	14,517,052.40	2,067,966.21	39° 57' 54.944 N	109° 28' 26.976 W
8,674.00	0.53	98.78	8,464.80	364.90	1,171.81	14,517,052.32	2,067,967.11	39° 57' 54.943 N	109° 28' 26.965 W
8,765.00	0.62	135.43	8,555.80	364.48	1,172.57	14,517,051.91	2,067,967.88	39° 57' 54.938 N	109° 28' 26.955 W
8,855.00	0.53	117.85	8,645.79	363.94	1,173.28	14,517,051.39	2,067,968.60	39° 57' 54.933 N	109° 28' 26.946 W
8,946.00	0.83	116.01	8,736.79	363.46	1,174.24	14,517,050.92	2,067,969.57	39° 57' 54.928 N	109° 28' 26.933 W
9,036.00	0.70	111.70	8,826.78	362.97	1,175.34	14,517,050.45	2,067,970.68	39° 57' 54.923 N	109° 28' 26.919 W
9,127.00	0.79	121.80	8,917.77	362.43	1,176.39	14,517,049.93	2,067,971.74	39° 57' 54.918 N	109° 28' 26.906 W
9,218.00	0.97	127.69	9,008.76	361.63	1,177.53	14,517,049.15	2,067,972.89	39° 57' 54.910 N	109° 28' 26.891 W
9,308.00	0.97	130.77	9,098.75	360.67	1,178.71	14,517,048.20	2,067,974.09	39° 57' 54.901 N	109° 28' 26.876 W
9,399.00	1.23	141.14	9,189.73	359.40	1,179.91	14,517,046.96	2,067,975.31	39° 57' 54.888 N	109° 28' 26.861 W
9,489.00	1.41	128.75	9,279.71	357.96	1,181.38	14,517,045.54	2,067,976.80	39° 57' 54.874 N	109° 28' 26.842 W
9,580.00	1.49	133.58	9,370.68	356.44	1,183.11	14,517,044.05	2,067,978.56	39° 57' 54.859 N	109° 28' 26.819 W
9,670.00	1.41	133.67	9,460.65	354.87	1,184.76	14,517,042.51	2,067,980.23	39° 57' 54.843 N	109° 28' 26.798 W
9,761.00	1.49	126.90	9,551.62	353.39	1,186.51	14,517,041.06	2,067,982.01	39° 57' 54.829 N	109° 28' 26.776 W
9,852.00	1.76	124.79	9,642.58	351.88	1,188.61	14,517,039.59	2,067,984.13	39° 57' 54.814 N	109° 28' 26.749 W
9,942.00	1.93	124.79	9,732.54	350.23	1,190.99	14,517,037.97	2,067,986.54	39° 57' 54.798 N	109° 28' 26.718 W
10,033.00	2.20	122.95	9,823.48	348.40	1,193.71	14,517,036.20	2,067,989.29	39° 57' 54.779 N	109° 28' 26.683 W
10,123.00	2.29	121.01	9,913.41	346.54	1,196.70	14,517,034.38	2,067,992.32	39° 57' 54.761 N	109° 28' 26.645 W
10,214.00	2.46	118.20	10,004.33	344.68	1,199.98	14,517,032.58	2,067,995.63	39° 57' 54.743 N	109° 28' 26.603 W
10,304.00	2.29	116.79	10,094.25	342.95	1,203.29	14,517,030.91	2,067,998.96	39° 57' 54.726 N	109° 28' 26.560 W
10,350.00	2.29	116.71	10,140.22	342.13	1,204.93	14,517,030.11	2,068,000.62	39° 57' 54.717 N	109° 28' 26.539 W

LAST SDI MWD PRODUCTION SURVEY

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-7G PAD
Well: NBU 1022-7H4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-7H4BS
TVD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSIGN 139)
MD Reference: GL 5286' & RKB 14' @ 5300.00ft (ENSIGN 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM5000-RobertS-Local

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,408.00	2.29	116.71	10,198.17	341.08	1,207.00	14,517,029.11	2,068,002.71	39° 57' 54.707 N	109° 28' 26.513 W
SDI PROJECTION TO BIT									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,555.00	2,459.02	188.85	558.07	LAST SDI MWD SURFAC SURVEY

Checked By: _____ Approved By: _____ Date: _____