

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

FORM 3

AMENDED REPORT

<b>APPLICATION FOR PERMIT TO DRILL</b>						<b>1. WELL NAME and NUMBER</b> NBU 1022-10C4CS				
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES				
<b>4. TYPE OF WELL</b> Gas Well      Coalbed Methane Well: NO						<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES				
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.						<b>7. OPERATOR PHONE</b> 720 929-6515				
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217						<b>9. OPERATOR E-MAIL</b> julie.jacobson@anadarko.com				
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UO 01197			<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>				
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>						<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>				
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>						<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>				
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>			<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>			<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>				
<b>20. LOCATION OF WELL</b>		<b>FOOTAGES</b>		<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>		
LOCATION AT SURFACE		924 FNL 1724 FWL		NENW	10	10.0 S	22.0 E	S		
Top of Uppermost Producing Zone		970 FNL 2251 FWL		NENW	10	10.0 S	22.0 E	S		
At Total Depth		970 FNL 2251 FWL		NENW	10	10.0 S	22.0 E	S		
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 344			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 40				
<b>27. ELEVATION - GROUND LEVEL</b> 5303			<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 569			<b>26. PROPOSED DEPTH</b> MD: 8891 TVD: 8838				
<b>28. BOND NUMBER</b> 22013542			<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> 43-8496							
<b>Hole, Casing, and Cement Information</b>										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
SURF	11	8.625	0 - 2490	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
PROD	7.875	4.5	0 - 8891	11.6	I-80 LT&C	12.0	Premium Lite High Strength	300	3.38	12.0
							50/50 Poz	1190	1.31	14.3
<b>ATTACHMENTS</b>										
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>										
<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					
<b>NAME</b> Danielle Piernot				<b>TITLE</b> Regulatory Analyst			<b>PHONE</b> 720 929-6156			
<b>SIGNATURE</b>				<b>DATE</b> 07/19/2012			<b>EMAIL</b> danielle.piernot@anadarko.com			
<b>API NUMBER ASSIGNED</b> 43047529980000				<b>APPROVAL</b>  Permit Manager						

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 1022-10C4CS**

Surface: 924 FNL / 1724 FWL      NENW  
 BHL: 970 FNL / 2251 FWL      NENW

Section 10 T10S R22E

Uintah County, Utah  
 Mineral Lease: UT ST UO 01197 ST

**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

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

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,295'	
Birds Nest	1,528'	Water
Mahogany	2,042'	Water
Wasatch	4,380'	Gas
Mesaverde	6,704'	Gas
Sego	8,838'	Gas
TVD	8,838'	
TD	8,891'	

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

Please refer to the attached Drilling Program

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

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 8891' TVD, approximately equals  
5,391 psi 0.61 psi/ft = actual bottomhole gradient

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

Maximum anticipated surface pressure equals approximately 3,470 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

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

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

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

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

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

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

**Background**

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

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

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

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

**Variance for FIT Requirements**

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

**Conclusion**

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

10. **Other Information:**

Please refer to the attached Drilling Program.





**KERR-McGEE OIL & GAS ONSHORE LP**  
**DRILLING PROGRAM**

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	LTC		DQX TENSION
							COLLAPSE		
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,490	28.00	IJ-55	LTC	2.17	1.61	5.70	N/A
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	7,780	6,350	223,000	267,035
	4-1/2"	5,000 to 8,891'	11.60	I-80	LTC	1.11	1.15	223,000	267,035

**Surface Casing:**

(Burst Assumptions: TD = 12.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe  
 Fracture at surface shoe with 0.1 psi/ft gas gradient above  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.61 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE Option 1	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE Option 2	LEAD	1,990'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	180	35%	11.00	3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,871'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	300	35%	12.00	3.38
	TAIL	5,020'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,190	35%	14.30	1.31

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

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

**ADDITIONAL INFORMATION**

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

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

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

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

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Travis Hansell

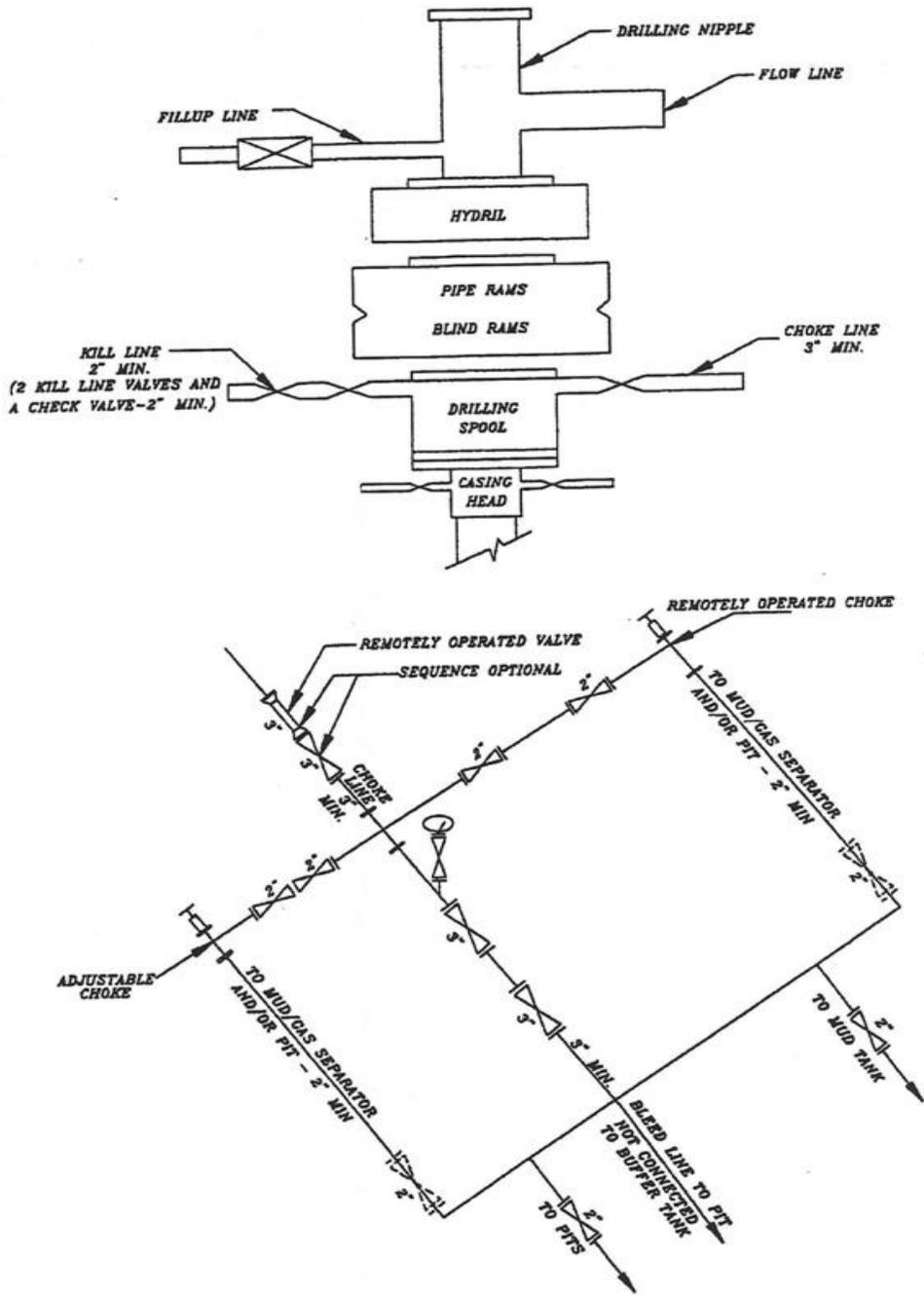
**DATE:**

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

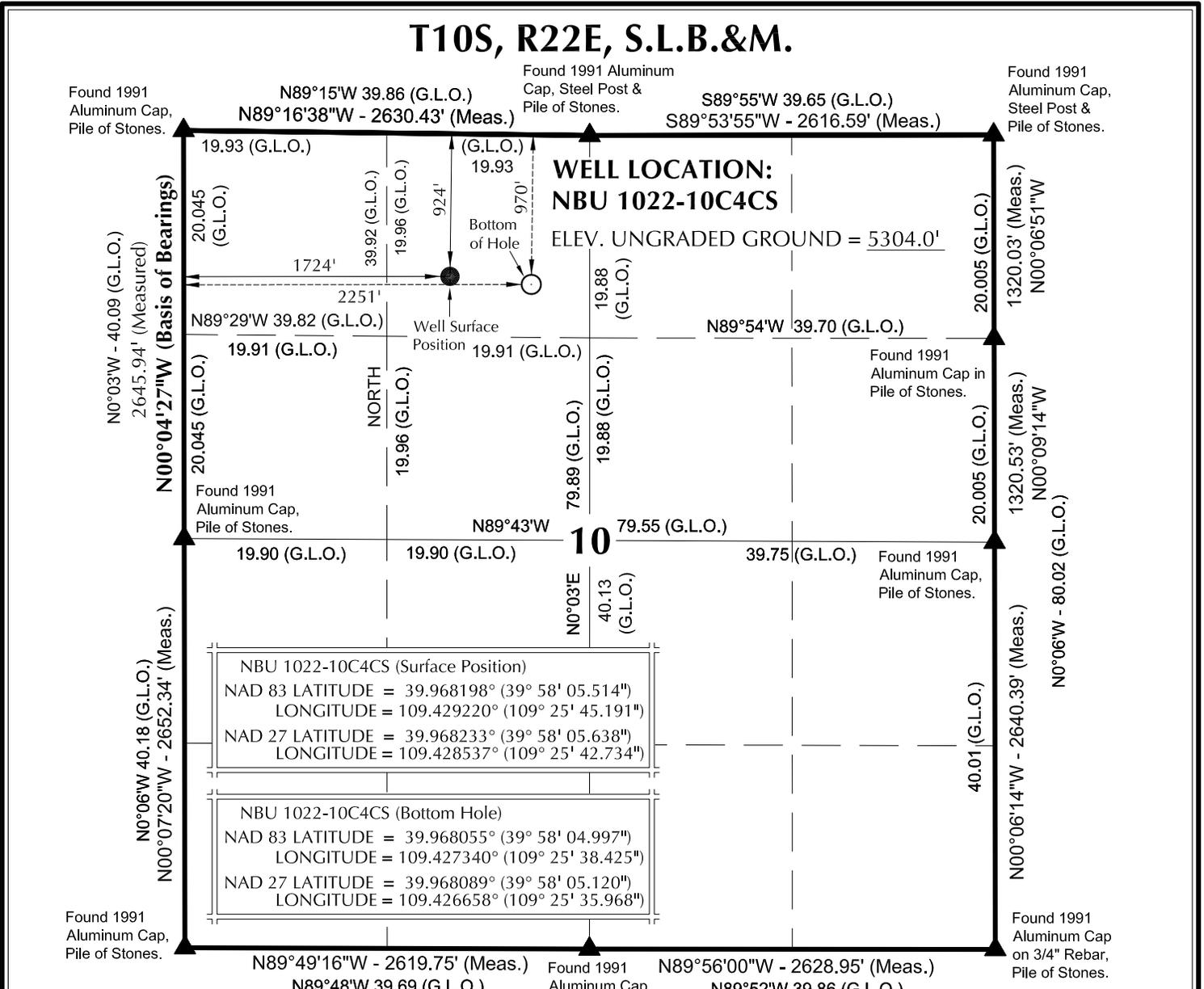
**DATE:**

### EXHIBIT A NBU 1022-10C4CS



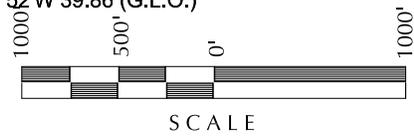
**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

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



**NOTES:**

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains.  
1 chain = 66 feet.
- 3. The Bottom of hole bears S84°20'48"E 529.58' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is Tri-Sta "Two Water" located in the NW 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.

6-14-12  
 No. 6028691  
**JOHN R. LAUGH**  
 PROFESSIONAL LAND SURVEYOR  
 REGISTRATION No. 6028691  
 STATE OF UTAH

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



**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: 6-4-12	SURVEYED BY: A.F.	SHEET NO: <b>4</b>
DATE DRAWN: 6-7-12	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'		4 OF 16

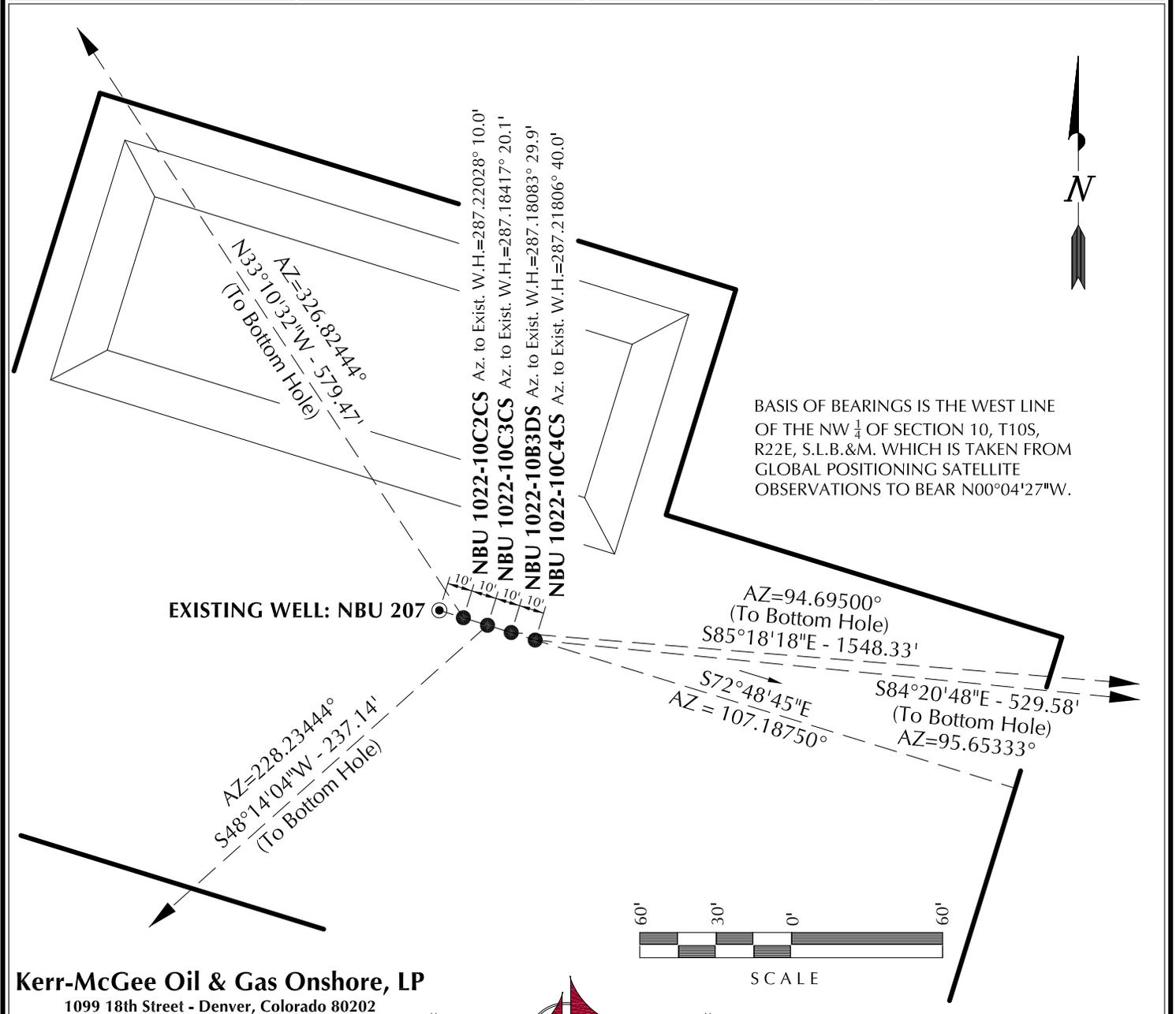
**WELL PAD: NBU 1022-10C**

**NBU 1022-10C4CS**  
**WELL PLAT**  
**970' FNL, 2251' FWL (Bottom Hole)**  
**NE ¼ NW ¼ OF SECTION 10, T10S, R22E,**  
**S.L.B.&M., UTAH COUNTY, UTAH.**

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 1022-10C2CS	39°58'05.602"	109°25'45.559"	39°58'05.726"	109°25'43.102"	916' FNL	39°58'10.395"	109°25'49.628"	39°58'10.519"	109°25'47.171"	435' FNL
NBU 1022-10C3CS	39°58'05.572"	109°25'45.435"	39°58'05.696"	109°25'42.978"	1695' FWL	39°58'04.012"	109°25'47.707"	39°58'04.136"	109°25'45.250"	1079' FNL
NBU 1022-10B3DS	39°58'05.544"	109°25'45.314"	39°58'05.668"	109°25'42.857"	1705' FWL	39°58'04.285"	109°25'25.500"	39°58'04.409"	109°25'23.044"	1528' FWL
NBU 1022-10C4CS	39°58'05.514"	109°25'45.191"	39°58'05.638"	109°25'42.734"	922' FNL	39°58'04.997"	109°25'38.425"	39°58'05.120"	109°25'35.968"	1715' FWL
NBU 207	39°58'05.631"	109°25'45.681"	39°58'05.755"	109°25'43.224"	924' FNL	39°58'05.514"	109°25'38.425"	39°58'05.120"	109°25'35.968"	1724' FWL
	39°58'05.631"	109°25'45.681"	39°58'05.755"	109°25'43.224"	913' FNL	39°58'05.514"	109°25'38.425"	39°58'05.120"	109°25'35.968"	1686' FWL

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1022-10C2CS	485.0'	-317.1'	NBU 1022-10C3CS	-158.0'	-176.9'	NBU 1022-10B3DS	-126.7'	1,543.1'	NBU 1022-10C4CS	-52.2'	527.0'



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

**WELL PAD - NBU 1022-10C**

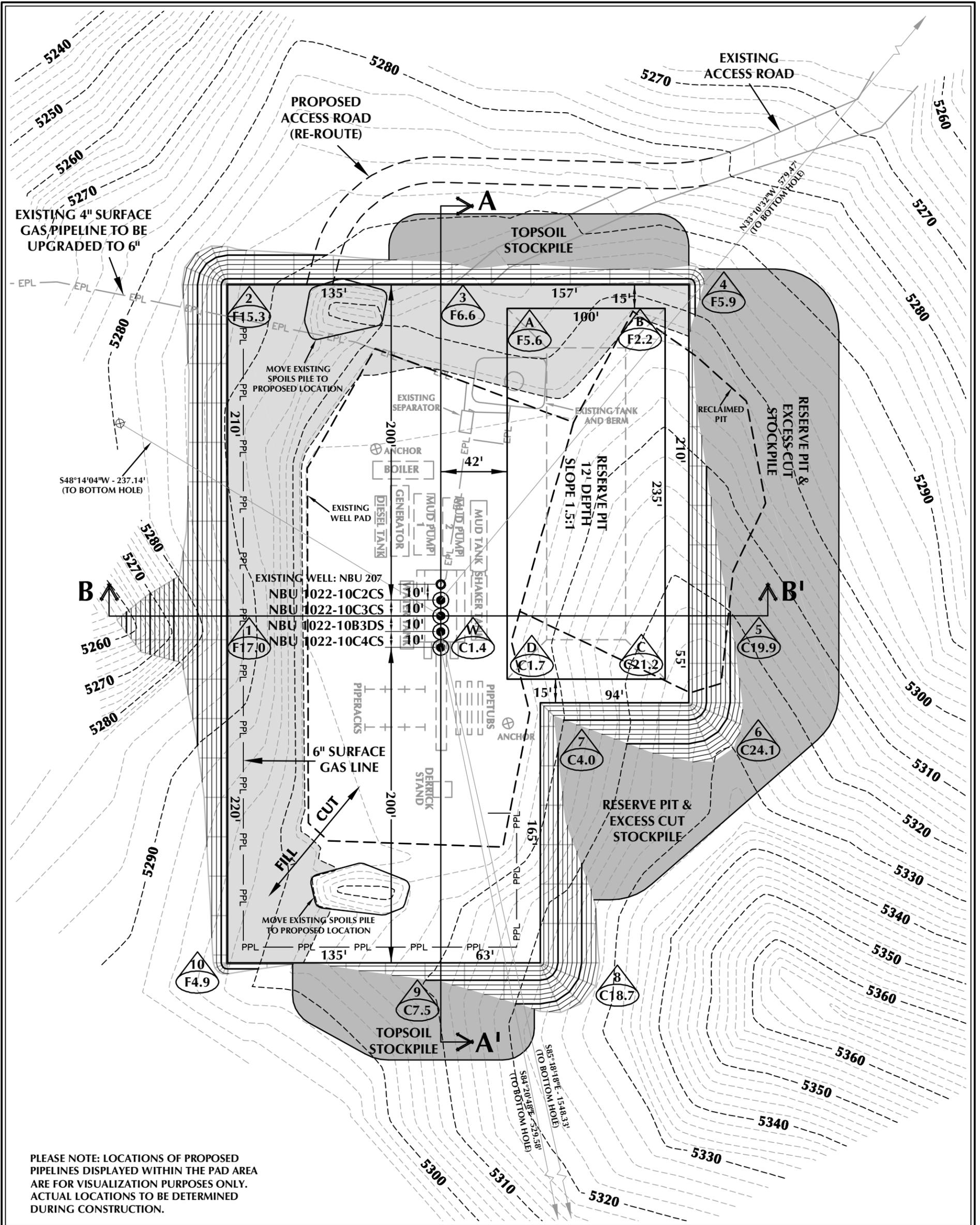
**WELL PAD INTERFERENCE PLAT**  
WELLS - NBU 1022-10C2CS, NBU 1022-10C3CS,  
NBU 1022-10B3DS & NBU 1022-10C4CS  
LOCATED IN SECTION 10, T10S, R22E,  
S.L.B.&M., UTAH COUNTY, UTAH.



**CONSULTING, LLC**  
2155 North Main Street  
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**TIMBERLINE** (435) 789-1365  
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 6-4-12	SURVEYED BY: A.F.	SHEET NO: <b>5</b>
DATE DRAWN: 6-7-12	DRAWN BY: M.W.W.	
SCALE: 1" = 60'	Date Last Revised:	5 OF 16



**WELL PAD - NBU 1022-10C DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 5304.0'  
 FINISHED GRADE ELEVATION = 5302.6'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.21 ACRES  
 TOTAL DISTURBANCE AREA = 4.25 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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

**WELL PAD - NBU 1022-10C**

WELL PAD - LOCATION LAYOUT  
 NBU 1022-10C2CS, NBU 1022-10C3CS,  
 NBU 1022-10B3DS & NBU 1022-10C4CS  
 LOCATED IN SECTION 10, 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

**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 14,848 C.Y.  
 TOTAL FILL FOR WELL PAD = 13,316 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,831 C.Y.  
 EXCESS MATERIAL = 1,532 C.Y.

**RESERVE PIT QUANTITIES**

TOTAL CUT FOR RESERVE PIT  
 +/- 7,960 C.Y.  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 30,260 BARRELS

**WELL PAD LEGEND**

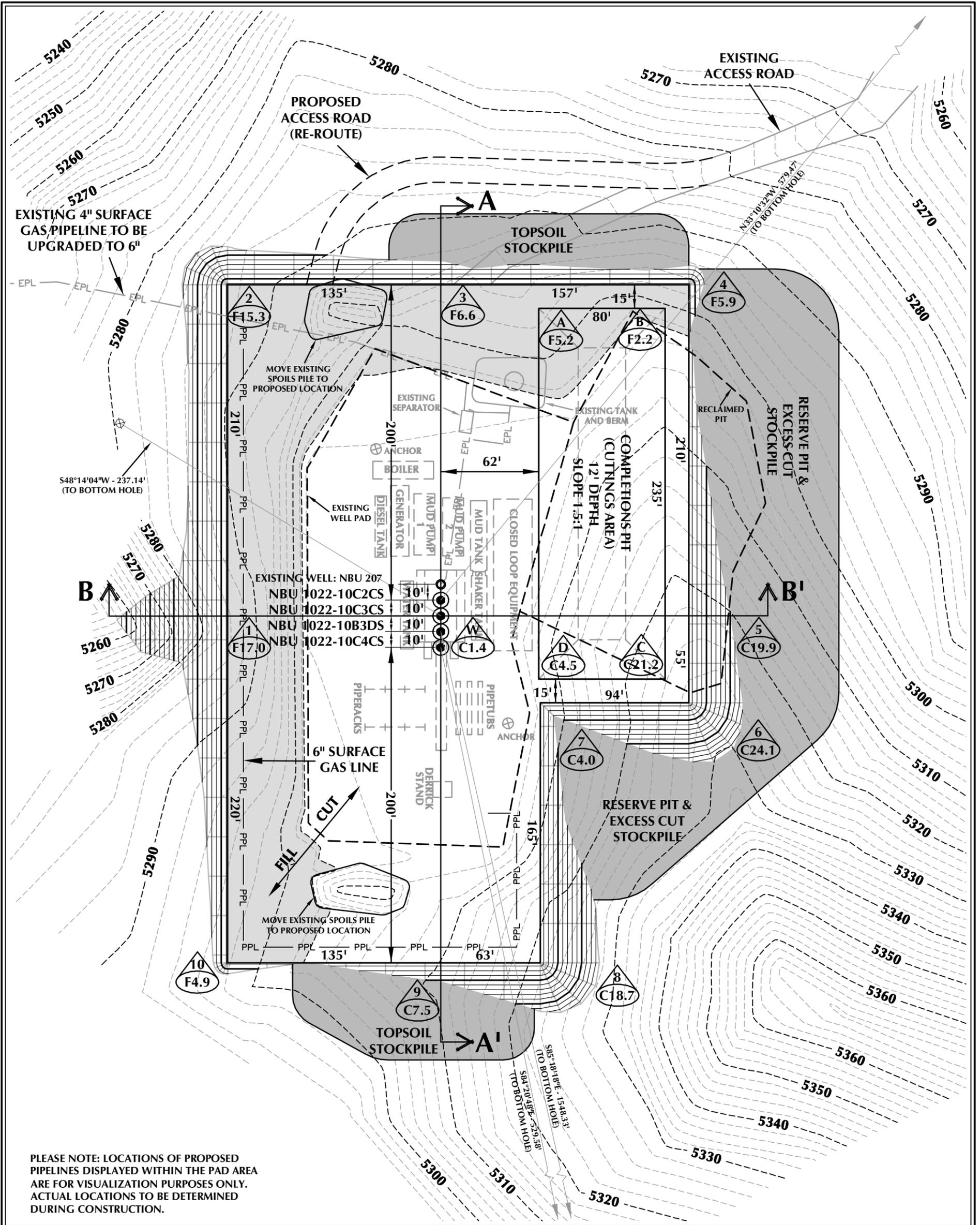
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL - PROPOSED PIPELINE
- EPL - EXISTING PIPELINE



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

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

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



**WELL PAD - NBU 1022-10C (CLOSED LOOP) DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 5304.0'  
 FINISHED GRADE ELEVATION = 5302.6'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.21 ACRES  
 TOTAL DISTURBANCE AREA = 4.25 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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

**WELL PAD - NBU 1022-10C**

**WELL PAD - LOCATION LAYOUT**  
 NBU 1022-10C2CS, NBU 1022-10C3CS,  
 NBU 1022-10B3DS & NBU 1022-10C4CS  
 LOCATED IN SECTION 10, T10S, R22E,  
 S.L.B.&M., UTAH COUNTY, UTAH



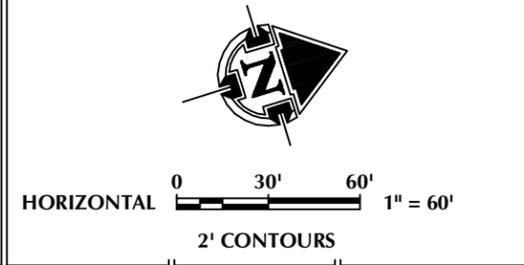
**CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan, WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**WELL PAD QUANTITIES**  
 TOTAL CUT FOR WELL PAD = 14,848 C.Y.  
 TOTAL FILL FOR WELL PAD = 13,316 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,831 C.Y.  
 EXCESS MATERIAL = 1,532 C.Y.

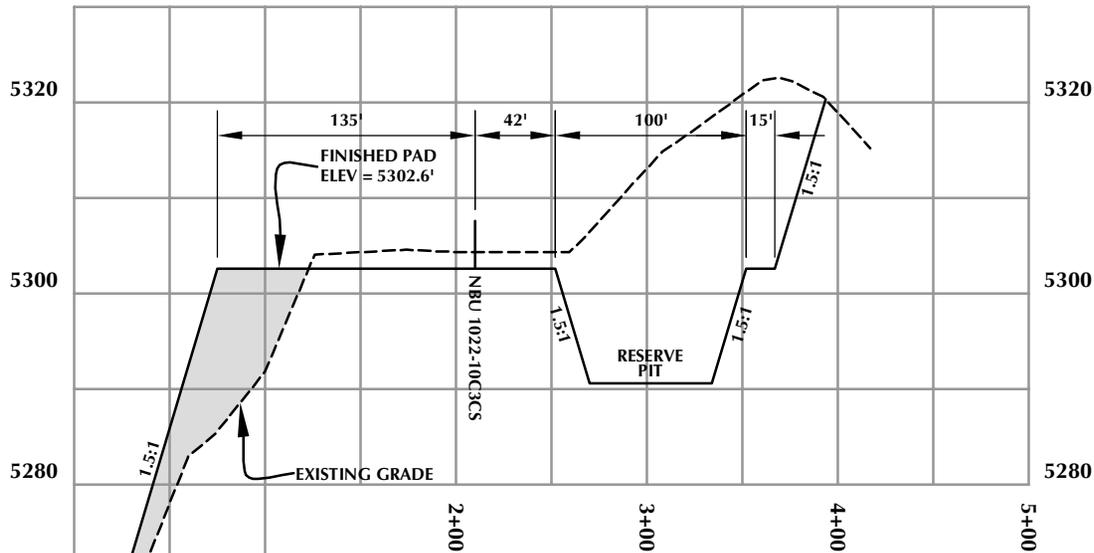
**COMPLETIONS PIT QUANTITIES**  
 TOTAL CUT FOR COMPLETIONS PIT  
 +/- 6,030 C.Y.  
 COMPLETIONS PIT CAPACITY  
 (2' OF FREEBOARD)  
 +/- 22,630 BARRELS

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

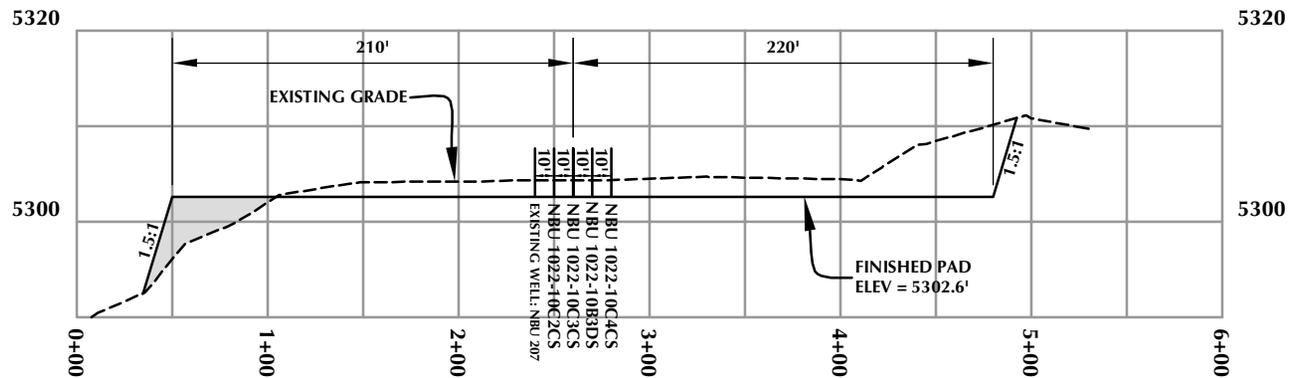
- WELL PAD LEGEND**
- EXISTING WELL LOCATION
  - PROPOSED WELL LOCATION
  - PROPOSED BOTTOM HOLE LOCATION
  - EXISTING CONTOURS (2' INTERVAL)
  - PROPOSED CONTOURS (2' INTERVAL)
  - PPL - PROPOSED PIPELINE
  - EPL - EXISTING PIPELINE



SCALE: 1"=60' DATE: 6/12/12 SHEET NO:  
 REVISID: **6B** 6B OF 16



**CROSS SECTION B-B'**



**CROSS SECTION A-A'**

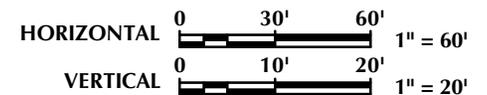
**WELL PAD - NBU 1022-10C**

**WELL PAD - CROSS SECTIONS**  
 NBU 1022-10C2CS, NBU 1022-10C3CS,  
 NBU 1022-10B3DS & NBU 1022-10C4CS  
 LOCATED IN SECTION 10, T10S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**Kerr-McGee Oil &  
 Gas Onshore L.P.**  
 1099 18th Street  
 Denver, Colorado 80202



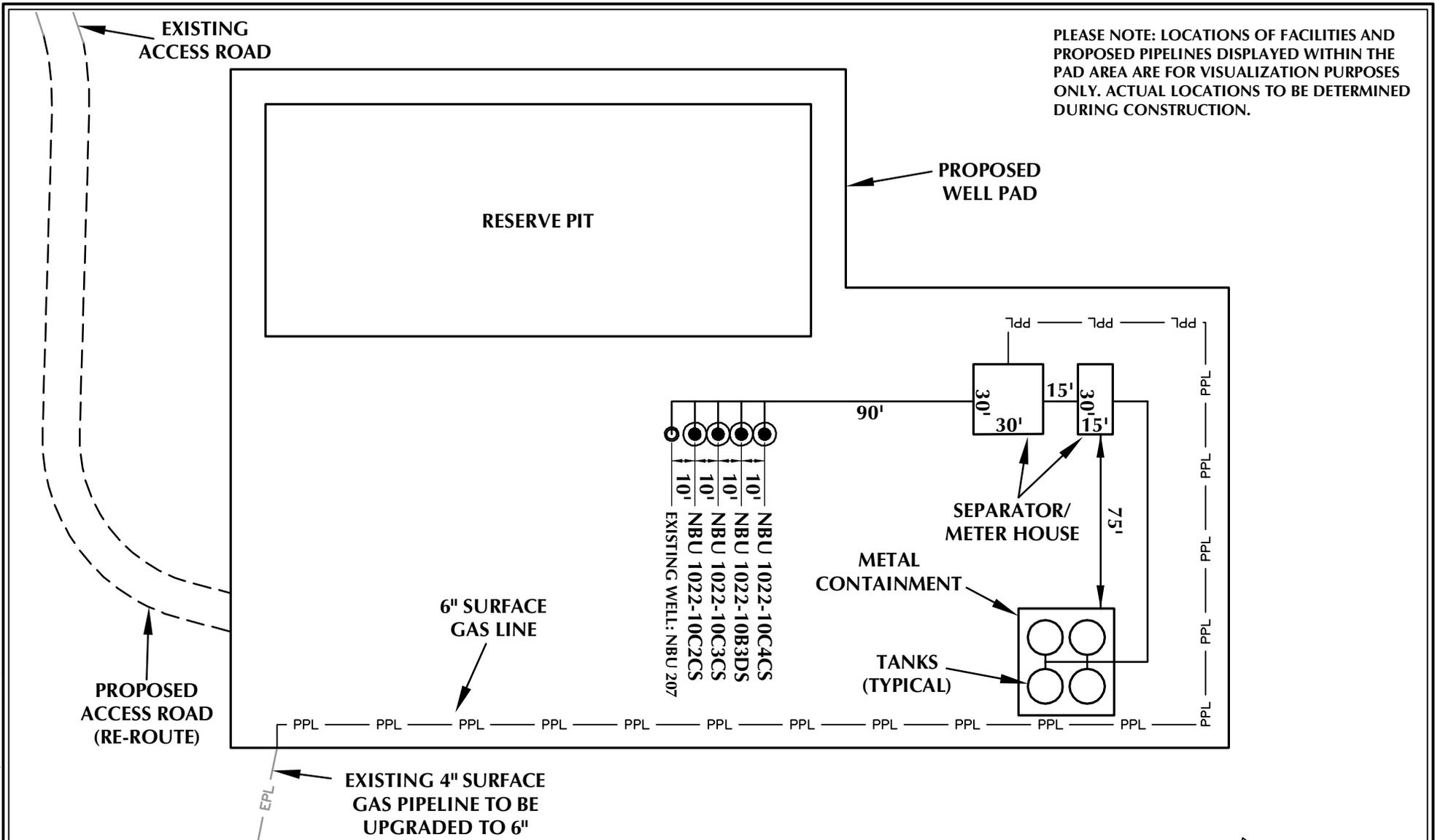
**609 CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan, WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182



Scale: 1"=60'	Date: 6/12/12	SHEET NO:
REVISED:		<b>7</b> 7 OF 16

K:\ANADARKO\2012\12\_18\_NBU\_FOCUS\1022-10\DWG\SS\NBU\_1022-10C\1022-10C3CS.dwg, 6/14/2012 9:54:40 AM, duby

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



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

**WELL PAD - NBU 1022-10C**

**WELL PAD - FACILITIES DIAGRAM**  
NBU 1022-10C2CS, NBU 1022-10C3CS,  
NBU 1022-10B3DS & NBU 1022-10C4CS  
LOCATED IN SECTION 10, T10S, R22E,  
S.L.B.&M., Uintah County, Utah



CONSULTING, LLC  
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Sheridan, WY 82801  
Phone 307-674-0609  
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**WELL PAD LEGEND**

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



HORIZONTAL 1" = 60'

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

Scale: 1"=60'

Date: 6/12/12

SHEET NO:

REVISED:

**8**

8 OF 16

K:\ANADARKO\2012\18\_NBU\_FOCUS\_1022-10DWGS\NBU\_1022-10C\NBU\_1022-10C.dwg, 6/14/2012 9:56:57 AM, duby

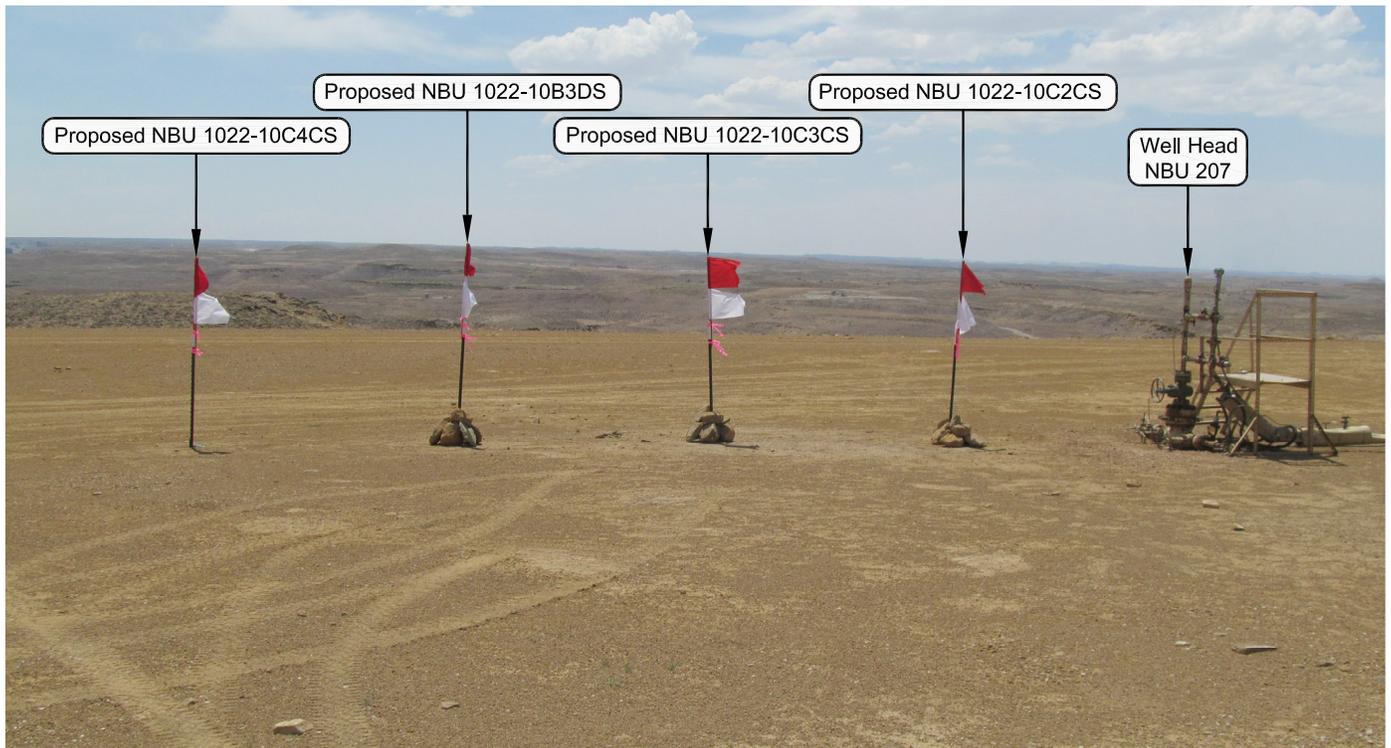


PHOTO VIEW: FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: SOUTHWESTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHWESTERLY

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

**WELL PAD - NBU 1022-10C**

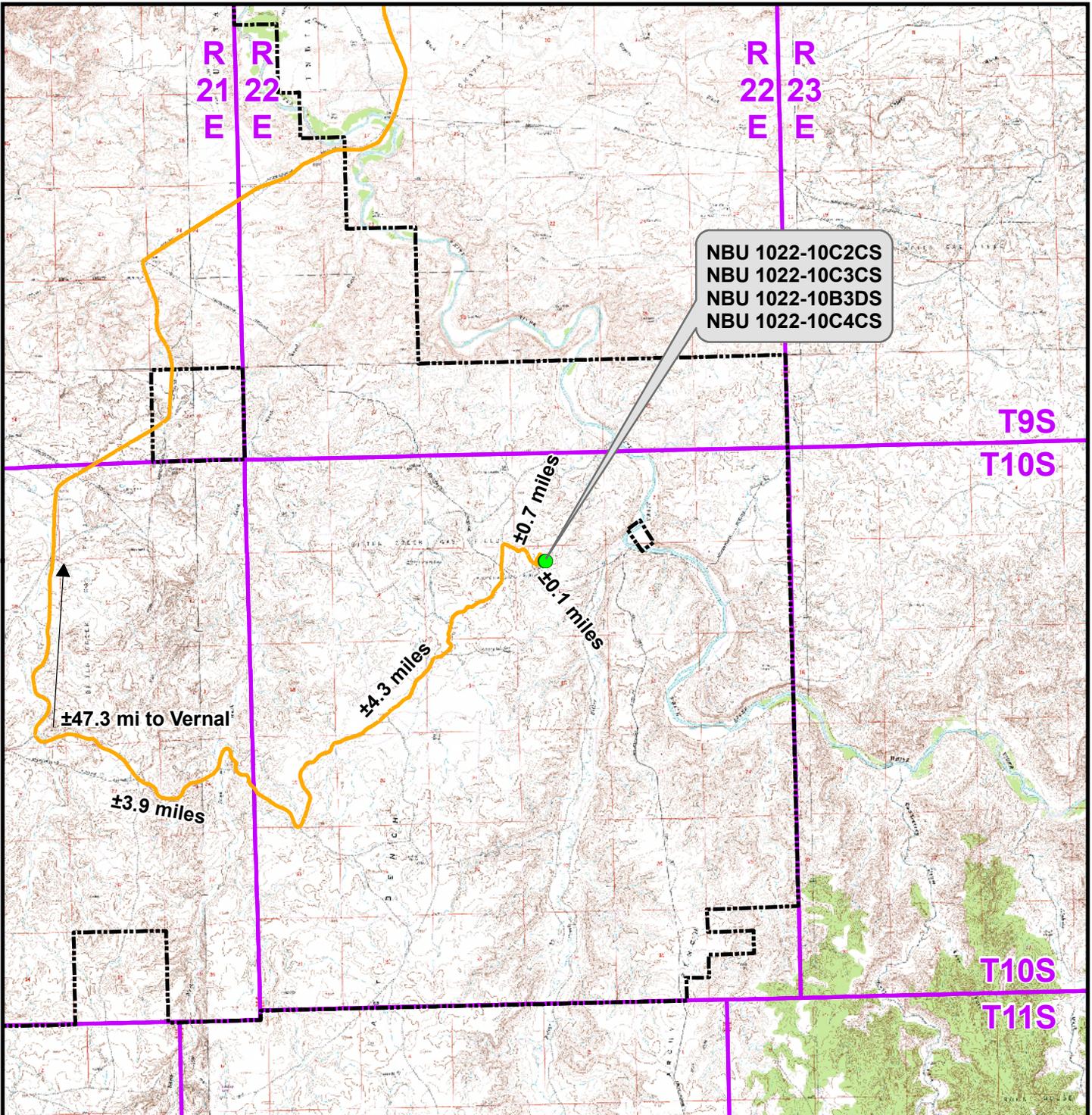
**LOCATION PHOTOS**  
 NBU 1022-10C2CS, NBU 1022-10C3CS,  
 NBU 1022-10B3DS & NBU 1022-10C4CS  
 LOCATED IN SECTION 10, T10S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH.



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

DATE PHOTOS TAKEN: 6-4-12	PHOTOS TAKEN BY: A.F.	SHEET NO: <b>9</b> 9 OF 16
DATE DRAWN: 6-7-12	DRAWN BY: M.W.W.	
Date Last Revised:		



NBU 1022-10C2CS  
 NBU 1022-10C3CS  
 NBU 1022-10B3DS  
 NBU 1022-10C4CS

**Legend**

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

Distance From Well Pad - NBU 1022-10C To Unit Boundary: ±5,045ft

**WELL PAD - NBU 1022-10C**

**TOPO A**  
 NBU 1022-10C2CS, NBU 1022-10C3CS,  
 NBU 1022-10B3DS & NBU 1022-10C4CS  
 LOCATED IN SECTION 10, T10S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

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

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 Denver, Colorado 80202



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 Sheridan, Wyoming 82801  
 Phone 307-674-0609  
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SCALE: 1:100,000

NAD83 USP Central

SHEET NO:

DRAWN: TL

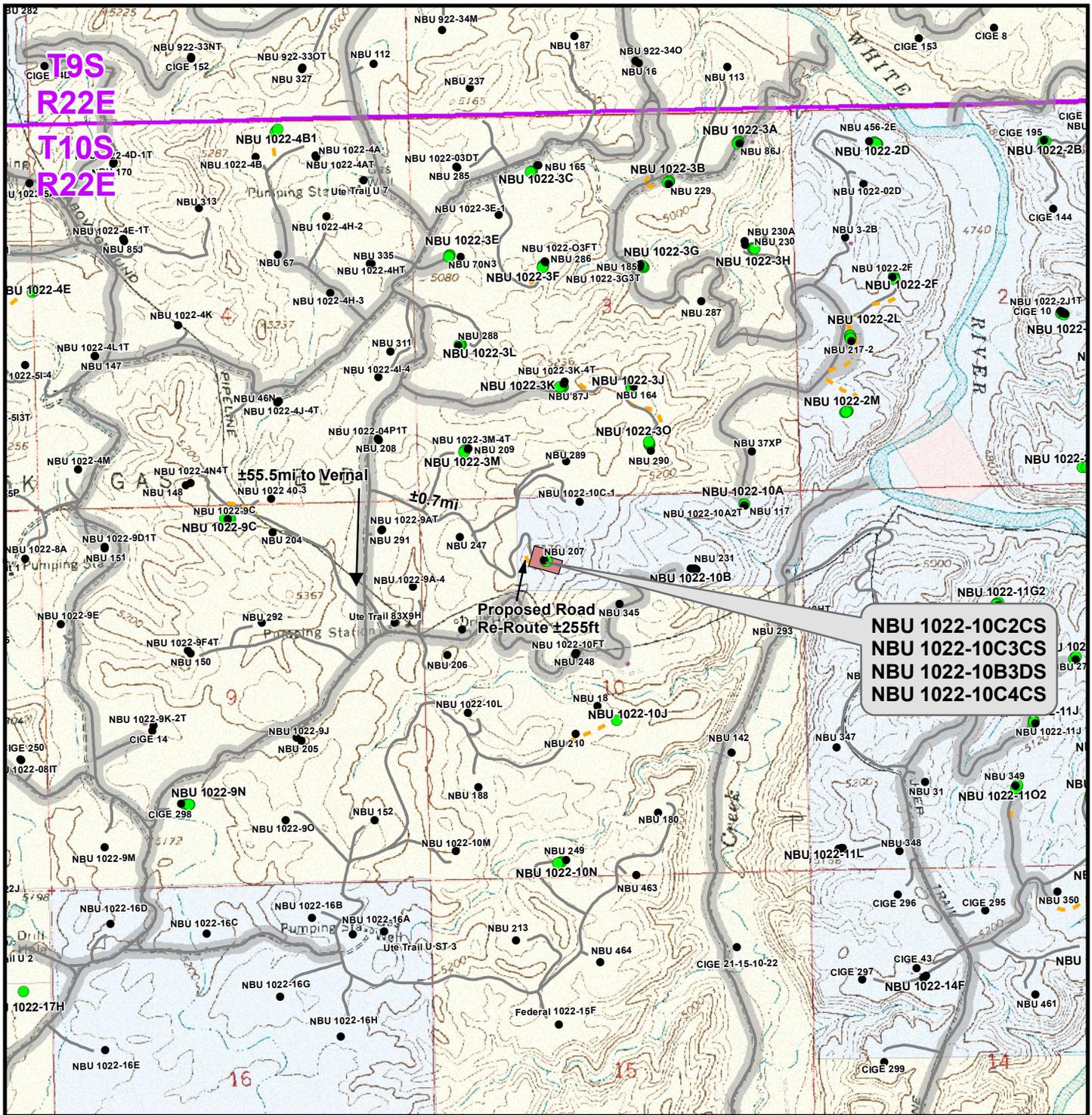
DATE: 12 June 2012

**10**

REVISED:

DATE:

10 OF 16



**NBU 1022-10C2CS  
NBU 1022-10C3CS  
NBU 1022-10B3DS  
NBU 1022-10C4CS**

**Proposed Road  
Re-Route ±255ft**

±55.5mi to Vernal

±0.7mi

**Legend**

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

Total Proposed Road Re-Route Length: ±255ft

**WELL PAD - NBU 1022-10C**

**TOPO B**  
**NBU 1022-10C2CS, NBU 1022-10C3CS,**  
**NBU 1022-10B3DS & NBU 1022-10C4CS**  
**LOCATED IN SECTION 10, T10S, R22E,**  
**S.L.B.&M., Uintah County, Utah**

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

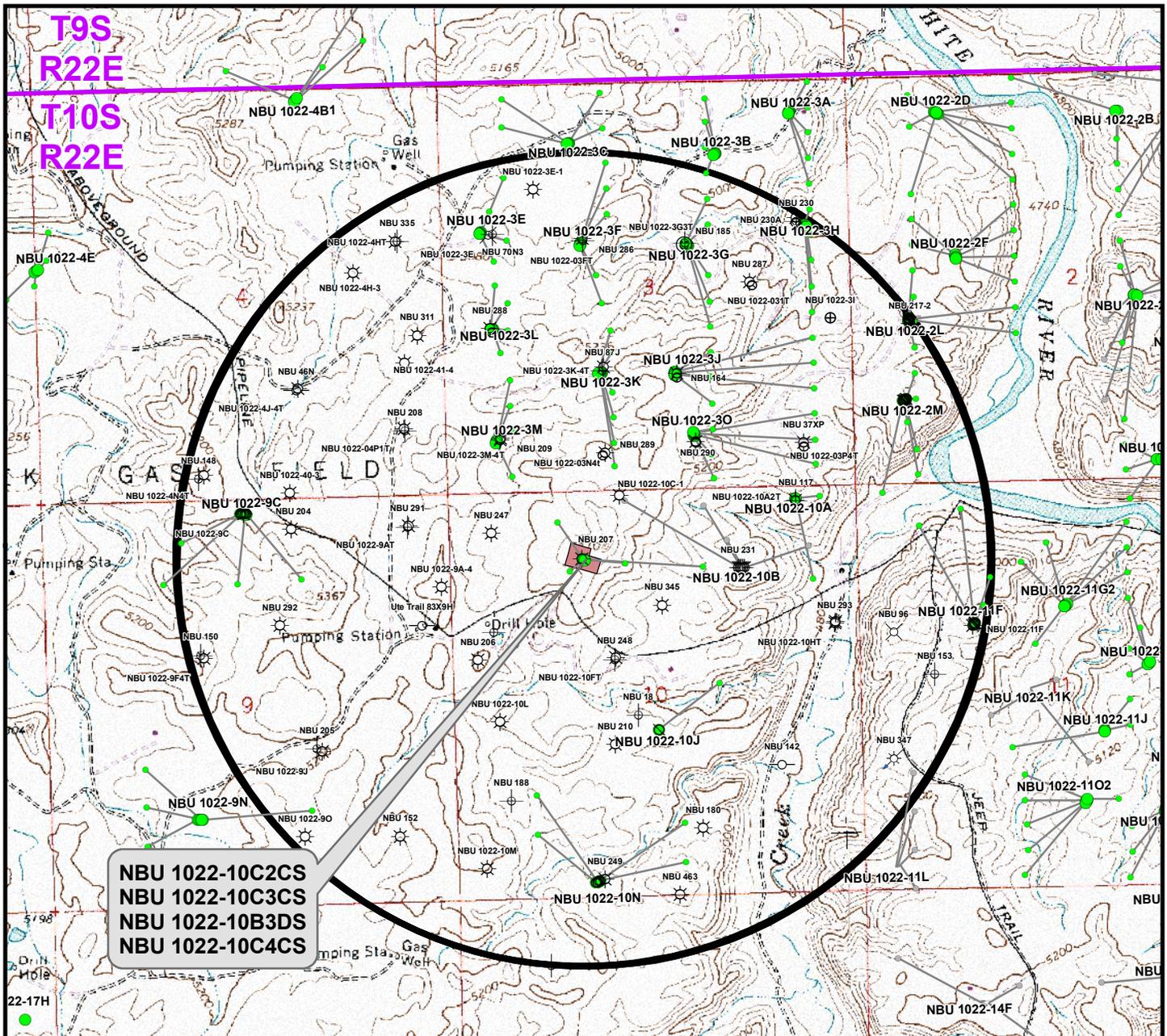
**1099 18th Street  
Denver, Colorado 80202**



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



SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO:
DRAWN: TL	DATE: 12 June 2012	<b>11</b>
REVISED:	DATE:	



NBU 1022-10C2CS  
 NBU 1022-10C3CS  
 NBU 1022-10B3DS  
 NBU 1022-10C4CS

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

Proposed Well	Nearest Well Bore	Footage
NBU 1022-10C2CS	NBU 207	572ft
NBU 1022-10C3CS	NBU 207	227ft
NBU 1022-10B3DS	NBU 231	448ft
NBU 1022-10C4CS	NBU 207	569ft

**Legend**

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

**WELL PAD - NBU 1022-10C**

TOPO C  
 NBU 1022-10C2CS, NBU 1022-10C3CS,  
 NBU 1022-10B3DS & NBU 1022-10C4CS  
 LOCATED IN SECTION 10, T10S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

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

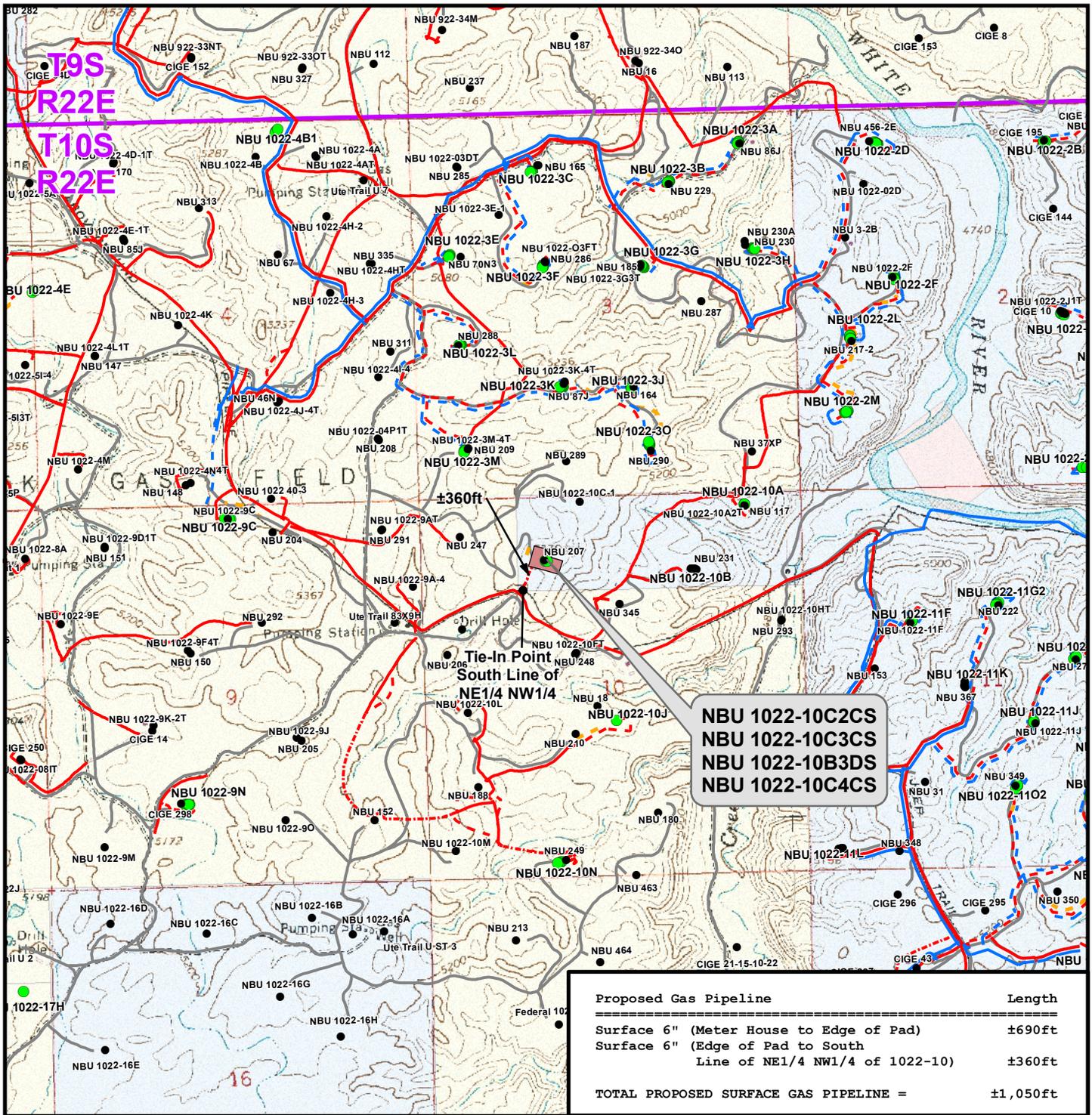
1099 18th Street  
 Denver, Colorado 80202



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SCALE: 1" = 2,000ft	NAD83 USP Central	<b>12</b> 12 OF 16
DRAWN: TL	DATE: 12 June 2012	
REVISED:	DATE:	



**Legend**

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

**WELL PAD - NBU 1022-10C**

**TOPO D**  
**NBU 1022-10C2CS, NBU 1022-10C3CS,**  
**NBU 1022-10B3DS & NBU 1022-10C4CS**  
**LOCATED IN SECTION 10, T10S, R22E,**  
**S.L.B.&M., UINTAH COUNTY, UTAH**

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

**1099 18th Street  
 Denver, Colorado 80202**



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SCALE: 1" = 2,000ft

NAD83 USP Central

SHEET NO:

DRAWN: TL

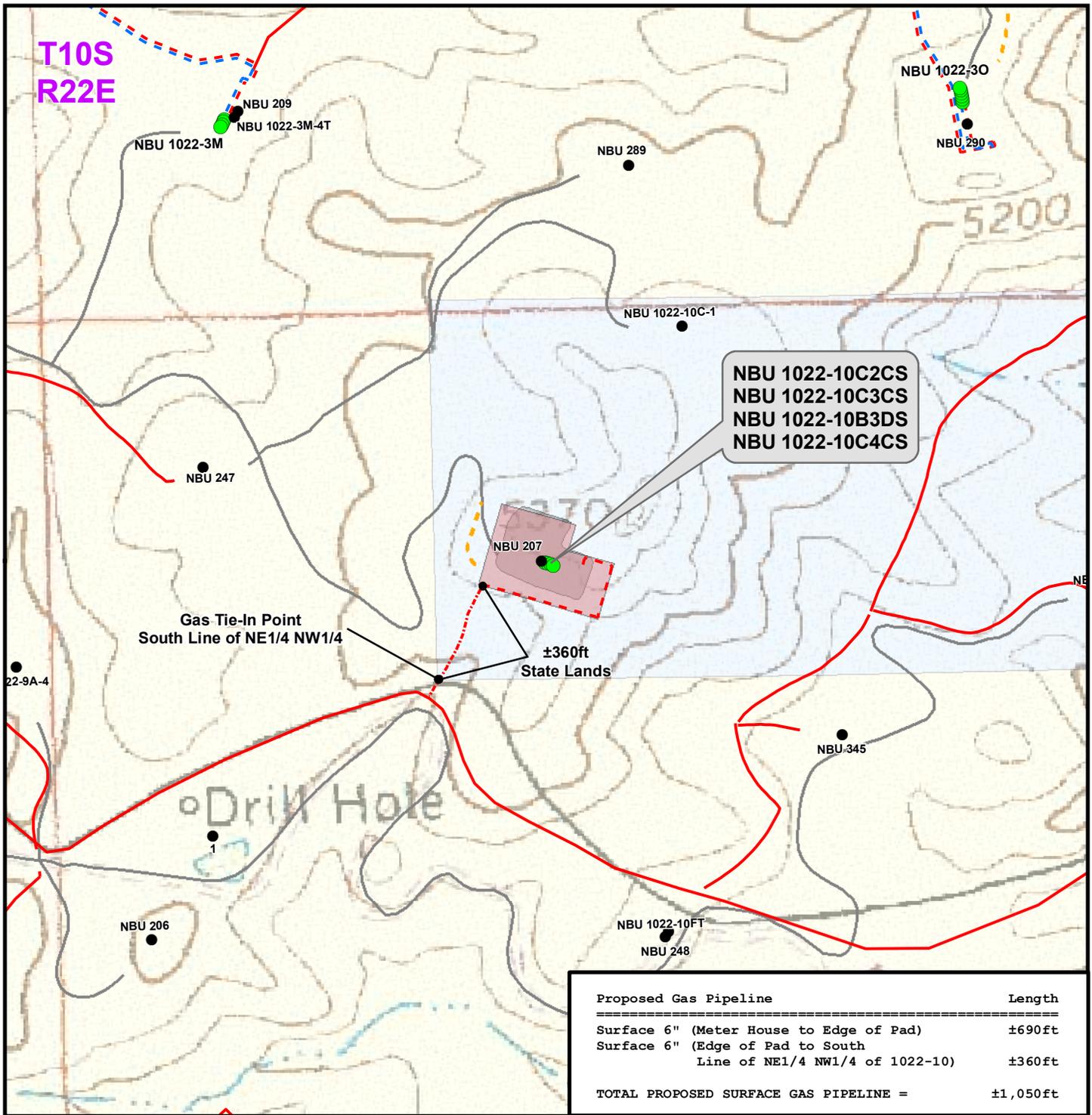
DATE: 12 June 2012

**13**

REVISED:

DATE:

13 OF 16



Proposed Gas Pipeline	Length
Surface 6" (Meter House to Edge of Pad)	±690ft
Surface 6" (Edge of Pad to South Line of NE1/4 NW1/4 of 1022-10)	±360ft
<b>TOTAL PROPOSED SURFACE GAS PIPELINE =</b>	<b>±1,050ft</b>

Legend					
<span style="color: green;">●</span> Well - Proposed	<span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Well Pad - Proposed	<span style="color: red;">---</span> Gas Pipeline - Proposed	<span style="color: blue;">---</span> Liquid Pipeline - Proposed	<span style="border-bottom: 1px dashed orange; display: inline-block; width: 20px;"></span> Road - Proposed	<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Bureau of Land Management
<span style="color: black;">●</span> Well - Existing	<span style="border: 1px solid gray; display: inline-block; width: 15px; height: 10px;"></span> Well Pad - Existing	<span style="color: red;">---</span> Gas Pipeline - To Be Upgraded	<span style="color: blue;">---</span> Liquid Pipeline - Existing	<span style="border-bottom: 1px solid gray; display: inline-block; width: 20px;"></span> Road - Existing	<span style="background-color: pink; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Indian Reservation
		<span style="color: red;">---</span> Gas Pipeline - Existing			<span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> State
					<span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Private

**WELL PAD - NBU 1022-10C**

**TOPO D2 (PAD & PIPELINE DETAIL)**  
**NBU 1022-10C2CS, NBU 1022-10C3CS,**  
**NBU 1022-10B3DS & NBU 1022-10C4CS**  
**LOCATED IN SECTION 10, T10S, R22E,**  
**S.L.B.&M., Uintah County, Utah**

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

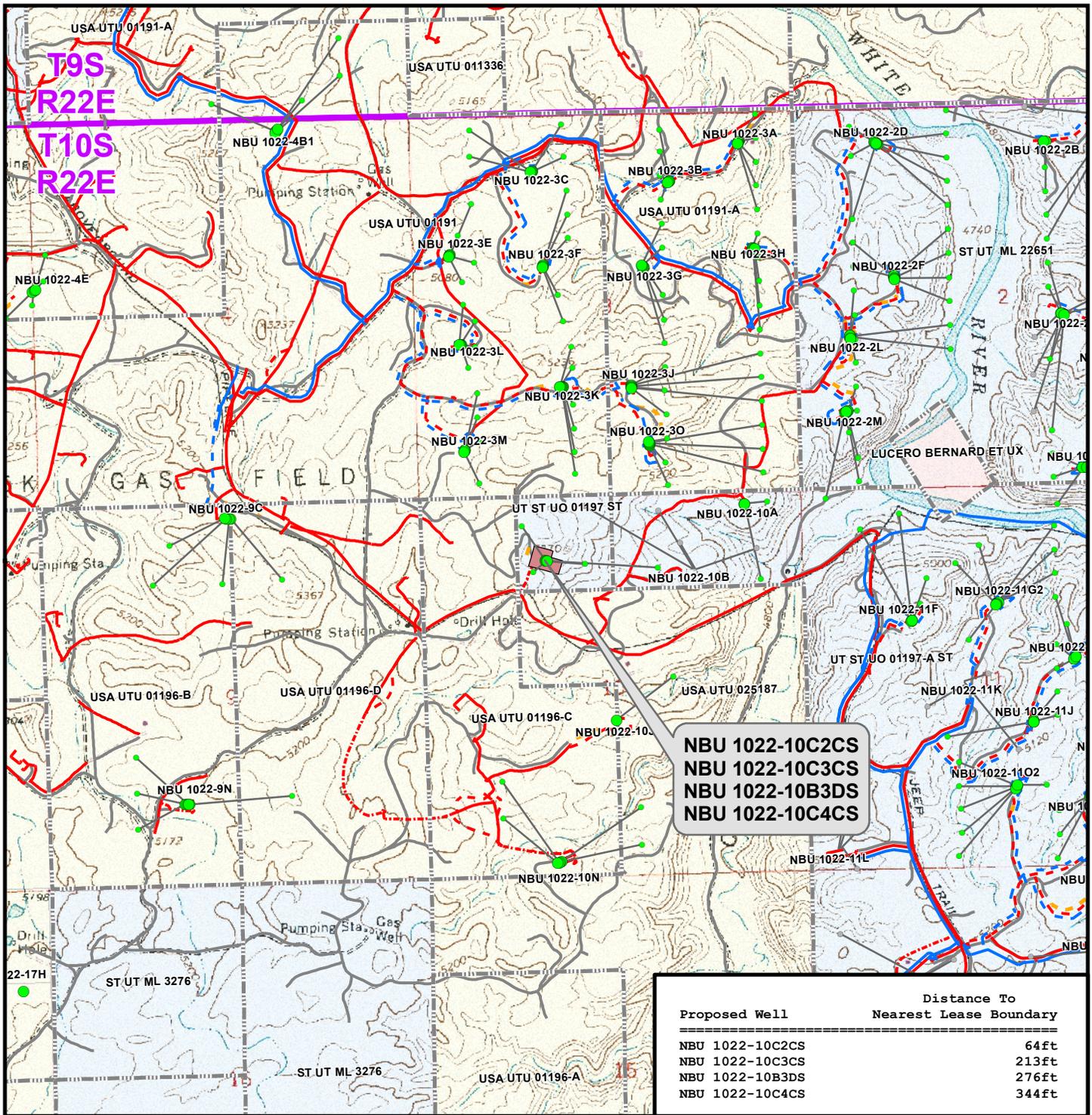
**1099 18th Street**  
**Denver, Colorado 80202**



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



SCALE: 1" = 500ft	NAD83 USP Central	<b>14</b> 14 OF 16
DRAWN: TL	DATE: 12 June 2012	
REVISED:	DATE:	



**NBU 1022-10C2CS  
NBU 1022-10C3CS  
NBU 1022-10B3DS  
NBU 1022-10C4CS**

Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-10C2CS	64ft
NBU 1022-10C3CS	213ft
NBU 1022-10B3DS	276ft
NBU 1022-10C4CS	344ft

**Legend**

- Well - Proposed (Green dot)
- Bottom Hole - Proposed (Green circle with dot)
- Bottom Hole - Existing (Grey circle with dot)
- Well Path (Grey 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 - Existing (Blue solid line)
- Road - Proposed (Yellow dashed line)
- Road - Existing (Grey solid line)
- Bureau of Land Management (Yellow shaded area)
- Indian Reservation (Red shaded area)
- State (Blue shaded area)
- Private (White shaded area)

**WELL PAD - NBU 1022-10C**

**TOPO E**  
**NBU 1022-10C2CS, NBU 1022-10C3CS,  
 NBU 1022-10B3DS & NBU 1022-10C4CS**  
 LOCATED IN SECTION 10, T10S, R22E,  
 S.L.B.&M., Uintah County, Utah

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

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 Denver, Colorado 80202



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N



SCALE: 1" = 2,000ft	NAD83 USP Central	<b>15</b>
DRAWN: TL	DATE: 12 June 2012	
REVISED:	DATE:	

SHEET NO:  
15 OF 16

**Kerr-McGee Oil & Gas Onshore, LP  
WELL PAD - NBU 1022-10C  
WELLS – NBU 1022-10C2CS, NBU 1022-10C3CS,  
NBU 1022-10B3DS & NBU 1022-10C4CS  
Section 10, T10S, R22E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 23.8 miles to the intersection of the Bitter Creek Road (County B Road 4120). Exit left and proceed in a southeasterly direction along the Bitter Creek Road approximately 3.9 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 4.3 miles to a service road to the southeast. Exit right and proceed in a southeasterly direction along the service road approximately 0.7 miles to the proposed access road to the southwest. Follow road flags in a southwesterly, then southeasterly direction approximately 255 feet to the proposed well location.

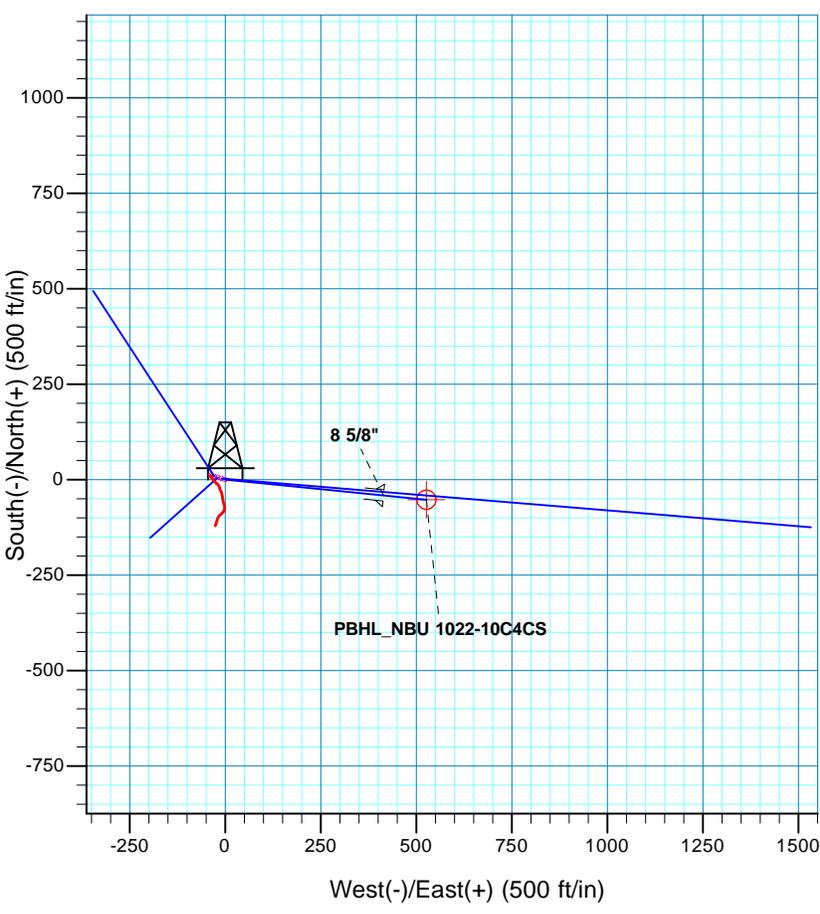
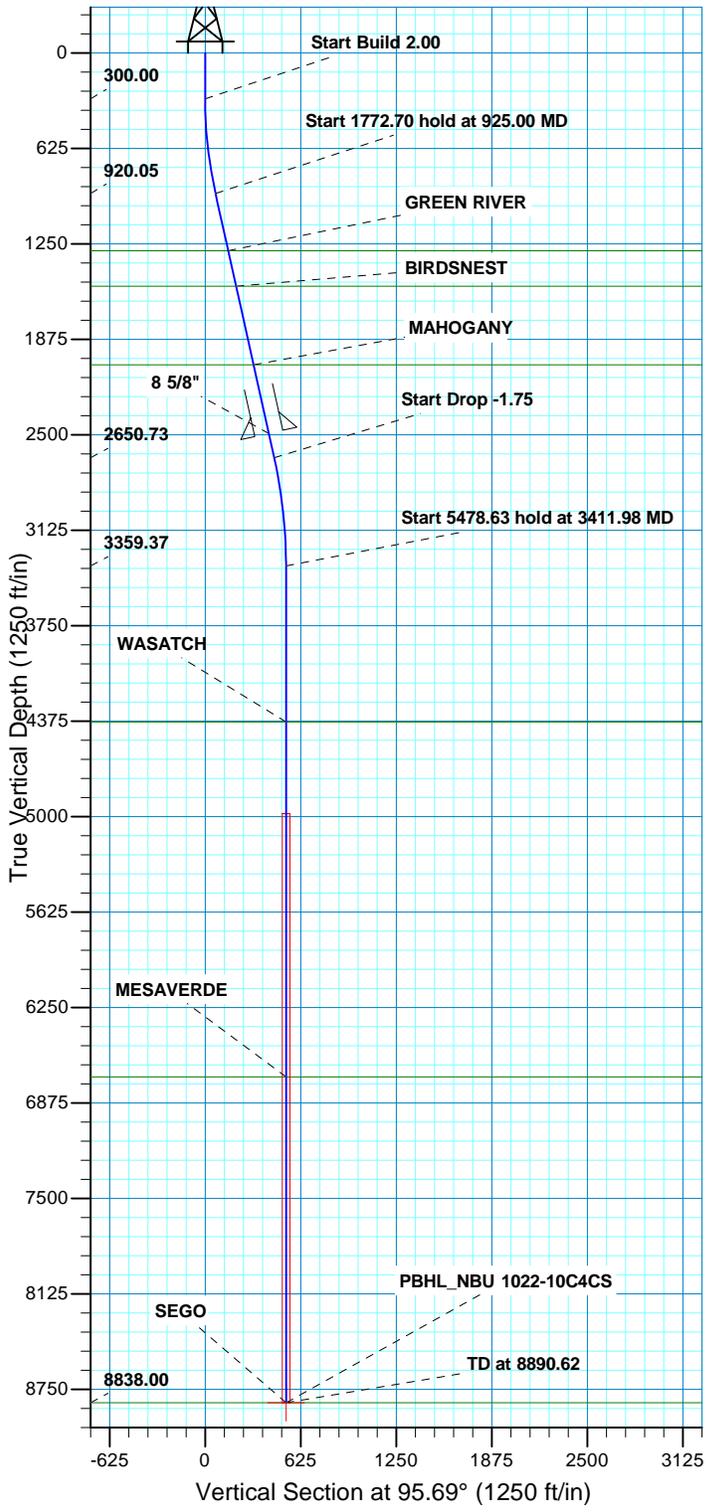
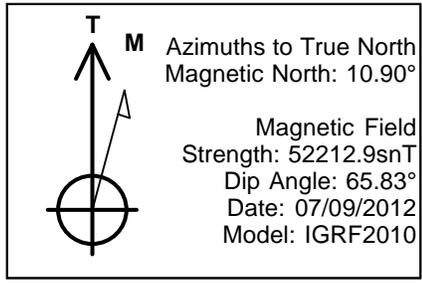
Total distance from Vernal, Utah to the proposed well location is approximately 56.3 miles in a southerly direction.



Site: NBU 1022-10C PAD  
Well: NBU 1022-10C4CS  
Wellbore: OH  
Design: PLAN #1 PERMIT



WELL DETAILS: NBU 1022-10C4CS								
GL 5303 & KB 4 @ 5307.00ft (ASSUMED)								
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
	0.00	0.00	14518356.28	2080731.56	39.968233	-109.428537		
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8838.00	-52.44	526.59	14518313.12	2081259.00	39.968089	-109.426658	Circle (Radius: 25.00)
- plan hits target center								



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
925.00	12.50	95.69	920.05	-6.73	67.57	2.00	95.69	67.91	
2697.70	12.50	95.69	2650.73	-44.75	449.37	0.00	0.00	451.59	
3411.98	0.00	0.00	3359.37	-52.44	526.59	1.75	180.00	529.20	
8890.62	0.00	0.00	8838.00	-52.44	526.59	0.00	0.00	529.20	PBHL_NBU 1022-10C4CS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N			FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)	TVDPath	MDPath	Formation		
Datum: NAD 1927 (NADCON CONUS)	1295.00	1309.05	GREEN RIVER		
Ellipsoid: Clarke 1866	1528.00	1547.71	BIRDSNEST		
Zone: Zone 12N (114 W to 108 W)	2042.00	2074.19	MAHOGANY		
Location: SECTION 10 T10S R22E	4380.00	4432.62	WASATCH		
System Datum: Mean Sea Level	6704.00	6756.62	MESAVERDE		
	8838.00	8890.62	SEGO		

CASING DETAILS			
TVD	MD	Name	Size
2492.00	2535.11	8 5/8"	8.625



# Scientific Drilling

## **US ROCKIES REGION PLANNING**

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

**NBU 1022-10C PAD**

**NBU 1022-10C4CS**

**OH**

**Plan: PLAN #1 PERMIT**

## **Standard Planning Report**

**09 July, 2012**





<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-10C4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5303 & KB 4 @ 5307.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5303 & KB 4 @ 5307.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-10C PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-10C4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PERMIT		

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

<b>Site</b>	NBU 1022-10C PAD, SECTION 10 T10S R22E				
<b>Site Position:</b>	<b>Northing:</b>	14,518,364.52 usft	<b>Latitude:</b>	39.968257	
<b>From:</b> Lat/Long	<b>Easting:</b>	2,080,702.83 usft	<b>Longitude:</b>	-109.428639	
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.01 °

<b>Well</b>	NBU 1022-10C4CS, 924 FNL 1724 FWL					
<b>Well Position</b>	<b>+N/-S</b>	-8.74 ft	<b>Northing:</b>	14,518,356.28 usft	<b>Latitude:</b>	39.968233
	<b>+E/-W</b>	28.59 ft	<b>Easting:</b>	2,080,731.56 usft	<b>Longitude:</b>	-109.428537
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,303.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	07/09/12	10.90	65.83	52,213

<b>Design</b>	PLAN #1 PERMIT			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	95.69

<b>Plan Sections</b>										
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	
925.00	12.50	95.69	920.05	-6.73	67.57	2.00	2.00	0.00	95.69	
2,697.70	12.50	95.69	2,650.73	-44.75	449.37	0.00	0.00	0.00	0.00	
3,411.98	0.00	0.00	3,359.37	-52.44	526.59	1.75	-1.75	0.00	180.00	
8,890.62	0.00	0.00	8,838.00	-52.44	526.59	0.00	0.00	0.00	0.00	PBHL_NBU 1022-10C



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-10C4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5303 & KB 4 @ 5307.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5303 & KB 4 @ 5307.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-10C PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-10C4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PERMIT		

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
<b>Start Build 2.00</b>										
400.00	2.00	95.69	399.98	-0.17	1.74	1.75	2.00	2.00	2.00	0.00
500.00	4.00	95.69	499.84	-0.69	6.94	6.98	2.00	2.00	2.00	0.00
600.00	6.00	95.69	599.45	-1.56	15.62	15.69	2.00	2.00	2.00	0.00
700.00	8.00	95.69	698.70	-2.76	27.74	27.88	2.00	2.00	2.00	0.00
800.00	10.00	95.69	797.47	-4.31	43.31	43.52	2.00	2.00	2.00	0.00
900.00	12.00	95.69	895.62	-6.20	62.29	62.60	2.00	2.00	2.00	0.00
925.00	12.50	95.69	920.05	-6.73	67.57	67.91	2.00	2.00	2.00	0.00
<b>Start 1772.70 hold at 925.00 MD</b>										
1,000.00	12.50	95.69	993.28	-8.34	83.73	84.14	0.00	0.00	0.00	0.00
1,100.00	12.50	95.69	1,090.91	-10.48	105.26	105.78	0.00	0.00	0.00	0.00
1,200.00	12.50	95.69	1,188.54	-12.63	126.80	127.43	0.00	0.00	0.00	0.00
1,300.00	12.50	95.69	1,286.16	-14.77	148.34	149.07	0.00	0.00	0.00	0.00
1,309.05	12.50	95.69	1,295.00	-14.97	150.29	151.03	0.00	0.00	0.00	0.00
<b>GREEN RIVER</b>										
1,400.00	12.50	95.69	1,383.79	-16.92	169.88	170.72	0.00	0.00	0.00	0.00
1,500.00	12.50	95.69	1,481.42	-19.06	191.41	192.36	0.00	0.00	0.00	0.00
1,547.71	12.50	95.69	1,528.00	-20.09	201.69	202.69	0.00	0.00	0.00	0.00
<b>BIRDSNEST</b>										
1,600.00	12.50	95.69	1,579.05	-21.21	212.95	214.00	0.00	0.00	0.00	0.00
1,700.00	12.50	95.69	1,676.68	-23.35	234.49	235.65	0.00	0.00	0.00	0.00
1,800.00	12.50	95.69	1,774.31	-25.50	256.03	257.29	0.00	0.00	0.00	0.00
1,900.00	12.50	95.69	1,871.94	-27.64	277.56	278.94	0.00	0.00	0.00	0.00
2,000.00	12.50	95.69	1,969.57	-29.79	299.10	300.58	0.00	0.00	0.00	0.00
2,074.19	12.50	95.69	2,042.00	-31.38	315.08	316.64	0.00	0.00	0.00	0.00
<b>MAHOGANY</b>										
2,100.00	12.50	95.69	2,067.20	-31.93	320.64	322.22	0.00	0.00	0.00	0.00
2,200.00	12.50	95.69	2,164.83	-34.08	342.17	343.87	0.00	0.00	0.00	0.00
2,300.00	12.50	95.69	2,262.46	-36.22	363.71	365.51	0.00	0.00	0.00	0.00
2,400.00	12.50	95.69	2,360.09	-38.37	385.25	387.16	0.00	0.00	0.00	0.00
2,500.00	12.50	95.69	2,457.72	-40.51	406.79	408.80	0.00	0.00	0.00	0.00
2,535.11	12.50	95.69	2,492.00	-41.26	414.35	416.40	0.00	0.00	0.00	0.00
<b>8 5/8"</b>										
2,600.00	12.50	95.69	2,555.35	-42.66	428.32	430.44	0.00	0.00	0.00	0.00
2,697.70	12.50	95.69	2,650.73	-44.75	449.37	451.59	0.00	0.00	0.00	0.00
<b>Start Drop -1.75</b>										
2,700.00	12.46	95.69	2,652.98	-44.80	449.86	452.09	1.75	-1.75	0.00	0.00
2,800.00	10.71	95.69	2,750.94	-46.79	469.84	472.17	1.75	-1.75	0.00	0.00
2,900.00	8.96	95.69	2,849.47	-48.48	486.84	489.25	1.75	-1.75	0.00	0.00
3,000.00	7.21	95.69	2,948.47	-49.88	500.83	503.31	1.75	-1.75	0.00	0.00
3,100.00	5.46	95.69	3,047.85	-50.97	511.81	514.34	1.75	-1.75	0.00	0.00
3,200.00	3.71	95.69	3,147.53	-51.76	519.77	522.34	1.75	-1.75	0.00	0.00
3,300.00	1.96	95.69	3,247.40	-52.25	524.69	527.28	1.75	-1.75	0.00	0.00
3,400.00	0.21	95.69	3,347.38	-52.44	526.57	529.18	1.75	-1.75	0.00	0.00
3,411.98	0.00	0.00	3,359.37	-52.44	526.59	529.20	1.75	-1.75	0.00	0.00
<b>Start 5478.63 hold at 3411.98 MD</b>										
3,500.00	0.00	0.00	3,447.38	-52.44	526.59	529.20	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,547.38	-52.44	526.59	529.20	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,647.38	-52.44	526.59	529.20	0.00	0.00	0.00	0.00



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-10C4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5303 & KB 4 @ 5307.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5303 & KB 4 @ 5307.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-10C PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-10C4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PERMIT		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,800.00	0.00	0.00	3,747.38	-52.44	526.59	529.20	0.00	0.00	0.00
3,900.00	0.00	0.00	3,847.38	-52.44	526.59	529.20	0.00	0.00	0.00
4,000.00	0.00	0.00	3,947.38	-52.44	526.59	529.20	0.00	0.00	0.00
4,100.00	0.00	0.00	4,047.38	-52.44	526.59	529.20	0.00	0.00	0.00
4,200.00	0.00	0.00	4,147.38	-52.44	526.59	529.20	0.00	0.00	0.00
4,300.00	0.00	0.00	4,247.38	-52.44	526.59	529.20	0.00	0.00	0.00
4,400.00	0.00	0.00	4,347.38	-52.44	526.59	529.20	0.00	0.00	0.00
4,432.62	0.00	0.00	4,380.00	-52.44	526.59	529.20	0.00	0.00	0.00
<b>WASATCH</b>									
4,500.00	0.00	0.00	4,447.38	-52.44	526.59	529.20	0.00	0.00	0.00
4,600.00	0.00	0.00	4,547.38	-52.44	526.59	529.20	0.00	0.00	0.00
4,700.00	0.00	0.00	4,647.38	-52.44	526.59	529.20	0.00	0.00	0.00
4,800.00	0.00	0.00	4,747.38	-52.44	526.59	529.20	0.00	0.00	0.00
4,900.00	0.00	0.00	4,847.38	-52.44	526.59	529.20	0.00	0.00	0.00
5,000.00	0.00	0.00	4,947.38	-52.44	526.59	529.20	0.00	0.00	0.00
5,100.00	0.00	0.00	5,047.38	-52.44	526.59	529.20	0.00	0.00	0.00
5,200.00	0.00	0.00	5,147.38	-52.44	526.59	529.20	0.00	0.00	0.00
5,300.00	0.00	0.00	5,247.38	-52.44	526.59	529.20	0.00	0.00	0.00
5,400.00	0.00	0.00	5,347.38	-52.44	526.59	529.20	0.00	0.00	0.00
5,500.00	0.00	0.00	5,447.38	-52.44	526.59	529.20	0.00	0.00	0.00
5,600.00	0.00	0.00	5,547.38	-52.44	526.59	529.20	0.00	0.00	0.00
5,700.00	0.00	0.00	5,647.38	-52.44	526.59	529.20	0.00	0.00	0.00
5,800.00	0.00	0.00	5,747.38	-52.44	526.59	529.20	0.00	0.00	0.00
5,900.00	0.00	0.00	5,847.38	-52.44	526.59	529.20	0.00	0.00	0.00
6,000.00	0.00	0.00	5,947.38	-52.44	526.59	529.20	0.00	0.00	0.00
6,100.00	0.00	0.00	6,047.38	-52.44	526.59	529.20	0.00	0.00	0.00
6,200.00	0.00	0.00	6,147.38	-52.44	526.59	529.20	0.00	0.00	0.00
6,300.00	0.00	0.00	6,247.38	-52.44	526.59	529.20	0.00	0.00	0.00
6,400.00	0.00	0.00	6,347.38	-52.44	526.59	529.20	0.00	0.00	0.00
6,500.00	0.00	0.00	6,447.38	-52.44	526.59	529.20	0.00	0.00	0.00
6,600.00	0.00	0.00	6,547.38	-52.44	526.59	529.20	0.00	0.00	0.00
6,700.00	0.00	0.00	6,647.38	-52.44	526.59	529.20	0.00	0.00	0.00
6,756.62	0.00	0.00	6,704.00	-52.44	526.59	529.20	0.00	0.00	0.00
<b>MESAVERDE</b>									
6,800.00	0.00	0.00	6,747.38	-52.44	526.59	529.20	0.00	0.00	0.00
6,900.00	0.00	0.00	6,847.38	-52.44	526.59	529.20	0.00	0.00	0.00
7,000.00	0.00	0.00	6,947.38	-52.44	526.59	529.20	0.00	0.00	0.00
7,100.00	0.00	0.00	7,047.38	-52.44	526.59	529.20	0.00	0.00	0.00
7,200.00	0.00	0.00	7,147.38	-52.44	526.59	529.20	0.00	0.00	0.00
7,300.00	0.00	0.00	7,247.38	-52.44	526.59	529.20	0.00	0.00	0.00
7,400.00	0.00	0.00	7,347.38	-52.44	526.59	529.20	0.00	0.00	0.00
7,500.00	0.00	0.00	7,447.38	-52.44	526.59	529.20	0.00	0.00	0.00
7,600.00	0.00	0.00	7,547.38	-52.44	526.59	529.20	0.00	0.00	0.00
7,700.00	0.00	0.00	7,647.38	-52.44	526.59	529.20	0.00	0.00	0.00
7,800.00	0.00	0.00	7,747.38	-52.44	526.59	529.20	0.00	0.00	0.00
7,900.00	0.00	0.00	7,847.38	-52.44	526.59	529.20	0.00	0.00	0.00
8,000.00	0.00	0.00	7,947.38	-52.44	526.59	529.20	0.00	0.00	0.00
8,100.00	0.00	0.00	8,047.38	-52.44	526.59	529.20	0.00	0.00	0.00
8,200.00	0.00	0.00	8,147.38	-52.44	526.59	529.20	0.00	0.00	0.00
8,300.00	0.00	0.00	8,247.38	-52.44	526.59	529.20	0.00	0.00	0.00
8,400.00	0.00	0.00	8,347.38	-52.44	526.59	529.20	0.00	0.00	0.00
8,500.00	0.00	0.00	8,447.38	-52.44	526.59	529.20	0.00	0.00	0.00
8,600.00	0.00	0.00	8,547.38	-52.44	526.59	529.20	0.00	0.00	0.00
8,700.00	0.00	0.00	8,647.38	-52.44	526.59	529.20	0.00	0.00	0.00



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-10C4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5303 & KB 4 @ 5307.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5303 & KB 4 @ 5307.00ft (ASSUMED)
<b>Site:</b>	NBU 1022-10C PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1022-10C4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PERMIT		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,800.00	0.00	0.00	8,747.38	-52.44	526.59	529.20	0.00	0.00	0.00	
8,890.62	0.00	0.00	8,838.00	-52.44	526.59	529.20	0.00	0.00	0.00	
SEGO - PBHL_NBU 1022-10C4CS										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PBHL_NBU 1022-10C4C - hit/miss target - Shape - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,838.00	-52.44	526.59	14,518,313.13	2,081,258.99	39.968089	-109.426658	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,535.11	2,492.00	8 5/8"	8.625	11.000		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,309.05	1,295.00	GREEN RIVER				
1,547.71	1,528.00	BIRDSNEST				
2,074.19	2,042.00	MAHOGANY				
4,432.62	4,380.00	WASATCH				
6,756.62	6,704.00	MESAVERDE				
8,890.62	8,838.00	SEGO				

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	
925.00	920.05	-6.73	67.57	Start 1772.70 hold at 925.00 MD	
2,697.70	2,650.73	-44.75	449.37	Start Drop -1.75	
3,411.98	3,359.37	-52.44	526.59	Start 5478.63 hold at 3411.98 MD	
8,890.62	8,838.00	-52.44	526.59	TD at 8890.62	

<b>NBU 1022-10B3DS</b>			
Surface:	922 FNL / 1715 FWL	NENW	Lot
BHL:	1038 FNL / 1990 FEL	NWNE	Lot
<b>NBU 1022-10C2CS</b>			
Surface:	916 FNL / 1695 FWL	NENW	Lot
BHL:	435 FNL / 1379 FWL	NENW	Lot
<b>NBU 1022-10C3CS</b>			
Surface:	919 FNL / 1705 FWL	NENW	Lot
BHL:	1079 FNL / 1528 FWL	NENW	Lot
<b>NBU 1022-10C4CS</b>			
Surface:	924 FNL / 1724 FWL	NENW	Lot
BHL:	970 FNL / 2251 FWL	NENW	Lot

**Pad: NBU 1022-10C PAD**

Section 10 T10S R22E

Mineral Lease: UO 01197

Uintah County, Utah

Operator: Kerr-McGee Oil &amp; Gas Onshore LP

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

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

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

**A. Existing Roads:**

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

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

**B. Planned Access Roads:**

Approximately  $\pm 255'$  (0.05 miles) of road re-route is proposed (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

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

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

**C. Location of Existing and Proposed Facilities:**

This pad will expand the existing pad for the NBU 207, which is a producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of July 18, 2012.

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

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

**Gathering Facilities:**

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

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 1,050'$  and the individual segments are broken up as follows:

$\pm 690'$  (0.1 miles) –New 6" surface gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

$\pm 360'$  (0.07 miles) –New 6" surface gas pipeline from the edge of the pad to the South Line of NE/4 NW/4 of 1022-10. Please refer to Topo D2 - Pad and Pipeline Detail.

Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. KMG requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, KMG requests a temporary 45' construction right-of-way 30' permanent right-of-way.

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

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

**D. Location and Type of Water Supply:**

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

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

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

No water well is to be drilled on this lease.

**E. Source of Construction Materials:**

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

**F. Methods for Handling Waste Materials:**

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

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

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

Unless otherwise approved, no oil or other oil based drill additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water, biodegradable polymer soap, bentonite clay, and /or non-toxic additives will be used in the 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 release into the pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternative 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 the 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)

Any additional pits necessary for subsequent operations, such as temporary flare pits, or workover pits, will contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of the work.

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

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

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

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

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

#### **Materials Management**

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

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

#### **G. Ancillary Facilities:**

None are anticipated.

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

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

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

**I. Plans for Reclamation of the Surface:**

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

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

**Interim Reclamation**

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

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

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

**Final Reclamation**

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

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

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

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

#### **Seeding and Measures Common to Interim and Final Reclamation**

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

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

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

#### **J. Surface/Mineral Ownership:**

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

#### **L. Other Information:**

None

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

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

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

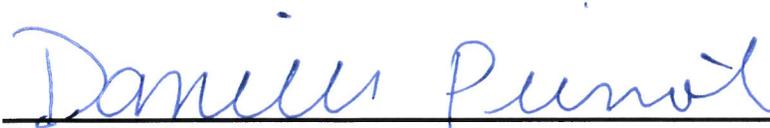
Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

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

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

Bond coverage 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.

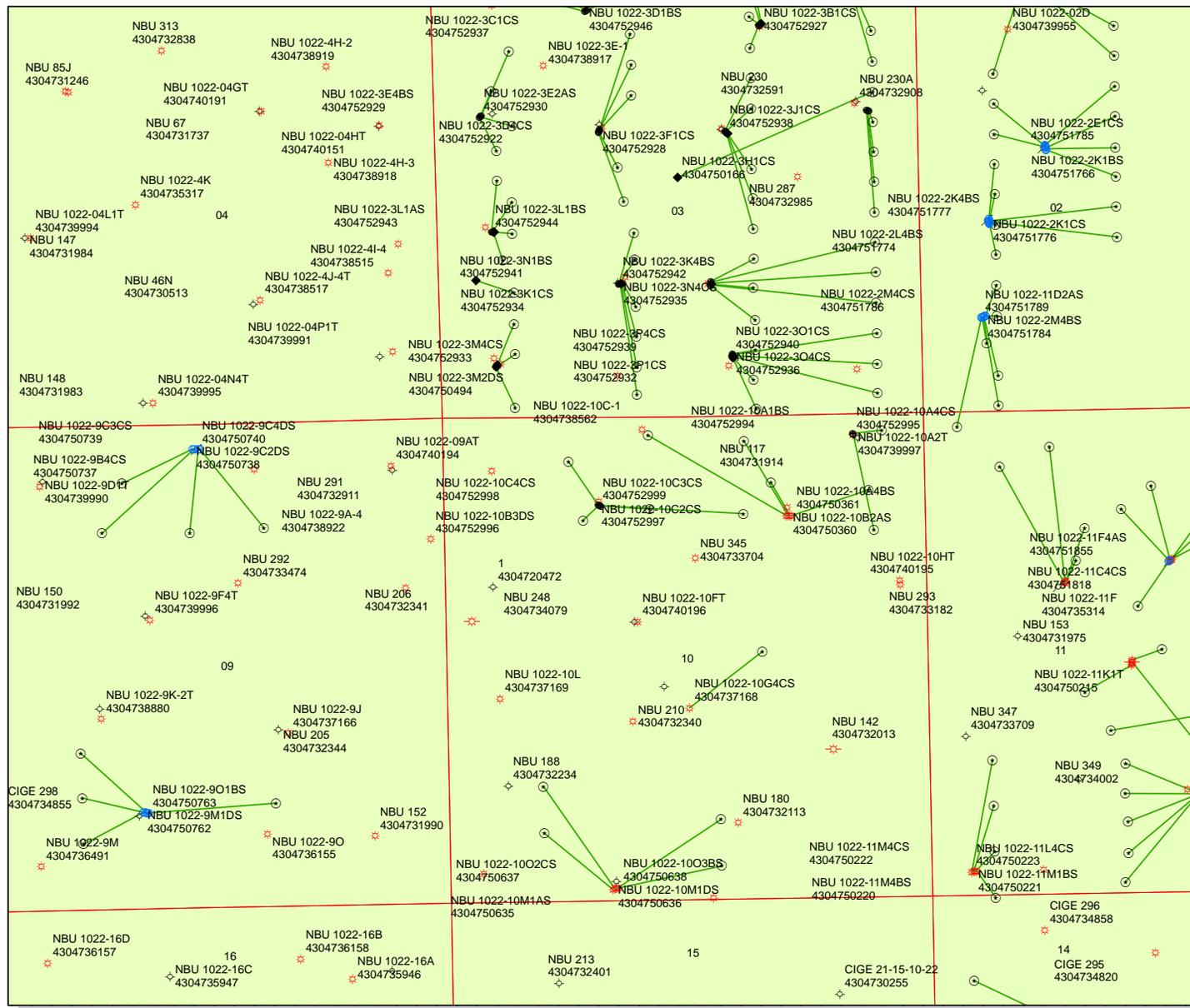
I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan 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.

  
\_\_\_\_\_  
Danielle Piernot

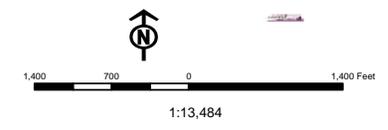
July 18, 2012  
\_\_\_\_\_  
Date

**API Number: 4304752998**  
**Well Name: NBU 1022-10C4CS**  
**Township T10.0S Range R22.0E Section 10**  
**Meridian: SLBM**  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason



- |                      |                                     |
|----------------------|-------------------------------------|
| <b>Units Status</b>  | <b>Wells Query Status</b>           |
| ACTIVE               | APD - Approved Permit               |
| EXPLORATORY          | DRIL - Spudded (Drilling Commenced) |
| GAS STORAGE          | GIW - Gas Injection                 |
| NF PP OIL            | GS - Gas Storage                    |
| NF SECONDARY         | LOC - New Location                  |
| PI OIL               | OPS - Operation Suspended           |
| PP GAS               | PA - Plugged Abandoned              |
| PP GEOTHERM.         | PGW - Producing Gas Well            |
| PP OIL               | POW - Producing Oil Well            |
| SECONDARY            | SGW - Shut-in Gas Well              |
| TERMINATED           | SOW - Shut-in Oil Well              |
| <b>Fields Status</b> | TA - Temp. Abandoned                |
| Unknown              | TO - Test Well                      |
| ABANDONED            | WDW - Water Disposal                |
| ACTIVE               | WW - Water Injection Well           |
| COMBINED             | WSW - Water Supply Well             |
| INACTIVE             | Bottom Hole Location - Oil/Gas/Dls  |
| STORAGE              |                                     |
| TERMINATED           |                                     |



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

July 30, 2012

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

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

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

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

**WELL PAD - NBU 1022-10A**

43-047-52994	NBU 1022-10A1BS	Sec 10 T10S R22E 0182 FNL 0780 FEL
	BHL	Sec 10 T10S R22E 0155 FNL 0460 FEL

43-047-52995	NBU 1022-10A4CS	Sec 10 T10S R22E 0190 FNL 0775 FEL
	BHL	Sec 10 T10S R22E 1235 FNL 0570 FEL

**WELL PAD - NBU 920-14D**

43-047-52951	NBU 920-14E1BS	Sec 14 T09S R20E 0603 FNL 0623 FWL
	BHL	Sec 14 T09S R20E 1592 FNL 0710 FWL

43-047-52952	NBU 920-14F2DS	Sec 14 T09S R20E 0593 FNL 0620 FWL
	BHL	Sec 14 T09S R20E 1924 FNL 1806 FWL

43-047-52953	NBU 920-14C3DS	Sec 14 T09S R20E 0584 FNL 0617 FWL
	BHL	Sec 14 T09S R20E 1041 FNL 1827 FWL

**WELL PAD - NBU 1022-10C**

43-047-52996	NBU 1022-10B3DS	Sec 10 T10S R22E 0922 FNL 1715 FWL
	BHL	Sec 10 T10S R22E 1038 FNL 1990 FEL

43-047-52997	NBU 1022-10C2CS	Sec 10 T10S R22E 0916 FNL 1695 FWL
	BHL	Sec 10 T10S R22E 0435 FNL 1379 FWL

RECEIVED: July 31, 2012

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

**WELL PAD - NBU 1022-10C**

43-047-52998 NBU 1022-10C4CS Sec 10 T10S R22E 0924 FNL 1724 FWL  
BHL Sec 10 T10S R22E 0970 FNL 2251 FWL

43-047-52999 NBU 1022-10C3CS Sec 10 T10S R22E 0919 FNL 1705 FWL  
BHL Sec 10 T10S R22E 1079 FNL 1528 FWL

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

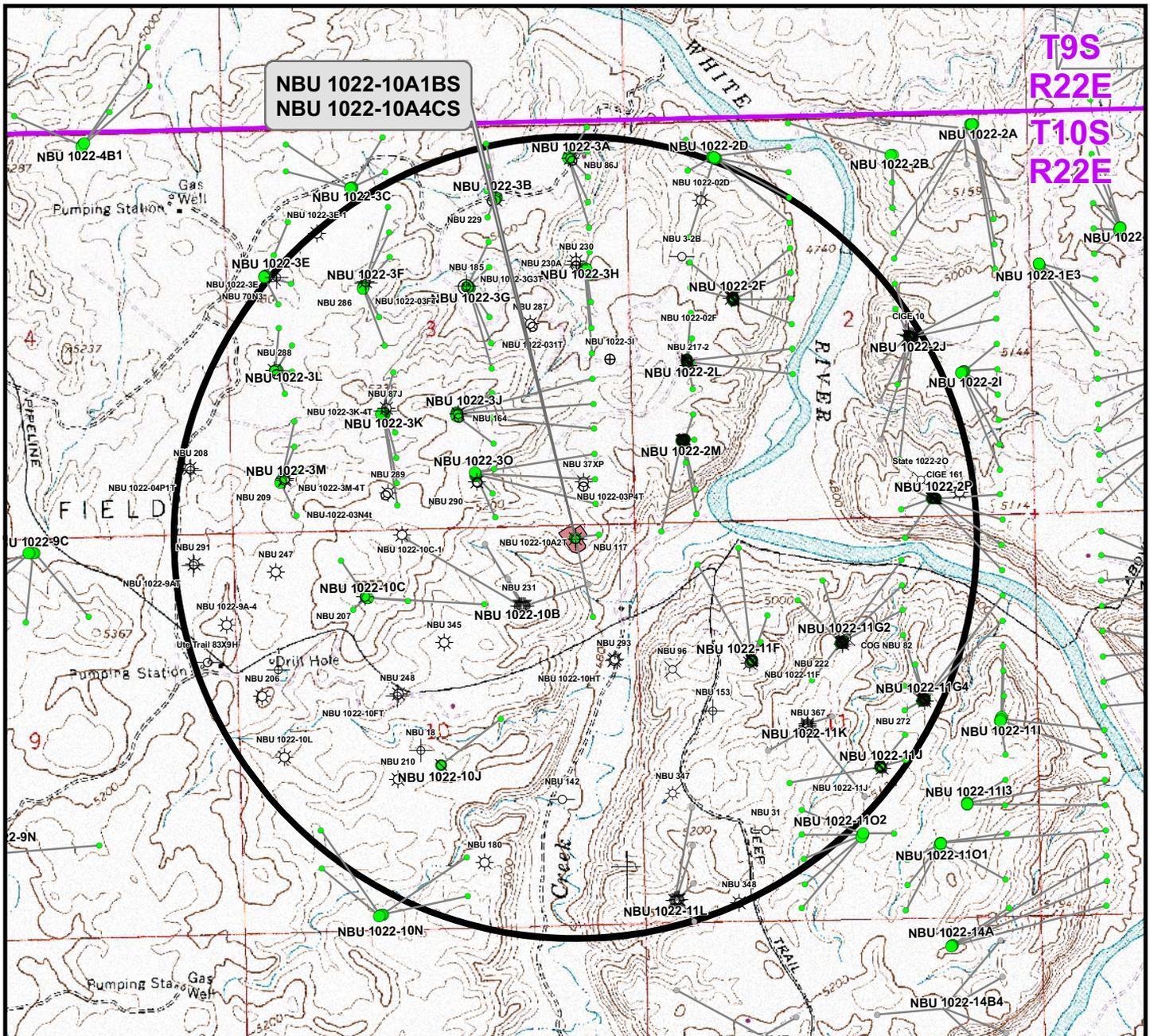
Michael L. Coulthard

Digitally signed by Michael L. Coulthard  
DN: cn=Michael L. Coulthard, o=Bureau of Land  
Management, ou=Branch of Minerals,  
email=Michael\_Coulthard@blm.gov, c=US  
Date: 2012.07.30 12:47:59 -06'00'

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

MCoulthard:mc:7-30-12

RECEIVED: July 31, 2012



**NBU 1022-10A1BS  
NBU 1022-10A4CS**

**T9S  
R22E  
T10S  
R22E**

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

Proposed Well	Nearest Well Bore	Footage
NBU 1022-10A1BS	NBU 117	313ft
NBU 1022-10A4CS	NBU 1022-10A4BS BH	433ft

**Legend**

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

**WELL PAD - NBU 1022-10A**

**TOPO C  
NBU 1022-10A1BS  
& NBU 1022-10A4CS  
LOCATED IN SECTION 10, T10S, R22E,  
S.L.B.&M., Uintah County, Utah**

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

**1099 18th Street  
Denver, Colorado 80202**

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

N

SCALE: 1" = 2,000ft	NAD83 USP Central	<b>10</b>
DRAWN: TL	DATE: 12 June 2012	
REVISED:	DATE:	

SHEET NO:  
10 OF 14



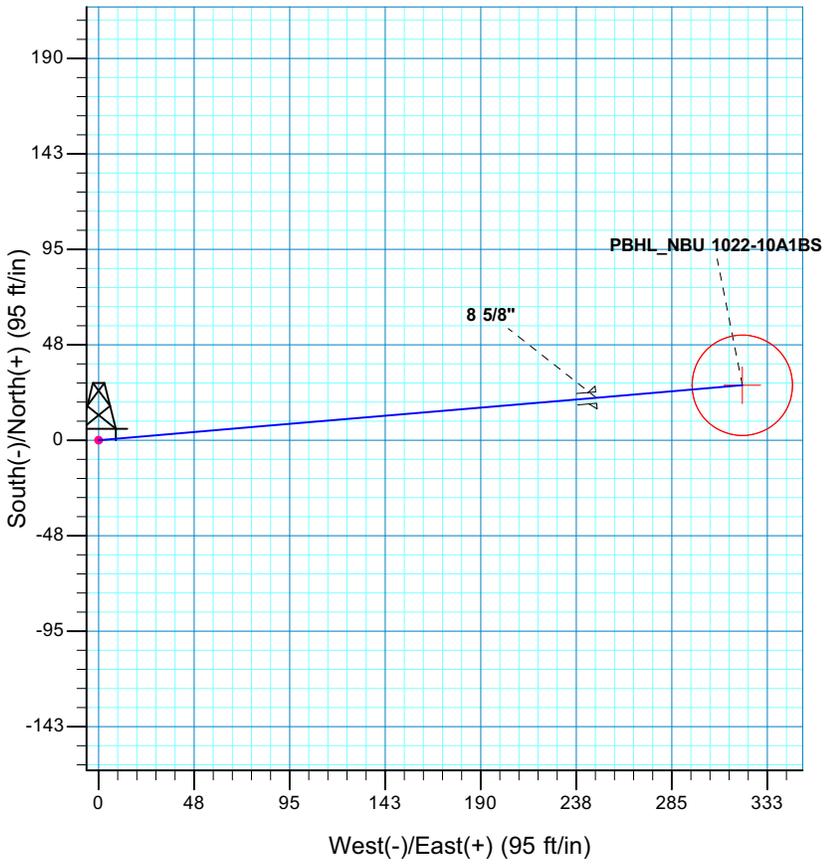
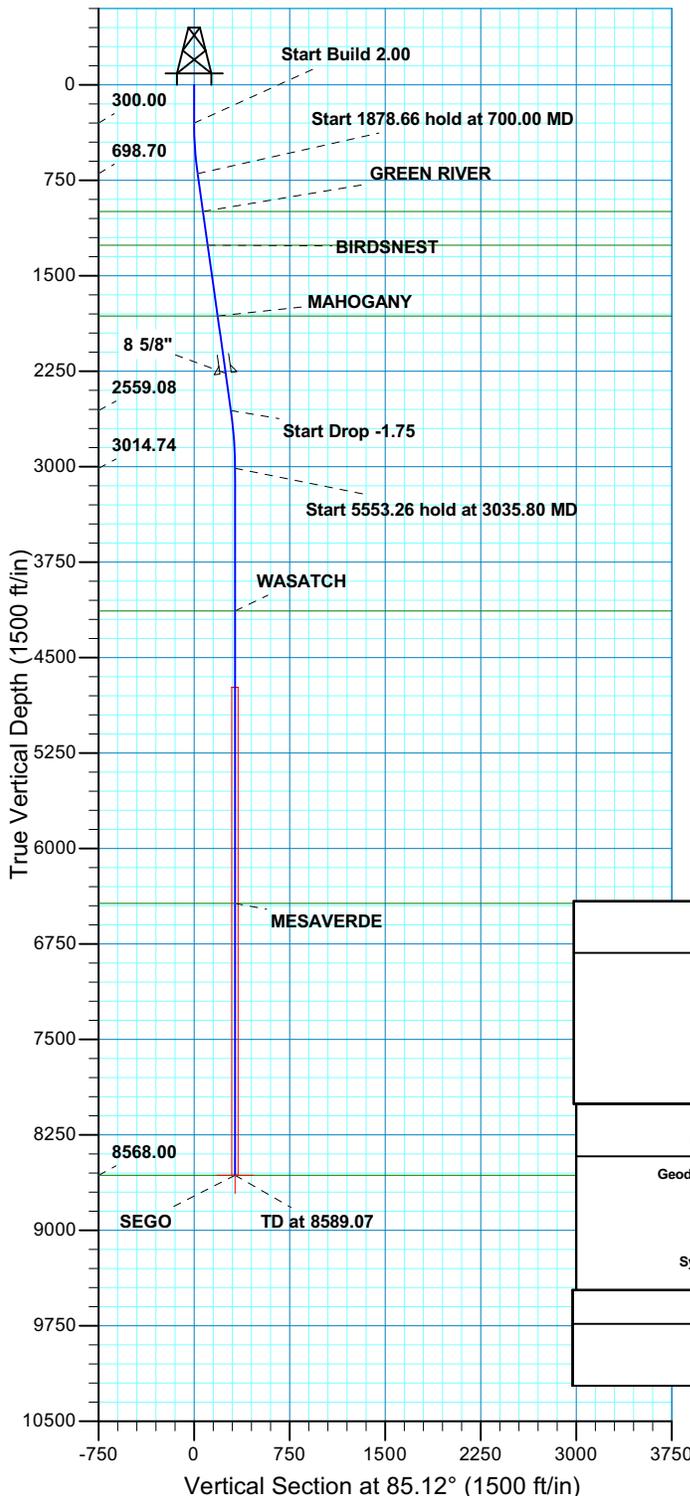
Site: NBU 1022-10A PAD  
Well: NBU 1022-10A1BS  
Wellbore: OH  
Design: PLAN #1 PRELIMINARY



Azimuths to True North  
Magnetic North: 10.90°

Magnetic Field  
Strength: 52217.2snT  
Dip Angle: 65.83°  
Date: 07/09/2012  
Model: IGRF2010

WELL DETAILS: NBU 1022-10A1BS								
GL 5062 & KB 4 @ 5066.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14519137.40	2083458.71	39.970245	-109.418758			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8568.00	27.32	320.04	14519170.39	2083778.22	39.970320	-109.417616	Circle (Radius: 25.00)
- plan hits target center								



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	
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	
700.00	8.00	85.12	698.70	2.37	27.78	2.00	85.12	27.88	
2578.66	8.00	85.12	2559.08	24.61	288.29	0.00	0.00	289.34	
3035.80	0.00	0.00	3014.74	27.32	320.04	1.75	180.00	321.20	
8589.07	0.00	0.00	8568.00	27.32	320.04	0.00	0.00	321.20	PBHL_NBU 1022-10A1BS

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 10 T10S R22E		
System Datum: Mean Sea Level		

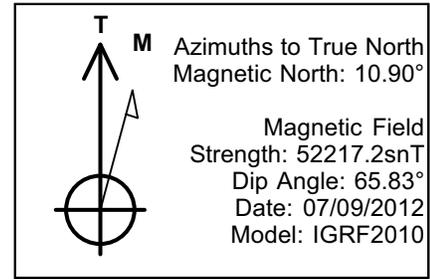
FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
997.00	1001.23	GREEN RIVER
1260.00	1266.81	BIRDSNEST
1817.00	1829.29	MAHOGANY
4134.00	4155.07	WASATCH
6432.00	6453.07	MESAVERDE
8568.00	8589.07	SEGO

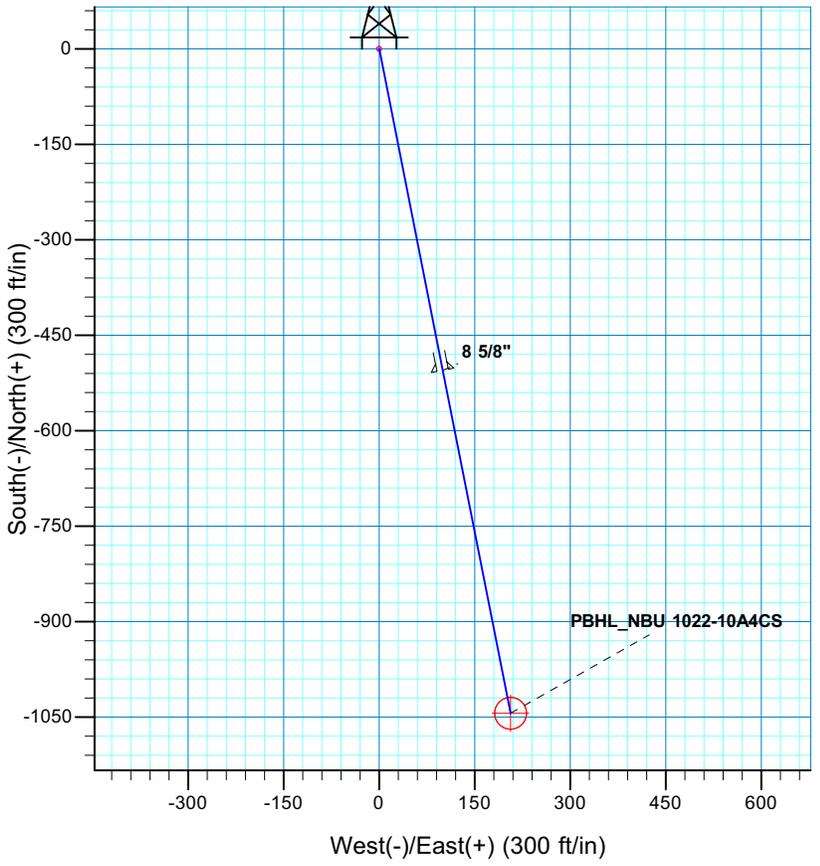
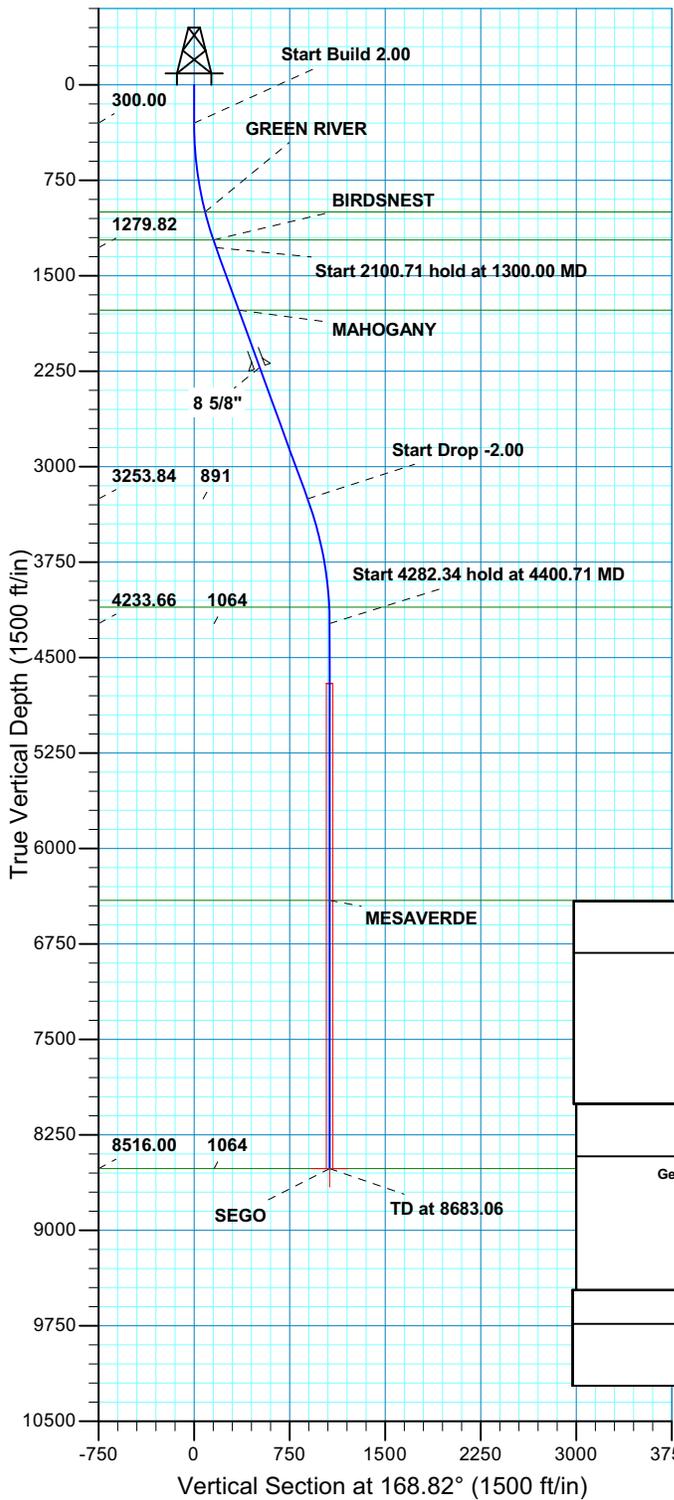
CASING DETAILS			
TVD	MD	Name	Size
2267.00	2283.71	8 5/8"	8.625



Site: NBU 1022-10A PAD  
Well: NBU 1022-10A4CS  
Wellbore: OH  
Design: PLAN #1 PRELIMINARY



WELL DETAILS: NBU 1022-10A4CS								
GL 5062 & KB 4 @ 5066.00ft (ASSUMED)								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	14519129.12	2083464.47	39.970222	-109.418738			
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8516.00	-1043.84	206.27	14518089.11	2083689.21	39.967356	-109.418002	Circle (Radius: 25.00)
- plan hits target center								



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1300.00	20.00	168.82	1279.82	-169.49	33.49	2.00	168.82	172.77	
3400.71	20.00	168.82	3253.84	-874.35	172.77	0.00	0.00	891.25	
4400.71	0.00	0.00	4233.66	-1043.84	206.27	2.00	180.00	1064.02	
8683.06	0.00	0.00	8516.00	-1043.84	206.27	0.00	0.00	1064.02	PBHL_NBU 1022-10A4CS

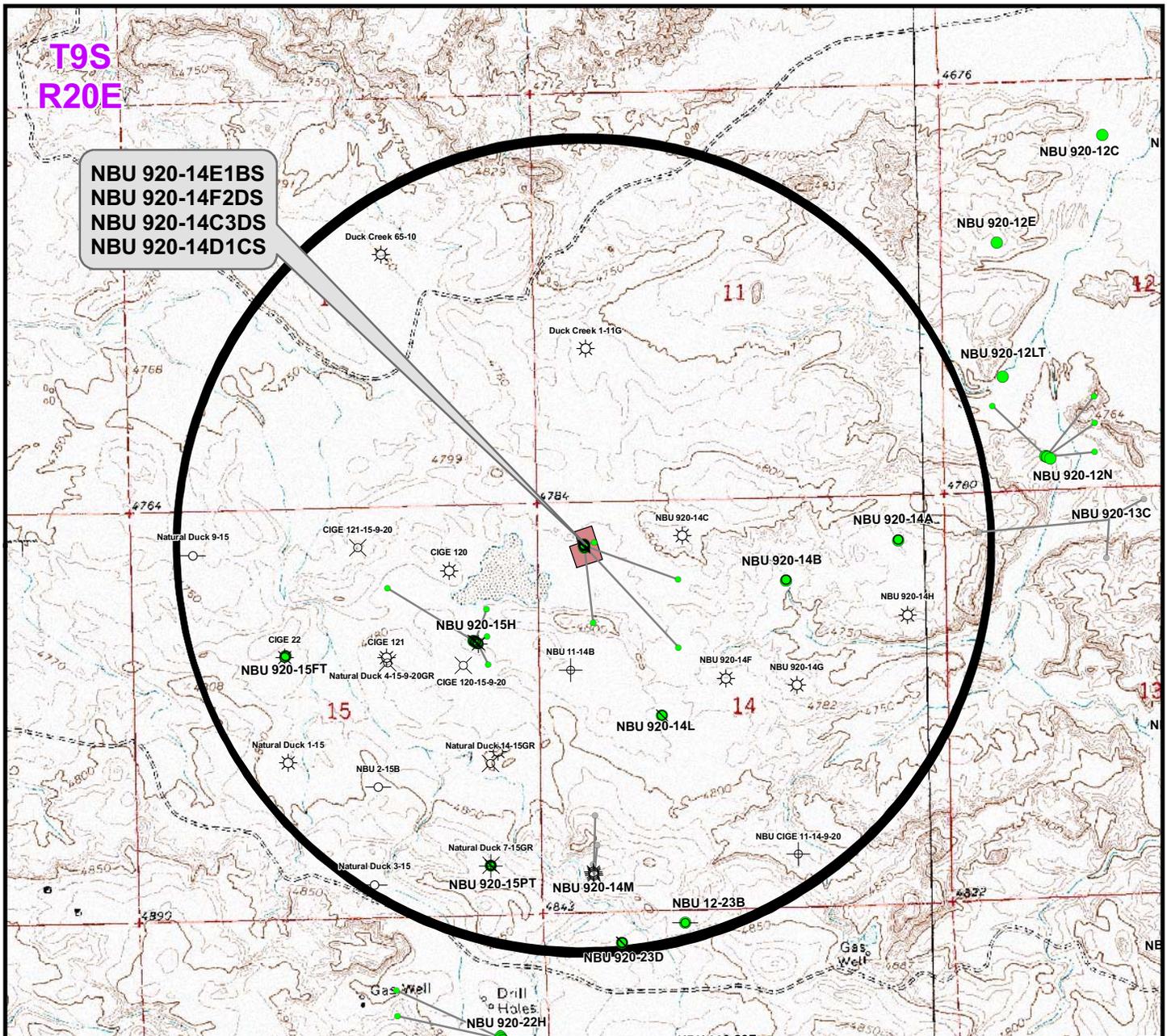
FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1000.00	1007.16	GREEN RIVER
1220.00	1236.60	BIRDSNEST
1770.00	1821.64	MAHOGANY
4104.00	4271.01	WASATCH
6409.00	6576.06	MESAVERDE
8515.99	8683.05	SEGO

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 10 T10S R22E			
System Datum: Mean Sea Level			

CASING DETAILS			
TVD	MD	Name	Size
2220.00	2300.52	8 5/8"	8.625



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

Proposed Well	Nearest Well Bore	Footage
NBU 920-14E1BS	NBU 11-14B	669ft
NBU 920-14F2DS	NBU 920-14F	734ft
NBU 920-14C3DS	NBU 920-14C	567ft
NBU 920-14D1CS	NBU 920-14C	1,145ft

**Legend**

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

**WELL PAD - NBU 920-14D**

**TOPO C**  
 NBU 920-14E1BS, NBU 920-14F2DS,  
 NBU 920-14C3DS & NBU 920-14D1CS  
 LOCATED IN SECTION 14, T9S, R20E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

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

1099 18th Street  
 Denver, Colorado 80202



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



SCALE: 1" = 2,000ft	NAD83 USP Central	<b>12</b>
DRAWN: JELo	DATE: 25 Dec 2009	
REVISED: TL	DATE: 30 Mar 2012	

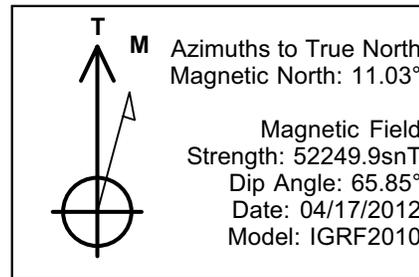
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12

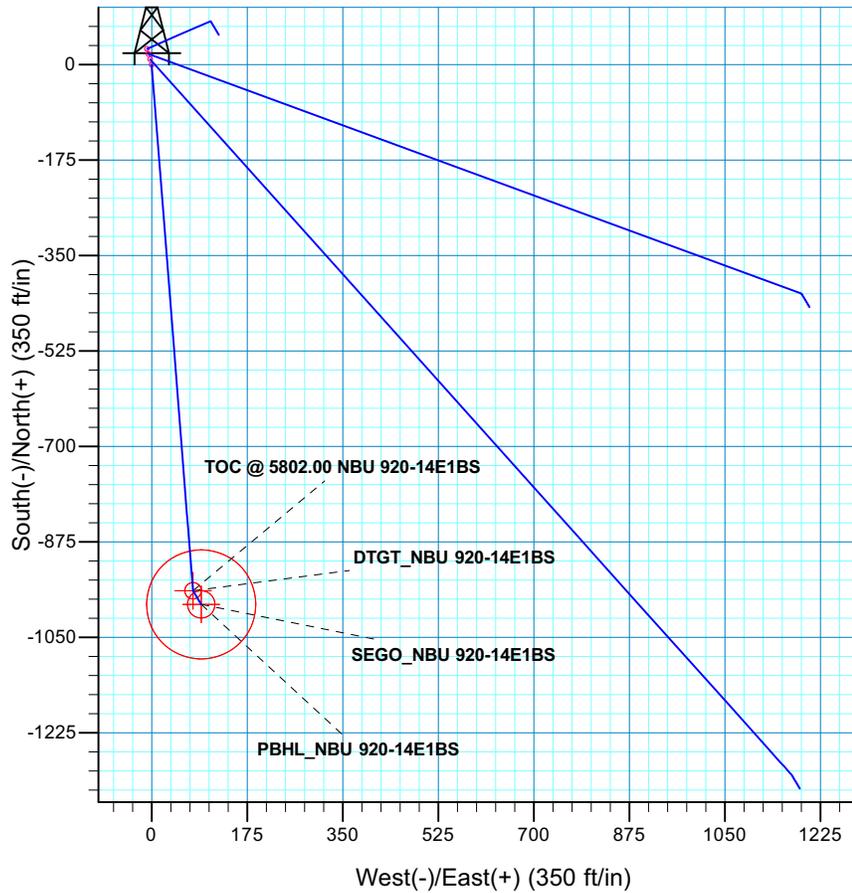
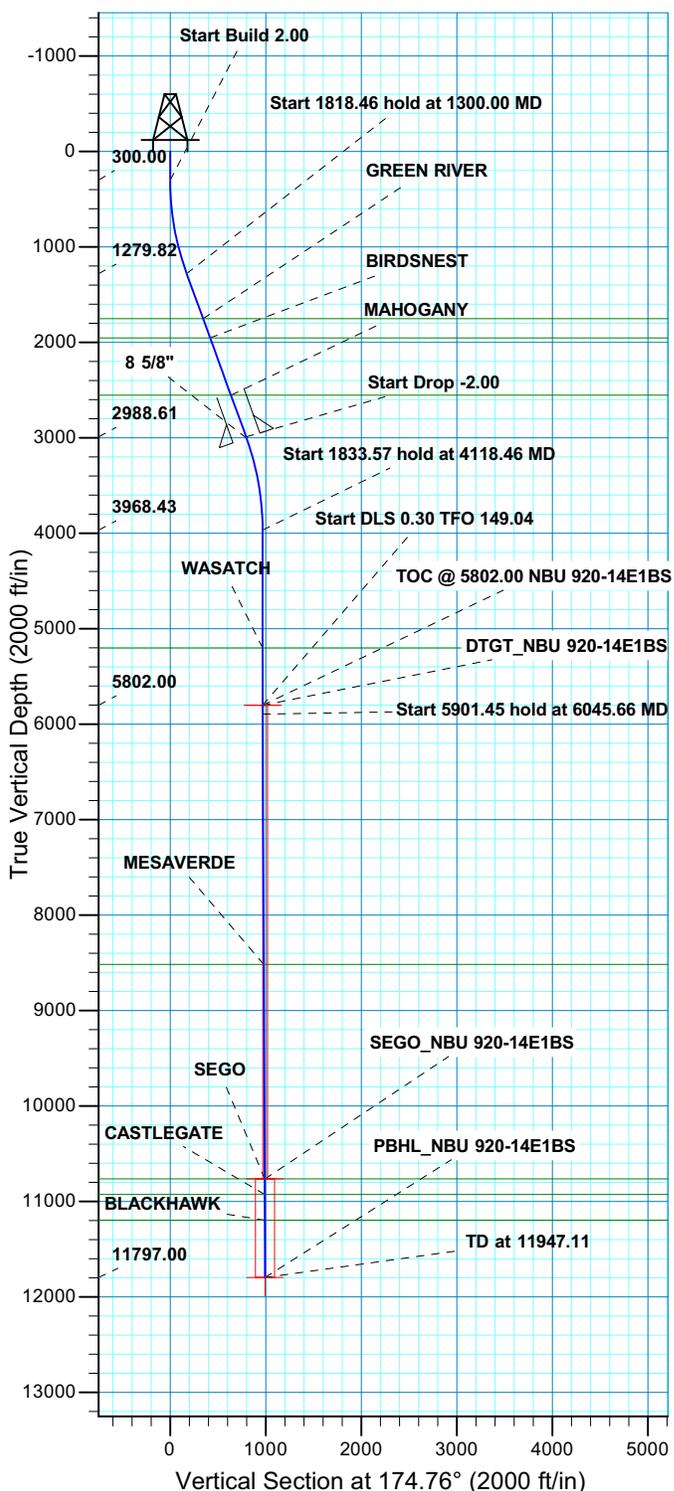
12 OF 16



Site: NBU 920-14D PAD  
Well: NBU 920-14E1BS  
Wellbore: OH  
Design: PLAN #1 PRELIMINARY



WELL DETAILS: NBU 920-14E1BS								
GL 4775 & KB 4 @ 4779.00ft (ASSUMED)								
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
	0.00	0.00	14543892.47	2020871.43	40.041041	-109.640724		
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
DTGT	5802.00	-964.52	75.70	14542929.22	2020961.85	40.038393	-109.640454	Circle (Radius: 15.00)
- plan hits target center								
TOC	5802.00	-964.52	75.70	14542929.22	2020961.85	40.038393	-109.640454	Point
- plan hits target center								
SEGO	10764.00	-989.52	90.70	14542904.45	2020977.23	40.038324	-109.640400	Circle (Radius: 25.00)
- plan misses target center by 5.06ft at 10914.12ft MD (10764.02 TVD, -985.18 N, 88.10 E)								
PBHL	11797.00	-989.52	90.70	14542904.45	2020977.23	40.038324	-109.640400	Circle (Radius: 100.00)
- plan hits target center								

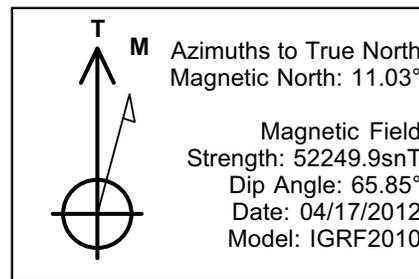


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Deg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1300.00	20.00	175.51	1279.82	-172.24	13.52	2.00	175.51	172.75	
3118.46	20.00	175.51	2988.61	-792.28	62.18	0.00	0.00	794.65	
4118.46	0.00	0.00	3968.43	-964.52	75.70	2.00	180.00	967.40	
5952.04	0.00	0.00	5802.00	-964.52	75.70	0.00	0.00	967.40	DTGT_NBU 920-14E1BS
6045.66	0.28	149.04	5895.63	-964.72	75.82	0.30	149.04	967.61	
11947.11	0.28	149.04	11797.00	-989.52	90.70	0.00	0.00	993.67	PBHL_NBU 920-14E1BS

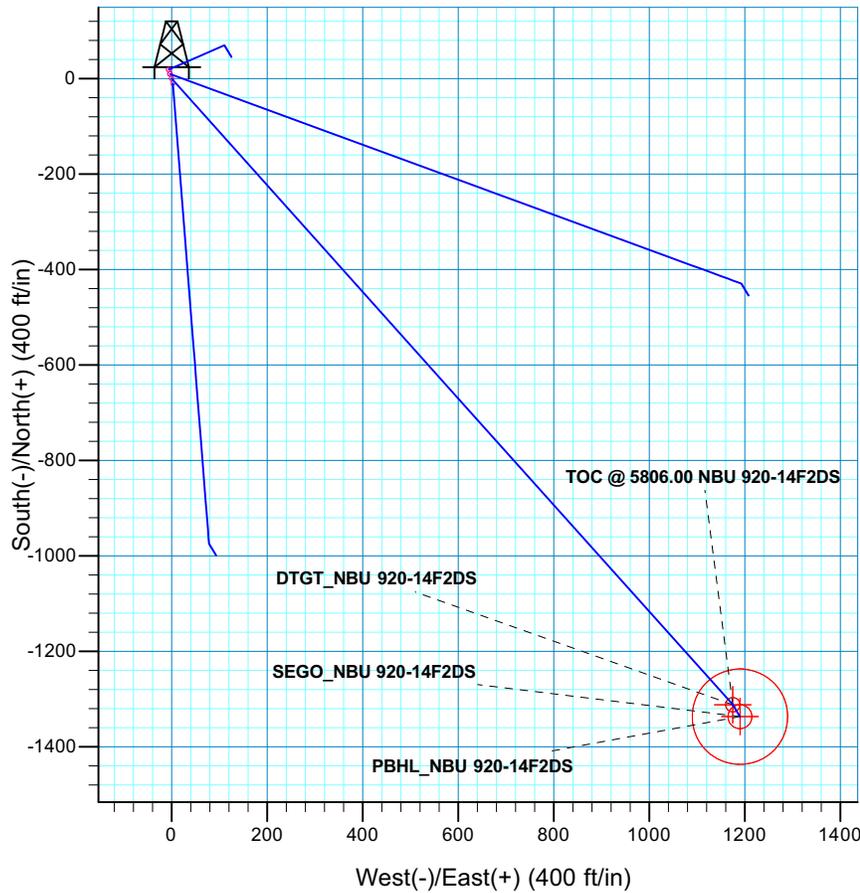
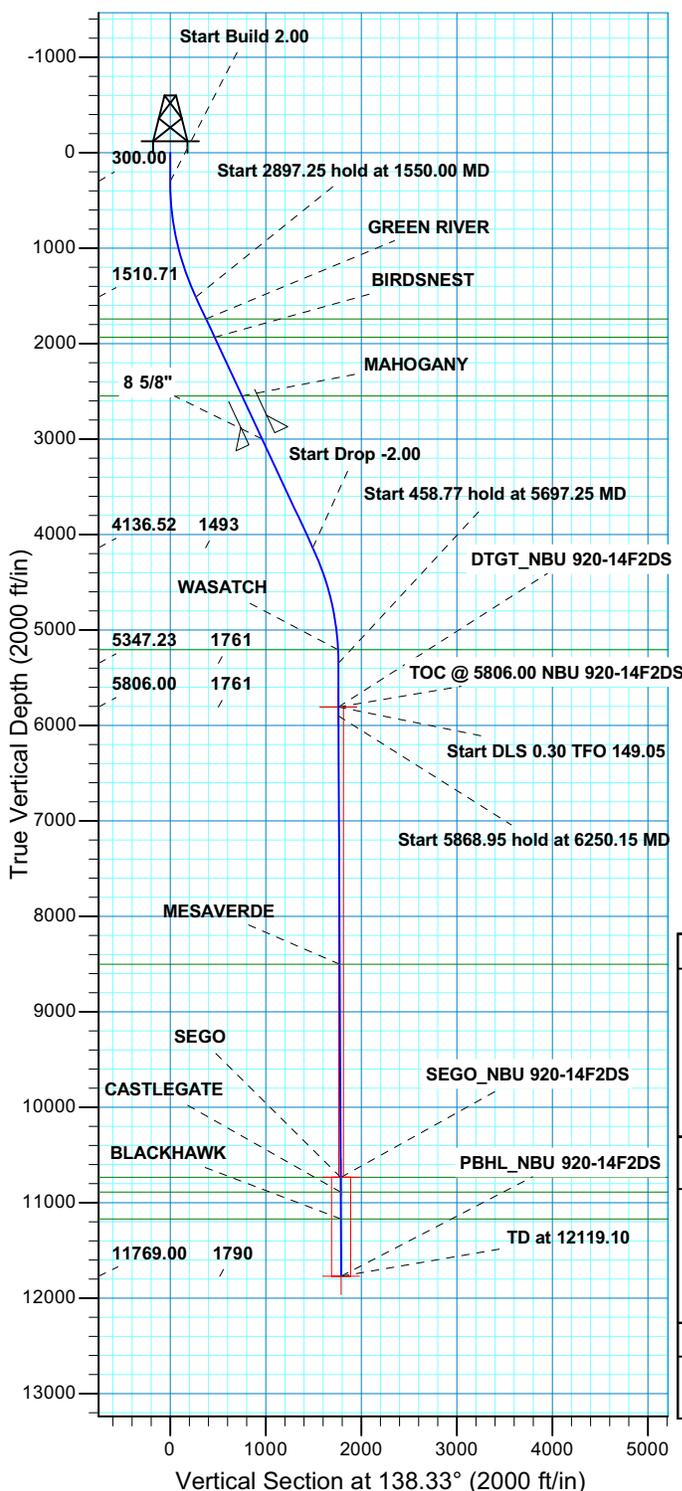
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N		
Geodetic System:	Universal Transverse Mercator (US Survey Feet)	
Datum:	NAD 1927 (NADCON CONUS)	
Ellipsoid:	Clarke 1866	
Zone:	Zone 12N (114 W to 108 W)	
Location:	SECTION 14 T9S R20E	
System Datum:	Mean Sea Level	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1752.00	1802.49	GREEN RIVER
1953.00	2016.39	BIRDSNEST
2553.00	2654.89	MAHOGANY
5202.00	5352.04	WASATCH
8518.00	8668.07	MESAVERDE
10764.00	10914.09	SEGO
10927.00	11077.10	CASTLEGATE
11197.00	11347.10	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
3003.00	3133.76	8 5/8"	8.625



WELL DETAILS: NBU 920-14F2DS									
GL 4775 & KB 4 @ 4779.00ft (ASSUMED)									
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
	0.00	0.00	14543902.26	2020868.48	40.041068	-109.640734			
DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
DTGT	5806.00	-1311.94	1175.08	14542608.42	2022063.45	40.037466	-109.636537	Circle (Radius: 15.00)	
- plan hits target center									
TOC	5806.00	-1311.94	1175.08	14542608.42	2022063.45	40.037466	-109.636537	Point	
- plan hits target center									
SEGO	10733.00	-1336.94	1190.08	14542583.65	2022078.83	40.037397	-109.636483	Circle (Radius: 25.00)	
- plan misses target center by 5.11ft at 11083.11ft MD (10733.03 TVD, -1332.56 N, 1187.45 E)									
PBHL	11769.00	-1336.94	1190.08	14542583.65	2022078.83	40.037397	-109.636483	Circle (Radius: 100.00)	
- plan hits target center									

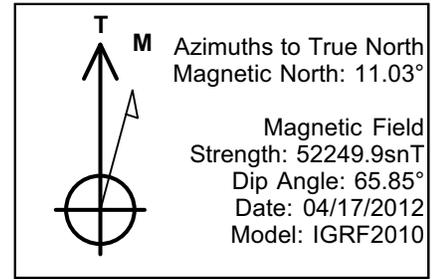


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Deg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1550.00	25.00	138.15	1510.71	-199.94	179.08	2.00	138.15	268.41	
4447.25	25.00	138.15	4136.52	-1112.00	996.00	0.00	0.00	1492.83	
5697.25	0.00	0.00	5347.23	-1311.94	1175.08	2.00	180.00	1761.24	DTGT_NBU 920-14F2DS
6156.03	0.00	0.00	5806.00	-1311.94	1175.08	0.00	0.00	1761.24	
6250.15	0.28	149.05	5900.12	-1312.14	1175.20	0.30	149.05	1761.47	
12119.10	0.28	149.05	11769.00	-1336.94	1190.08	0.00	0.00	1789.89	PBHL_NBU 920-14F2DS

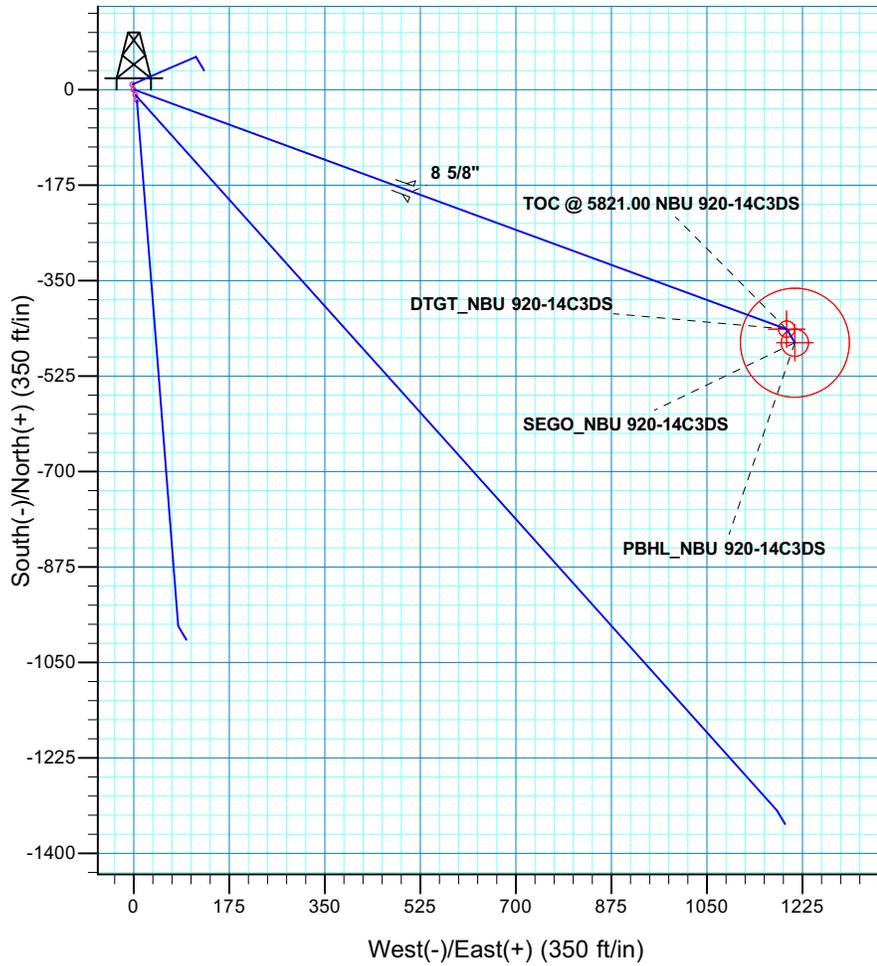
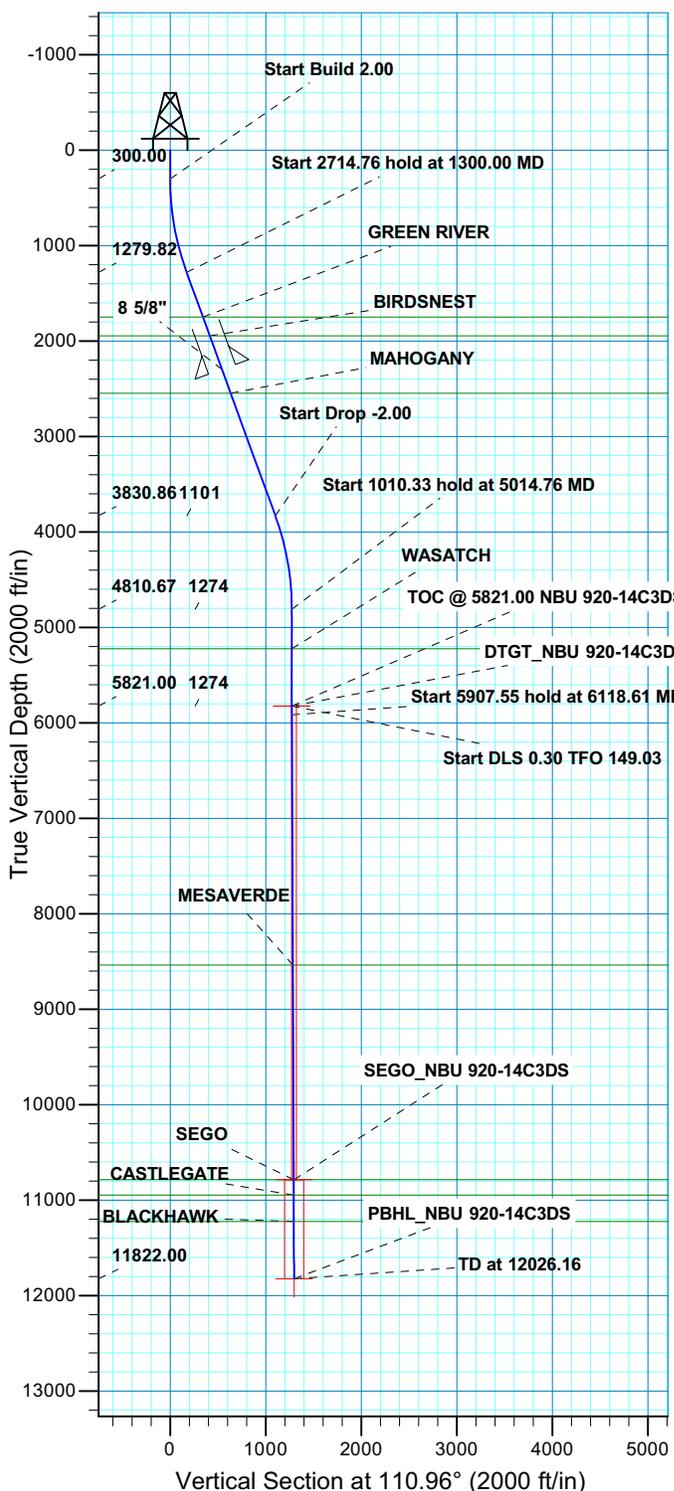
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N		
Geodetic System:	Universal Transverse Mercator (US Survey Feet)	
Datum:	NAD 1927 (NADCON CONUS)	
Ellipsoid:	Clarke 1866	
Zone:	Zone 12N (114 W to 108 W)	
Location:	SECTION 14 T9S R20E	
System Datum:	Mean Sea Level	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1741.00	1804.09	GREEN RIVER
1933.00	2015.94	BIRDSNEST
2547.00	2693.42	MAHOGANY
5206.00	5555.97	WASATCH
8502.00	8852.06	MESAVERDE
10733.00	11083.08	SEGO
10887.00	11237.09	CASTLEGATE
11169.00	11519.09	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2997.00	3189.94	8 5/8"	8.625



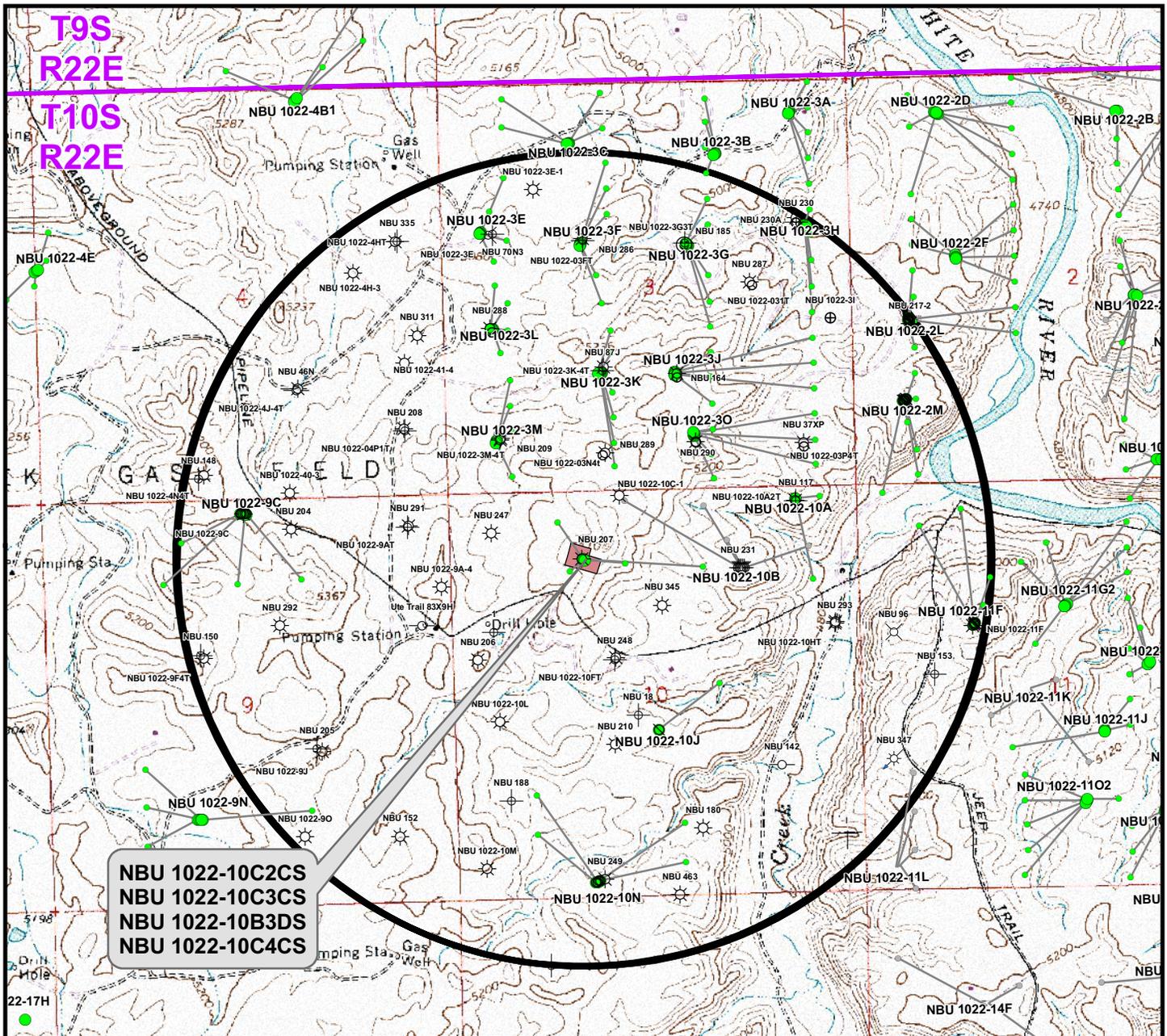
WELL DETAILS: NBU 920-14C3DS								
GL 4775 & KB 4 @ 4779.00ft (ASSUMED)								
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
	0.00	0.00	14543911.69	2020865.26	40.041094	-109.640745		
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
DTGT	5821.00	-438.96	1196.03	14543491.03	2022067.85	40.039889	-109.636473	Circle (Radius: 15.00)
- plan hits target center								
TOC	5821.00	-438.96	1196.03	14543491.03	2022067.85	40.039889	-109.636473	Point
- plan hits target center								
SEGO	10784.00	-463.96	1211.03	14543466.27	2022083.23	40.039820	-109.636419	Circle (Radius: 25.00)
- plan misses target center by 5.08ft at 10988.17ft MD (10784.02 TVD, -459.60 N, 1208.42 E)								
PBHL	11822.00	-463.96	1211.03	14543466.27	2022083.23	40.039820	-109.636419	Circle (Radius: 100.00)
- plan hits target center								



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1300.00	20.00	110.15	1279.82	-59.53	162.19	2.00	110.15	172.75	
4014.76	20.00	110.15	3830.86	-379.43	1033.84	0.00	0.00	1101.16	
5014.76	0.00	0.00	4810.67	-438.96	1196.03	2.00	180.00	1273.91	
6025.09	0.00	0.00	5821.00	-438.96	1196.03	0.00	0.00	1273.91	DTGT_NBU 920-14C3DS
6118.61	0.28	149.03	5914.52	-439.16	1196.15	0.30	149.03	1274.09	
12026.16	0.28	149.03	11822.00	-463.96	1211.03	0.00	0.00	1296.86	PBHL_NBU 920-14C3DS

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1747.00	1797.17	GREEN RIVER
1943.00	2005.75	BIRDSNEST
2545.00	2646.38	MAHOGANY
5221.00	5425.09	WASATCH
8535.00	8739.12	MESAVERDE
10784.00	10988.15	SEGO
10946.00	11150.15	CASTLEGATE
11222.00	11426.15	BLACKHAWK

CASING DETAILS			
TVD	MD	Name	Size
2295.00	2380.34	8 5/8"	8.625



NBU 1022-10C2CS  
 NBU 1022-10C3CS  
 NBU 1022-10B3DS  
 NBU 1022-10C4CS

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

Proposed Well	Nearest Well Bore	Footage
NBU 1022-10C2CS	NBU 207	572ft
NBU 1022-10C3CS	NBU 207	227ft
NBU 1022-10B3DS	NBU 231	448ft
NBU 1022-10C4CS	NBU 207	569ft

**Legend**

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

**WELL PAD - NBU 1022-10C**

TOPO C  
 NBU 1022-10C2CS, NBU 1022-10C3CS,  
 NBU 1022-10B3DS & NBU 1022-10C4CS  
 LOCATED IN SECTION 10, T10S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**Kerr-McGee Oil &  
 Gas Onshore L.P.**  
 1099 18th Street  
 Denver, Colorado 80202



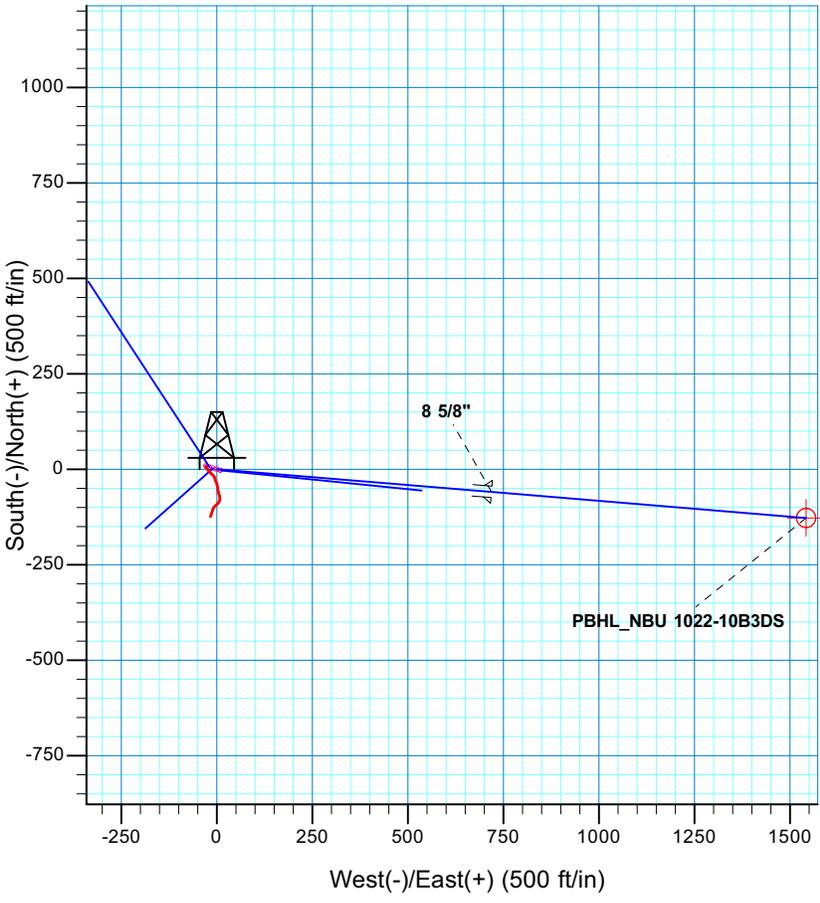
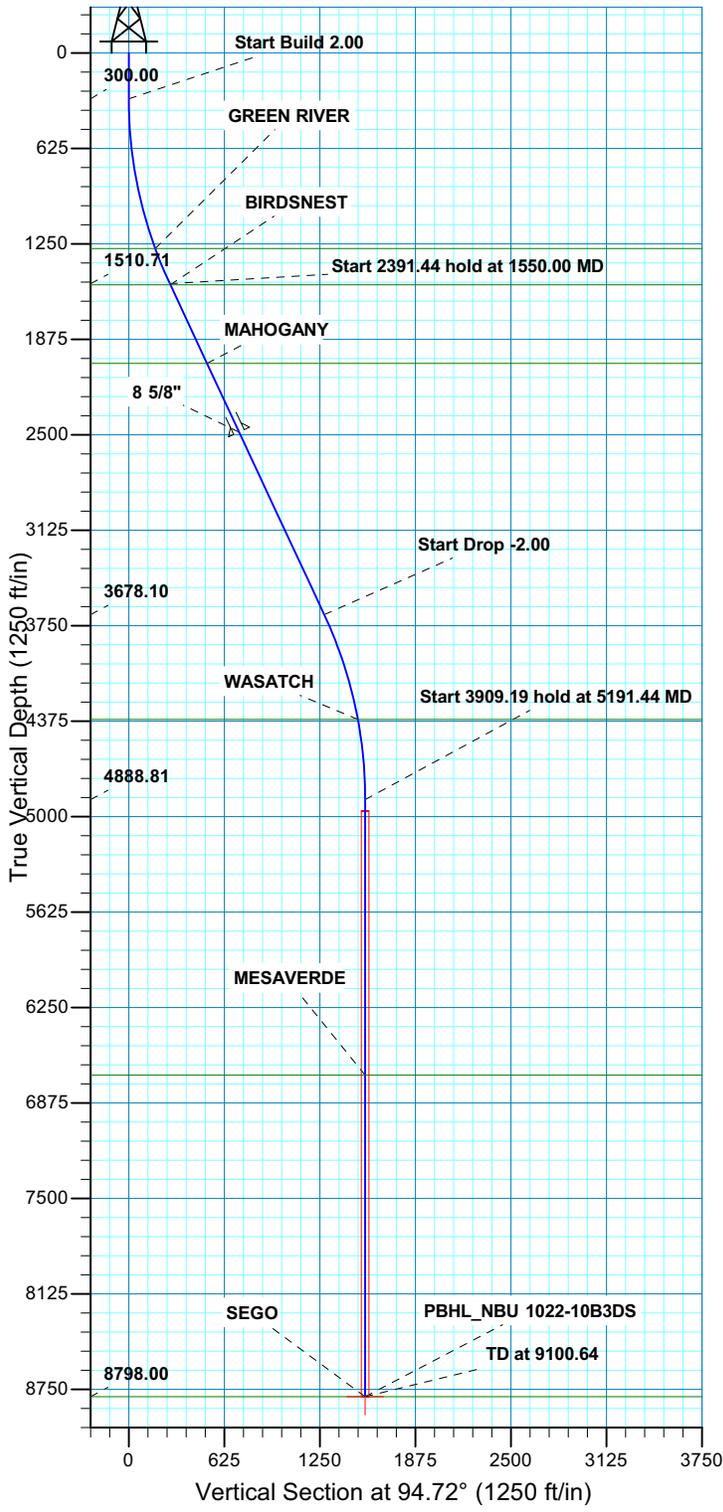
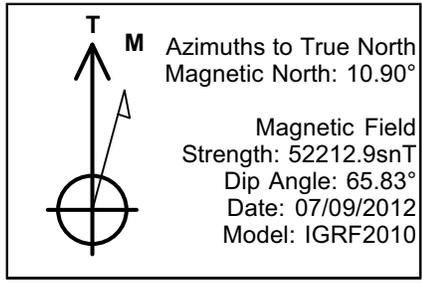
**CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan, Wyoming 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

SCALE: 1" = 2,000ft	NAD83 USP Central	12
DRAWN: TL	DATE: 12 June 2012	
REVISED:	DATE:	

SHEET NO:  
12 OF 16



WELL DETAILS: NBU 1022-10B3DS								
GL 5303 & KB 4 @ 5307.00ft (ASSUMED)								
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
	0.00	0.00	14518359.02	2080721.99	39.968241	-109.428571		
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8798.00	-127.43	1542.23	14518258.79	2082266.22	39.967891	-109.423068	Circle (Radius: 25.00)
- plan hits target center								



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1550.00	25.00	94.72	1510.71	-22.10	267.50	2.00	94.72	268.41	
3941.44	25.00	94.72	3678.10	-105.33	1274.73	0.00	0.00	1279.08	
5191.44	0.00	0.00	4888.81	-127.43	1542.23	2.00	180.00	1547.48	
9100.64	0.00	0.00	8798.00	-127.43	1542.23	0.00	0.00	1547.48	PBHL_NBU 1022-10B3DS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N			FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)	TVDPath	MDPath	Formation		
Datum: NAD 1927 (NADCON CONUS)	1280.00	1300.20	GREEN RIVER		
Ellipsoid: Clarke 1866	1518.00	1558.04	BIRDSNEST		
Zone: Zone 12N (114 W to 108 W)	2033.00	2126.28	MAHOGANY		
Location: SECTION 10 T10S R22E	4364.00	4663.65	WASATCH		
System Datum: Mean Sea Level	6693.00	6995.64	MESAVERDE		
	8797.99	9100.63	SEGO		

CASING DETAILS			
TVD	MD	Name	Size
2483.00	2622.80	8 5/8"	8.625

Plan: PLAN #1 PERMIT (NBU 1022-10B3DS/OH)

Received: July 19, 2012



Site: NBU 1022-10C PAD  
Well: NBU 1022-10C2CS  
Wellbore: OH  
Design: PLAN #1 PERMIT

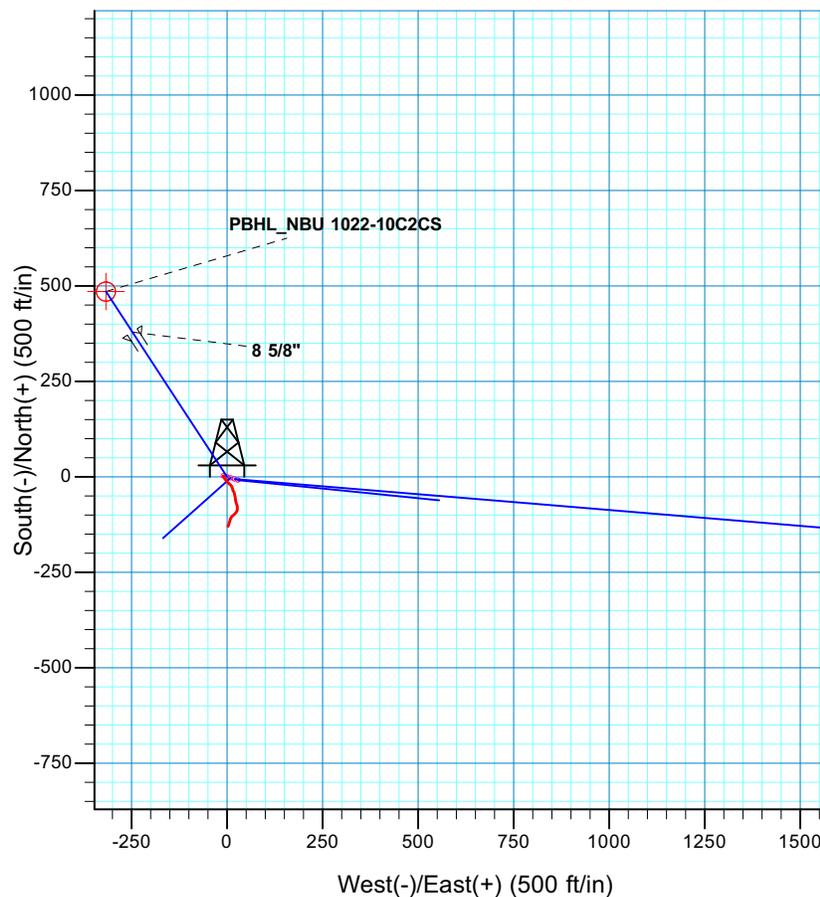
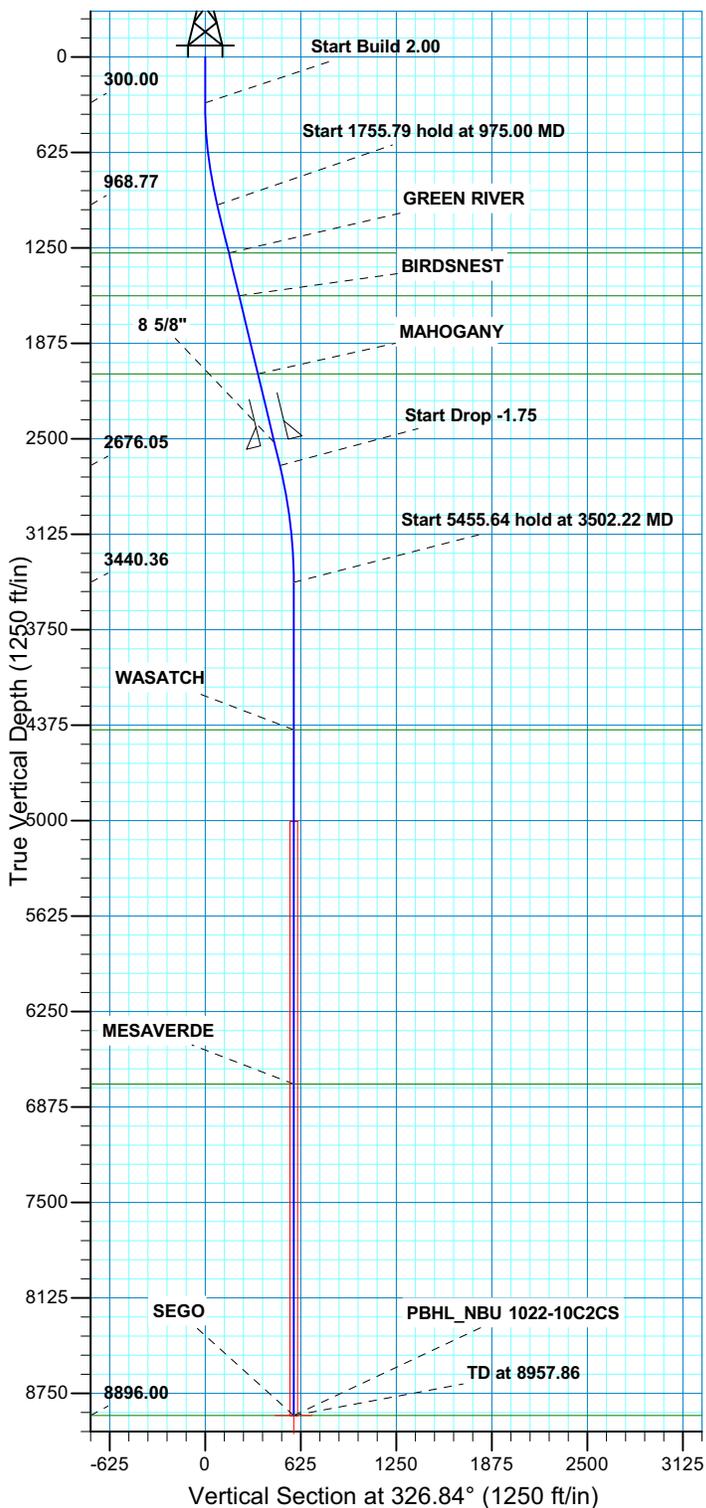


**T**  
**M**

Azimuths to True North  
Magnetic North: 10.90°

Magnetic Field  
Strength: 52212.9snT  
Dip Angle: 65.83°  
Date: 07/09/2012  
Model: IGRF2010

WELL DETAILS: NBU 1022-10C2CS								
GL 5303 & KB 4 @ 5307.00ft (ASSUMED)								
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
	0.00	0.00	14518364.51	2080702.83	39.968257	-109.428639		
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8896.00	485.13	-316.96	14518843.99	2080377.37	39.969589	-109.429770	Circle (Radius: 25.00)
- plan hits target center								



SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00		
975.00	13.50	326.84	968.77	66.27	-43.29	2.00	326.84	79.15		
2730.79	13.50	326.84	2676.05	409.40	-267.48	0.00	0.00	489.04		
3502.22	0.00	0.00	3440.36	485.13	-316.96	1.75	180.00	579.50		
8957.86	0.00	0.00	8896.00	485.13	-316.96	0.00	0.00	579.50	PBHL_NBU 1022-10C2CS	

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N				FORMATION TOP DETAILS			
Geodetic System: Universal Transverse Mercator (US Survey Feet)				TVDPPath	MDPath	Formation	
Datum: NAD 1927 (NADCON CONUS)				1284.00	1299.19	GREEN RIVER	
Ellipsoid: Clarke 1866				1564.00	1587.14	BIRDSNEST	
Zone: Zone 12N (114 W to 108 W)				2075.00	2112.66	MAHOGANY	
Location: SECTION 10 T10S R22E				4406.00	4467.86	WASATCH	
System Datum: Mean Sea Level				6726.00	6787.86	MESAVERDE	
				8896.00	8957.86	SEGO	

CASING DETAILS			
TVD	MD	Name	Size
2525.00	2575.45	8 5/8"	8.625

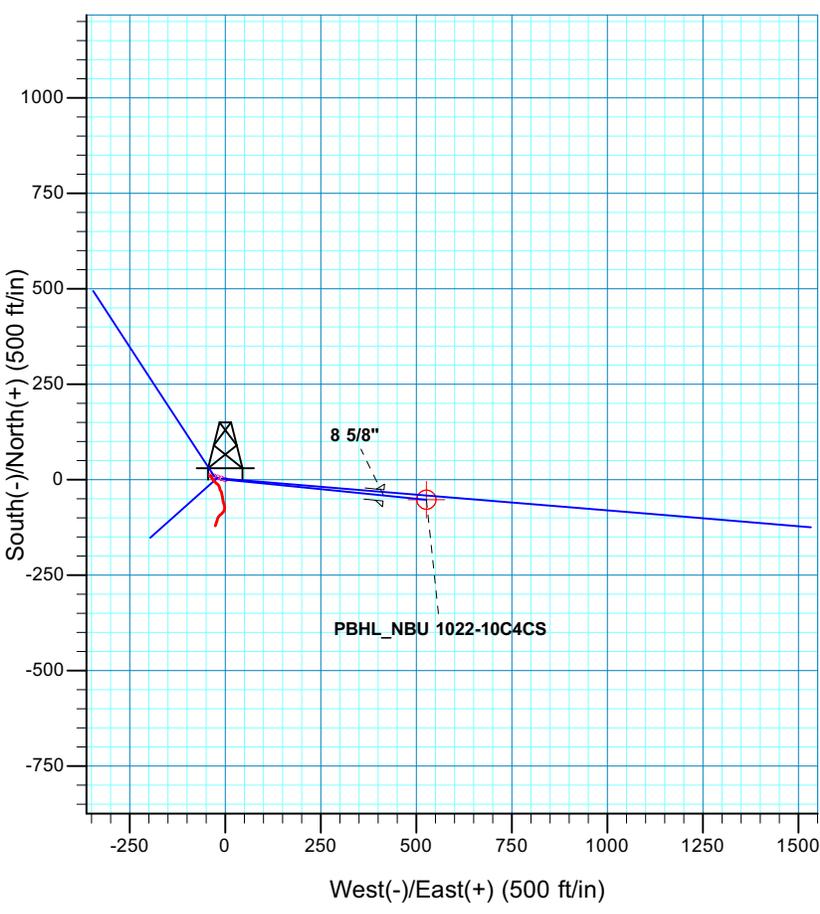
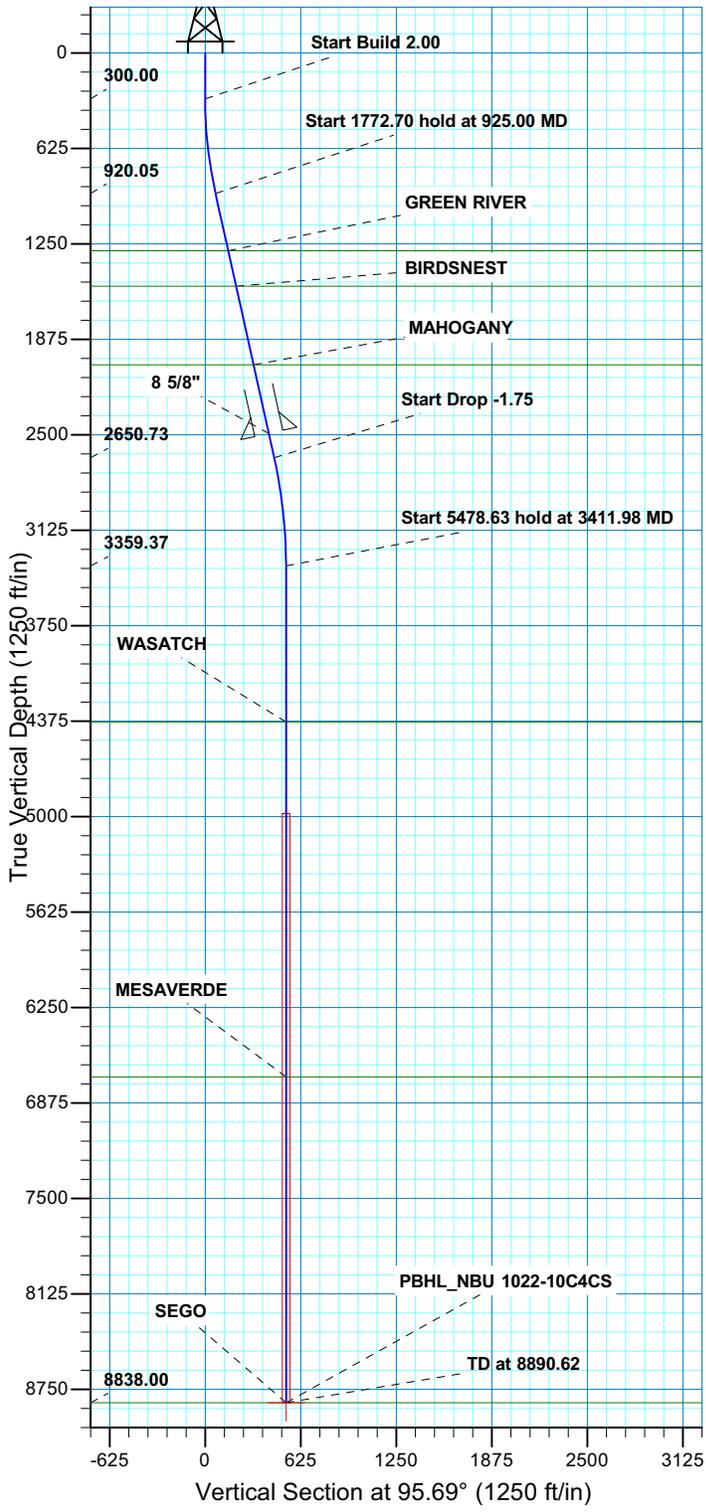
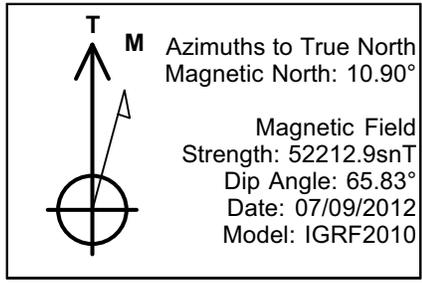
Plan: PLAN #1 PERMIT (NBU 1022-10C2CS/OH)



Site: NBU 1022-10C PAD  
Well: NBU 1022-10C4CS  
Wellbore: OH  
Design: PLAN #1 PERMIT



WELL DETAILS: NBU 1022-10C4CS							
GL 5303 & KB 4 @ 5307.00ft (ASSUMED)							
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
	0.00	0.00	14518356.28	2080731.56	39.968233	-109.428537	
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL	8838.00	-52.44	526.59	14518313.12	2081259.00	39.968089	-109.426658
- plan hits target center							
	Shape						
	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	
925.00	12.50	95.69	920.05	-6.73	67.57	2.00	95.69	67.91	
2697.70	12.50	95.69	2650.73	-44.75	449.37	0.00	0.00	451.59	
3411.98	0.00	0.00	3359.37	-52.44	526.59	1.75	180.00	529.20	
8890.62	0.00	0.00	8838.00	-52.44	526.59	0.00	0.00	529.20	PBHL_NBU 1022-10C4CS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N				FORMATION TOP DETAILS			
Geodetic System: Universal Transverse Mercator (US Survey Feet)		TVDPath	MDPath	Formation			
Datum: NAD 1927 (NADCON CONUS)		1295.00	1309.05	GREEN RIVER			
Ellipsoid: Clarke 1866		1528.00	1547.71	BIRDSNEST			
Zone: Zone 12N (114 W to 108 W)		2042.00	2074.19	MAHOGANY			
Location: SECTION 10 T10S R22E		4380.00	4432.62	WASATCH			
System Datum: Mean Sea Level		6704.00	6756.62	MESAVERDE			
		8838.00	8890.62	SEGO			

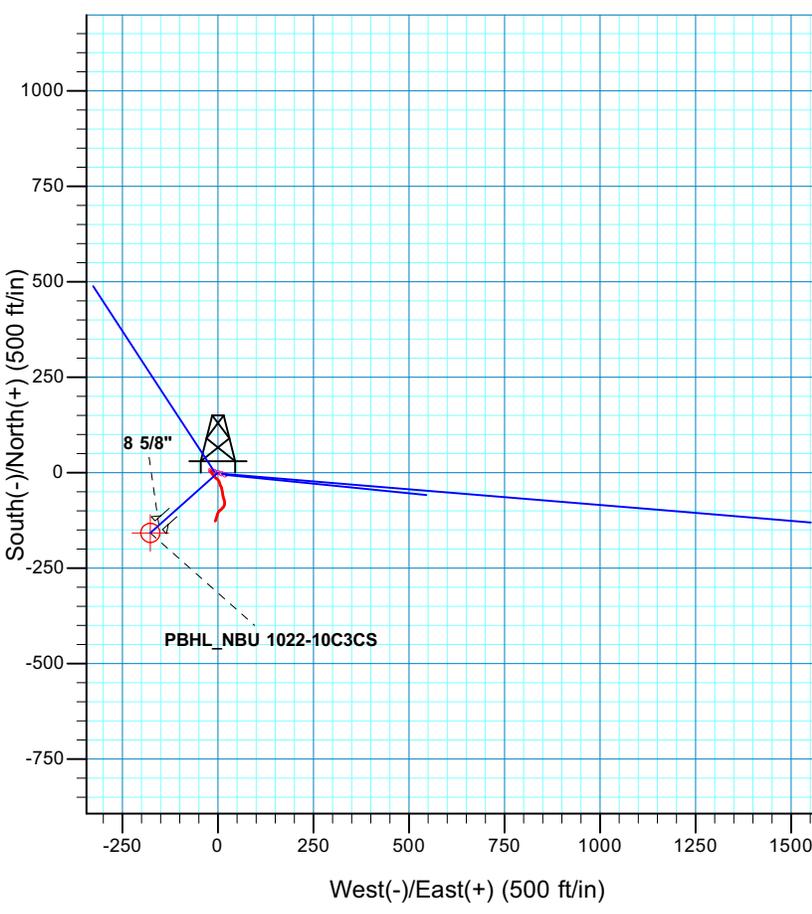
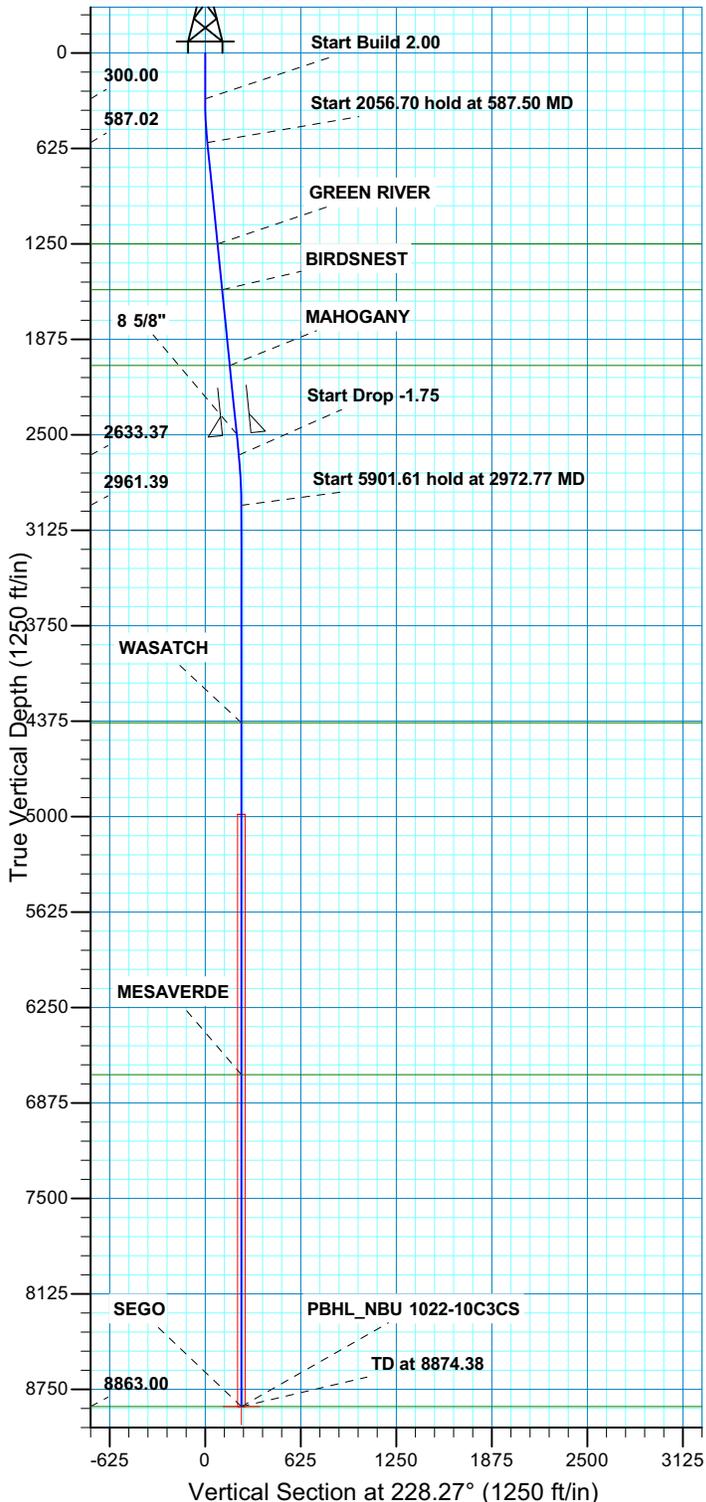
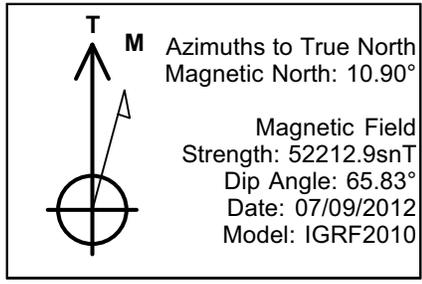
CASING DETAILS			
TVD	MD	Name	Size
2492.00	2535.11	8 5/8"	8.625



Site: NBU 1022-10C PAD  
 Well: NBU 1022-10C3CS  
 Wellbore: OH  
 Design: PLAN #1 PERMIT



WELL DETAILS: NBU 1022-10C3CS						
GL 5303 & KB 4 @ 5307.00ft (ASSUMED)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	14518361.77	2080712.41	39.968249	-109.428605	
DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
PBHL	8863.00	-157.70	-176.84	14518200.97	2080538.37	39.967816
						Longitude
						-109.429236
						Shape
						Circle (Radius: 25.00)
						- plan hits target center



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
587.50	5.75	228.27	587.02	-9.59	-10.76	2.00	228.27	14.41	
2644.20	5.75	228.27	2633.37	-146.74	-164.54	0.00	0.00	220.47	
2972.77	0.00	0.00	2961.39	-157.70	-176.84	1.75	180.00	236.94	
8874.38	0.00	0.00	8863.00	-157.70	-176.84	0.00	0.00	236.94	PBHL_NBU 1022-10C3CS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N			FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)	TVDPath	MDPath	Formation		
Datum: NAD 1927 (NADCON CONUS)	1251.00	1254.84	GREEN RIVER		
Ellipsoid: Clarke 1866	1551.00	1556.36	BIRDSNEST		
Zone: Zone 12N (114 W to 108 W)	2047.00	2054.87	MAHOGANY		
Location: SECTION 10 T10S R22E	4386.00	4397.38	WASATCH		
System Datum: Mean Sea Level	6690.00	6701.38	MESAVERDE		
	8863.00	8874.38	SEGO		

CASING DETAILS			
TVD	MD	Name	Size
2497.00	2507.14	8 5/8"	8.625

**From:** Jeff Conley  
**To:** Hill, Brad; Mason, Diana  
**CC:** Bonner, Ed; Davis, Jim; Garrison, LaVonne; danielle.piernot@anadarko.com  
**Date:** 8/21/2012 3:02 PM  
**Subject:** Anadarko APD Approvals

Greetings,

The following wells have been approved by SITLA:

Arch and Paleo Clearance granted on:

NBU 1022-10A1BS (4304752994)

NBU 1022-10A4CS (4304752995)

NBU 1022-10B3DS (4304752996)

NBU 1022-10C2CS (4304752997)

NBU 1022-10C4CS (4304752998)

NBU 1022-10C3CS (4304752999)

Thanks,

Jeff Conley  
SITLA Resource Specialist  
(801)-538-5157  
jconley@utah.gov

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-10C4CS 4304752			
String	SURF	PROD		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2490	8838		
Previous Shoe Setting Depth (TVD)	0	2490		
Max Mud Weight (ppg)	8.3	12.0		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5391	11.7		

Calculations	<b>SURF String</b>	<b>8.625</b>	"	
Max BHP (psi)	.052*Setting Depth*MW=	1075		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	776	NO	air/mist system, air bowl
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	527	NO	Reasonable depth in area
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	527	NO	
Required Casing/BOPE Test Pressure=		2373	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient	

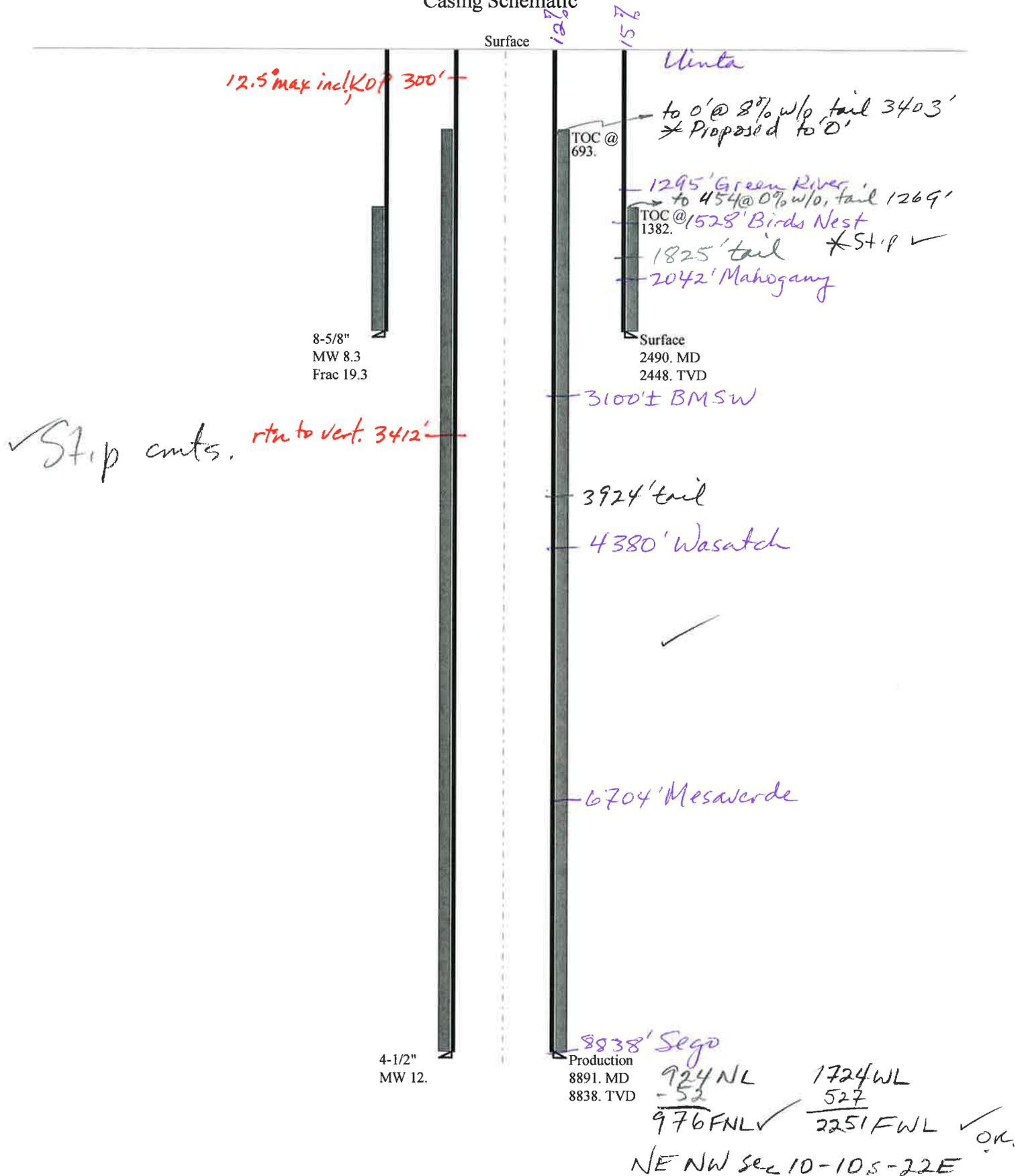
Calculations	<b>PROD String</b>	<b>4.500</b>	"	
Max BHP (psi)	.052*Setting Depth*MW=	5515		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4454	YES	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3571	YES	OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4118	NO	Reasonable
Required Casing/BOPE Test Pressure=		5000	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		2490	psi *Assumes 1psi/ft frac gradient	

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

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

# 43047529980000 NBU 1022-10C4CS

## Casing Schematic



Well name:	<b>43047529980000 NBU 1022-10C4CS</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Surface	Project ID: 43-047-52998
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 8.300 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: 108 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: 1,382 ft

**Burst**

Max anticipated surface pressure: 2,154 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,448 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: 2,183 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
Departure at shoe: 407 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 12.5 °

**Re subsequent strings:**

Next setting depth: 8,838 ft  
Next mud weight: 12.000 ppg  
Next setting BHP: 5,510 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,448 ft  
Injection pressure: 2,448 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	2490	8.625	28.00	I-55	LT&C	2448	2490	7.892	98604
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	1055	1880	1.781	2448	3390	1.38	68.5	348	5.08 J

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

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

Date: November 5, 2012  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2448 ft, a mud weight of 8.3 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

Well name:	<b>43047529980000 NBU 1022-10C4CS</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Production	Project ID: 43-047-52998
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 12.000 ppg  
Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 3,561 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP: 5,510 psi

No backup mud specified.

**Minimum design factors:**

**Collapse:**

Design factor: 1.125

**Burst:**

Design factor: 1.00

**Tension:**

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

Tension is based on air weight.  
Neutral point: 7,306 ft

Estimated cost: 183,361 (\$)

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 198 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

Cement top: 693 ft

**Directional Info - Build & Drop**

Kick-off point: 300 ft  
Departure at shoe: 529 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 (\$)
2	5000	4.5	11.60	I-80	DQX	4947	5000	3.875	132000
1	3891	4.5	11.60	I-80	LT&C	8838	8891	3.875	51361

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
2	3084	5986	1.941	4650	7780	1.67	102.5	267	2.60 J
1	5510	6360	1.154	5506	7780	1.41	45.1	212	4.70 J

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

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

Date: November 5, 2012  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 8838 ft, a mud weight of 12 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 1022-10C4CS  
**API Number** 43047529980000      **APD No** 6463      **Field/Unit** NATURAL BUTTES  
**Location: 1/4,1/4** NENW      **Sec** 10      **Tw** 10.0S      **Rng** 22.0E      924 FNL 1724 FWL  
**GPS Coord (UTM)** 634133 4425400      **Surface Owner**

### Participants

Danielle Piernot, Doyle Holmes, Charles Chase, (Anadarko); Jeff Conley, Jim Davis, (SITLA); Mitch Batty, Wes Wood, (Timberline); David Hackford, (DOGM).

### Regional/Local Setting & Topography

The general area is in the southeast portion of the Natural Buttes Unit, which contains the White River and rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. The White River is 3/4 mile to the east. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 45 air miles to the northwest. Access from Vernal is approximately 56.4 road miles following Utah State, Uintah County and oilfield development roads to the location.

Both the surface and minerals are owned by SITLA.

### Surface Use Plan

#### **Current Surface Use**

Grazing  
Wildlfe Habitat  
Existing Well Pad

<b>New Road Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0	<b>Width 292 Length 400</b>	Onsite	UNTA

**Ancillary Facilities** N

**Waste Management Plan Adequate?** Y

### Environmental Parameters

**Affected Floodplains and/or Wetlands** N

#### **Flora / Fauna**

Area beyond the existing pad is poorly vegetated with greasewood, cheatgrass, black sagebrush, broom snakeweed, Sitanion hystrix, shadscale, pepper weed, halogeton and annuals.

Sheep, deer, antelope, coyote, and other small mammals and birds.

#### **Soil Type and Characteristics**

Rocky sandy clay loam.

**Erosion Issues** N**Sedimentation Issues** N**Site Stability Issues** N**Drainage Diversion 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**

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

**Characteristics / Requirements**

Reserve pit will be located on the north side of the location and will be 235' long and 80' wide and 12' deep. It will be lined with a plastic liner and also a felt sub-liner. The east side of pit will be in cut, and the west side will be in as much as 5.2' of fill.

**Closed Loop Mud Required?** N **Liner Required?** Y **Liner Thickness** 30 **Pit Underlayment Required?** Y**Other Observations / Comments**David Hackford  
**Evaluator**8/7/2012  
**Date / Time**

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**Application for Permit to Drill  
Statement of Basis  
Utah Division of Oil, Gas and Mining**

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<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
6463	43047529980000	LOCKED	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 1022-10C4CS		<b>Unit</b>	NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>	DRILL	
<b>Location</b>	NENW 10 10S 22E S 924 FNL (UTM) 634143E 4425396N	1724 FWL	GPS Coord		

**Geologic Statement of Basis**

Kerr McGee proposes to set 2,500' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 3,100'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the proposed location. 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

11/1/2012  
Date / Time

**Surface Statement of Basis**

The general area is in the southeast portion of the Natural Buttes Unit, which contains the White River and rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. An occasional pond has been constructed to supply water for livestock and antelope.

The pad of the existing NBU 207 producing gas well is proposed to be enlarged for an additional 4 wells. They are the NBU 1022-10B3DS, NBU 1022-10C2CS, NBU 1022-10C3CS and the NBU 1022-10C4CS. Bitter Creek, which is an ephemeral drainage, enters the White River 3/4 mile to the east. The existing pad shows no stability problems. It is expected that the location including the reserve pit should be stable and it is the only suitable site in the area.

Both the surface and minerals are owned by SITLA. Jim Davis and Jeff Conley of SITLA attended the presite and were agreeable to the modifications. They had no additional concerns regarding the proposal.

Utah Division of Wildlife Resources personnel were invited to the presite, but did not attend.

David Hackford  
Onsite Evaluator

8/7/2012  
Date / Time

**Conditions of Approval / Application for Permit to Drill**

<b>Category</b>	<b>Condition</b>
-----------------	------------------

API Well Number: 43047529980000

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

Pits The reserve pit should be located on the north side of the location.

RECEIVED: November 08, 2012

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 7/19/2012

API NO. ASSIGNED: 43047529980000

WELL NAME: NBU 1022-10C4CS

OPERATOR: KERR-MCGEE OIL &amp; GAS ONSHORE, L.P. (N2995)

PHONE NUMBER: 720 929-6156

CONTACT: Danielle Piernot

PROPOSED LOCATION: NENW 10 100S 220E

Permit Tech Review: 

SURFACE: 0924 FNL 1724 FWL

Engineering Review: 

BOTTOM: 0970 FNL 2251 FWL

Geology Review: 

COUNTY: UINTAH

LATITUDE: 39.96809

LONGITUDE: -109.42926

UTM SURF EASTINGS: 634143.00

NORTHINGS: 4425396.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: UO 01197

PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 3 - State

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

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

Commingle 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 - Commingle - ddoucet  
 5 - Statement of Basis - bhll  
 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 1022-10C4CS

**API Well Number:** 43047529980000

**Lease Number:** UO 01197

**Surface Owner:** STATE

**Approval Date:** 11/8/2012

### Issued to:

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

### Authority:

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

### Duration:

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

### Commingle:

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

### General:

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

### Conditions of Approval:

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:**

A handwritten signature in black ink, appearing to read "J. Rogers", written in a cursive style.

For John Rogers  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 01197
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.		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 1022-10C4CS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047529980000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0924 FNL 1724 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 10 Township: 10.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH	
	<b>STATE:</b> UTAH	
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 6/21/2013  <input type="checkbox"/> DRILLING REPORT Report Date:	<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.		
Spud well 06/21/2013 @ 10:00. MIRU Triple A Bucket Rig, drill 20" conductor hole to 40', run 14", 36.7# schedule 10 conductor pipe, cement with 28 sacks ready mix. Anticipated surface spud date and surface casing cement 07/08/2013.		
		<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY June 25, 2013</b>
<b>NAME (PLEASE PRINT)</b> Doreen Green	<b>PHONE NUMBER</b> 435 781-9758	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 6/24/2013	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5.LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 01197
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  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.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7.UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 1022-10C4CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047529980000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511  <b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0924 FNL 1724 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 10 Township: 10.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> 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"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 8/5/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width:100px;" type="text"/>

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

Drilled to 2,627 ft. in July 2013.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 August 07, 2013

<b>NAME (PLEASE PRINT)</b> Teena Paulo	<b>PHONE NUMBER</b> 720 929-6236	<b>TITLE</b> Staff Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/5/2013	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
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.	
<b>1. TYPE OF WELL</b> Gas Well	<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 01197
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0924 FNL 1724 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 10 Township: 10.0S Range: 22.0E Meridian: S	<b>8. WELL NAME and NUMBER:</b> NBU 1022-10C4CS
<b>PHONE NUMBER:</b> 720 929-6511	<b>9. API NUMBER:</b> 43047529980000
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	<b>COUNTY:</b> UINTAH
	<b>STATE:</b> 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"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/4/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
 Drilled to 8,890 ft. in August 2013.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 October 02, 2013

<b>NAME (PLEASE PRINT)</b> Matthew P Wold	<b>PHONE NUMBER</b> 720 929-6993	<b>TITLE</b> Regulatory Analyst I
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/4/2013	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5.LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 01197
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  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.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7.UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 1022-10C4CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047529980000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511  <b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0924 FNL 1724 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 10 Township: 10.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> 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"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 10/4/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width:100px;" type="text"/>

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

Started completing the well. Well TD at 8,890 ft.

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

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

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 01197	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
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.	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	
<b>8. WELL NAME and NUMBER:</b> NBU 1022-10C4CS	
<b>9. API NUMBER:</b> 43047529980000	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 <span style="float: right;"><b>PHONE NUMBER:</b> 720 929-6511</span>	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0924 FNL 1724 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 10 Township: 10.0S Range: 22.0E Meridian: S	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> 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"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 10/15/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	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 10/15/2013. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 October 18, 2013

<b>NAME (PLEASE PRINT)</b> Kay E. Kelly	<b>PHONE NUMBER</b> 720 929 6582	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 10/17/2013	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  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.	5. LEASE DESIGNATION AND SERIAL NUMBER: UO 01197
1. TYPE OF WELL Gas Well	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	8. WELL NAME and NUMBER: NBU 1022-10C4CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0924 FNL 1724 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NENW Section: 10 Township: 10.0S Range: 22.0E Meridian: S	9. API NUMBER: 43047529980000
5. PHONE NUMBER: 720 929-6511	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"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 11/26/2013	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> OTHER	OTHER: <input type="text" value="ACTS PIT"/>

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

FINISHED DRILLING TO 8890 ON 8/4/2013. CEMENTED PRODUCTION CASING. RELEASED H&P 298 RIG ON 8/6/2013. DETAILS OF CASING AND CEMENT WAS INCLUDED WITH THE WELL COMPLETION REPORT. THE PIT ON THIS LOCATION WILL BE REFURBISHED AND UTILIZED AS PART OF THE ACTS SYSTEM.

**Approved by the Utah Division of Oil, Gas and Mining**  
**Date:** January 09, 2014  
**By:** 

<b>NAME (PLEASE PRINT)</b> Teena Paulo	<b>PHONE NUMBER</b> 720 929-6236	<b>TITLE</b> Staff Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/26/2013	

**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: <b>UT ST UO 01197 ST</b>
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: <b>KERR-MCGEE OIL AND GAS ONSHORE LP</b>		7. UNIT or CA AGREEMENT NAME <b>UTU63047A</b>
3. ADDRESS OF OPERATOR: P.O. Box 173779 CITY Denver STATE Co ZIP 82017 PHONE NUMBER: 720-929-6000		8. WELL NAME and NUMBER: <b>NBU 1022-10C4CS</b>
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: <b>NENW 924 FNL 1724 FWL</b> AT TOP PRODUCING INTERVAL REPORTED BELOW: <b>NENW 965 FNL 2254 FWL</b> AT TOTAL DEPTH: <b>NENW 973 FNL 2260 FWL</b>		9. API NUMBER: <b>43-047-52998</b>
		10. FIELD AND POOL, OR WILDCAT <b>Natural Buttes</b>
		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>NENW 10 10S 22E SLB</b>
		12. COUNTY <b>UINTAH</b>
		13. STATE <b>UTAH</b>

14. DATE SPUDDED: <b>6/21/2013</b>	15. DATE T. D. REACHED: <b>8/4/2013</b>	16. DATE COMPLETED: <b>10/15/2013</b>	ABANDONED <input type="checkbox"/> READY TO PRODUCE <input checked="" type="checkbox"/>	17. ELEVATIONS (DF, RKB, RT, GL): <b>5328 RKB</b>
18. TOTAL DEPTH: MD <b>8890</b> TVD <b>8838</b>	19. PLUG BACK T.D.: MD <b>8816</b> TVD <b>8764</b>	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)  
**CBL/GR/CCL/TEMP**

23  
 WAS WELL CORED? NC  YES  (Submit analysis)  
 WAS DST RUN? NC  YES  (Submit report)  
 DIRECTIONAL SURVEY? NC  YES  (Submit copy)

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

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20	14 STL	36.7	0	40		28			
11	8.63 J-55	28	26	2597		900		0	
7.875	4.5 I-80	11.6	0	8864		1450		1450	

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2.375	8423							

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	7124	8688			7,124 8,688	0.36	172	Open <input checked="" type="checkbox"/>	Squeezed <input type="checkbox"/>
(B)								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
7124-8688	PUMP 11,840 BBL SLICKWATER AND 246,313 LBS 30/50 MESH SAND
	8 STAGES

29. ENCLOSED ATTACHMENTS: <input type="checkbox"/> ELECTRICAL/MECHANICAL LOGS <input type="checkbox"/> SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION <input type="checkbox"/> GEOLOGICAL REPORT <input type="checkbox"/> CORE ANALYSIS <input type="checkbox"/> DST REPORT <input type="checkbox"/> OTHER:	30. WELL STATUS:  <b>PRODUCING</b>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------

31. INITIAL PRODUCTION

INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED: <b>10/15/2013</b>		TEST DATE: <b>10/22/2013</b>		HOURS TESTED: <b>24</b>		TEST PRODUCTION RATES: →	OIL - BBL: <b>0</b>	GAS - MCF: <b>2840</b>	WATER - BBL: <b>0</b>	PROD. METHOD: <b>Flowing</b>
CHOKE SIZE: <b>20/64</b>	TBG. PRESS. <b>1682</b>	CSG. PRESS. <b>2216</b>	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR RATES: →	OIL - BBL: <b>0</b>	GAS - MCF: <b>2840</b>	WATER - BBL: <b>0</b>	INTERVAL STATUS <b>Producing</b>

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 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 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 RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS

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

**SOLD**

33. SUMMARY OF POROUS ZONES (Include Aquifers):

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

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER	1248
				BIRD'S NEST	1608
				MAHOGANY	2074
				WASATCH	4461
				MESAVERDE	6747

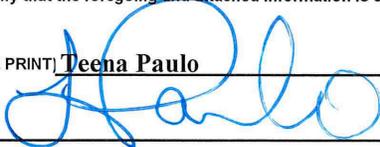
35. ADDITIONAL REMARKS (Include plugging procedures)

The first 210 ft. of the surface hole was drilled with a 12 ¼ in. bit. The remainder of surface hole was drilled with an 11 in. bit. DQX csg was run from surface to 4942 ft.; LTC csg was run from 4942 ft. to 8864 ft. Attached is the chronological well history, perforation report & final survey.

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

NAME (PLEASE PRINT) Teena Paulo

TITLE Staff Regulatory Specialist

SIGNATURE 

DATE 11-13-13

This report must be submitted within 30 days of

- completing or plugging a new well
- reentering a previously plugged and abandoned well
- drilling horizontal laterals from an existing well bore
- significantly deepening an existing well bore below the previous bottom-hole depth
- recompleting to a different producing formation
- 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 1022-10C4CS GREEN				Spud Date: 7/3/2013				
Project: UTAH-UINTAH			Site: NBU 1022-10C PAD			Rig Name No: PROPETRO 12/12, H&P 298/298		
Event: DRILLING			Start Date: 6/16/2013			End Date: 8/6/2013		
Active Datum: RKB @5,328.00usft (above Mean Sea Level)				UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/NW/0/1724/0/0				

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/3/2013	10:00 - 12:00	2.00	MIRU	01	B	P	66	SKID RIG 20' RIG UP DIVERTER & FLOW LINE. SPOT RIG MAT OVER WELL. SPOT RIG OVER WELL. SET CAT WALK & PIPE RACKS. HOOK UP AND PRIME PUMP.
	12:00 - 12:30	0.50	MIRU	23		P	66	PRE SPUD JOB SAFETY MEETING WITH RIG CREW, NOV CREW, AND SCIENTIFIC CREW. REVIEW DIRECTIONAL PLANS WITH DIRECTIONAL DRILLERS PRIOR TO SPUD.
	12:30 - 13:00	0.50	DRLSUR	06	A	P	66	PICK UP 12 1/4" BIT & 8" MUD MOTOR. TRIP IN HOLE.
	13:00 - 14:00	1.00	DRLSUR	02	B	P	66	DRILL 12.25" SURFACE HOLE F/44'- T/ 210' BIT ROP= 166' @ 166 FPH WOB= 5-15K. RPM= TOP DRIVE~55 / MOTOR ~83 / TOTAL RPM~138 PUMPING 491 GPM @ 120 SPM STAND PIPE PRESSURE ON/OFF BOTTOM = 800/600 TORQUE ON/OFF BOTTOM = 2,700/700 UP/DN/ROT = 22/20/20 PEAK ON LINE MUD WT = 8.4
	14:00 - 14:30	0.50	DRLSUR	06	A	P	232	TRIP OUT OF HOLE. LAY DOWN 12 1/4" BIT
	14:30 - 16:00	1.50	DRLSUR	06	A	P	232	PICK UP 11" BIT & DIRECTIONAL ASSEMBLY, SCRIBE. TRIP IN HOLE
	16:00 - 0:00	8.00	DRLSUR	02	B	P	232	DRILL 11". SURFACE HOLE, F/ 210' - T/ 1,580', 1,370' @ 171.25 FPH WEIGHT ON BIT 18-25 K. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. PUMPING 491 GALLON PER MINUTE AT 120 STROKES PER MINUTES. PUMP PRESSURE ON/OFF(BOTTOM) 1,050/800 TORQUE ON OFF = 2,700/1,000 UP/DOWN/ ROT 65/55/60 K. DRAG 5 K. PEAK ON LINE MUD WT 8.4 SLID 139' = 9.9% 2.45 ABOVE & 1.74' LEFT OF THE LINE HOLE ISSUES= LOST CIRC @ 1730'
7/4/2013	0:00 - 6:00	6.00	DRLSUR	02	B	P	1602	DRILL 11". SURFACE HOLE, F/ 1580' - T/ 2,280', 700' @ 116.6 FPH WEIGHT ON BIT 18-25 K. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. PUMPING 491 GALLON PER MINUTE AT 120 STROKES PER MINUTES. PUMP PRESSURE ON/OFF(BOTTOM) 1,170/920 TORQUE ON OFF = 3,100/1,400 UP/DOWN/ ROT 70/60/65 K. DRAG 5 K. PEAK ON LINE MUD WT 8.4 SLID 139' = 9.9% 2.45 ABOVE & 1.74' LEFT OF THE LINE HOLE ISSUES= LOST CIRC @ 1730'

## Operation Summary Report

Well: NBU 1022-10C4CS GREEN

Spud Date: 7/3/2013

Project: UTAH-UINTAH

Site: NBU 1022-10C PAD

Rig Name No: PROPETRO 12/12, H&amp;P 298/298

Event: DRILLING

Start Date: 6/16/2013

End Date: 8/6/2013

Active Datum: RKB @5,328.00usft (above Mean Sea Level)

UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/W/0/1724/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 10:00	4.00	DRLSUR	02	B	P	2302	DRILL 11". SURFACE HOLE, F/2,280' - T/2,605', 325' @ 81.25 FPH WEIGHT ON BIT 18-25 K. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. PUMPING 491 GALLON PER MINUTE AT 120 STROKES PER MINUTES. PUMP PRESSURE ON/OFF(BOTTOM) 1,300/1100 TORQUE ON OFF = 3,100/1,700 UP/DOWN/ ROT 80/65/72 K. DRAG 8 K. PEAK ON LINE MUD WT 8.4 SLID 38' = 9.67% 1.1' BELOW & 1.89' LEFT OF THE LINE HOLE ISSUES= LOST CIRC @ 1730'
	10:00 - 12:00	2.00	DRLSUR	05	C	P	2627	CIRCULATE AND CONDITION HOLE / PUMPING 491 GPM @ 120 SPM / RETURNS CLEAN COMING OVER SHAKERS / MUD TANKS 1/2 FULL / 4 - 400 BBL UPRIGHT STORAGE TANKS FULL 2 - 400 BBL UPRIGHT STORAGE TANKS EMPTY
	12:00 - 15:00	3.00	DRLSUR	06	D	P	2627	LAY DOWN DRILL PIPE & BHA
	15:00 - 15:30	0.50	DRLSUR	12	A	P	2627	PRE JOB SAFETY MEETING WITH PRO PETRO RIG CREW . MOVE PIPE RACKS AND CATWALK. RIG UP TO RUN SURFACE CASING. CLEAR UNRELATED TOOLS.
	15:30 - 18:00	2.50	DRLSUR	12	C	P	2627	RAN 58 JOINTS (2,575') OF 8-5/8", 28#, J-55, LT&C CASING WITH TOPCO FLOAT GUIDE SHOE AND BAFFLE PLATE LOCATED 1 JOINT ABOVE SHOE. 5 CENTRALIZERS SPACED 10' ABOVE SHOE, 2ND & 3RD COLLARS AND EVERY THIRD COLLAR TO 2,217'. LANDED SHOE @ 2,575' KB. BAFFLE PLATE @ 2,529' KB.

## Operation Summary Report

Well: NBU 1022-10C4CS GREEN

Spud Date: 7/3/2013

Project: UTAH-UINTAH

Site: NBU 1022-10C PAD

Rig Name No: PROPETRO 12/12, H&amp;P 298/298

Event: DRILLING

Start Date: 6/16/2013

End Date: 8/6/2013

Active Datum: RKB @5,328.00usft (above Mean Sea Level)

UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/W/0/1724/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 20:30	2.50	DRLSUR	12	E	P	2627	<p>CEMENT JOB SAFETY MEETING WITH PRO PETRO CEMENTERS.</p> <p>RAN 200' OF 1". PIPE DOWN BACK-SIDE OF CASING.</p> <p>PRESSURE TEST LINES TO 2000 PSI.</p> <p>PUMP 150 BBLS OF WATER AHEAD CLEARING SHOE. MIX AND PUMP 20 BBLS OF GEL WATER FLUSH AHEAD OF CEMENT.</p> <p>MIX AND PUMP 300 SX OF PREMIUM CEMENT WITH 2% CACL2 &amp; 0.25 LB/SX FLOCELE. 61.4 BBLS MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX.</p> <p>DROP PLUG ON FLY,</p> <p>DISPLACE WITH 157.7 BBLS OF FRESH WATER. NO RETURNS THROUGH OUT JOB, FINAL LIFT OF 305 PSI AT 4 BBL/MINUTE. BUMPED PLUG @ 605. HELD @ 605 PSI FOR 5 MINS WITHOUT BLEED OFF.</p> <p>TESTED FLOAT AND FLOAT HELD.</p> <p>RELEASE RIG @ 20:30, 7/04/2013</p> <p>TOP JOB # 1: PUMP CEMENT DOWN ONE INCH PIPE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 3% GR-3, &amp; .25 LB/SX FLOCELE, 30.7 BBLS MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO CEMENT RETURNS TO SURFACE.</p> <p>WAIT ON CEMENT 2.5 HOURS.</p> <p>TOP JOB # 2: CEMENT DOWN BACKSIDE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, &amp; .25 LB/SX FLOCELE, 30.7 BBLS MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX.</p> <p>2 BBLS CEMENT RETURNS TO SURFACE. CEMENT HELD AT SURFACE</p> <p>RIG DOWN PRO PETRO CEMENTERS.</p> <p>CEMENT JOB FINISHED @ 23:30 7/04/2013</p>
8/1/2013	19:00 - 19:30	0.50	MIRU3	01	C	P	2627	PREPARE & SKID RIG
	19:30 - 20:30	1.00	MIRU3	01	B	P	2627	RIG UP ROTARY TOOLS
	20:30 - 21:00	0.50	PRPSPD	14	A	P	2627	NIPPLE UP BOP'S & EQUIPMENT
	21:00 - 0:00	3.00	PRPSPD	15	A	P	2627	MAKE UP TEST ASSY, PRESSURE TEST H&P EQUIPMENT - BLIND RAMS, PIPE RAMS, FLOOR VALVES, MANUEL VALVE, KILL LINES & KILL VALVES, BOP WING VALVES, HCR VALVE, INNER & OUTER CHOKE VALVES, CHOKE MANIFOLD TO 250 PSI LOW FOR 5MINUTES & HIGH TEST TO 5000 PSI FOR 10 MINUTES, TEST ANNULAR 250 PSI LOW FOR 5 MINUTES & 2500 PSI FOR 10 MINUTE HIGH TEST /TEST CASING FOR 30 MINUTES @ 1500 PSI
8/2/2013	0:00 - 0:30	0.50	PRPSPD	15	A	P		PRESSURE TEST MI SWACO PRESSURE CONTROL EQUIPMENT
	0:30 - 1:00	0.50	PRPSPD	14	B	P		INSTALL WEAR BUSHING
	1:00 - 1:30	0.50	PRPSPD	23	A	P		PRE SPUD SAFETY INSPECTION
	1:30 - 3:30	2.00	PRPSPD	06	A	P	2627	SCRIBE DIR TOOLS,TRIP IN HOLE,TAG CEMENT@2489
	3:30 - 4:30	1.00	DRLPRC	02	F	P	2627	DRILL CEMENT & SHOE TRACK FROM 2,489 TO 2,597 CLEAN OUT RAT HOLE TO 2,627

Operation Summary Report

Well: NBU 1022-10C4CS GREEN		Spud Date: 7/3/2013	
Project: UTAH-UINTAH		Site: NBU 1022-10C PAD	Rig Name No: PROPETRO 12/12, H&P 298/298
Event: DRILLING		Start Date: 6/16/2013	End Date: 8/6/2013
Active Datum: RKB @5,328.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/W/0/1724/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	4:30 - 15:30	11.00	DRLPRC	02	B	P	2677	DRILL /SLIDE / SURVEY/ F/ 2,627 TO 4786'= 196 FPH WOB 20,000-23,000 TOP DRIVE RPM 60-70 MUD MOTOR RPM 123 PUMPS 130 SPM = 585 GPM PUMP PRESSURE ON/OFF BTM 2000/1500 TORQUE ON/OFF BTM 7/5K PICK UP WT 90,000 SLACK OFF WT 80,000 ROT WT 85,000 SLIDE 4% OF FOOTAGE DRILLED, 96% OF HRS DRILLED NO FLUID LOST PUMPING 10-15 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 8.7 VIS 27 NOV-D WATER SWACO OFF LINE
	15:30 - 16:00	0.50	DRLPRV	07	A	P	4786	RIG SERVICE
	16:00 - 0:00	8.00	DRLPRV	02	B	P	4786	DRILL /SLIDE / SURVEY/ F/4786' TO 5980=1194 AVG 150 FPH WOB 20,000-23,000 TOP DRIVE RPM 60-70 MUD MOTOR RPM 123 PUMPS 130 SPM = 585 GPM PUMP PRESSURE ON/OFF BTM 2000/1500 TORQUE ON/OFF BTM 7/5K PICK UP WT 90,000 SLACK OFF WT 80,000 ROT WT 85,000 SLIDE 6% OF FOOTAGE DRILLED, 94% OF HRS DRILLED NO FLUID LOST PUMPING 10-15 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 9.1 VIS 30 NOV-D WATER SWACO OFF LINE
8/3/2013	0:00 - 8:00	8.00	DRLPRV	02	B	P	5980	DRILL /SLIDE / SURVEY/ F/5980 TO 6820=840 AVG 105 FPH WOB 20,000-23,000 TOP DRIVE RPM 60-70 MUD MOTOR RPM 123 PUMPS 130 SPM = 585 GPM PUMP PRESSURE ON/OFF BTM 2000/1500 TORQUE ON/OFF BTM 7/5K PICK UP WT 150K SLACK OFF WT 125K ROT WT 135 SLIDE 0% OF FOOTAGE DRILLED, 100% OF HRS DRILLED NO FLUID LOST PUMPING 10-15 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 9.1 VIS 30 NOV-D WATER SWACO OFF LINE
	8:00 - 16:00	8.00	DRLPRV	02	B	P	6820	DRILL /SLIDE / SURVEY/ F/6820 TO 7430=610 AVG 76 FPH WOB 20,000-23,000 TOP DRIVE RPM 60-70 MUD MOTOR RPM 123 PUMPS 130 SPM = 585 GPM PUMP PRESSURE ON/OFF BTM 2350/1900 TORQUE ON/OFF BTM 7/5K PICK UP WT 180K SLACK OFF WT 135K ROT WT 155 SLIDE 1% OF FOOTAGE DRILLED, 99% OF HRS DRILLED NO FLUID LOST PUMPING 10-15 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 9.1 VIS 30 NOV-D WATER SWACO OFF LINE
	16:00 - 16:30	0.50	DRLPRV	07	A	P	7430	RIG SERVICE

Operation Summary Report

Well: NBU 1022-10C4CS GREEN		Spud Date: 7/3/2013	
Project: UTAH-UINTAH		Site: NBU 1022-10C PAD	Rig Name No: PROPETRO 12/12, H&P 298/298
Event: DRILLING		Start Date: 6/16/2013	End Date: 8/6/2013
Active Datum: RKB @5,328.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/W/0/1724/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	16:30 - 0:00	7.50	DRLPRV	02	B	P	7430	DRILL /SLIDE / SURVEY/ F/7430 TO 8220 =790 AVG FPH WOB 20,000-23,000 TOP DRIVE RPM 60-70 MUD MOTOR RPM 123 PUMPS 130 SPM = 585 GPM PUMP PRESSURE ON/OFF BTM 2350/1900 TORQUE ON/OFF BTM 10/7.5K PICK UP WT 180K SLACK OFF WT 135K ROT WT 155 SLIDE 1% OF FOOTAGE DRILLED, 99% OF HRS DRILLED NO FLUID LOST PUMPING 10-15 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 9.1 VIS 30 NOV-D WATER SWACO OFF LIN 8' CONN FLAREDISPLACE HOLE W/10.2 MUD THEN 11.8
8/4/2013	0:00 - 5:30	5.50	DRLPRV	02	B	P	8220	DRILL /SLIDE / SURVEY/ F/ 8220 TO 8624 =404 AVG 73 FPH WOB 20,000-23,000 TOP DRIVE RPM 60-70 MUD MOTOR RPM 123 PUMPS 110 SPM = 490 GPM PUMP PRESSURE ON/OFF BTM 2350/2000 TORQUE ON/OFF BTM 11/8K PICK UP WT 190K SLACK OFF WT 140K ROT WT 160 SLIDE 0% OF FOOTAGE DRILLED, 100% OF HRS DRILLED NO FLUID LOST PUMPING 10-15 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 11.8/ VIS 39 NOV / SWACO OFF LINE 8' CONN FLARE,DISPLACE HOLE W/10.2 MUD THEN 11.8@8200' NO LOSSES
	5:30 - 11:30	6.00	DRLPRV	22	G	X	8624	LOST RETURNS WHILE DRILLING,HOLE PACKING OFF, STAGE OUT WORKING TIGHT HOLE,& PUMPING,TRIP AND WORK PIPE OUT TO 5310',REGAIN RETURNS,BUILD VOLUME,TOTAL LOST 700 BBLs FLUID TOTAL
	11:30 - 14:00	2.50	DRLPRV	06	F	S	8624	STAGE BACK IN CONDITIONING MUD,BREAKING CIRCULATION@6240 & 7200 & 8110, BRINGING MUD WT UP TO 10.2-11.3/40 9% LCM,5-15' FLARE
	14:00 - 15:30	1.50	DRLPRV	03	E	S	8624	WASH & REAM LAST 5 STNDS TO BOTTOM,CIRC OUT GAS 10-20' FLARE BOTTOMS UP 5' BACKGROUND FLARE 11.3/38 9% LCM,100 STKS 450 GPM 2000PSI
	15:30 - 16:00	0.50	DRLPRV	07	A	P	8624	RIG SERVICE

## Operation Summary Report

Well: NBU 1022-10C4CS GREEN

Spud Date: 7/3/2013

Project: UTAH-UINTAH

Site: NBU 1022-10C PAD

Rig Name No: PROPETRO 12/12, H&amp;P 298/298

Event: DRILLING

Start Date: 6/16/2013

End Date: 8/6/2013

Active Datum: RKB @5,328.00usft (above Mean Sea Level)

UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/W/0/1724/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	16:00 - 21:30	5.50	DRLPRV	02	B	P	8624	DRILL /SLIDE / SURVEY/ F/8624 TO 8890=266 AVG 44 FPH WOB 20,000-23,000 TOP DRIVE RPM 60-70 MUD MOTOR RPM 123 PUMPS 110 SPM = 490 GPM PUMP PRESSURE ON/OFF BTM 2350/1900 TORQUE ON/OFF BTM 9/6K PICK UP WT 210K SLACK OFF WT 145K ROT WT 165 SLIDE 0% OF FOOTAGE DRILLED, 100% OF HRS DRILLED NO FLUID LOST MUD WT 11.6 VIS 38 8% LCM NOV & SWACO OFF LINE
	21:30 - 22:30	1.00	DRLPRV	22	G	X	8890	LOST CIRCULATION AFTER FINAL SURVEY MIX LCM AND BUILD VOLUME, TOTAL LOST 450
	22:30 - 0:00	1.50	DRLPRV	06	E	P	8890	10 STAND SHORTTRIP OUT TO 8110, BREAK CIRCULATION CHECK FOR CIRCULATION,
8/5/2013	0:00 - 1:00	1.00	DRLPRV	06	E	P	8890	TRIP BACK IN ON SHORTTRIP
	1:00 - 2:30	1.50	DRLPRV	05	C	P	8890	CIRCULATE MIX MUD STABILIZE WELL BORE BEFORE LAY DOWN
	2:30 - 14:00	11.50	DRLPRV	06	A	P	8890	PUMPPILL, LAY DOWN PIPE AND BHA, DIRECTIONAL TOOLS, AND BIT #1, TIGHT SPOT 4580' INSPECT HWDP ONLY ON GROUND
	14:00 - 14:30	0.50	DRLPRV	14	B	P	8890	PULL WEARBUSHING
	14:30 - 15:00	0.50	CSGPRO	12	A	P	8890	CHANGE BAILS AND ELEVATORS
	15:00 - 0:00	9.00	CSGPRO	12	C	P	8890	RUN 4 1/2" CASING TO 8863/ SHOE DEPTH / FLOAT COLLAR @ 8819 / MVL Marker @ 6627 / X-O @ 4942 /88 JTS OF LTC N-80 / 111 JTS OF DQX I-80 TOTAL JTS RAN 202 LAND HANGER WITH 85k
8/6/2013	0:00 - 1:30	1.50	CSGPRO	05	D	P	8890	CIRCULATE AND CONDITION FOR CASING 11.6/38 10% LCM ,70 STKS 315 GPM 650 PSI
	1:30 - 4:30	3.00	CSGPRO	12	E	P	8890	TEST PUMP & LINES TO 5,000 PSI, DROP BOTTOM PLUG PUMP 25 BBLs FW PUMP 490 SKS LEAD CEMENT @ 12.5 PPG, 190 BBL SLURRY (PREM LITE II + .0.25 pps CELLO FLAKE + 5 pps KOL SEAL +0.4 bwoc FL52+ .05 lb/sx STATIC FREE + 8% bwoc BENTONITE + .2% bwoc SODIUM META SILICATE + 0.35 % R-3 + 101.8% FRESH WATER / (10.44 gal/sx, 1.98 yield) + 960 SX TAIL @ 14.3 ppg 235 BBL SLURRY (CLS G 50/50 POZ + 10% SALT + .005 lbs/sx STATIC FREE + .2% R3 + 0.5% bwoc EC-1 + .002 GPS FP-6L + 2% BENTONITE + 58.9% FW / (5.94 gal/sx, 1.32 yield) / DROP TOP PLUG & DISPLACE W/ 137 BBLs H2O + ADDITIVES / PLUG DOWN @ 04:00 HOURS / FLOATS HELD W/ 1.75 BBLs H2O RETURNED TO INVENTORY/ GOOD CIRC / 5 BBLs SPACER BACK TO SURFACE FINALLIFT 2500, BUMPLUG 500 OVER FINALLIFT
	4:30 - 5:00	0.50	RDMO	14	A	P	8890	FLUSH BOP,, SET PACK OFF WITH CAMERON
	5:00 - 6:00	1.00	RDMO	14	A	P	8890	NIPPLE DOWN BOP
	6:00 - 8:00	2.00	RDMO	01	E	P	8890	SAVE MUD CLEAN PITS, & RIG RELEASE @ 08:00AM 8/6/2013 TO LEWIS ROAD FEE 3424-2-1H IN MOTICELLO, UTAH

API Well Number: 43047529980000

US ROCKIES REGION

**Operation Summary Report**

Well: NBU 1022-10C4CS GREEN				Spud Date: 7/3/2013				
Project: UTAH-UINTAH			Site: NBU 1022-10C PAD			Rig Name No: PROPETRO 12/12, H&P 298/298		
Event: DRILLING			Start Date: 6/16/2013		End Date: 8/6/2013			
Active Datum: RKB @5,328.00usft (above Mean Sea Level)			UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/NW/0/1724/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation



US ROCKIES REGION

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot (shot/ft)	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/30/2013 12:00AM	MESAVERDE/			7,140.0	7,141.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,148.0	7,149.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,212.0	7,213.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,260.0	7,261.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,324.0	7,325.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,358.0	7,359.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,401.0	7,402.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,475.0	7,476.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,539.0	7,540.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,618.0	7,619.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,660.0	7,661.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,683.0	7,684.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,748.0	7,749.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,768.0	7,769.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,786.0	7,787.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,838.0	7,839.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,874.0	7,875.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,910.0	7,911.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,926.0	7,927.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			7,958.0	7,959.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,008.0	8,009.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N

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US ROCKIES REGION

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/30/2013 12:00AM	MESAVERDE/			8,047.0	8,048.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,080.0	8,081.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,104.0	8,105.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,140.0	8,141.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,161.0	8,162.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,193.0	8,194.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,214.0	8,215.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,248.0	8,249.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,270.0	8,271.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,276.0	8,277.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,285.0	8,286.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,308.0	8,309.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,360.0	8,361.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,377.0	8,378.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,384.0	8,385.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,396.0	8,397.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,407.0	8,408.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,416.0	8,417.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,446.0	8,447.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,462.0	8,463.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,478.0	8,479.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N

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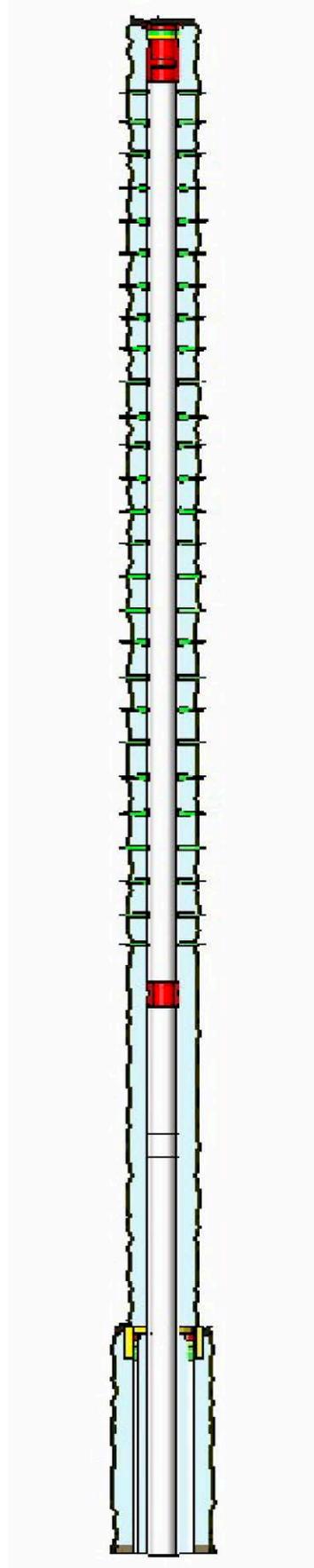
US ROCKIES REGION

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misruin
9/30/2013 12:00AM	MESAVERDE/			8,487.0	8,488.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,526.0	8,527.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,546.0	8,547.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,573.0	8,574.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,617.0	8,618.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,651.0	8,652.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,662.0	8,663.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,675.0	8,676.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N
9/30/2013 12:00AM	MESAVERDE/			8,687.0	8,688.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N

3 Plots

3.1 Wellbore Schematic



US ROCKIES REGION  
**Operation Summary Report**

Well: NBU 1022-10C4CS GREEN				Spud Date: 7/3/2013			
Project: UTAH-UINTAH			Site: NBU 1022-10C PAD			Rig Name No: MILES 2/2	
Event: COMPLETION			Start Date: 8/16/2013		End Date: 10/15/2013		
Active Datum: RKB @5,328.00usft (above Mean Sea Level)				UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/NW/0/1724/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/16/2013	-							
9/25/2013	10:00 - 11:00	1.00	SUBSPR	52	B	P		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 95 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.  PRESSURE TEST 8 5/8 X 4 1/2 TO 535 PSI HELD FOR 5 MIN LOST -30 PSI,BLED PSI OFF, REINSTALLED POP OFF SWIFN NO PRESSURE ON SURFACE CASING FILLED SURFACE WITH 6 BBLS H2O
9/26/2013	10:30 - 10:45	0.25		48		P		HSM,JSA
	11:00 - 13:00	2.00		37	C	P		MIRU CASED HOLE SOLUTION PERORATE STAGE 1 MESAVERDE AS DESIGN SWI W/O FRAC
9/30/2013	6:30 - 6:45	0.25		48		P		HSM,JSA
	7:00 - 10:38	3.63	FRAC	36	H	P		REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUMES, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELLS, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT. ALL PLUGS ARE HALIBURTON 8K CBPS PRESSURE TEST TO 8743 HELD FOR 15 MIN LOST 463  SWIFN W/O FRAC
10/1/2013	5:45 - 6:00	0.25	SURFPR	48		P		HSM,JSA

Operation Summary Report

Well: NBU 1022-10C4CS GREEN		Spud Date: 7/3/2013	
Project: UTAH-UINTAH		Site: NBU 1022-10C PAD	Rig Name No: MILES 2/2
Event: COMPLETION		Start Date: 8/16/2013	End Date: 10/15/2013
Active Datum: RKB @5,328.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/W/0/1724/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:30 - 17:00	10.50	FRAC	36	H	P		<p>REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUMES, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELLS, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT. ALL PLUGS ARE HALIBURTON 8K CBPS</p> <p>FRAC STG #1] WHP=1577#, BRK DN PERFS=3213#, @=4.7 BPM, INTIAL ISIP=2227#, FG=.70, FINAL ISIP=2375#, FG=.71,</p> <p>SET PLUG &amp; PERFORATE STG #2</p> <p>FRAC STG #2] WHP=2138#, BRK DN PERFS=3538#, @=3.8 BPM, INTIAL ISIP=2223#, FG=.70, FINAL ISIP=2388#, FG=.72,</p> <p>SET PLUG &amp; PERFORATE STG #3</p> <p>FRAC STG #3] WHP=2197#, BRK DN PERFS=3121#, @=5.1 BPM, INTIAL ISIP=2291#, FG=.71, FINAL ISIP=2572#, FG=.75,</p> <p>SET PLUG &amp; PERFORATE STG #4</p>
10/2/2013	6:15 - 6:30	0.25		48		P		HSM,JSA
	7:00 - 17:00	10.00	FRAC	36	H	P		<p>FRAC STG #4] WHP=1757#, BRK DN PERFS=3601#, @= 3.7BPM, INTIAL ISIP=2131#, FG=.70, FINAL ISIP=2355#, FG=.72,</p> <p>SET PLUG PERFORATE STG #5</p> <p>FRAC STG #5] WHP=1768#, BRK DN PERFS=5936#, @=4.7 BPM, INTIAL ISIP=2751#, FG=.78, FINAL ISIP=2644#, FG=.77,</p> <p>SET PLUG AND PERFORATE STG #6</p>
10/3/2013	6:30 - 6:45	0.25	FRAC	48		P		SWIFN W/O FRAC HSM,JSA

Operation Summary Report

Well: NBU 1022-10C4CS GREEN		Spud Date: 7/3/2013	
Project: UTAH-UINTAH		Site: NBU 1022-10C PAD	Rig Name No: MILES 2/2
Event: COMPLETION		Start Date: 8/16/2013	End Date: 10/15/2013
Active Datum: RKB @5,328.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/W/0/1724/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 14:30	7.50	FRAC	36	H	P		FRAC STG #6] WHP=1511#, BRK DN PERFS=3132#, @=3.7 BPM, INTIAL ISIP=1853#, FG=.67, FINAL ISIP=2285#, FG=.73,  SET PLUG AND PERFORATE STG #7  FRAC STG #7] WHP=1332#, BRK DN PERFS=4870#, @=4.0 BPM, INTIAL ISIP=1421#, FG=.63, FINAL ISIP=2072#, FG=.71,  SET PLUG AND PERFORATE STG #8  FRAC STG #8] WHP=801#, BRK DN PERFS=2890#, @=4.7 BPM, INTIAL ISIP=1347#, FG=.62, FINAL ISIP=1961#, FG=.71,  SET KILL PLUG  TOTAL WATER=11840 BBLS TOTAL SAND=246,313#
10/14/2013	7:00 - 7:15	0.25	DRLOUT	48		P		HSM, SLIPS, TRIPS & FALLS, RIGGING UP, PU TBG, P/T BOP
	7:15 - 16:00	8.75	DRLOUT	31	I	P		MIRU, ND WH, NU BOP, RU FLOOR & TBG EQUIP, PU 3 7/8" BIT, POBS, 1.875" XN S/N, TALLY & PU TBG TO KILL PLUG, RU P/S, FILL TBG & BREAK CIRC, P/T BOP TO 3,000 PSI, PREP TO D/O CBPS IN AM, SWI, SDFN.
10/15/2013	7:00 - 7:15	0.25	DRLOUT	48		P		HSM, SLIPS, TRIPS & FALLS, D/O CBP'S, LANDING TBG, ND BOP

Operation Summary Report

Well: NBU 1022-10C4CS GREEN		Spud Date: 7/3/2013	
Project: UTAH-UINTAH		Site: NBU 1022-10C PAD	Rig Name No: MILES 2/2
Event: COMPLETION		Start Date: 8/16/2013	End Date: 10/15/2013
Active Datum: RKB @5,328.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/W/0/1724/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 16:00	8.75	DRLOUT	44	C	P		<p>4 OF 4, SURFACE CSG VALVE OPEN &amp; LOCKED, D/O 8 CBP'S THRU 3" FLOWLINE</p> <p>C/O 30' SAND, TAG 1ST PLUG @ 7,074', KICK 0 PSI ((NO FLOW W/O PUMP)), RIH</p> <p>C/O 30' SAND, TAG 2ND PLUG @ 7,425', KICK 100 PSI, CSG PRESS 250 PSI, RIH</p> <p>C/O 40' SAND, TAG 3RD PLUG @ 7,698', KICK 500 PSI, CSG PRESS 350 PSI, RIH</p> <p>C/O 30' SAND, TAG 4TH PLUG @ 7,989', KICK 200 PSI, CSG PRESS 350 PSI, RIH</p> <p>C/O 20' SAND, TAG 5TH PLUG @ 8,177', KICK 200 PSI, CSG PRESS 350 PSI, RIH</p> <p>C/O 10' SAND, TAG 6TH PLUG @ 8,329', KICK 300 PSI, CSG PRESS 350 PSI, RIH</p> <p>C/O 10' SAND, TAG 7TH PLUG @ 8,432', KICK 400 PSI, CSG PRESS 350 PSI, RIH</p> <p>C/O 30' SAND, TAG 8TH PLUG @ 8,604', KICK 200 PSI, CSG PRESS 400 PSI,</p> <p>PBTD @ 8,817', BTM PERF @ 8,688', RIH TAGGED @ 8,770', C/O TO 8,817' PBTD, 129' PAST BTM PERF W/ 282 JTS 2 3/8" L-80 &amp; J-55 TBG, LD 13 JTS, PU &amp; STRIP IN TBG HANGER &amp; LAND TBG W/ 269 JTS 2 3/8", EOT 8,422.99'.</p> <p>RD P/S, FLOOR &amp; TBG EQUIP, ND BOPS, NU WH, DROP BALL &amp; SHEAR OFF BIT, P/T LINE FROM WH TO HAL 9000 TO 3,000 PSI, NO VISIBLE LEAKS, LET BIT FALL FOR 20 MIN.</p> <p>TURN OVER TO FLOW BACK CREW &amp; SALES, RD &amp; MOVE TO NBU 207 (RTP), SDFN.</p> <p>KB= 26'                      4 1/16" CAMERON HANGER= .83' TBG                      DELIVERED 137 JTS L-80                      119 JTS 2 3/8" L-80= 3,773.68'                      TBG DELIVERED 150 JTS J-55                      1 - 6' PUP JT L-80= 6.06'                      TOTAL TBG= 287 JTS L-80 &amp; J-55                      150 JTS 2 3/8" J-55 = 4,614.22'                      TBG USED 269 JTS                      POBS= 2.20'                      TBG RETURNED 18 JTS L-80                      EOT @ 8,422.99'</p> <p>TWTR= 11,840 BBLs                      TWR= 4,000 BBLs</p>

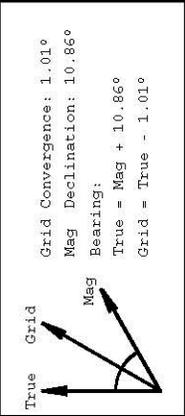
**Operation Summary Report**

Well: NBU 1022-10C4CS GREEN		Spud Date: 7/3/2013	
Project: UTAH-UINTAH		Site: NBU 1022-10C PAD	Rig Name No: MILES 2/2
Event: COMPLETION		Start Date: 8/16/2013	End Date: 10/15/2013
Active Datum: RKB @5,328.00usft (above Mean Sea Level)		UWI: NE/NW/0/10/S/22/E/10/0/0/26/PM/N/924/NW/0/1724/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	16:00 - 16:00	0.00	DRLOUT	50				TWLTR= 7,840 BBLS WELL TURNED TO SALES @ 13:30 HR ON 10/15/2013. 2012 MCFD, 1680 BWPD, FCP 2753#, FTP 2240#, 20/64" CK.

Plan Data for NBU 1022-10C4CS

Field: NATURAL BUTTES\_ANADARKO\_NBU 1022 10C PAD  
 Map Unit: USFT Vertical Reference Datum (VRD) :  
 Projected Coordinate System: NAD27 / UTM zone 12N  
 Site: NBU 1022-10C PAD  
 Unit: USFeet TVD Reference:  
 Company Name: ANADARKO  
 Position:  
 Northing: 14518364.54USft Latitude: 39.968257°  
 Easting: 2080702.83USft Longitude: -109.428639°  
 North Reference: True Grid Convergence: 1.01°  
 Elevation Above VRD: 5304.00USft  
 Slot: NBU 1022-10C4CS  
 Position:  
 Offset is from Site centre  
 +N/-S: -8.74USft Northing: 14518356.31USft Latitude: 39.968233°  
 +E/-W: 28.59USft Easting: 2080731.57USft Longitude: -109.428537°  
 Elevation Above VRD: 5304.00USft



Formation Point Information:

Name	TVD Elevation (USft)	MD (USft)
GREEN RIVER	1295.00	4035.00 1300.81
BIRDS NEST	1528.00	3802.00 1539.55
MAHOGANY MARKER	2042.00	3288.00 2068.04
WASATCH	4380.00	950.00 4432.74
MEGA VERDE	6704.00	-1374.00 6756.76
SECO	8838.00	-3508.00 8890.78

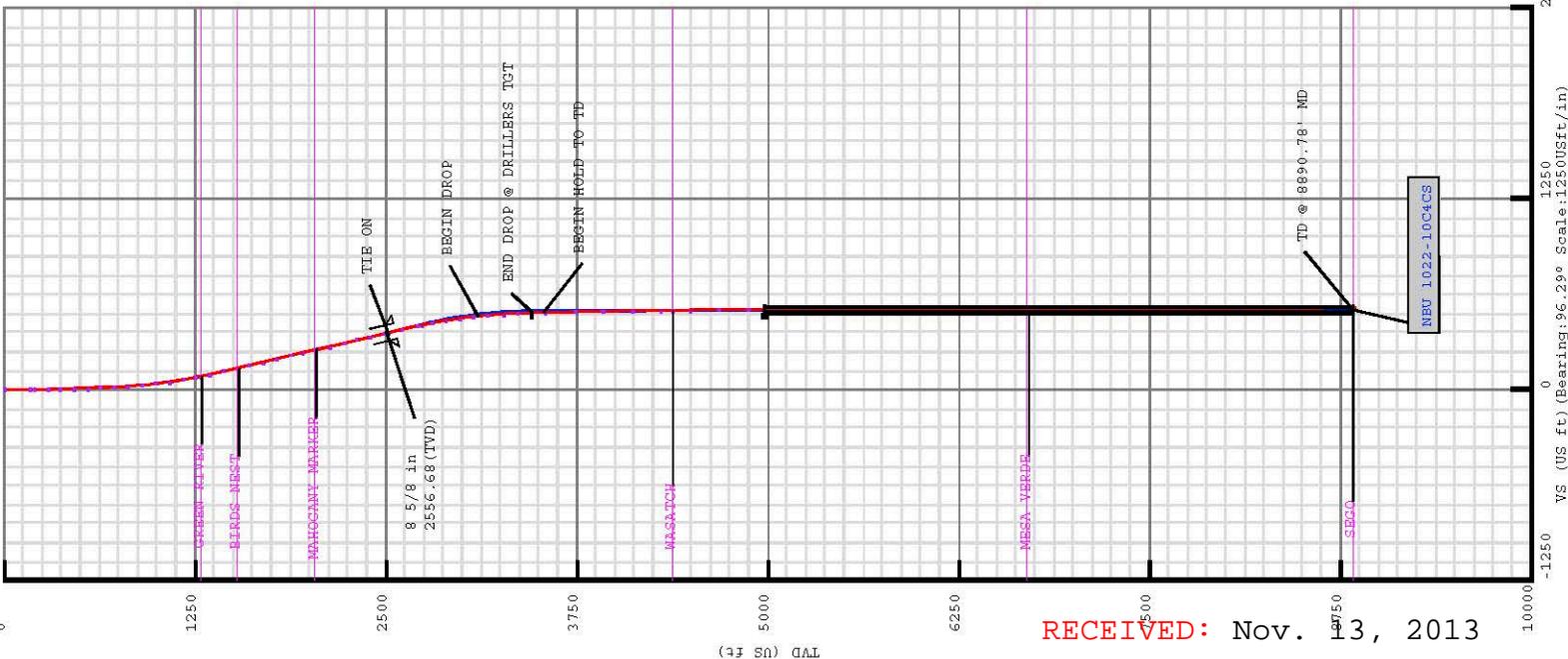
Target Set Information:

Name: 10C4CS

Name	TVD (USft)	Lat (°)	Long (°)
PBHL 8838.00	39.968089	-109.426658	
25' CYL 6909.00	39.968089	-109.426658	
INTERCEPT 4980.00	39.968152	-109.426792	
DRILLERS TGT 3451.11	39.968167	-109.426804	

Casing Point Information:

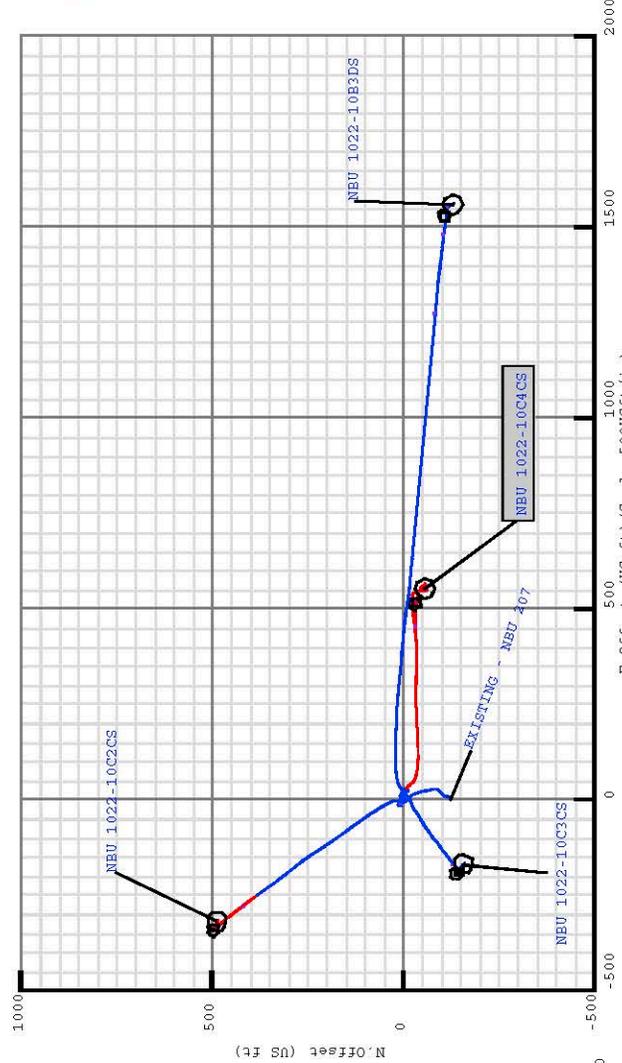
Name	MD (USft)	TVD (USft)
8 5/8 in	2597.00	2556.68



Survey Point Information:

DogLeg Severity Unit: %/100.00ft

MD (USft)	Inc (°)	Az (°)	TVD (USft)	+N/-S (USft)	+E/-W (USft)	VSec (USft)	DLS Toolface (°)	Build (DLSU)	Turn (DLSU)	Annotations
2563.00	13.72	87.59	2523.65	-25.96	375.28	375.86	1.13	296.3	0.51	-4.29 TIE ON
2659.00	13.29	85.61	2616.99	-24.64	397.65	397.96	0.66	226.1	-0.45	-2.06 FIRST WFT MD SV
8840.00	1.92	119.23	8788.19	-48.40	535.02	537.10	0.20	302.0	0.13	-5.06 LAST WFT MD SV
8890.00	1.92	119.23	8838.16	-49.21	536.48	538.64	0.00	0.00	0.00	PROJECTION TO TD



5D Survey Report



**5D Survey Report**

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**ANADARKO**

**Field Name:** NATURAL BUTTES\_ANADARKO\_NBU 1022 10C PAD  
**Site Name:** NBU 1022-10C PAD  
**Well Name:** NBU 1022-10C4CS  
**Survey:** Definitive Survey

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**Weatherford®**

**DEFINITIVE SURVEYS FOR THE NBU 1022-10C4CS**

<b>Units :</b> US ft	<b>North Reference :</b> True	<b>Convergence Angle :</b> 1.01
<b>Site Name</b> NBU 1022-10C PAD	<b>Position</b> Northing : 14518364.54 US ft Easting : 2080702.83 US ft	<b>Latitude :</b> 39.968257 <b>Longitude :</b> -109.428639
<b>Elevation above:</b> 5304.00 US ft		
<b>Comment :</b>		

<b>Slot Name</b> NBU 1022-10C4CS	<b>Position (Offsets relative to Site Centre)</b>	
<b>+ N / -S :</b> -8.74 US ft	<b>Northing :</b> 14518356.31 US ft	<b>Latitude :</b> 39.968233
<b>+ E / -W :</b> 28.59 US ft	<b>Easting :</b> 2080731.57 US ft	<b>Longitude :</b> -109.428537
<b>Elevation above :</b> 5304.00 US ft		
<b>Comment :</b>		

<b>Well Name</b> NBU 1022-10C4CS	<b>Type :</b> Main well	<b>UWI :</b>
<b>Rig Height</b>	<b>Well TVD Reference :</b> 26.00 US ft	<b>Comment :</b>
<b>Relative to :</b> 5330.00 US ft	<b>Closure Distance :</b> 538.732 US ft	<b>Closure Azimuth :</b> 95.2413°
<b>Vertical Section (Position of Origin Relative to Slot )</b>	<b>+ N / -S :</b> 8.74 US ft	<b>+ E / -W :</b> -28.59 US ft
		<b>Az :</b> 96.29°

<b>Target Set</b>	<b>Name :</b> 10C4CS	<b>Number of Targets :</b> 4
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<b>Comment :</b>		
<b>Target Name:</b> PBHL	<b>Position (Relative to centre)</b>	
<b>Shape:</b> Cuboid	<b>Northing :</b> 14518313.15 US ft	<b>Latitude :</b> 39°58'5.120400"
	<b>Easting :</b> 2081259.00US ft	<b>Longitude :</b> -109°25'35.968800"
<b>TVD (Well TVD Reference) :</b> 8838.00 US ft		
<b>Orientation</b>	<b>Azimuth :</b> 0.00°	<b>Inclination :</b> 0.00°
<b>Dimensions</b>	<b>Length :</b> 1.00 US ft	<b>Breadth :</b> 1.00 US ft
		<b>Height :</b> 1.00 US ft



5D Survey Report

Well path created using minimum curvature

Survey Points (Relative to centre, TVD relative to Well TVD Reference)														
MC (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	Latitude (°)	Longitude (°)	DLS (#/100 US ft)	T. Face (°)	CL (US ft)	VS (US ft)	High to Plan (US ft)	Right to Plan (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	39.968233	-109.428537	0.00	0.00	0.00	29.37	0.00	0.00	
172.00	0.35	95.06	172.00	-0.05	0.52	39.968233	-109.428535	0.20	95.06	172.00	29.90	-0.00	0.00	
200.00	0.35	111.79	200.00	0.08	0.69	39.968233	-109.428535	0.34	97.86	28.00	30.07	0.00	0.00	
287.00	1.49	127.85	286.99	-0.87	1.83	39.968231	-109.428530	1.33	22.14	87.00	31.29	-0.00	0.00	
368.00	2.73	135.23	367.93	-2.89	4.02	39.968225	-109.428523	1.56	16.06	81.00	33.68	-0.00	0.00	
458.00	3.34	135.62	457.80	-6.41	7.23	39.968215	-109.428511	0.72	23.06	90.00	37.26	-0.00	0.00	
548.00	2.99	141.20	547.67	-10.23	10.40	39.968205	-109.428500	0.40	166.79	90.00	40.83	-0.00	0.00	
638.00	2.99	140.59	637.54	-13.88	13.36	39.968195	-109.428489	0.04	269.70	90.00	44.17	-0.00	0.00	
728.00	3.72	136.44	727.39	-17.81	16.86	39.968184	-109.428477	0.85	339.52	90.00	48.08	-0.00	0.00	
818.00	4.22	116.44	817.18	-21.50	21.78	39.968174	-109.428459	1.48	282.72	90.00	53.38	-0.00	0.00	
908.00	4.57	105.77	906.91	-24.07	28.22	39.968167	-109.428436	1.20	288.22	90.00	60.06	-0.00	0.00	
998.00	6.47	102.68	996.48	-26.18	36.70	39.968161	-109.428406	2.03	349.00	90.00	68.72	-0.00	0.00	
1088.00	8.59	97.99	1085.69	-28.24	48.38	39.968155	-109.428364	2.56	342.09	90.00	80.55	-0.00	0.00	
1178.00	10.17	94.76	1174.47	-29.84	63.03	39.968151	-109.428312	1.75	338.73	90.00	95.29	-0.00	0.00	
1268.00	11.48	90.80	1262.87	-30.63	79.90	39.968149	-109.428252	1.67	328.46	90.00	112.15	-0.00	0.00	
1358.00	12.31	87.86	1350.93	-30.39	98.45	39.968150	-109.428186	1.14	322.42	90.00	130.56	-0.00	0.00	
1448.00	12.63	88.28	1438.81	-29.74	117.87	39.968151	-109.428116	0.37	16.03	90.00	145.79	-0.00	0.00	
1538.00	13.44	87.79	1526.49	-29.04	138.16	39.968153	-109.428044	0.31	351.99	90.00	169.88	-0.00	0.00	
1628.00	13.45	88.38	1614.02	-28.34	159.07	39.968155	-109.427969	0.15	86.12	90.00	190.59	-0.00	0.00	
1718.00	13.27	85.46	1701.59	-27.23	179.83	39.968159	-109.427895	0.78	253.65	90.00	211.10	-0.00	0.00	
1808.00	13.78	88.01	1789.09	-26.04	200.84	39.968162	-109.427820	0.87	50.71	90.00	231.86	-0.00	0.00	
1898.00	13.89	88.38	1876.48	-25.36	222.35	39.968163	-109.427744	0.16	38.99	90.00	253.16	-0.00	0.00	
1988.00	13.19	90.49	1963.98	-25.14	243.42	39.968164	-109.427668	0.95	145.81	90.00	274.08	-0.00	0.00	
2078.00	12.57	91.02	2051.72	-25.41	263.48	39.968163	-109.427597	0.70	169.47	90.00	294.05	-0.00	0.00	
2168.00	13.01	90.05	2139.48	-25.59	283.40	39.968163	-109.427526	0.54	333.51	90.00	313.87	-0.00	0.00	
2258.00	13.54	92.25	2227.08	-26.01	304.06	39.968162	-109.427452	0.31	44.70	90.00	334.45	-0.00	0.00	
2348.00	13.48	90.06	2314.59	-26.44	325.08	39.968160	-109.427377	0.57	262.25	90.00	355.39	-0.00	0.00	
2438.00	13.45	89.79	2402.12	-26.41	346.03	39.968160	-109.427302	0.08	244.36	90.00	376.21	-0.00	0.00	
2528.00	13.54	89.09	2489.63	-26.20	367.03	39.968161	-109.427227	0.21	298.51	90.00	397.07	-0.00	0.00	
2618.00	13.72	87.59	2577.15	-25.96	375.28	39.968162	-109.427158	1.13	296.26	35.00	405.23	-0.00	0.00	
2699.00	13.29	85.61	2616.99	-24.64	397.65	39.968165	-109.427118	0.56	226.12	96.00	427.33	0.35	0.39	FIRST WFT MWD SURVEY
2754.00	11.64	83.14	2709.71	-22.64	418.22	39.968171	-109.427045	1.63	198.13	95.00	447.55	2.19	1.58	
2848.00	10.93	82.38	2801.86	-20.31	436.63	39.968177	-109.426979	0.98	188.99	94.00	465.59	5.29	3.73	
2943.00	10.38	82.85	2895.23	-18.05	454.04	39.968183	-109.426917	0.59	171.25	95.00	482.66	6.83	6.33	
3037.00	8.06	82.10	2989.00	-16.09	468.98	39.968189	-109.426864	2.47	182.60	94.00	497.29	7.50	9.56	
3131.00	6.50	91.85	3081.25	-15.35	480.82	39.968191	-109.426821	2.11	146.39	94.00	508.98	10.48	11.08	
3226.00	4.56	94.25	3175.60	-15.81	489.96	39.968190	-109.426789	2.06	174.39	95.00	516.12	12.33	12.79	
3320.00	2.59	88.98	3269.61	-16.04	495.90	39.968189	-109.426768	2.02	187.48	94.00	524.04	12.42	15.61	
3415.00	2.50	91.10	3364.51	-16.04	500.20	39.968189	-109.426752	0.22	154.25	95.00	528.32	13.03	16.30	

5D Survey Report

Survey Points (Relative to centre, TVD relative to Well TVD Reference)														
MC (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	T.Face (°)	CL (US ft)	VS (US ft)	High to Plan (US ft)	Right to Plan (US ft)	Comment
3603.00	1.69	96.48	3552.38	-16.44	507.05	39.968188	-109.426728	0.44	169.03	188.00	552.17	9.11	15.79	
3980.00	1.63	136.85	3741.31	-18.71	511.66	39.968182	-109.426711	0.51	112.99	189.00	540.00	13.16	8.39	
3980.00	1.63	166.10	3923.24	-23.26	514.13	39.968169	-109.426702	0.44	104.62	188.00	542.95	11.20	1.67	
4169.00	1.81	164.85	4113.15	-28.75	515.56	39.968154	-109.426697	0.10	347.60	189.00	544.97	6.27	1.92	
4358.00	1.81	166.35	4307.06	-34.53	517.04	39.968138	-109.426692	0.03	90.75	189.00	547.08	1.11	1.27	
4547.00	1.83	165.10	4495.96	-40.35	518.52	39.968122	-109.426687	0.02	296.11	189.00	545.19	4.14	0.98	
4736.00	1.57	163.03	4684.88	-45.74	520.05	39.968107	-109.426681	0.14	192.26	189.00	551.30	-8.99	0.50	
4925.00	1.83	164.29	4873.80	-51.14	521.57	39.968093	-109.426676	0.14	15.59	189.00	553.41	-13.78	0.71	
5113.00	0.42	221.96	5061.76	-54.55	521.88	39.968083	-109.426675	0.37	167.62	188.00	554.08	-9.10	13.63	
5302.00	0.96	326.20	5250.75	-55.72	520.58	39.968085	-109.426679	0.51	126.76	189.00	552.70	13.43	5.60	
5492.00	0.57	301.86	5440.73	-51.78	518.80	39.968091	-109.426686	0.25	219.58	190.00	550.72	6.27	9.32	
5680.00	0.33	215.10	5628.73	-51.62	517.52	39.968091	-109.426690	0.38	207.52	188.00	549.43	-9.47	5.51	
5870.00	0.53	196.98	5818.72	-53.05	516.87	39.968087	-109.426693	0.18	316.91	190.00	548.94	-11.90	0.80	
6059.00	0.48	22.91	6007.72	-53.31	516.87	39.968087	-109.426693	0.59	182.56	189.00	548.98	11.53	-1.46	
6246.00	1.69	16.35	6196.68	-49.91	517.97	39.968096	-109.426689	0.54	350.85	189.00	549.69	7.51	0.39	
6436.00	1.50	22.35	6384.61	-44.97	519.68	39.968110	-109.426683	0.13	141.66	188.00	550.85	1.83	0.56	
6624.00	1.06	43.10	6572.56	-41.42	521.81	39.968119	-109.426675	0.34	143.57	188.00	552.58	2.34	1.53	
6814.00	0.88	70.60	6762.53	-39.66	524.38	39.968124	-109.426666	0.26	124.51	190.00	554.95	-4.20	4.05	
7003.00	0.81	113.85	6951.51	-39.72	526.98	39.968124	-109.426657	0.33	117.59	189.00	557.53	-1.99	7.27	
7192.00	1.13	127.60	7140.49	-41.39	529.67	39.968119	-109.426647	0.21	43.04	189.00	560.39	-2.60	8.14	
7381.00	1.67	310.13	7323.47	-40.75	529.04	39.968121	-109.426649	1.48	181.51	189.00	559.70	0.57	-8.57	
7570.00	1.05	305.84	7513.41	-37.87	525.61	39.968129	-109.426661	0.33	180.49	189.00	555.97	-4.65	-8.83	
7758.00	0.39	327.75	7706.40	-36.23	523.95	39.968134	-109.426667	0.37	169.98	188.00	554.13	-10.23	-6.44	
7947.00	0.15	175.65	7895.40	-35.93	523.63	39.968134	-109.426669	0.28	187.17	189.00	553.78	13.09	0.53	
8136.00	0.66	153.33	8084.39	-37.15	524.14	39.968131	-109.426667	0.28	333.70	189.00	554.43	11.53	5.31	
8326.00	0.89	161.72	8274.37	-39.52	525.10	39.968124	-109.426663	0.13	30.50	190.00	555.64	10.37	3.23	
8514.00	1.50	135.73	8462.33	-42.67	527.27	39.968116	-109.426656	0.43	304.89	188.00	558.15	4.93	6.98	
8840.00	1.92	115.23	8788.19	-48.40	535.02	39.968100	-109.426628	0.20	302.02	326.00	566.47	-5.56	7.55	LAST WFT MWD SURVEY TO TD
8990.00	1.92	115.23	8833.16	-49.21	536.48	39.968098	-109.426623	0.00	0.00	50.00	568.01	-7.04	7.55	PROJECTION TO TD

Formation Points (Relative to centre, TVD relative to Well TVD Reference)		
Name	MC (US ft)	TVD (US ft)
GREEN RIVER	1300.81	1295.00
BIRDS NEST	1539.55	1528.00
MAHOAGANY MARKER	2068.04	2042.00
WASATCH	4430.98	4380.00
MESA VERDE	6755.46	6704.00
SECC	8890.00	8838.16