

**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 1022-11J3S		
<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> 720 929-6587		
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com		
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> ST UO 01197A		<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 type="checkbox"/> (Submit Commingling Application) NO <input checked="" 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	2551 FSL 2212 FWL	NESW	11	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	1600 FSL 2340 FEL	NWSE	11	10.0 S	22.0 E	S
At Total Depth	1600 FSL 2340 FEL	NWSE	11	10.0 S	22.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1600		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 1674		
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 20		<b>26. PROPOSED DEPTH</b> MD: 8675 TVD: 8400		
<b>27. ELEVATION - GROUND LEVEL</b> 5115		<b>28. BOND NUMBER</b> 22013542		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496		

**ATTACHMENTS**

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

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

<b>NAME</b> Kathy Schneebeck-Dulnoan	<b>TITLE</b> Staff Regulatory Analyst	<b>PHONE</b> 720 929-6007
<b>SIGNATURE</b>	<b>DATE</b> 11/07/2008	<b>EMAIL</b> Kathy.SchneebeckDulnoan@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047502130000	<b>APPROVAL</b>   Permit Manager	

<b>Proposed Hole, Casing, and Cement</b>						
<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>		
Surf	12.25	9.625	0	1800		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade J-55 LT&C	1800	36.0			
	<b>Cement Interval</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>			
		0	4600			
		<b>Cement Description</b>	<b>Class</b>	<b>Sacks</b>	<b>Yield</b>	<b>Weight</b>

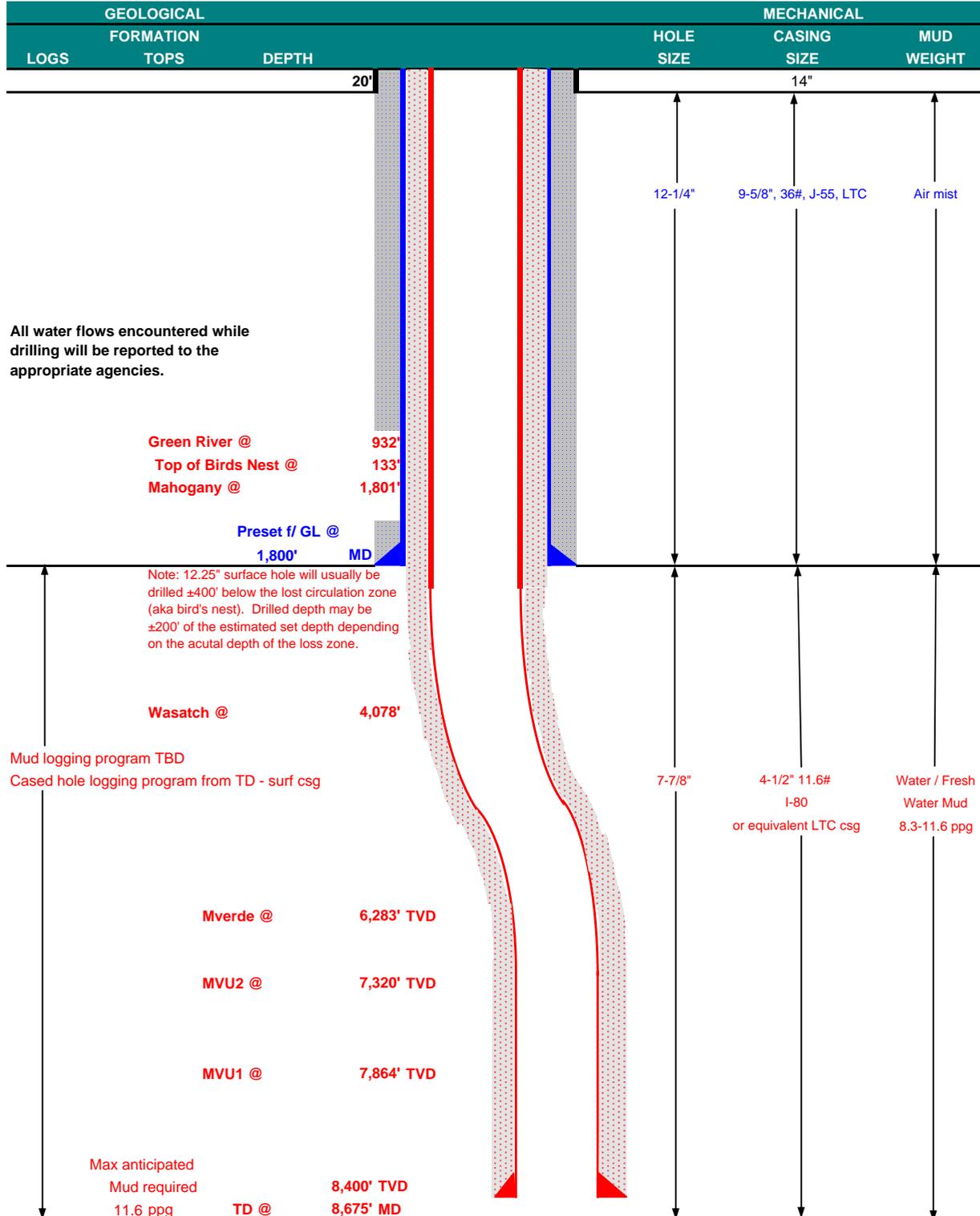
**Proposed Hole, Casing, and Cement**

<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>		
Prod	7.875	4.5	0	8675		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade I-80 LT&C	8675	11.6			
	<b>Cement Interval</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>			
		0	8675			
		<b>Cement Description</b>	<b>Class</b>	<b>Sacks</b>	<b>Yield</b>	<b>Weight</b>
			Premium Lite High Strength	340	3.38	11.0
			50/50 Poz	1260	1.31	14.3



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	March 20, 2009			
WELL NAME	<b>NBU 1022-11J3S</b>		TD	8,400'	TVD	8,675' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	ELEVATION	5,115' GL KB 5,130'
SURFACE LOCATION	NE/4 SW/4 2,551' FSL 2,212' FWL		Sec 11	T 10S	R 22E		
	Latitude: 39.963250		Longitude: -109.408067		NAD 27		
BTM HOLE LOCATION	SW/4 SE/4 1,600' FSL 2,340' FEL		Sec 11	T 10S	R 22E		
	Latitude: 39.960693		Longitude: -109.405447		NAD 27		
OBJECTIVE ZONE(S)	Wasatch/Mesaverde						
ADDITIONAL INFO	Regulatory Agencies: SITLA (Minerals), UDOGM (Surface), Tri-County Health Dept.						





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'						
SURFACE	9-5/8"	0 to 1,800'	36.00	J-55	LTC	3,520	2,020	453,000
PRODUCTION	4-1/2"	0 to 8,675'	11.60	I-80	LTC	7,780	6,350	201,000
						2.34	1.21	2.29

- 1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))
- 2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)  
 (Burst Assumptions: TD = 11.6 ppg) 0.22 psi/ft = gradient for partially evac wellbore  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)  
**MASP 3,124 psi**
- 3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD  
 (Burst Assumptions: TD = 11.6 ppg) 0.59 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)  
**MABHP 5,134 psi**

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500	Premium cmt + 2% CaCl + .25 pps flocele	215	60%	15.60	1.18
Option 1	TOP OUT CMT (1)	200	20 gals sodium silicate + Premium cmt + 2% CaCl + .25 pps flocele	50		15.60	1.18
	TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
SURFACE	Option 2	<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
	LEAD	1500	65/35 Poz + 6% Gel + 10 pps gilsonite +.25 pps Flocele + 3% salt BWOW	360	35%	12.60	1.81
	TAIL	500	Premium cmt + 2% CaCl + .25 pps flocele	180	35%	15.60	1.18
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	3,575'	Premium Lite II + 3% KCl + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	340	40%	11.00	3.38
	TAIL	5,100'	50/50 Poz/G + 10% salt + 2% gel +.1% R-3	1250	40%	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. No centralizers will be used.

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.  
 BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.  
 Surveys will be taken at 1,000' minimum intervals.  
 Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 John Huycke / Grant Schluender  
**DRILLING SUPERINTENDENT:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 John Merkel / Lovel Young

**NBU 1022-11J3S  
Twin to NBU #367  
NESW Sec. 11 T10S R22E  
UINTAH COUNTY, UTAH  
ST UO 01197A**

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

**1. Estimated Tops of Important Geologic Markers:**

<u>Formation</u>	<u>Depth</u>
Uinta	0- Surface
Green River	914'
Birds Nest	1292'
Mahogany	1765'
Wasatch	4051'
Mesaverde	6270'
MVU2	7261'
MVL1	7801'
TVD	8400'
TD	8675'

**2. Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Substance</u>	<u>Formation</u>	<u>Depth</u>
	Green River	914'
Water	Birds Nest	1292'
Water	Mahogany	1765'
Gas	Wasatch	4051'
Gas	Mesaverde	6270'
Gas	MVU2	7261'
Gas	MVL1	7801'
Water	N/A	
Other Minerals	N/A	

**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 bottomhole pressure calculated at 8675' TD, approximately equals 5134 psi (calculated at 0.59 psi/foot).

Maximum anticipated surface pressure equals approximately 3124 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**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 to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 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 9-5/8 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.*

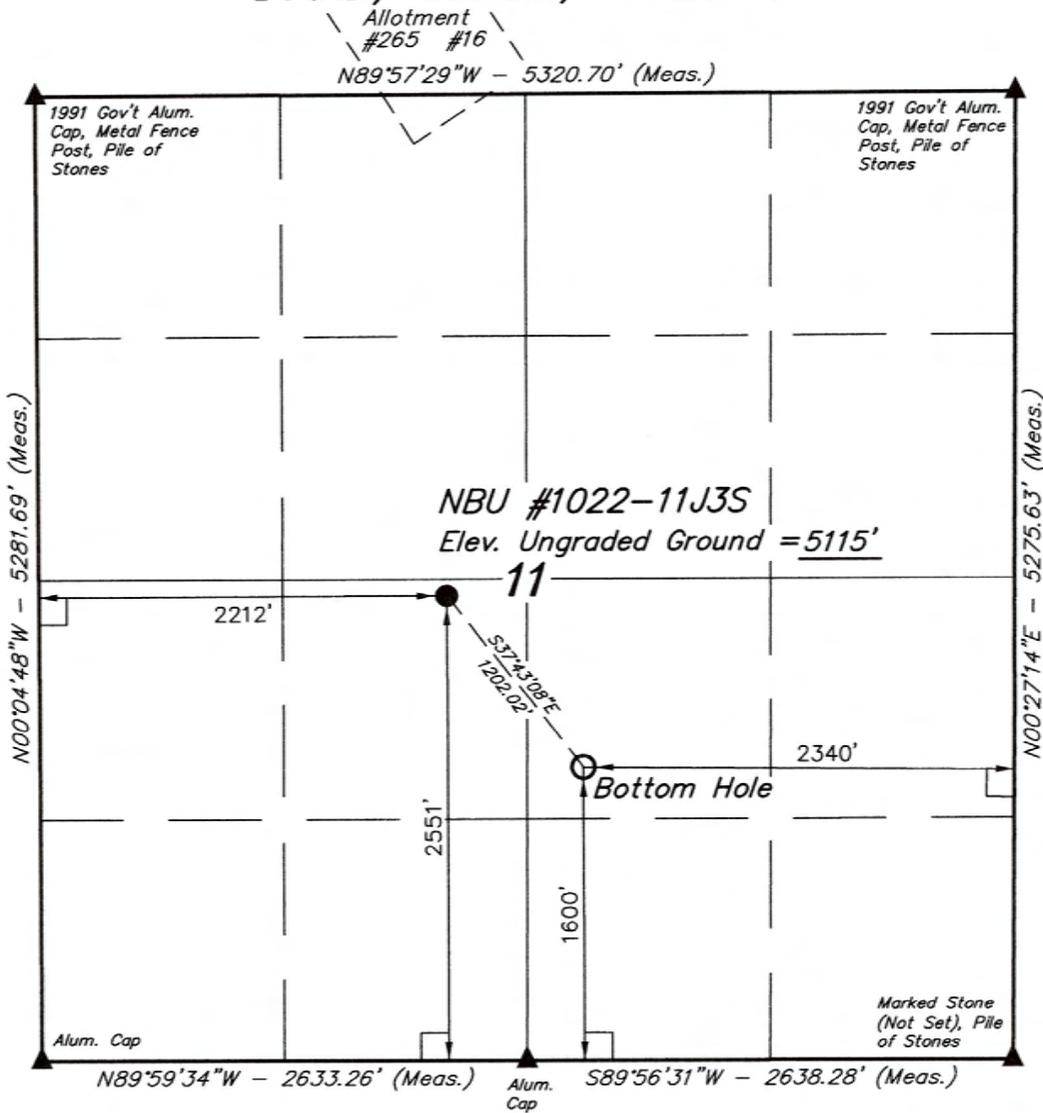
***Conclusion***

*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.*

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



## Kerr-McGee Oil & Gas Onshore LP

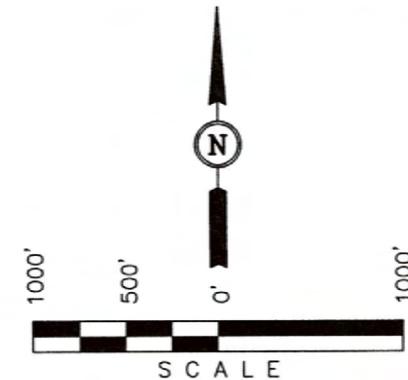
Well location, NBU #1022-11J3S, located as shown in the NE 1/4 SW 1/4 of Section 11, T10S, R22E, S.L.B.&M., Uintah County, Utah.

### BASIS OF ELEVATION

TWO WATER TRIANGULATION STATION LOCATED IN THE NW 1/4 CORNER OF SECTION 1, T10S, R21E, S.L.B.&M. TAKEN FROM THE BIG PACK MTN NE, QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5238 FEET.

### BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.



### 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.

REGISTERED LAND SURVEYOR  
REGISTRATION NO. 161319  
STATE OF UTAH

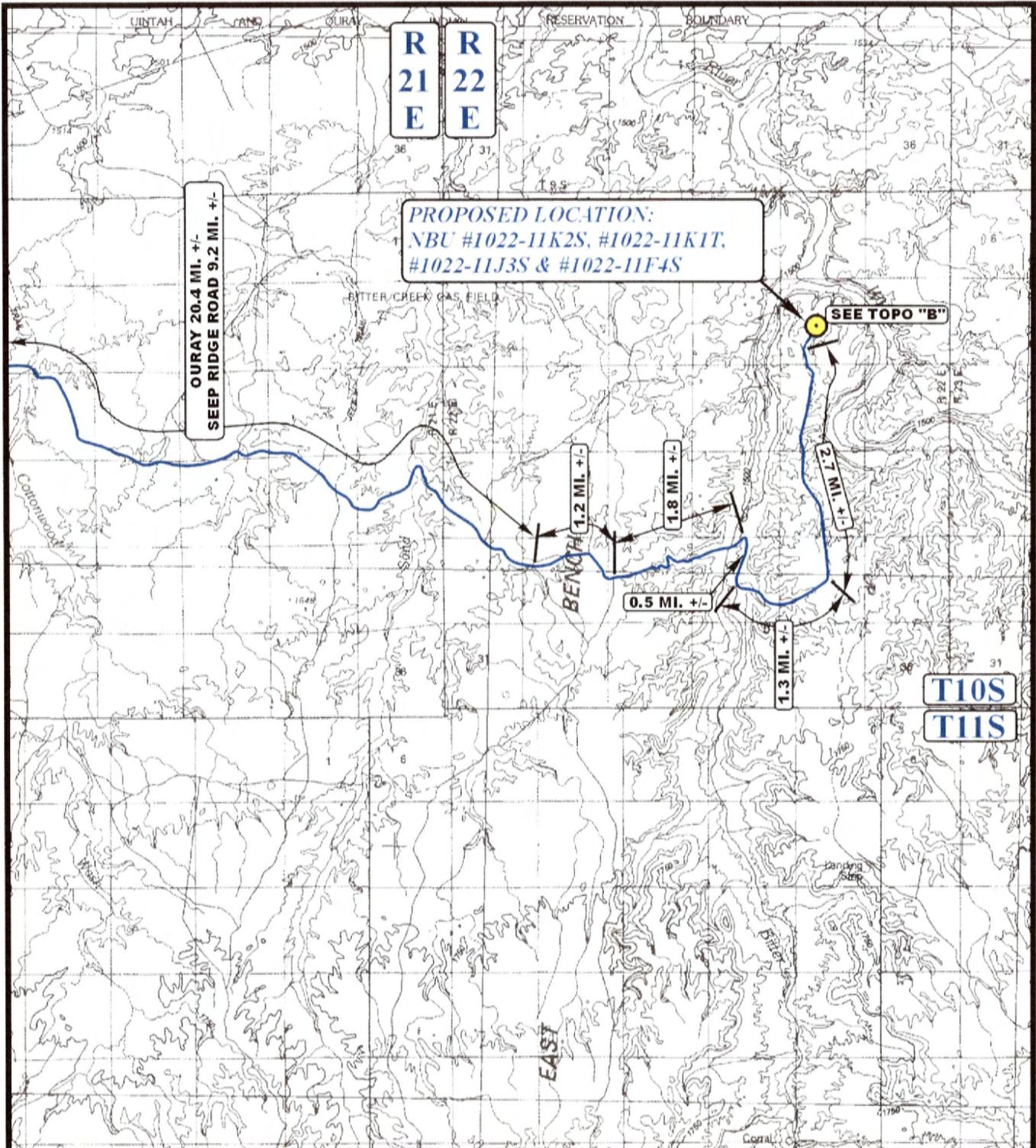
**UINTAH ENGINEERING & LAND SURVEYING**  
85 SOUTH 200 EAST - VERNAL, UTAH 84078  
(435) 789-1017

### LEGEND:

- └─┘ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 39°57'38.18" (39.960606)	LATITUDE = 39°57'47.58" (39.963217)
LONGITUDE = 109°24'22.06" (109.406128)	LONGITUDE = 109°24'31.49" (109.408747)
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (SURFACE LOCATION)
LATITUDE = 39°57'38.30" (39.960639)	LATITUDE = 39°57'47.70" (39.963250)
LONGITUDE = 109°24'19.61" (109.405447)	LONGITUDE = 109°24'29.04" (109.408067)

SCALE 1" = 1000'	DATE SURVEYED: 08-19-08	DATE DRAWN: 09-09-08
PARTY D.S. E.D. C.C.	REFERENCES G.L.O. PLAT	
WEATHER HOT	FILE Kerr-McGee Oil & Gas Onshore LP	



**R  
21  
E**      **R  
22  
E**

**OURAY 20.4 MI. +/-  
SEEP RIDGE ROAD 9.2 MI. +/-**

**PROPOSED LOCATION:  
NBU #1022-11K2S, #1022-11KIT,  
#1022-11J3S & #1022-11F4S**

**SEE TOPO "B"**

**1.2 MI. +/-**

**1.8 MI. +/-**

**2.7 MI. +/-**

**0.5 MI. +/-**

**1.3 MI. +/-**

**T10S  
T11S**

**LEGEND:**

**PROPOSED LOCATION**

**Kerr-McGee Oil & Gas Onshore LP**

NBU #1022-11K2S, #1022-11KIT,  
#1022-11J3S & #1022-11F4S  
SECTION 11, T10S, R22E, S.L.B.&M.  
NE 1/4 SW 1/4

**U&L S** Uintah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813



**TOPOGRAPHIC MAP** **09 15 08**  
MONTH DAY YEAR  
SCALE: 1:100,000 DRAWN BY: J.H. REVISED: 00-00-00



R  
22  
E

**PROPOSED LOCATION:**  
NBU #1022-11K2S, #1022-11KIT,  
#1022-11J3S & #1022-11F4S

0.5 MI. +/-

OURAY 27.9 MI. +/-  
SEEP RIDGE ROAD 16.7 MI. +/-

T10S

**LEGEND:**  
- - - - - PROPOSED ACCESS ROAD  
————— EXISTING ROAD

**Kerr-McGee Oil & Gas Onshore LP**  
NBU #1022-11K2S, #1022-11KIT,  
#1022-11J3S & #1022-11F4S  
SECTION 11, T10S, R22E, S.L.B.&M.  
NE 1/4 SW 1/4

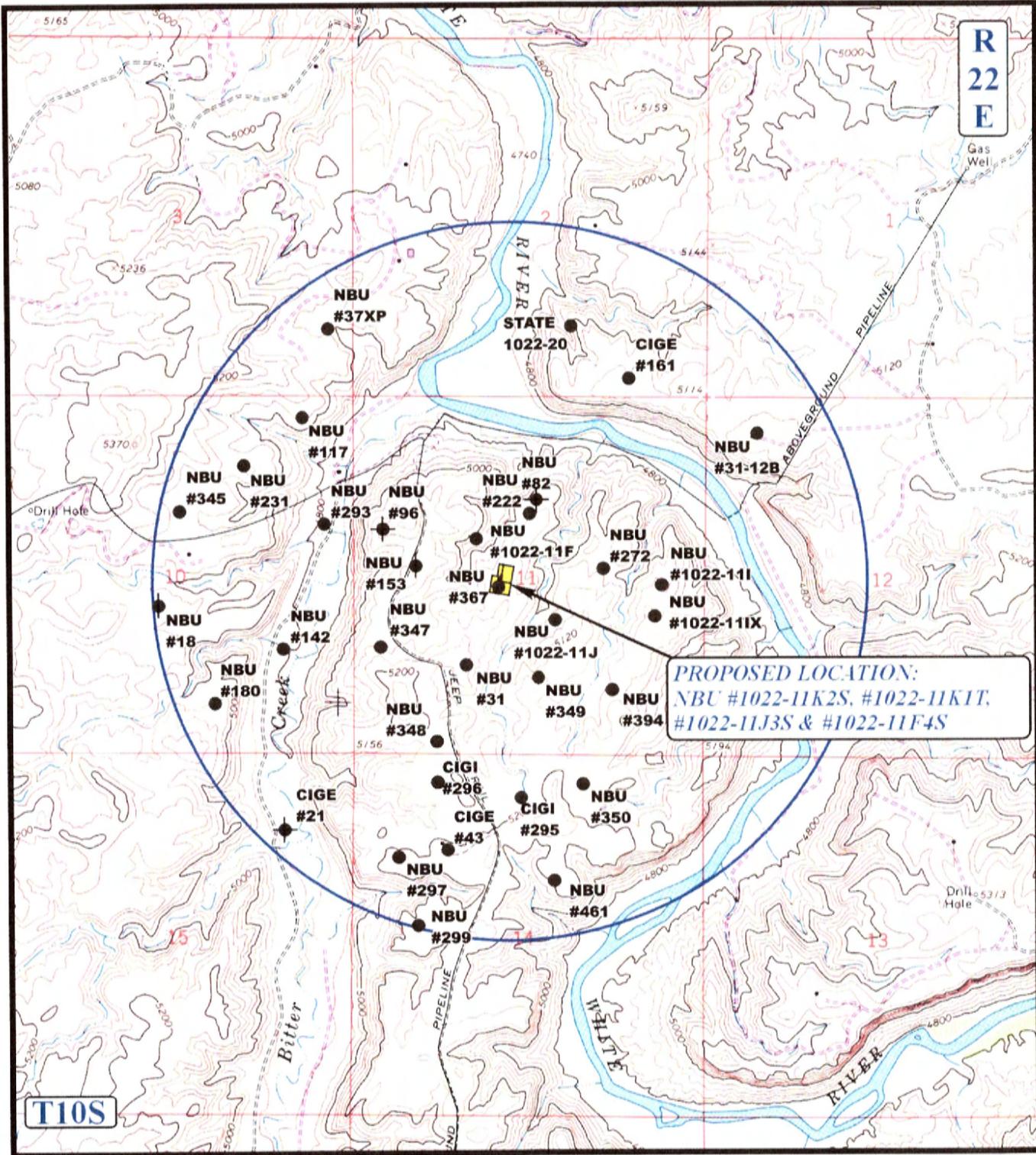
**UELS** Uintah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

**TOPOGRAPHIC MAP** 09 15 08  
MONTH DAY YEAR  
SCALE: 1" = 2000' DRAWN BY: J.H. REVISED: 00-00-00

**B**  
TOPO

'APIWellNo:43047502130000'

R  
22  
E



**PROPOSED LOCATION:**  
 NBU #1022-11K2S, #1022-11KIT,  
 #1022-11J3S & #1022-11F4S

**LEGEND:**

- ⊗ DISPOSAL WELLS
- PRODUCING WELLS
- SHUT IN WELLS
- ⊗ WATER WELLS
- ABANDONED WELLS
- TEMPORARILY ABANDONED

**Kerr-McGee Oil & Gas Onshore LP**

NBU #1022-11K2S, #1022-11KIT,  
 #1022-11J3S & #1022-11F4S  
 SECTION 11, T10S, R22E, S.L.B.&M.  
 NE 1/4 SW 1/4

**UEIS** Uintah Engineering & Land Surveying  
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**TOPOGRAPHIC MAP** 09 15 08  
 MONTH DAY YEAR  
 SCALE: 1" = 2000' DRAWN BY: J.H. REVISED: 00-00-00 **TOPO**

APIWellNo:43047502130000

R  
22  
E

5114

5200

0087

0087

5000

4800

PROPOSED LOCATION:  
NBU #1022-11K2S, #1022-11K1T,  
#1022-11J3S & #1022-11F4S

EXISTING ACCESS ROAD

11  
NBU  
#367

PROPOSED PIPELINE REROUTE

EXISTING PIPELINE  
NEEDS UPGRADED TO 8"

NBU  
#1022-11M1S, #1022-11K3S,  
#1022-11L3S & #1022-11L2S

EXISTING PIPELINE  
NEEDS UPGRADED TO 8"

5200

5156

Creek

TRAIL

5200

T10S

APPROXIMATE TOTAL UPGRADED PIPELINE DISTANCE = 1.900' +/-

APPROXIMATE TOTAL UPGRADED PIPELINE DISTANCE = 1.700' +/-

**LEGEND:**

-  EXISTING PIPELINE
-  EXISTING PIPELINE NEEDS UPGRADED TO 8"
-  PROPOSED PIPELINE REROUTE
-  PROPOSED ACCESS

**Kerr-McGee Oil & Gas Onshore LP**

NBU #1022-11K2S, #1022-11K1T,  
#1022-11J3S & #1022-11F4S  
SECTION 11, T10S, R22E, S.L.B.&M.  
NE 1/4 SW 1/4



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**TOPOGRAPHIC  
MAP**

**09 15 08**  
MONTH DAY YEAR

SCALE: 1" = 1000' DRAWN BY: J.H. REVISED: 00-00-00

**D  
TOPO**

# Kerr-McGee Oil & Gas Onshore LP

NBU #1022-11K2S, #1022-11K1T,

#1022-11J3S & #1022-114FS

LOCATED IN UTAH COUNTY, UTAH

SECTION 11, T10S, R22E, S.L.B.&M.

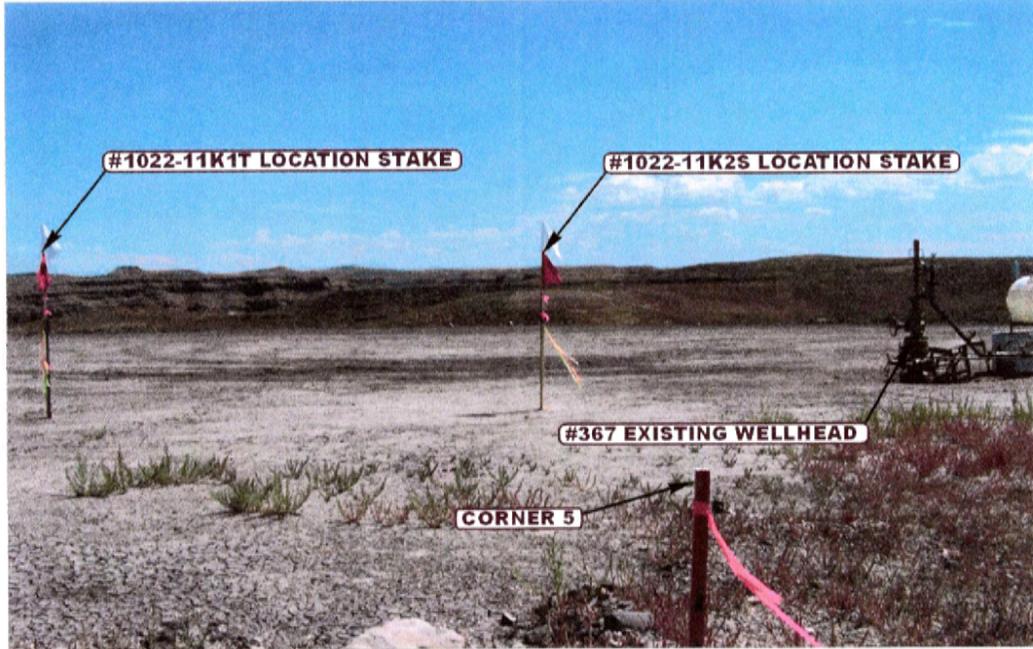


PHOTO: VIEW FROM CORNER 5 TO LOCATION STAKES

CAMERA ANGLE: SOUTHEASTERLY



PHOTO: VIEW FROM EXISTING ACCESS

CAMERA ANGLE: NORTHEASTERLY



- Since 1964 -

**UELS**

Uintah Engineering & Land Surveying

85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

LOCATION PHOTOS

09 15 08  
MONTH DAY YEAR

PHOTO

TAKEN BY: D.K.

DRAWN BY: J.H.

REVISED: 00-00-00

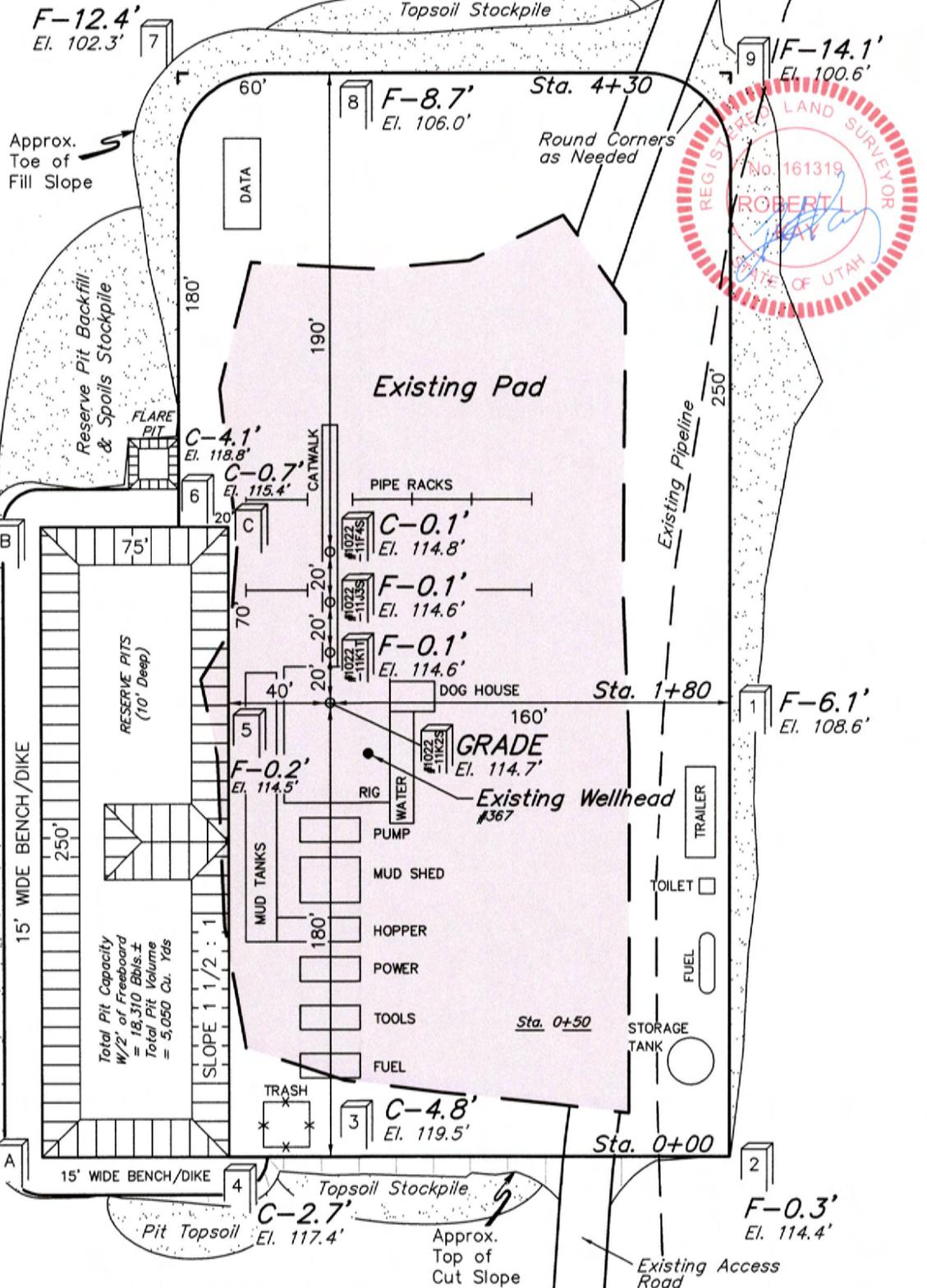
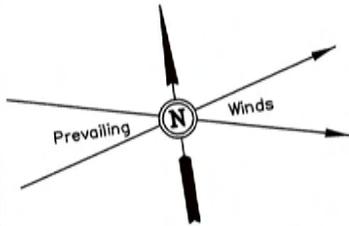
# Kerr-McGee Oil & Gas Onshore LP

## LOCATION LAYOUT FOR

NBU #1022-11K2S, #1022-11K1T,  
#1022-11J3S & #1022-11F4S  
SECTION 11, T10S, R22E, S.L.B.&M.  
NE 1/4 SW 1/4

**FIGURE #1**

SCALE: 1" = 60'  
DATE: 09-09-08  
Drawn By: C.C.



**NOTE:**  
Flare Pit is to be located a min. of 100' from the Well Head.

Elev. Ungraded Ground at #1022-11K2S Location Stake = 5114.7'  
Elev. Graded Ground at #1022-11K2S Location Stake = 5114.7'

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

APIWellNo:43047502130000

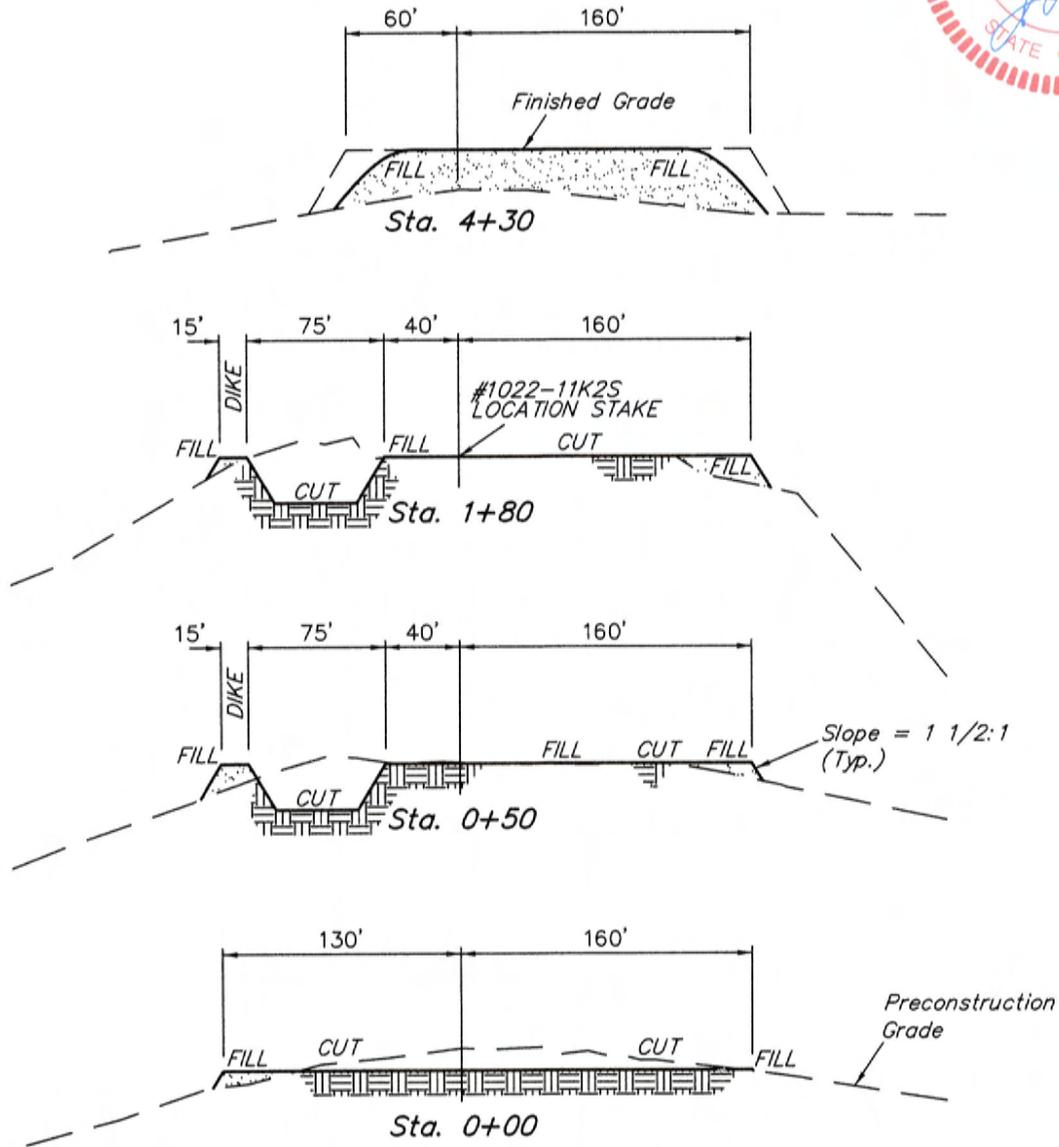
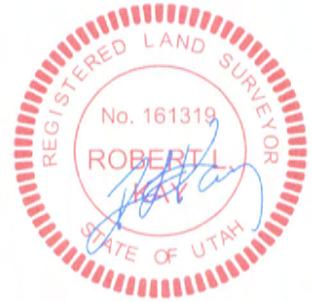
# Kerr-McGee Oil & Gas Onshore LP

FIGURE #2

1" = 40'  
X-Section Scale  
1" = 100'

DATE: 09-09-08  
Drawn By: C.C.

TYPICAL CROSS SECTIONS FOR  
NBU #1022-11K2S, #1022-11K1T,  
#1022-11J3S & #1022-11F4S  
SECTION 11, T10S, R22E, S.L.B.&M.  
NE 1/4 SW 1/4



**NOTE:**

Topsoil should not be Stripped Below Finished Grade on Substructure Area.

**\* NOTE:**

FILL QUANTITY INCLUDES 5% FOR COMPACTION

**APPROXIMATE YARDAGES**

(6") Topsoil Stripping (New Construction Only)	= 1,160 Cu. Yds.
Remaining Location	= 6,270 Cu. Yds.
<b>TOTAL CUT</b>	<b>= 7,430 CU.YDS.</b>
<b>FILL</b>	<b>= 11,020 CU.YDS.</b>

DEFICIT MATERIAL	= <3,590> Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 3,690 Cu. Yds.
DEFICIT UNBALANCE (After Interim Rehabilitation)	= <7,280> Cu. Yds.

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

APIWellNo:43047502130000

**Kerr-McGee Oil & Gas Onshore LP  
NBU #1022-11K2S, #1022-11K1T,  
#1022-11J3S & #1022-114FS  
SECTION 11, T10S, R22E, S.L.B.&M.**

**PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 11.2 MILES ALONG THE SEEP RIDGE ROAD TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 9.2 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 1.2 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION APPROXIMATELY 1.8 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 0.5 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY, THEN EASTERLY, THEN NORTHEASTERLY DIRECTION APPROXIMATELY 1.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTH; TURN LEFT AND PROCEED IN A NORTHERLY, THEN NORTHWESTERLY, THEN NORTHERLY DIRECTION APPROXIMATELY 2.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN LEFT AND PROCEED IN A NORTHWESTERLY THEN NORTHEASTERLY DIRECTION APPROXIMATELY 0.5 MILES TO THE PROPOSED LOCATION.**

**TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 59.4 MILES.**

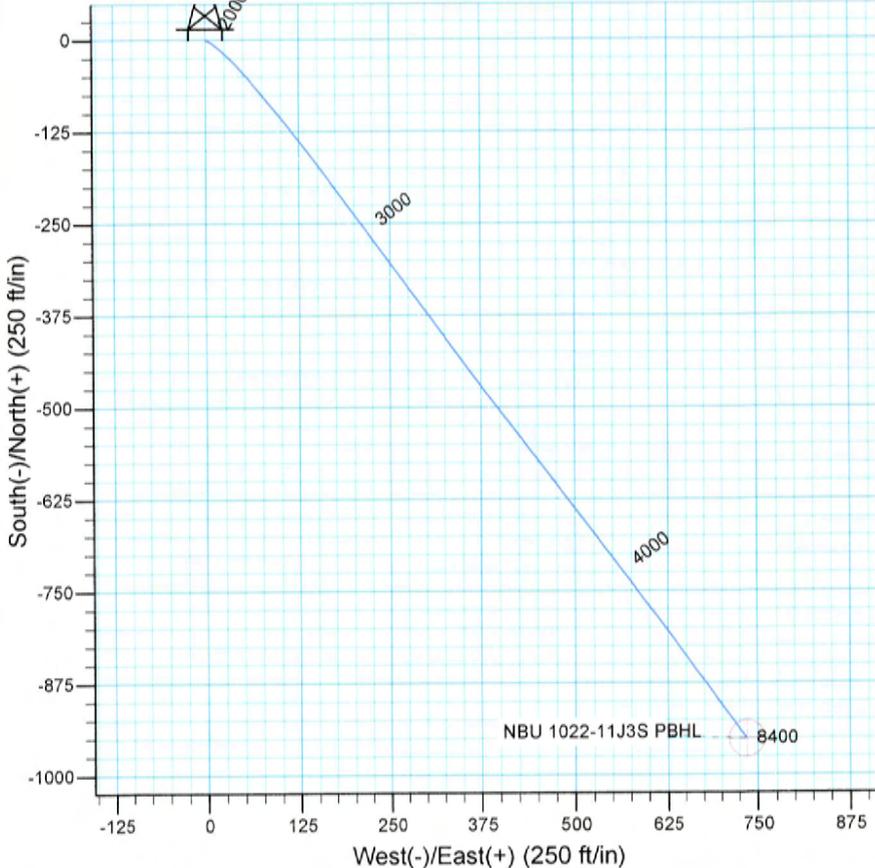
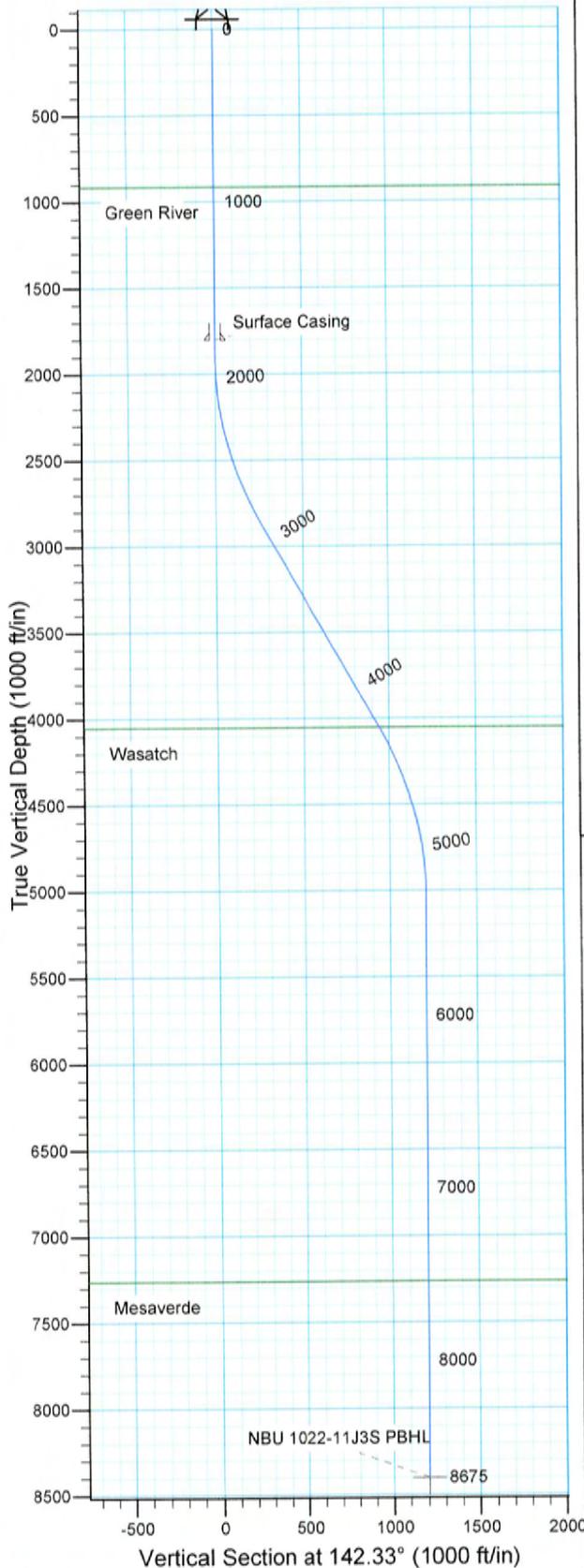


Azimuths to True North  
 Magnetic North: 11.35°

Magnetic Field  
 Strength: 52606.7snT  
 Dip Angle: 65.93°  
 Date: 10/30/2008  
 Model: IGRF2005-10

WELL DETAILS: NBU 1022-11J3S

GL 5115' & RKB 18' @ 5133.00ft 5115.00  
 +N/-S 0.00 +E/-W 0.00 Northing 600517.11 Easting 2586305.66 Latitude 39° 57' 47.700 N Longitude 109° 24' 29.040 W



Plan: Plan #1 (NBU 1022-11J3S/OH)

Created By: Julie Cruse Date: 2008-10-31

PROJECT DETAILS: Uintah County, UT NAD27

Geodetic System: US State Plane 1927 (Exact solution)  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: Utah Central 4302  
 Location: Sec 11 T10S R22E  
 System Datum: Mean Sea Level  
 Local North: True

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	
2066.67	5.00	120.00	2066.46	-3.63	6.29	3.00	120.00	6.72	
2915.75	30.00	143.17	2870.33	-195.21	168.25	3.00	27.23	257.34	NBU 1022-11J3S PBHL
2915.75	30.00	143.17	2870.33	-195.21	168.25	3.00	180.00	257.34	
4292.55	30.00	143.17	4062.68	-746.25	580.87	0.00	0.00	945.67	
5292.55	0.00	0.00	5017.61	-951.06	734.24	3.00	180.00	1201.51	
8674.95	0.00	0.00	8400.00	-951.06	734.24	0.00	0.00	1201.51	NBU 1022-11J3S PBHL

APIWellNo:43047502130000



**Scientific Drilling**  
Rocky Mountain Operations

# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT NAD27  
NBU 1022-11K2 Pad  
NBU 1022-11J3S  
OH**

**Plan: Plan #1**

## **Standard Planning Report**

**31 October, 2008**



# Scientific Drilling

## Planning Report

**Database:** EDM 2003.16 Multi User DB  
**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-11K2 Pad  
**Well:** NBU 1022-11J3S  
**Wellbore:** OH  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NBU 1022-11J3S  
**TVD Reference:** GL 5115' & RKB 18' @ 5133.00ft  
**MD Reference:** GL 5115' & RKB 18' @ 5133.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	Uintah County, UT NAD27		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Utah Central 4302		

<b>Site</b>	NBU 1022-11K2 Pad, Sec 11 T10S R22E		
<b>Site Position:</b>		<b>Northing:</b>	600,477.52 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,586,300.35 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	in
		<b>Latitude:</b>	39° 57' 47.310 N
		<b>Longitude:</b>	109° 24' 29.120 W
		<b>Grid Convergence:</b>	1.34 °

<b>Well</b>	NBU 1022-11J3S, 2551' FSL 2212' FWL		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 600,517.11 ft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 2,586,305.66 ft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	39° 57' 47.700 N
		<b>Longitude:</b>	109° 24' 29.040 W
		<b>Ground Level:</b>	5,115.00 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>
	IGRF2005-10	10/30/2008	11.35	65.93	52,607

<b>Design</b>	Plan #1				
<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	142.33	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,066.67	5.00	120.00	2,066.46	-3.63	6.29	3.00	3.00	0.00	120.00	
2,915.75	30.00	143.17	2,870.33	-195.21	168.25	3.00	2.94	2.73	27.23	NBU 1022-11J3S PBI
2,915.75	30.00	143.17	2,870.33	-195.21	168.25	3.00	3.00	0.00	180.00	
4,292.55	30.00	143.17	4,062.68	-746.25	580.87	0.00	0.00	0.00	0.00	
5,292.55	0.00	0.00	5,017.61	-951.06	734.24	3.00	-3.00	0.00	180.00	
8,674.95	0.00	0.00	8,400.00	-951.06	734.24	0.00	0.00	0.00	0.00	NBU 1022-11J3S PBI

APIWellNo:43047502130000

**Database:** EDM 2003.16 Multi User DB  
**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-11K2 Pad  
**Well:** NBU 1022-11J3S  
**Wellbore:** OH  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NBU 1022-11J3S  
**TVD Reference:** GL 5115' & RKB 18' @ 5133.00ft  
**MD Reference:** GL 5115' & RKB 18' @ 5133.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
914.00	0.00	0.00	914.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Green River</b>									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Surface Casing</b>									
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	3.00	120.00	1,999.95	-1.31	2.27	2.42	3.00	3.00	0.00
2,066.67	5.00	120.00	2,066.46	-3.63	6.29	6.72	3.00	3.00	0.00
2,100.00	5.91	124.45	2,099.64	-5.33	8.97	9.70	3.00	2.72	13.35
2,200.00	8.75	132.11	2,198.81	-13.34	18.85	22.08	3.00	2.84	7.66
2,300.00	11.67	136.00	2,297.22	-25.72	31.53	39.63	3.00	2.92	3.89
2,400.00	14.62	138.34	2,394.59	-42.43	46.95	62.28	3.00	2.95	2.34
2,500.00	17.59	139.91	2,490.65	-63.43	65.08	89.98	3.00	2.97	1.57
2,600.00	20.57	141.03	2,585.15	-88.66	85.86	122.65	3.00	2.98	1.13
2,700.00	23.55	141.88	2,677.81	-118.04	109.25	160.20	3.00	2.98	0.85
2,800.00	26.54	142.55	2,768.40	-151.51	135.17	202.53	3.00	2.99	0.67
2,900.00	29.53	143.10	2,856.66	-188.96	163.56	249.52	3.00	2.99	0.54
2,915.75	30.00	143.17	2,870.33	-195.21	168.25	257.34	3.00	2.99	0.49
3,000.00	30.00	143.17	2,943.29	-228.93	193.50	299.46	0.00	0.00	0.00
3,100.00	30.00	143.17	3,029.89	-268.95	223.47	349.45	0.00	0.00	0.00
3,200.00	30.00	143.17	3,116.50	-308.98	253.44	399.45	0.00	0.00	0.00
3,300.00	30.00	143.17	3,203.10	-349.00	283.41	449.44	0.00	0.00	0.00
3,400.00	30.00	143.17	3,289.70	-389.02	313.38	499.44	0.00	0.00	0.00
3,500.00	30.00	143.17	3,376.30	-429.05	343.35	549.43	0.00	0.00	0.00
3,600.00	30.00	143.17	3,462.91	-469.07	373.32	599.43	0.00	0.00	0.00
3,700.00	30.00	143.17	3,549.51	-509.09	403.29	649.42	0.00	0.00	0.00
3,800.00	30.00	143.17	3,636.11	-549.11	433.26	699.41	0.00	0.00	0.00
3,900.00	30.00	143.17	3,722.71	-589.14	463.22	749.41	0.00	0.00	0.00
4,000.00	30.00	143.17	3,809.32	-629.16	493.19	799.40	0.00	0.00	0.00
4,100.00	30.00	143.17	3,895.92	-669.18	523.16	849.40	0.00	0.00	0.00
4,200.00	30.00	143.17	3,982.52	-709.20	553.13	899.39	0.00	0.00	0.00
4,279.07	30.00	143.17	4,051.00	-740.85	576.83	938.92	0.00	0.00	0.00
<b>Wasatch</b>									
4,292.55	30.00	143.17	4,062.68	-746.25	580.87	945.67	0.00	0.00	0.00
4,300.00	29.78	143.17	4,069.13	-749.22	583.10	949.38	3.00	-3.00	0.00
4,400.00	26.78	143.17	4,157.19	-787.13	611.49	996.74	3.00	-3.00	0.00

'APIWellNo:43047502130000'



Scientific Drilling  
Planning Report

Database: EDM 2003.16 Multi User DB  
 Company: Kerr McGee Oil and Gas Onshore LP  
 Project: Uintah County, UT NAD27  
 Site: NBU 1022-11K2 Pad  
 Well: NBU 1022-11J3S  
 Wellbore: OH  
 Design: Plan #1

Local Co-ordinate Reference: Well NBU 1022-11J3S  
 TVD Reference: GL 5115' & RKB 18' @ 5133.00ft  
 MD Reference: GL 5115' & RKB 18' @ 5133.00ft  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.00	23.78	143.17	4,247.60	-821.31	637.08	1,039.43	3.00	-3.00	0.00
4,600.00	20.78	143.17	4,340.13	-851.65	659.80	1,077.33	3.00	-3.00	0.00
4,700.00	17.78	143.17	4,434.51	-878.07	679.58	1,110.33	3.00	-3.00	0.00
4,800.00	14.78	143.17	4,530.49	-900.50	696.38	1,138.35	3.00	-3.00	0.00
4,900.00	11.78	143.17	4,627.81	-918.88	710.14	1,161.31	3.00	-3.00	0.00
5,000.00	8.78	143.17	4,726.20	-933.16	720.84	1,179.15	3.00	-3.00	0.00
5,100.00	5.78	143.17	4,825.38	-943.30	728.43	1,191.81	3.00	-3.00	0.00
5,200.00	2.78	143.17	4,925.09	-949.27	732.90	1,199.27	3.00	-3.00	0.00
5,292.55	0.00	0.00	5,017.61	-951.06	734.24	1,201.51	3.00	-3.00	0.00
5,300.00	0.00	0.00	5,025.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
5,400.00	0.00	0.00	5,125.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
5,500.00	0.00	0.00	5,225.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
5,600.00	0.00	0.00	5,325.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
5,700.00	0.00	0.00	5,425.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
5,800.00	0.00	0.00	5,525.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
5,900.00	0.00	0.00	5,625.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
6,000.00	0.00	0.00	5,725.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
6,100.00	0.00	0.00	5,825.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
6,200.00	0.00	0.00	5,925.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
6,300.00	0.00	0.00	6,025.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
6,400.00	0.00	0.00	6,125.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
6,500.00	0.00	0.00	6,225.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
6,600.00	0.00	0.00	6,325.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
6,700.00	0.00	0.00	6,425.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
6,800.00	0.00	0.00	6,525.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
6,900.00	0.00	0.00	6,625.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
7,000.00	0.00	0.00	6,725.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
7,100.00	0.00	0.00	6,825.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
7,200.00	0.00	0.00	6,925.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
7,300.00	0.00	0.00	7,025.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
7,400.00	0.00	0.00	7,125.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
7,500.00	0.00	0.00	7,225.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
7,535.95	0.00	0.00	7,261.00	-951.06	734.24	1,201.51	0.00	0.00	0.00
<b>Mesaverde</b>									
7,600.00	0.00	0.00	7,325.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
7,700.00	0.00	0.00	7,425.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
7,800.00	0.00	0.00	7,525.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
7,900.00	0.00	0.00	7,625.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
8,000.00	0.00	0.00	7,725.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
8,100.00	0.00	0.00	7,825.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
8,200.00	0.00	0.00	7,925.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
8,300.00	0.00	0.00	8,025.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
8,400.00	0.00	0.00	8,125.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
8,500.00	0.00	0.00	8,225.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
8,600.00	0.00	0.00	8,325.05	-951.06	734.24	1,201.51	0.00	0.00	0.00
8,674.95	0.00	0.00	8,400.00	-951.06	734.24	1,201.51	0.00	0.00	0.00

APIWellNo:43047502130000

**Database:** EDM 2003.16 Multi User DB  
**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-11K2 Pad  
**Well:** NBU 1022-11J3S  
**Wellbore:** OH  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NBU 1022-11J3S  
**TVD Reference:** GL 5115' & RKB 18' @ 5133.00ft  
**MD Reference:** GL 5115' & RKB 18' @ 5133.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
NBU 1022-11J3S PBHL	0.00	0.00	8,400.00	-951.06	734.24	599,583.48	2,587,061.94	39° 57' 38.300 N	109° 24' 19.610 W
- plan hits target center									
- Circle (radius 25.00)									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(in)	(in)
1,800.00	1,800.00	Surface Casing	9.625	13.500

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
914.00	914.00	Green River		0.00	
4,279.07	4,051.00	Wasatch		0.00	
7,535.95	7,261.00	Mesaverde		0.00	

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS  
ONSHORE LP'S 73 PROPOSED NBU WELL LOCATIONS  
IN TOWNSHIP 10S, RANGE 22E  
UINTAH COUNTY, UTAH

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS  
ONSHORE LP'S 73 PROPOSED NBU WELL LOCATIONS  
IN TOWNSHIP 10S, RANGE 22E  
UINTAH COUNTY, UTAH

By:

Jacki A. Montgomery

Prepared For:

Bureau of Land Management  
Vernal Field Office  
and  
School and Institutional  
Trust Lands Administration

Prepared Under Contract With:

Kerr-McGee Oil and Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 08-268

October 16, 2008

United States Department of Interior (FLPMA)  
Permit No. 08-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117

## INTRODUCTION

A Class I literature review was completed by Montgomery Archaeological Consultants, Inc. (MOAC) in October 2008 of Kerr-McGee Onshore's 73 proposed NBU well locations in Township 10S, Range 22E. The project area is situated south of the White River and southeast of the Ouray, Uintah County, Utah. The wells are designated NBU 1022-1I, 1022-1J, 1022-1N, 1022-1P, 1022-2A2T, 1022-2A3S, 1022-2A4S, 1022-2B2S, 1022-2D, 1022-2F, 1022-2J1T, 1022-2J2S, 1022-2J3S, 1022-2O2S, 1022-03A2T, 1022-03A3S, 1022-03B2S, 1022-03B4T, 1022-03C1S, 1022-04H2CS, 1022-04H3BS, 1022-03H2T, 1022-03L4BS, 1022-03L3DS, 1022-03M1DS, 1022-03M2DS, 1022-03J3T, 1022-03L2T, 1022-03N4T, 1022-03P4T, 1022-03O3T, 1022-04K3S, 1022-04M1S, 1022-05H2BS, 1022-05H2CS, 1022-05E4S, 1022-05F2S, 1022-05K1S, 1022-05L1S, 1022-05IT, 1022-06DT, 1022-06ET, 1022-06FT, 1022-06I3AS, 1022-06J4CS, 1022-06O1BS, 1022-06P1CS, 1022-7AT, 1022-7A4BS, 1022-7A4CS, 1022-7B2DS, 1022-08GT, 1022-08IT, 1022-09AT, 1022-11F4S, 1022-11J3S, 1022-11K1T, 1022-11K2S, 1022-11K3S, 1022-11L2S, 1022-11L3S, 1022-11M1S, 1022-13H, 1022-24O, 1022-24O2S, 1022-24P2S, 1022-24P4S, 1022-25H, 1022-32B3S, 1022-32D1S, 1022-32D4AS, 1022-32D4DS, and 1022-35M.

The purpose of this Class I review is to identify, classify, and evaluate the previously conducted cultural resource inventories and archaeological sites in the project area in order to comply with Section 106 of 36 CFR 800, the National Historic Preservation Act of 1966 (as amended). Also, the inventory was implemented to attain compliance with a number of federal and state mandates, including the National Environmental Policy Act of 1969, the Archaeological and Historic Conservation Act of 1972, the Archaeological Resources Protection Act of 1979, the American Indian Religious Freedom Act of 1978, and the Utah State Antiquities Act of 1973 (amended 1990).

The project area in which Kerr-McGee Onshore's 73 proposed NBU well locations occur was previously inventoried by MOAC in 2007 for the Class III inventory of Township 10 South, Range 22 East (Montgomery 2008; U-07-MQ-1438b,s,p). A file search was completed by consulting MOAC's Class I existing data review of 459 square miles (293,805 acres) covering the Greater NBU study area between Bonanza and Ouray in Uintah County, northeastern Utah (Patterson et al. 2008). Kerr-McGee Oil & Gas Onshore LP proposes to explore and develop oil and natural gas resources throughout the area. Record searches were performed for this Class I project by Marty Thomas at the Utah State Historic Preservation Office (SHPO) on various dates between June 14, 2006 and January 27, 2007. The results of this Class I data review and Class III inventory indicated that no previously recorded sites occur in the current project area.

## DESCRIPTION OF THE PROJECT AREA

The project area is situated west of the White River and both sides of Bitter Creek in the Uinta Basin. The legal description is Township 10S, Range 22E, Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 24, 25, 32, 36; Township 11S, Range 22E, Sections 1 and 2 (Figures 1, 2 and 3; Table 1). Land status is public land administered by the Bureau of Land Management (BLM) Vernal Field Office and School and Institutional Trust Lands Administration (SITLA) property.

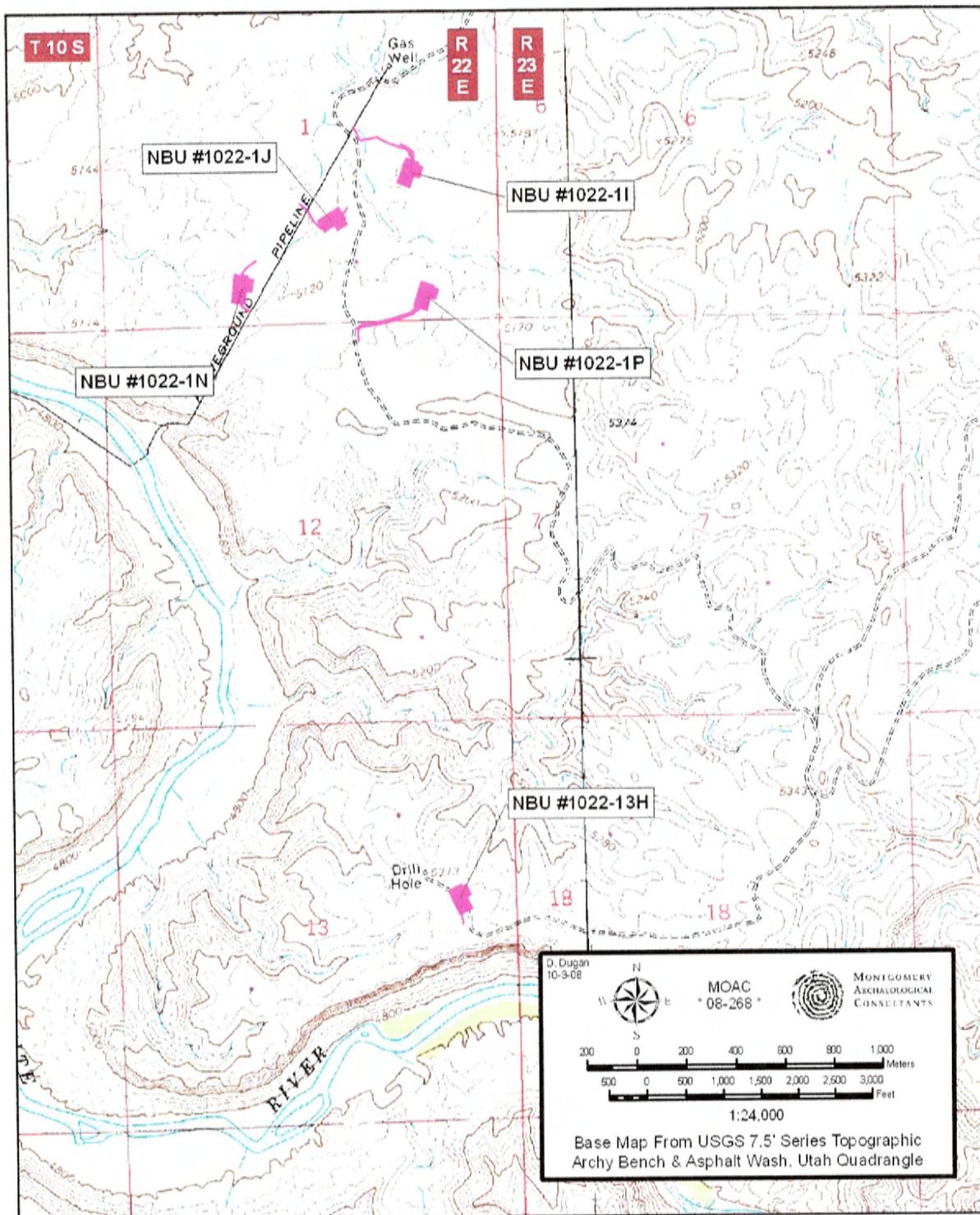
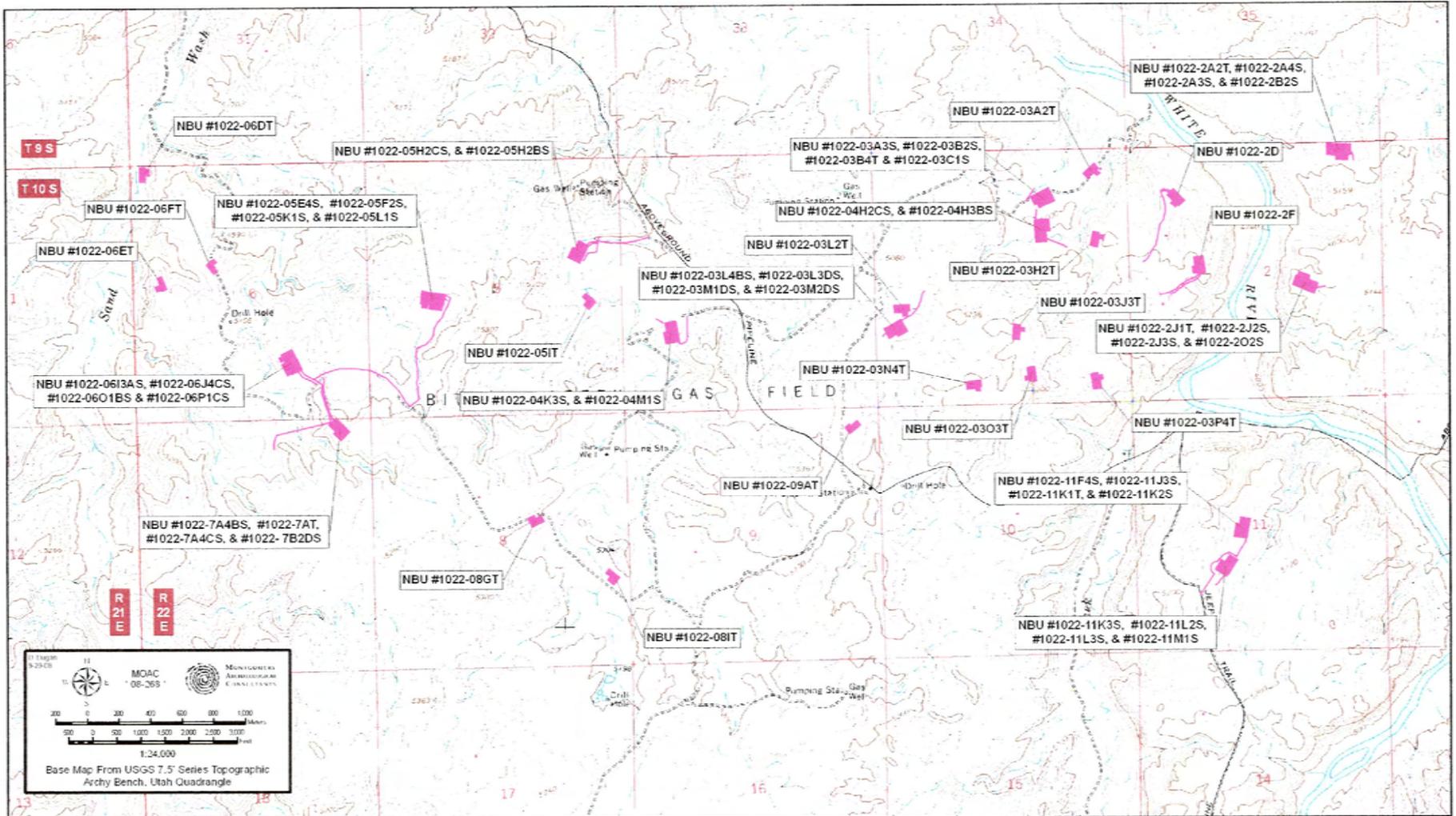


Figure 1. Location of Kerr-McGee Onshore's Well Pads in T10S, R22E.



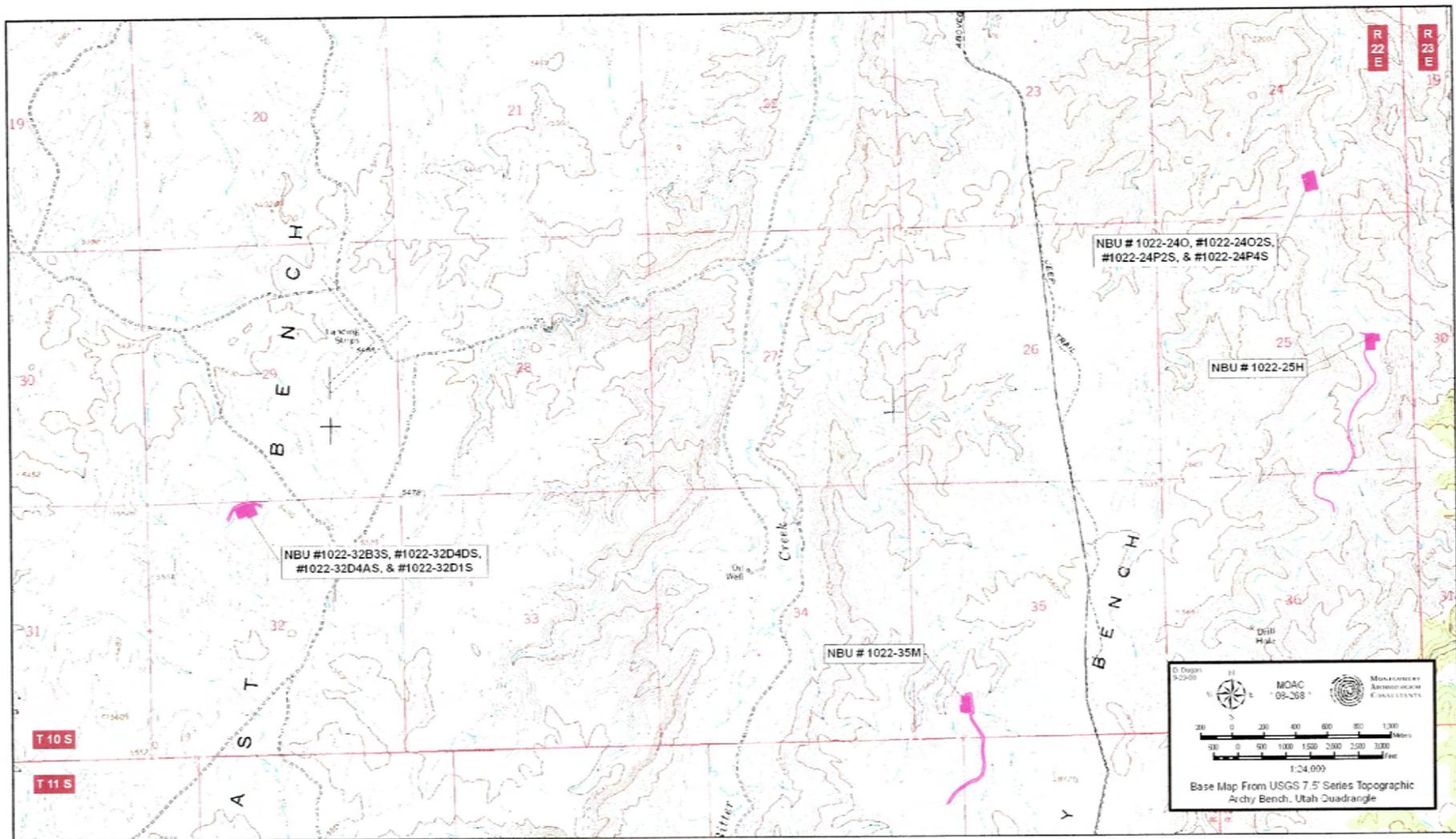


Table 1. Kerr-McGee Onshore's 73 NBU Well Locations.

Well Designation	Legal Description	Access/Pipeline Corridor	Cultural Resources
NBU 1022-1I	T10S, R22E, Sec. 1 NE/SE	Pipeline: 1000 ft Access: 200 ft	None
NBU 1022-1J	T10S, R22E, Sec. 1 NW/SE	Pipeline: 400 ft Access: 50 ft	None
NBU 1022-1N	T10S, R22E, Sec. 1 SE/SW	Pipeline: 150 ft Access: 200 ft	None
NBU 1022-1P	T10S, R22E, Sec. 1 SE/SE	Pipeline: 1050 ft Access: 1000 ft	None
NBU 1022-2A2T, 1022-2A4S 1022-243S, 1022-2B2S	T10S, R22E, Sec. 2 NE/NE	Access: 200 ft	None
NBU 1022-2D	T10S, R22E, Sec. 2 NW/NW	Pipeline: 1600 ft	None
NBU 1022-2F	T10S, R22E, Sec. 2 SE/NW	Pipeline: 800 ft Access: 1000 ft	None
NBU 1022-2J1T, 1022-2J2S, 1022-2J3S, 1022-202S	T10S, R22E, Sec. 2 NW/SE	Pipeline: 200 ft	None
NBU 1022-03A2T	T10S, R22E, Sec. 3 NE/NE	None	None
NBU1022-03A3S, 1022-03B2S 1022-03B4T, 1022-03C1S	T10S, R22E, Sec. 3 NW/NE	None	None
NBU 1022-04H2CS 1022-04H3BS	T10S, R22E, Sec. 3 SW/NE	Pipeline: 450 ft Access: 200 ft	None
NBU 1022-03H2T	T10S, R22E, Sec. 3 SE/NE	None	None
NBU 1022-03J3T	T10S, R22E, Sec. 3 NW/SE	None	None
NBU 1022-03L2T	T10S, R22E, Sec. 3 NW/SW	None	None
NBU 1022-03L4BS, 1022-03L3DS 1022-03M1DS, 1022-03M2DS	T10S, R22E, Sec. 3 NW/SW	Pipeline: 800 ft Access: 100 ft	None
NBU 1022-03N4T	T10S, R22E, Sec. 3 SE/SW	None	None
NBU 1022-03O3T	T10S, R22E, Sec. 3 SW/SE	None	None
NBU 1022-03P4T	T10S, R22E, Sec. 3 SE/SE	None	None

Well Designation	Legal Description	Access/Pipeline Corridor	Cultural Resources
NBU 1022-04K3S, 1022-04M1S	T10S, R22E, Sec. 4 NW/SW	Pipeline: 200 ft Access: 600 ft	None
NBU 1022-05H2CS, 1022-05H2BS	T10S, R22E, Sec. 5 SE/NE	Pipeline: 800 ft Access: 1200 ft	None
NBU 1022-05E4S, 1022-05F2S 1022-05K1S, 1022-05L1S	T10S, R22E Sec. 5 NE/SW	Pipeline: 4800 ft Access: 100 ft	None
NBU 1022-05IT	T10S, R22E, Sec. 5 NE/SE	None	None
NBU 1022-06DT	T10S, R22E, Sec. 6 NW/NW	None	None
NBU 1022-06ET	T10S, R22E, Sec. 6 SW/NW	None	None
NBU 1022-06FT	T10S, R22E, Sec. 6 SE/NW	None	None
NBU 1022-06I3AS, 1022-06J4CS 1022-06O1BS, 1022-06P1CS	T10S, R22E, Sec. 6 SW/SE	Pipeline: 1400 ft Access: 450 ft	None
NBU 1022-7A4BS, 1022-7AT 1022-7A4CS, 1022-7B2DS	T10S, R22E, Sec. 7 NE/NE	Pipeline: 1300 ft Access: 1000 ft	None
NBU 1022-08GT	T10SS, R22E, Sec. 8 SW/NE	None	None
NBU 1022-08IT	T10S, R22E, Sec. 8 NE/SE	None	None
NBU 1022-09AT	T10S, R22E, Sec. 9 NE/NE	None	None
NBU 1022-11F4S, 1022-11J3S, 1022-11K1T, 1022-11K2S	T10S, R22E, Sec. 11 NE/SW	Pipeline: 1600 ft	None
NBU 1022-11K3S, 1022-11L2S, 1022-11L3S, 1022-11M1S	T10S, R22E, Sec. 11 NE/SW	Pipeline: 500 ft Access: 250 ft	None
NBU 1022-13H	T10S, R22E, Sec. 13 SE/NE	Pipeline: 100 ft	
NBU 1022-24O, 1022-24O2S 1022-24P2S, 1022-24P4S	T10S, R22E, Sec. 24 SW/SE	None	None
NBU 1022-25H	T10S, R22E, Sec. 25 SE/NE	Pipeline: 4000 ft	None

Well Designation	Legal Description	Access/Pipeline Corridor	Cultural Resources
NBU 1022-32B3S, 1022-32D4DS 1022-3-2D4AS, 1022-32D1S	T10S, R22E, Sec. 32 NE/NW	Pipeline: 900 ft Access: 800 ft	None
NBU 1022-35M	T10S, R22E, Sec. 35 SW/SW	Pipeline: 2750 ft Access: 2200 ft	None

### Environmental Setting

The study area lies within the Uinta Basin physiographic unit, a distinctly bowl-shaped geologic structure (Stokes 1986:231). The Uinta Basin ecosystem is within the Green River drainage, considered to be the northernmost extension of the Colorado Plateau. The geology is comprised of Tertiary age deposits, which include Paleocene age deposits and Eocene age fluvial and lacustrine sedimentary rocks. The Uinta Formation, which is predominate in the project area, occurs as eroded outcrops (formed by fluvial deposited, stream laid interbedded sandstone and mudstone), and is known for its prolific paleontological localities. Specifically, the inventory area is situated south of the White River and on both sides of Cottonwood Wash. Elevation ranges from 5080 to 5680 ft asl. The project occurs within the Upper Sonoran Desert Shrub Association which includes sagebrush, shadscale, greasewood, mat saltbush, snakeweed, rabbitbrush, and prickly pear cactus. Modern disturbances include livestock grazing, roads, and oil/gas development.

### CLASS I RESULTS AND RECOMMENDATIONS

The Class I literature review of Kerr-McGee Onshore's 73 proposed NBU well locations and associated pipeline/access corridors in Township 10S, Range 22E resulted in the location of no cultural resources. Based on the findings, a determination of "no adverse impact" is recommended for the undertaking pursuant to Section 106, CFR 800.

### REFERENCES CITED

- Montgomery, J. A.  
2007 Cultural Resource Management Report for Kerr-McGee Oil and Gas Onshore LP's Greater NBU Blocks in Township 10 South, Range 22 East, Uintah County, Utah. Montgomery Archaeological Consultants, Moab, Utah. Report No. U-07-MQ-1438bsp.
- Patterson, J. J., J. Fritz, K. Lower-Eskelson, R. Stash and A. Thomas  
2008 NBU Class I Existing Data Review for Kerr-McGee Oil & Gas Onshore LP, Uintah County, Utah. Montgomery Archaeological Consultants, Moab, Utah.
- Stokes, W. L.  
1986 *Geology of Utah*. Utah Museum of Natural History and Utah Geological and Mineral Survey, Salt Lake City.

## **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Multi Well Pads and Pipeline  
Upgrades for "NBU #1022-03M4DS, 03M1DS, 03L3DS & 03L4BS"  
& "NBU #1022-11K1T" (Sec. 3 & 11, T 10 S, R 22 E)**

Archy Bench  
Topographic Quadrangle  
Uintah County, Utah

October 10, 2008

Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078

## INTRODUCTION

At the request of Raleen White of Kerr McGee Onshore LP and authorized by the BLM Vernal Field Office and James Kirkland of the Office of the State Paleontologist, a paleontological reconnaissance survey of Kerr McGee's proposed multi-well pads and pipeline upgrades for "NBU #1022-03M4DS, 03M1DS, 03L3DS & 03L4BS" & "NBU #1022-11K1T" (Sec. 3 & 11, T 10 S, R 22 E) was conducted by Simon Masters and Jason Klimek on October 8, 2008. The reconnaissance survey was conducted under the Utah BLM Paleontological Resources Use Permit #UT08-006C and Utah Paleontological Investigations Permit #07-356. This survey to locate, identify and evaluate paleontological resources was done to meet requirements of the National Environmental Policy Act of 1969 and other State and Federal laws and regulations that protect paleontological resources.

## FEDERAL AND STATE REQUIREMENTS

As mandated by the Federal and State government, paleontologically sensitive geologic formations on State lands that are considered for exchange or may be impacted due to ground disturbance require paleontological evaluation. This requirement complies with:

- 1) The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et. Seq., P.L. 91-190);
- 2) The Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2743, 43 U.S.C. § 1701-1785, et. Seq., P.L. 94-579);
- 3) The National Historic Preservation Act. 16 U.S.C. § 470-1, P.L. 102-575 in conjunction with 42 U.S.C. § 5320; and
- 4) The Utah Geological Survey. S. C. A.: 63-73-1. (1-21) and U.C.A.: 53B-17-603

The new Potential Fossil Yield Classification (PFYC) System (October, 2007) replaces the Condition Classification System from Handbook H-8270-1. Geologic units are classified based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential.

- **Class 1 – Very Low.** Geologic units (igneous, metamorphic, or Precambrian) not likely to contain recognizable fossil remains.
- **Class 2 – Low.** Sedimentary geologic units not likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils. (Including modern eolian, fluvial, and colluvial deposits etc...)
- **Class 3 – Moderate or Unknown.** Fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence; or sedimentary units of unknown fossil potential.
  - **Class 3a – Moderate Potential.** The potential for a project to be sited on or impact a significant fossil locality is low, but is somewhat higher for common fossils.
  - **Class 3b – Unknown Potential.** Units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but

little information about the paleontological resources of the unit or the area is known.

- **Class 4 – High.** Geologic units containing a high occurrence of vertebrate fossils or scientifically significant invertebrate or plant fossils, but may vary in abundance and predictability.
  - **Class 4a** – Outcrop areas with high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
  - **Class 4b** – Areas underlain by geologic units with high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.
- **Class 5 – Very High.** Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils.
  - **Class 5a** - Outcrop areas with very high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
  - **Class 5b** - Areas underlain by geologic units with very high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.

It should be noted that many fossils, though common and unimpressive in and of themselves, can be important paleo-environmental, depositional, and chronostratigraphic indicators.

## LOCATION

Kerr McGee’s proposed multi-well pads and pipeline upgrades for “NBU #1022-03M4DS, 03M1DS, 03L3DS & 03L4BS” & “NBU #1022-11K1T” (Sec. 3 & 11, T 10 S, R 22 E) are on lands managed by the BLM and the State of Utah Trust Lands Administration (SITLA), above Bitter Creek just west of the White River, and about 44 miles southeast of Bonanza, UT. The project area can be found on the Archy Bench 7.5 minute U. S. Geological Survey Quadrangle Map, Uintah County, Utah.

## PREVIOUS WORK

The basins of western North America have long produced some of the richest fossil collections in the world. Early Cenozoic sediments are especially well represented throughout the western interior. Paleontologists started field work in Utah's Uinta Basin as early as 1870 (Betts, 1871; Marsh, 1871, 1875a, 1875b). The Uinta Basin is located in the northeastern corner of Utah and covers approximately 31,000 sq. km (12,000 sq. miles) ranging in elevation from 1,465 to 2,130 m (4,800 to 7,000 ft) (Marsell, 1964; Hamblin et al., 1987). Middle to late Eocene time marked a period of dramatic change in the climate, flora, (Stucky, 1992) and fauna (Black and Dawson, 1966) of North America.

## GEOLOGICAL AND PALEONTOLOGICAL OVERVIEW

Early in the geologic history of Utah, some 1,000 to 600 Ma, an east-west trending basin developed creating accommodation for 25,000 feet of siliclastics. Uplift of that filled-basin during the early Cenozoic formed the Uinta Mountains (Rasmussen et al., 1999). With the rise of the Uinta Mountains the asymmetrical synclinal Uinta Basin is thought to have formed through the effects of down warping in connection with the uplift. Throughout the Paleozoic and Mesozoic deposition fluctuated between marine and non-marine environments laying down a thick succession of sediments in the area now occupied by the Uinta Basin. Portions of these beds crop out on the margins of the basin due to tectonic events during the late Mesozoic.

Early Tertiary Uinta Basin sediments were deposited in alternating lacustrine and fluvial environments. Large shallow lakes periodically covered most of the basin and surrounding areas during early to mid Eocene time (Abbott, 1957). These lacustrine sediments show up in the western part of the basin, dipping 2-3 degrees to the northeast and are lost in the subsurface on the east side. The increase of cross-bedded, coarse-grained sandstone and conglomerates preserved in paleo-channels indicates a transition to a fluvial environment toward the end of the epoch.

Four Eocene formations are recognized in the Uinta Basin: the Wasatch, Green River, Uinta and Duchesne River, respectively (Wood, 1941). The Uinta Formation is subdivided into two lithostratigraphic units namely: the Wagonhound Member (Wood, 1934), formerly known as Uinta A and B (Osborn, 1895, 1929) and the Myton Member previously regarded as the Uinta C.

Within the Uinta Basin in northeast Utah, the Uinta Formation in the western part of the basin is composed primarily of lacustrine sediments inter-fingering with over-bank deposits of silt and mudstone and westward flowing channel sands and fluvial clays, muds, and sands in the east (Bryant et al, 1990; Ryder et al, 1976). Stratigraphic work done by early geologists and paleontologists within the Uinta Formation focused on the definition of rock units and attempted to define a distinction between early and late Uintan faunas (Riggs, 1912; Peterson and Kay, 1931; Kay 1934). More recent work focused on magnetostratigraphy, radioscopic chronology and continental biostratigraphy (Flynn, 1986; Prothero, 1996). Well-known for its fossiliferous nature and distinctive mammalian fauna of mid-Eocene Age, the Uinta Formation is the type formation for the Uintan Land Mammal Age (Wood et al, 1941).

The Duchesne River Formation of the Uinta Basin in northeastern Utah is composed of a succession of fluvial and flood plain deposits composed of mud, silt and sandstone. The source area for these late Eocene deposits is from the Uinta Mountains indicated by paleocurrent data (Anderson and Picard, 1972). In Peterson's (1931c) paper, the name "Duchesne Formation" was applied to the formation and it was later changed to the "Duchesne River Formation" by Kay (1934). The formation is divided up into four members: the Brennan Basin, Dry Gulch Creek, LaPoint and Starr Flat (Anderson and Picard, 1972). Debates concerning the Duchesne River Formation, as to whether its age was late Eocene or early Oligocene, have surfaced throughout the literature of the last century (Wood et al., 1941; Scott 1945). Recent paleo-magnetostratigraphic work (Prothero, 1996) shows that the Duchesne River Formation is late Eocene in time.

## FIELD METHODS

In order to determine if the proposed project area contained any paleontological resources, a reconnaissance survey was performed. An on-site observation of the proposed areas undergoing surficial disturbance is necessary because judgments made from topographic maps alone are often unreliable. Areas of low relief have potential to be erosional surfaces with the possibility of bearing fossil materials rather than surfaces covered by unconsolidated sediment or soils.

When found within the proposed construction areas, outcrops and erosional surfaces were checked to determine if fossils were present and to assess needs. Careful effort is made during surveys to identify and evaluate significant fossil materials or fossil horizons when they are found. Microvertebrates, although rare, are occasionally found in anthills or upon erosional surfaces and are of particular importance.

## PROJECT AREA

The project area is situated in the Wagonhound Member (Uinta A & B) of the Uinta Formation. The following list provides a description of the individual wells and their associated pipeline upgrades

### **NBU #1022-03M4DS, 03M1DS, 03L3DS & 03L4BS, pipeline upgrade from 4-inch to 6-inch**

The proposed well site is situated in the SW/SW quarter-quarter section of Sec. 3, T 10 S, R 22 E, and is approached from the south by a proposed access road that diverges from an existing access (Figure 1). The pad is staked in a gentle saddle between two small hills to the east and west. The pit is staked in the southeast corner of the pad. The proposed well is also connected by a proposed pipeline that departs from the east side of the pad and travels northeast for approximately one hundred meters and connects to an existing pipeline. The proposed pipeline upgrade trends north-northwest for approximately eight hundred meters before terminating in the NE/NE corner of the section. The geology of the proposed area consists of thick paleo-channels of tan fluvial sandstone underlain by green mudstone that is typically obscured by a thick layer

of sandy colluvium. Ichnofossils (*Planolites*) consisting of vertical burrows were discovered within the sandstone along the southern edge of the proposed pad. No other fossils were found.

#### **NBU #1022-11K1T, and pipeline re-route and upgrade to 8-inch**

The project area is situated in the NE/SW quarter-quarter section of Sec. 11, T 10 S, R 22 E, and is staked on an existing pad (Figure 1). The proposed new well is connected from the southwest by an existing pipeline that will be moved to the northwest side of the road and upgraded in diameter. The geology of the proposed area consists of alternating beds of grey mudstone, grey siltstone, and maroon siltstone. No fossils were discovered on or surrounding the proposed location or pipeline re-route/upgrade.

#### **SURVEY RESULTS**

<b>PROJECT</b>	<b>GEOLOGY</b>	<b>PALEONTOLOGY</b>
<p><b>“NBU #1022-03M4DS, 03M1DS, 03L3DS &amp; 03L4BS”</b> (Sec. 3, T 10 S, R 22 E)</p>	<p>The pad is staked in a gentle saddle between two small hills to the east and west. The pit is staked in the southeast corner of the pad. The proposed well is also connected by a proposed pipeline that departs from the east side of the pad and travels northeast for approximately one hundred meters and connects to an existing pipeline. The proposed pipeline upgrade trends north-northwest for approximately eight hundred meters before terminating in the NE/NE corner of the section. The geology of the proposed area consists of thick paleo-channels of tan fluvial sandstone underlain by green mudstone that is typically obscured by a thick layer of sandy colluvium.</p>	<p>Ichnofossils (<i>Planolites</i>) consisting of vertical burrows were discovered within the sandstone along the southern edge of the proposed pad. No other fossils were found. <b>Class 3a</b></p>
<p><b>“NBU #1022-11K1T”</b> (Sec 11, T 10 S, R 22 E)</p>	<p>The geology of the proposed area consists of alternating beds of grey mudstone, grey siltstone, and maroon siltstone.</p>	<p>No fossils were discovered on or surrounding the proposed location or pipeline re-route/upgrade. <b>Class 3a</b></p>

## RECOMMENDATIONS

A reconnaissance survey was conducted for Kerr McGee's proposed well pads, access roads, and pipelines for "NBU #1022-03M4DS, 03M1DS, 03L3DS & 03L4BS" & "NBU #1022-11K1T" (Sec. 3 & 11, T 10 S, R 22 E). The multi-well pads and pipelines covered in this report showed no signs of vertebrate fossils. Therefore, we recommend that no paleontological restrictions should be placed on the development of the projects included in this report.

Buried pipeline will encounter Uinta formational sediments along most of the staked pipeline corridors yet indications from surface fossils predict that little if any vertebrate fossils will be disturbed.

**Nevertheless, if any vertebrate fossil(s) are found during construction within the project area, Operator (Lease Holder) will report all occurrences of paleontological resources discovered to a geologist with the Vernal Field Office of the BLM and the Office of the State Paleontologist. The operator is responsible for informing all persons in the areas who are associated with this project of the requirements for protecting paleontological resources. Paleontological resources found on the public lands are recognized by the BLM and State as constituting a fragile and nonrenewable scientific record of the history of life on earth, and so represent an important and critical component of America's natural heritage. These resources are afforded protection under 43 CFR 3802 and 3809, and penalties possible for the collection of vertebrate fossils are under 43 CFR 8365.1-5.**

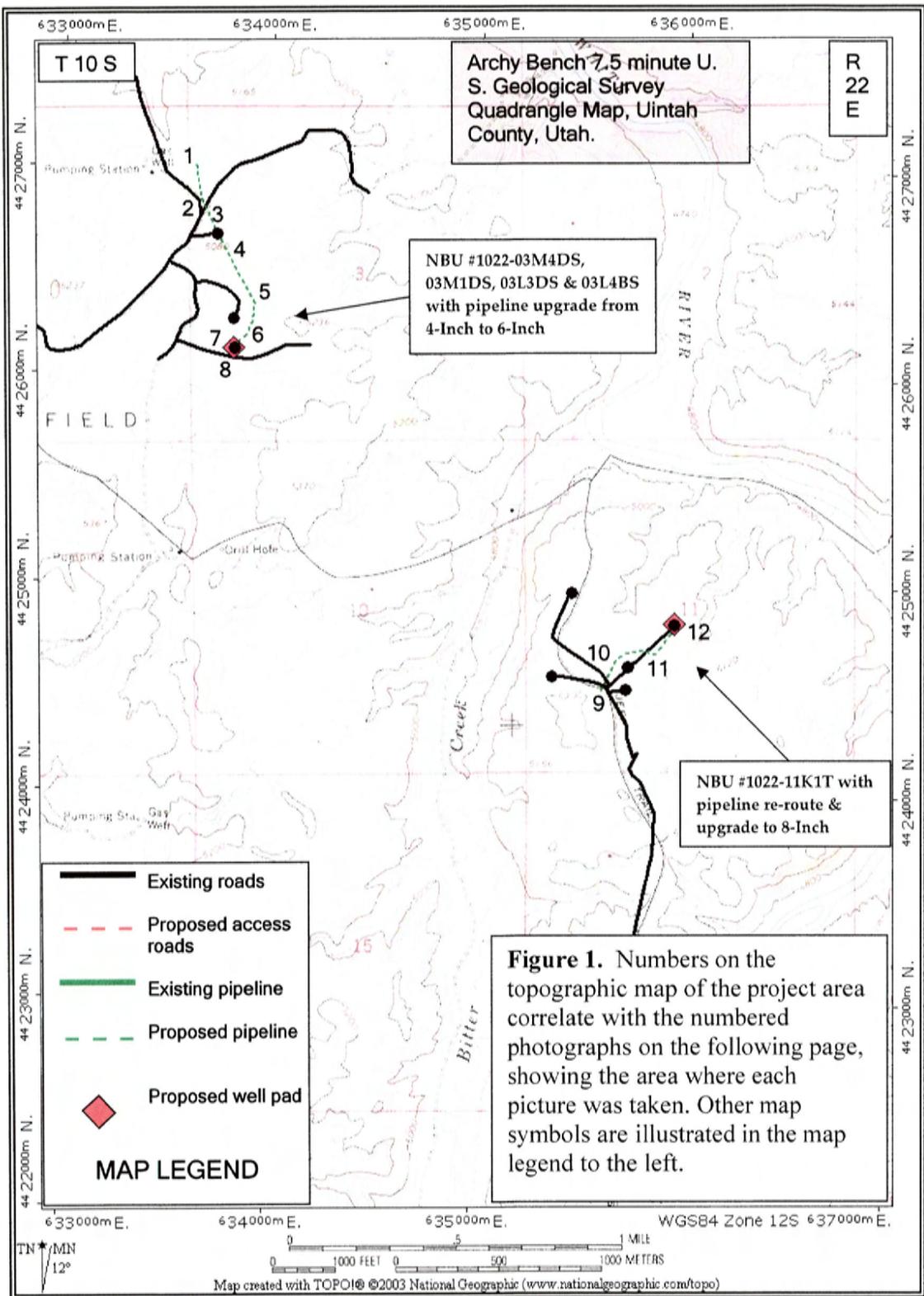
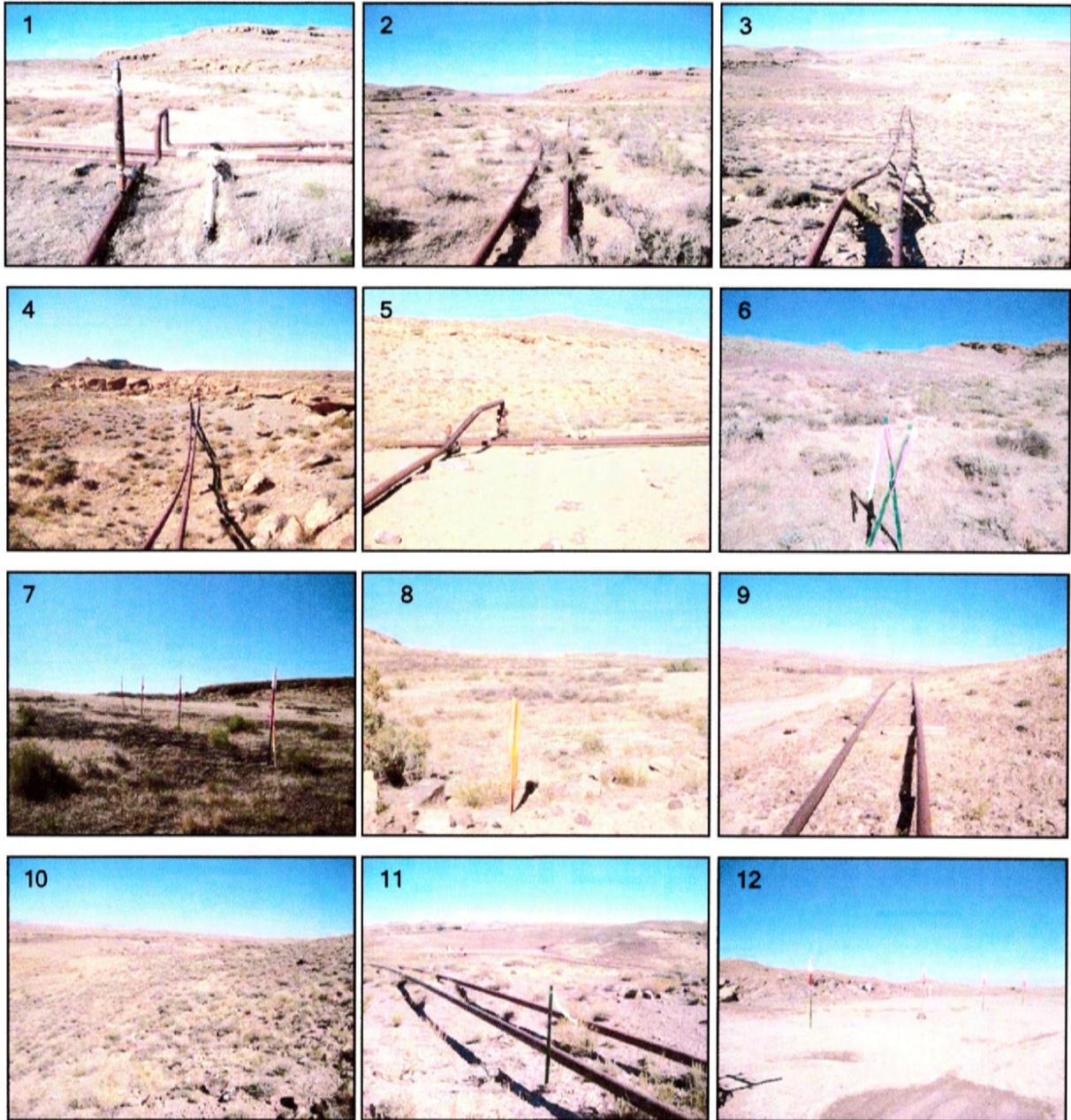


Figure 1. *continued...*



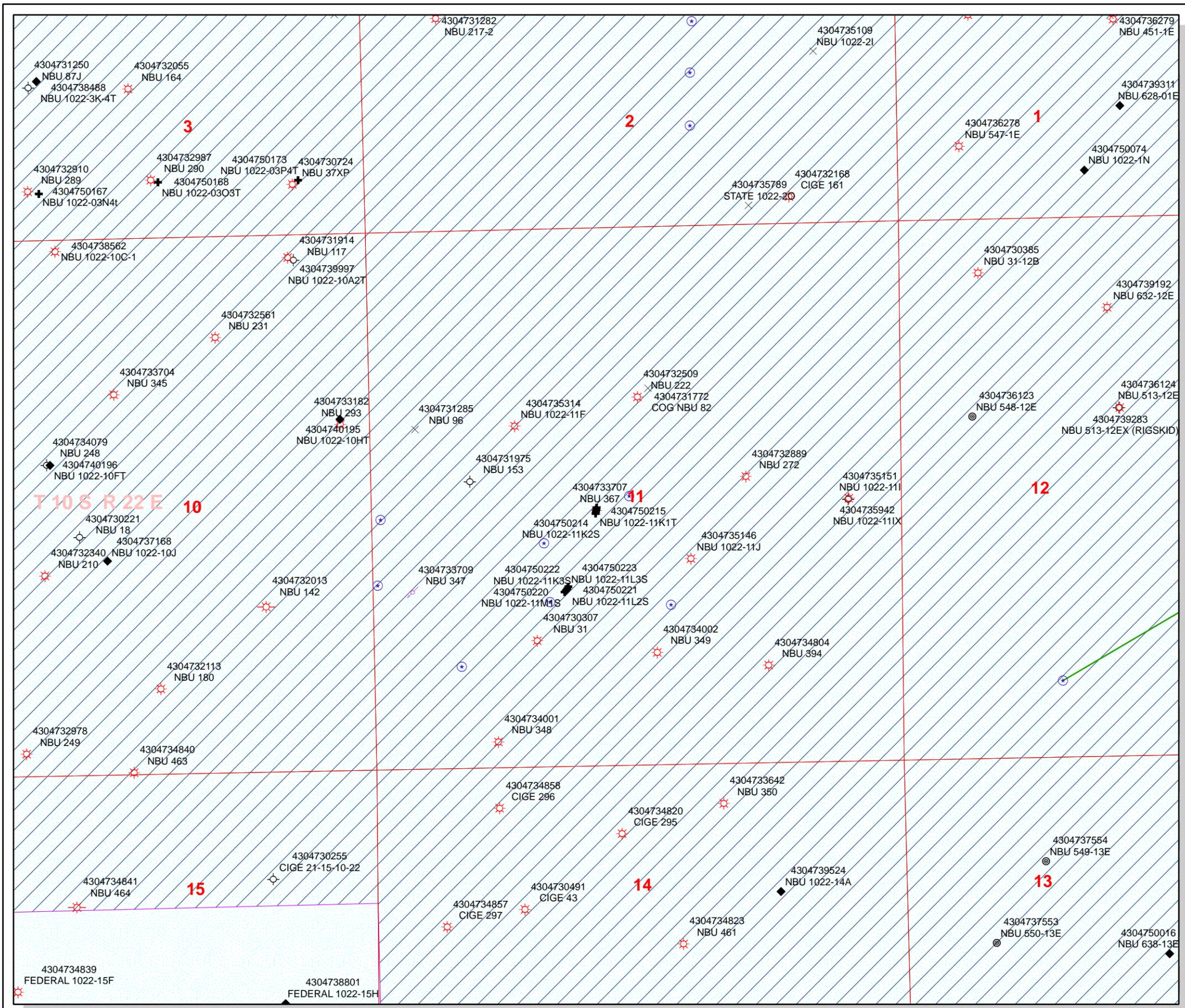
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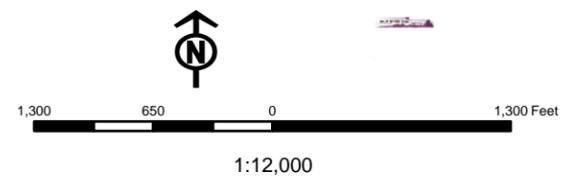
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**API Number: 4304750213**  
**Well Name: NBU 1022-11J3S**  
**Township 10.0 S Range 22.0 E Section 11**  
**Meridian: SLBM**  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason



Units	Wells Query Events
STATUS	✖ <all other values>
ACTIVE	GIS_STAT_TYPE
EXPLORATORY	◻ <Null>
GAS STORAGE	◼ APD
NF PP OIL	◼ DRL
NF SECONDARY	◼ GI
PI OIL	◼ GS
PP GAS	◼ LA
PP GEOTHERML	◼ NEW
PP OIL	◼ OPS
SECONDARY	◼ PA
TERMINATED	◼ PGW
Fields	◼ POW
STATUS	◼ RET
ACTIVE	◼ SGW
COMBINED	◼ SOW
Sections	◼ TA
Township	◼ TW
	◼ WD
	◼ WI
	◼ WS





Kerr-McGee Oil & Gas Onshore LP  
1999 Broadway, Suite 3700  
Denver, CO 80205

November 3, 2008

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

Re: Directional Drilling R649-3-11  
NBU 1022-11J3S  
T10S R22E  
Section 11: NWSE  
NESW 2551' FSL, 2212' FWL (surface)  
NWSE 1600' FSL, 2340 FEL (bottom hole)  
Uintah County, Utah

1167

Dear Mrs. Mason:

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

- Kerr-McGee's NBU 1022-11J3S is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore

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

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink, appearing to read 'Jason K. Rayburn', written over a circular stamp.

Jason K. Rayburn  
Landman

RECEIVED

NOV 10 2008

DIV. OF OIL, GAS & MINING

# 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)

November 12, 2008

### Memorandum

To: Assistant District Manager Minerals, Vernal District  
From: Michael Coulthard, Petroleum Engineer  
Subject: 2008 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 2008 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50212	NBU 1022-11F4S	Sec 11 T10S R22E 2571 FSL 2215 FWL BHL Sec 11 T10S R22E 2615 FNL 2540 FWL
43-047-50213	NBU 1022-11J3S	Sec 11 T10S R22E 2551 FSL 2212 FWL BHL Sec 11 T10S R22E 1600 FSL 2340 FEL
43-047-50214	NBU 1022-11K2S	Sec 11 T10S R22E 2512 FSL 2206 FWL BHL Sec 11 T10S R22E 2230 FSL 1690 FWL
43-047-50215	NBU 1022-11K1T	Sec 11 T10S R22E 2531 FSL 2209 FWL
43-047-50216	NBU 1022-2O2S	Sec 02 T10S R22E 2354 FSL 1593 FEL BHL Sec 02 T10S R22E 1010 FSL 2055 FEL
43-047-50217	NBU 1022-2J3S	Sec 02 T10S R22E 2362 FSL 1612 FEL BHL Sec 02 T10S R22E 1525 FSL 2050 FEL
43-047-50218	NBU 1022-2J2S	Sec 02 T10S R22E 2377 FSL 1648 FEL BHL Sec 02 T10S R22E 2035 FSL 2025 FEL
43-047-50219	NBU 1022-2J1T	Sec 02 T10S R22E 2370 FSL 1630 FEL

Page 2

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50220	NBU 1022-11M1S	Sec 11 T10S R22E 1750 FSL 1885 FWL BHL Sec 11 T10S R22E 1035 FSL 0850 FWL
43-047-50221	NBU 1022-11L2S	Sec 11 T10S R22E 1798 FSL 1921 FWL BHL Sec 11 T10S R22E 2495 FSL 0080 FWL
43-047-50222	NBU 1022-11K3S	Sec 11 T10S R22E 1766 FSL 1897 FWL BHL Sec 11 T10S R22E 1655 FSL 1735 FWL
43-047-50223	NBU 1022-11L3S	Sec 11 T10S R22E 1782 FSL 1909 FWL BHL Sec 11 T10S R22E 1850 FSL 0040 FWL

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

/s/ Michael L. Coulthard

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

MCoulthard:mc:11-12-08

**From:** Jim Davis  
**To:** Bonner, Ed; Mason, Diana  
**Date:** 3/16/2009 11:00 AM  
**Subject:** Kerr McGee approvals (7)

**CC:** Garrison, LaVonne

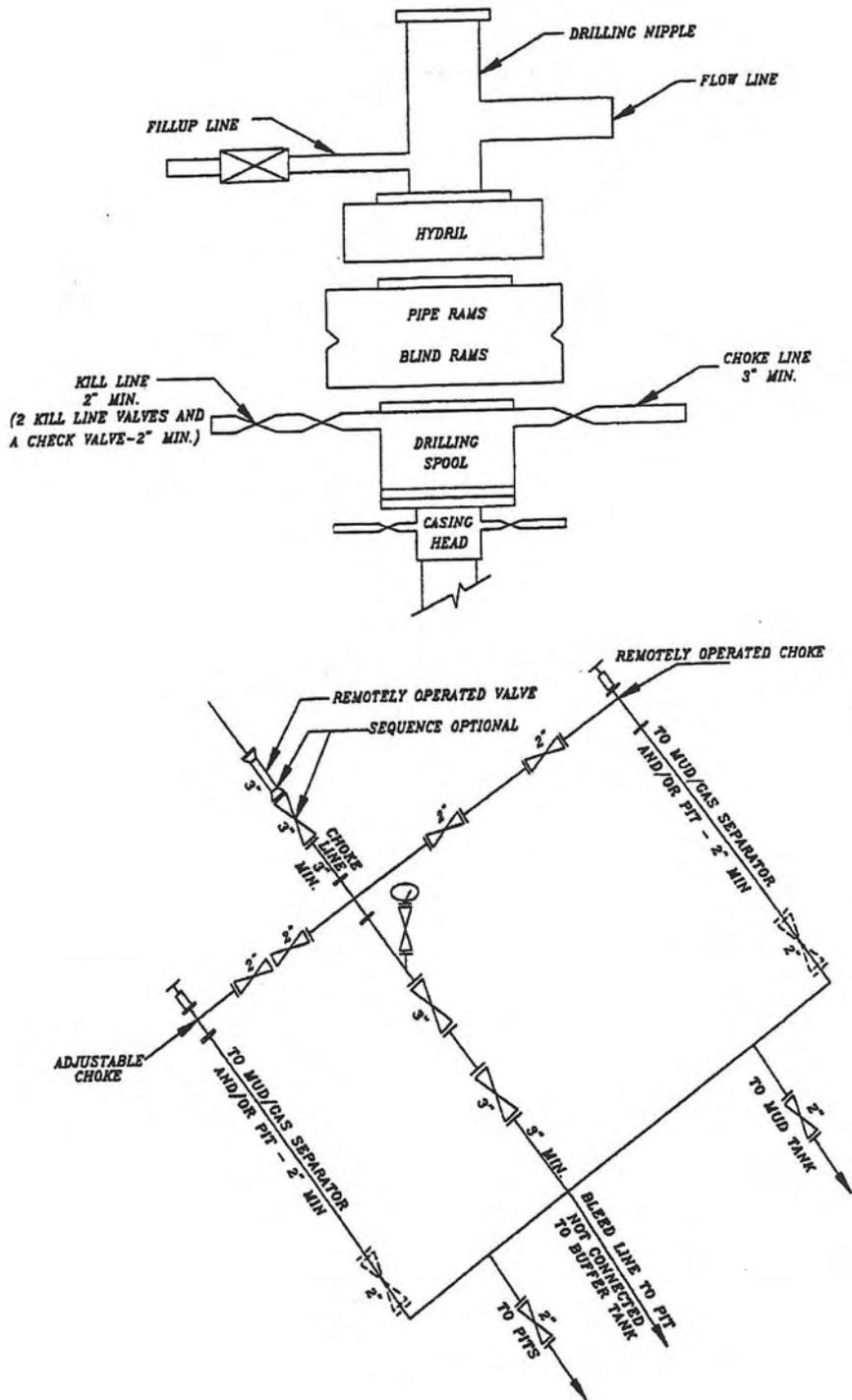
The following wells have been approved by SITLA including arch and paleo clearance.

NBU 1022-14A1S 43-047-50228  
NBU 1022-14A4S 43-047-50227  
NBU 1022-14H1S 43-047-50225  
NBU 1022-14H4S 43-047-50224  
NBU 1022-11F4S 43-047-50212  
NBU 1022-11K2S 43-047-50214  
NBU 1022-11J3S 43-047-50213

-Jim Davis

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

EXHIBIT A



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

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-11J3S 43047502130		
String	Surf	Prod	
Casing Size(")	9.625	4.500	
Setting Depth (TVD)	1800	8675	
Previous Shoe Setting Depth (TVD)	40	1800	
Max Mud Weight (ppg)	8.3	11.6	
BOPE Proposed (psi)	500	5000	
Casing Internal Yield (psi)	3520	7780	
Operators Max Anticipated Pressure (psi)	5134	11.4	

Calculations	Surf String	9.625	"
Max BPH (psi)	$.052 * \text{Setting Depth} * \text{MW} =$	777	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	561	NO OK
MASP (Gas/Mud) (psi)	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	381	YES
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	390	NO Reasonable Depth in area
Required Casing/BOPE Test Pressure=		1800	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient

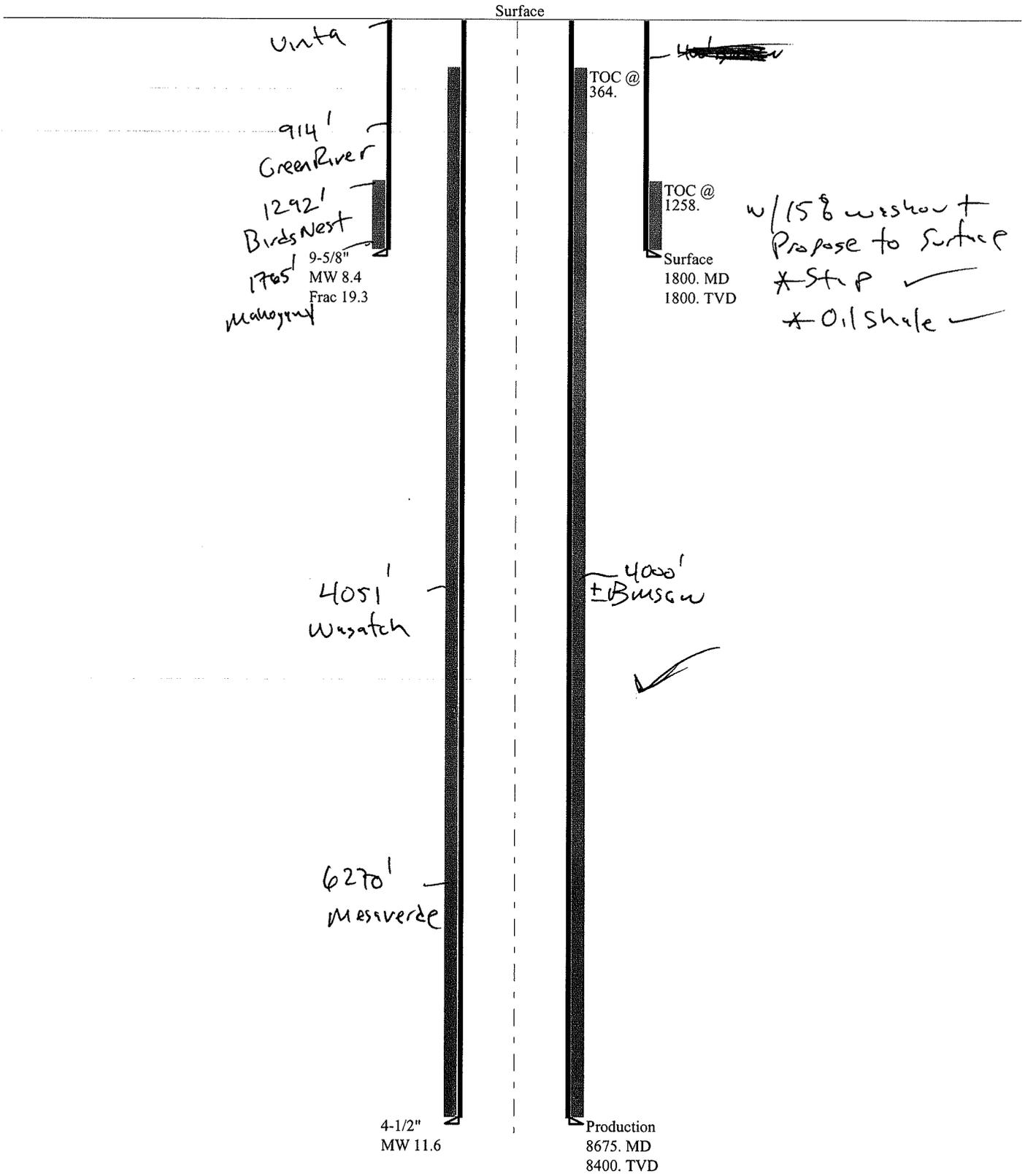
Calculations	Prod String	4.500	"
Max BPH (psi)	$.052 * \text{Setting Depth} * \text{MW} =$	5233	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	4192	YES
MASP (Gas/Mud) (psi)	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	3325	YES OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	3721	NO Reasonable for area
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		1800	psi *Assumes 1psi/ft frac gradient

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

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

# 43047502130000 NBU 1022-11J3S

## Casing Schematic



Well name:	<b>43047502130000 NBU 1022-11J3S</b>		
Operator:	<b>Kerr-McGee Oil &amp; Gas Onshore, L.P.</b>		
String type:	Surface	Project ID:	43-047-50213
Location:	Uintah County		

**Design parameters:**

**Collapse**

Mud weight: 8.400 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: 65 °F  
 Bottom hole temperature: 90 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 150 ft

Cement top: 1,258 ft

**Burst**

Max anticipated surface pressure: 1,584 psi  
 Internal gradient: 0.120 psi/ft  
 Calculated BHP 1,800 psi

No backup mud specified.

**Tension:**

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

Tension is based on air weight.  
 Neutral point: 1,576 ft

**Non-directional string.**

**Re subsequent strings:**

Next setting depth: 8,400 ft  
 Next mud weight: 11,600 ppg  
 Next setting BHP: 5,062 psi  
 Fracture mud wt: 19,250 ppg  
 Fracture depth: 1,800 ft  
 Injection pressure: 1,800 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)	Internal Capacity (ft³)
1	1800	9.625	36.00	J-55	LT&C	1800	1800	8.796	781.3
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	785	2020	2.572	1800	3520	1.96	65	453	6.99 J

Prepared by: Dustin K. Doucet  
 Div of Oil, Gas & Mining

Phone: 801-538-5281  
 FAX: 801-359-3940

Date: May 28, 2009  
 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 1800 ft, a mud weight of 8.4 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.

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

Well name:	<b>43047502130000 NBU 1022-11J3S</b>		
Operator:	<b>Kerr-McGee Oil &amp; Gas Onshore, L.P.</b>		
String type:	Production	Project ID:	43-047-50213
Location:	Uintah County		

**Design parameters:**

**Collapse**

Mud weight: 11.600 ppg  
 Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 0 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP: 5,062 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: 1.50 (B)

Tension is based on air weight.  
 Neutral point: 7,218 ft

**Environment:**

H2S considered? No  
 Surface temperature: 65 °F  
 Bottom hole temperature: 183 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 368 ft

Cement top: 364 ft

**Directional Info - Build & Drop**

Kick-off point: 1900 ft  
 Departure at shoe: 1202 ft  
 Maximum dogleg: 3 °/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)	Internal Capacity (ft³)
1	8675	4.5	11.60	I-80	LT&C	8400	8675	3.875	757
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	5062	6360	1.256	1848	7780	4.21	97	212	2.18 J

Prepared by: Dustin K. Doucet  
 Div of Oil, Gas & Mining

Phone: 801-538-5281  
 FAX: 801-359-3940

Date: May 28, 2009  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 8400 ft, a mud weight of 11.6 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 1022-11J3S  
**API Number** 43047502130000      **APD No** 1167      **Field/Unit** NATURAL BUTTES  
**Location: 1/4,1/4**      NESW      **Sec** 11      **Tw** 10.0S      **Rng** 22.0E      2551      **FSL** 2212      **FWL**  
**GPS Coord (UTM)**      **Surface Owner**

**Participants**

Floyd Bartlett (DOGM), Ed Bonner (SITLA), Ramie Hoopes, Clay Einerson, Griz Oleen, Tony Kzneck, Charles Chase (Kerr McGee), Ben Williams (UDWR) and Kolby Kay (Timberline Engineering and Land Surveying).

**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. Distance to the White River varies from ¼ mile to 2 miles. 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 44 air miles to the northwest. Access from Vernal is approximately 59.4 road miles following Utah State, Uintah County and oilfield development roads to the location.

The location is proposed as a 4-well pad and encompasses the pad of the CIGE 367 gas well. The additional wells are the NBU 1022-11K1T, 11K2S, 11J3S and 11F4S. All except the 11K1T will be directionally drilled. Steep rough terrain limits the enlargement that is reasonable at the site. It is on the top of a narrow ridge that runs northerly toward an additional existing location and the White River. Bitter Creek, an ephemeral, drainage is about ½ mile to the west and the White River is about 1/2 mile to the northeast. The ridge is bordered on the northeast and the southwest by steep sided deep draws that become canyons with exposed bedrock cliffs. The location can be extended to the west and the rise in that area could be used to reduce the amount the existing pad will have to be lowered to obtain fill. Current plans are to lower the location about 1.5 feet. Location Corners 7 and 9 are planned to be rounded to reduce the fill along the north side of the pad. About 1.3 feet of fill will be required to construct the southeast corner, Pit Corner A, of the reserve pit. A 15' wide dike or bench and 2 feet of freeboard are provided. No drainage concerns exist. And no diversions will be needed. The existing pad shows no stability problems and the site has no apparent concerns for constructing an enlarged pad as modified and drilling and operating the planned wells. It is the only suitable location in the immediate area.

Both the surface and minerals are owned by SITLA. Ed Bonner of SITLA attended the pre-site and was agreeable to the modifications.

**Surface Use Plan**

**Current Surface Use**

- Grazing
- Recreational
- Wildlife 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</b> 290 <b>Length</b> 370	Onsite	UNTA

**Ancillary Facilities** N

**Waste Management Plan Adequate?**

**Environmental Parameters**

**Affected Floodplains and/or Wetlands** N

**Flora / Fauna**

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

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

**Soil Type and Characteristics**

Shallow rocky sandy 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?**

**Reserve Pit**

**Site-Specific Factors**

**Site Ranking**

<b>Distance to Groundwater (feet)</b>	>200	0
<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>	High permeability	20
<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>		45

1 Sensitivity Level

**Characteristics / Requirements**

The reserve pit is planned primarily in an area of cut in the southwest corner of the location. Dimensions are 75' x 250' x 10' deep with 2' of freeboard. About 1.3 feet of fill will be required to construct the southeast corner, Pit Corner A, of the reserve pit. A 15' wide dike or bench and 2 feet of freeboard are provided. Because the length of time the reserve pit will be used and the roughness of the terrain, Kerr McGee committed to line it with a 30-mil.liner and an appropriate thickness of felt sub-liner to cushion the rock.

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

**Other Observations / Comments**

On 5/13/2009 the following met and discussed possible changes to be made in this pad. It was agreed that none would be made. Floyd Bartlett (DOGM), Clay Einerson, Lovell Young (Kerr McGee), and Kolby Kay (Timberline Engineering and Land Surveying).

Floyd Bartlett  
**Evaluator**

4/28/2009  
**Date / Time**

# Application for Permit to Drill Statement of Basis

6/9/2009

**Utah Division of Oil, Gas and Mining**

Page 1

<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
1167	43047502130000	LOCKED	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 1022-11J3S	<b>Unit</b>		NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES	<b>Type of Work</b>		DRILL	
<b>Location</b>	NESW 11 10S 22E S 2551 FSL 2212 FWL GPS Coord (UTM)			635970E	4424673N

**Geologic Statement of Basis**

Kerr McGee proposes to set 1,800' 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 4,000'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 11. 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**

5/19/2009  
**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. Distance to the White River varies from ¼ mile to 2 miles. 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 44 air miles to the northwest. Access from Vernal is approximately 59.4 road miles following Utah State, Uintah County and oilfield development roads to the location.

The location is proposed as a 4-well pad and encompasses the pad of the CIGE 367 gas well. The additional wells are the NBU 1022-11K1T, 11K2S, 11J3S and 11F4S. All except the 11K1T will be directionally drilled. Steep rough terrain limits the enlargement that is reasonable at the site. It is on the top of a narrow ridge that runs northerly toward an additional existing location and the White River. Bitter Creek, an ephemeral, drainage is about ½ mile to the west and the White River is about 1/2 mile to the northeast. The ridge is bordered on the northeast and the southwest by steep sided deep draws that become canyons with exposed bedrock cliffs. The location can be extended to the west and the rise in that area could be used to reduce the amount the existing pad will have to be lowered to obtain fill. Current plans are to lower the location about 1.5 feet. Location Corners 7 and 9 are planned to be rounded to reduce the fill along the north side of the pad. About 1.3 feet of fill will be required to construct the southeast corner, Pit Corner A, of the reserve pit. A 15' wide dike or bench and 2 feet of freeboard are provided. No drainage concerns exist. And no diversions will be needed. The existing pad shows no stability problems and the site has no apparent concerns for constructing an enlarged pad as modified and drilling and operating the planned wells. It is the only suitable location in the immediate area.

Both the surface and minerals are owned by SITLA. Ed Bonner of SITLA attended the pre-site and was agreeable to the modifications. He had no additional concerns regarding the proposal.

Ben Williams of the Utah Division of Wildlife Resources also attended the pre-site. Mr. Williams stated no wildlife values would be significantly affected by drilling and operating the wells at this location. He provided Ed Bonner of SITLA and Ramie Hoopes of Kerr McGee a written wildlife evaluation and a copy of a

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# Application for Permit to Drill Statement of Basis

6/9/2009

Utah Division of Oil, Gas and Mining

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recommended seed mix to be used for re-vegetating the disturbed area.

T

Floyd Bartlett  
**Onsite Evaluator**

4/28/2009  
**Date / Time**

## Conditions of Approval / Application for Permit to Drill

<b>Category</b>	<b>Condition</b>
Pits	A synthetic liner with a minimum thickness of 30mils shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

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**APD RECEIVED:** 11/7/2008

**API NO. ASSIGNED:** 43047502130000

**WELL NAME:** NBU 1022-11J3S

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

**PHONE NUMBER:** 720 929-6007

**CONTACT:** Kathy Schneebeck-Dulnoan

**PROPOSED LOCATION:** NESW 11 100S 220E

**Permit Tech Review:**

**SURFACE:** 2551 FSL 2212 FWL

**Engineering Review:**

**BOTTOM:** 1600 FSL 2340 FEL

**Geology Review:**

**COUNTY:** UINTAH

**LATITUDE:** 39.96317

**LONGITUDE:** -109.40803

**UTM SURF EASTINGS:** 635970.00

**NORTHINGS:** 4424673.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 3 - State

**LEASE NUMBER:** ST UO 01197A

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 3 - State

**COALBED METHANE:** NO

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**RECEIVED AND/OR REVIEWED:**

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

**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:** 460' fr u bdry & uncomm. tract
- R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:** 5 - Statement of Basis - bhill  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason  
25 - Surface Casing - ddoucet



JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*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 1022-11J3S  
**API Well Number:** 43047502130000  
**Lease Number:** ST UO 01197A  
**Surface Owner:** STATE  
**Approval Date:** 6/9/2009

**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

**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 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.

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.

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.

**Notification Requirements:**

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

- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to spudding the well - contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program - contact

Dustin Doucet

- Prior to commencing operations to plug and abandon the well - contact Dan Jarvis

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

- Plugging and abandonment or significant plug back of this well - contact Dustin Doucet
- Any changes to the approved drilling plan - contact Dustin Doucet

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

- Dan Jarvis at: (801) 538-5338 office  
(801) 942-0871 home
- Carol Daniels at: (801) 538-5284 office
- Dustin Doucet at: (801) 538-5281 office  
(801) 733-0983 home

**Reporting Requirements:**

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

**Approved By:**



For Gil Hunt  
Associate Director, Oil & Gas

<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> ST UO 01197A
---	---

<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 1022-11J3S
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<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047502130000
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<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
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<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2551 FSL 2212 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 11 Township: 10.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH
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11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> 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"/> <b>SPUD REPORT</b> 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"/> <b>DRILLING REPORT</b> Report Date: 4/10/2010	<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:

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

MIRU PROPETRO AIR RIG ON 4/9/2010. DRILLED 11' SURFACE HOLE TO 1860'. RAN 8-5/8' 28# J55 SURFACE CSG. PUMP 140 BBLS H2O, PUMP 20 BBLS GEL WATER. PUMP 225 SX CLASS G PREM LITE TAIL CMT @ 15.8 PPG, 1.15. DROP PLUG ON FLY DISP W/145 BBLS FRESH WATER, 300 PSI LIFT RETURNS, BUMP PLUG W /550 PSI. TOP OUT W/125 SX OF CLASS G PREM LITE CMT @ 15.8 PPG, 1.15 YLD. WAIT 2 HRS AND PUMP 175 SX SAME CMNT. WAIT TWO HOURS PUMP 150 SX SAME CEMENT. WAIT TWO HOURS AND PUMP 150 SX SAME CEMENT. CEMENT TO SURFACE. WORT.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 April 15, 2010

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/13/2010	

<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> ST UO 01197A
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<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
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<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 1022-11J3S
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<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047502130000
---	---

<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
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<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2551 FSL 2212 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 11 Township: 10.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH
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11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 3/4/2010  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" 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:

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

Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee) respectfully requests to change the surface casing size for this well from FROM: 9-5/8" TO: 8-5/8". Additionally, Kerr-McGee requests to change the cement program for this well due to a revised drilling procedure. The production casing will still be cemented it's entire length to the surface. Please see the attached drilling program for additional details. All other information remains the same. Please contact the undersigned with any questions and/or comments. Thank you.

**Approved by the Utah Division of Oil, Gas and Mining**

Date: February 25, 2010

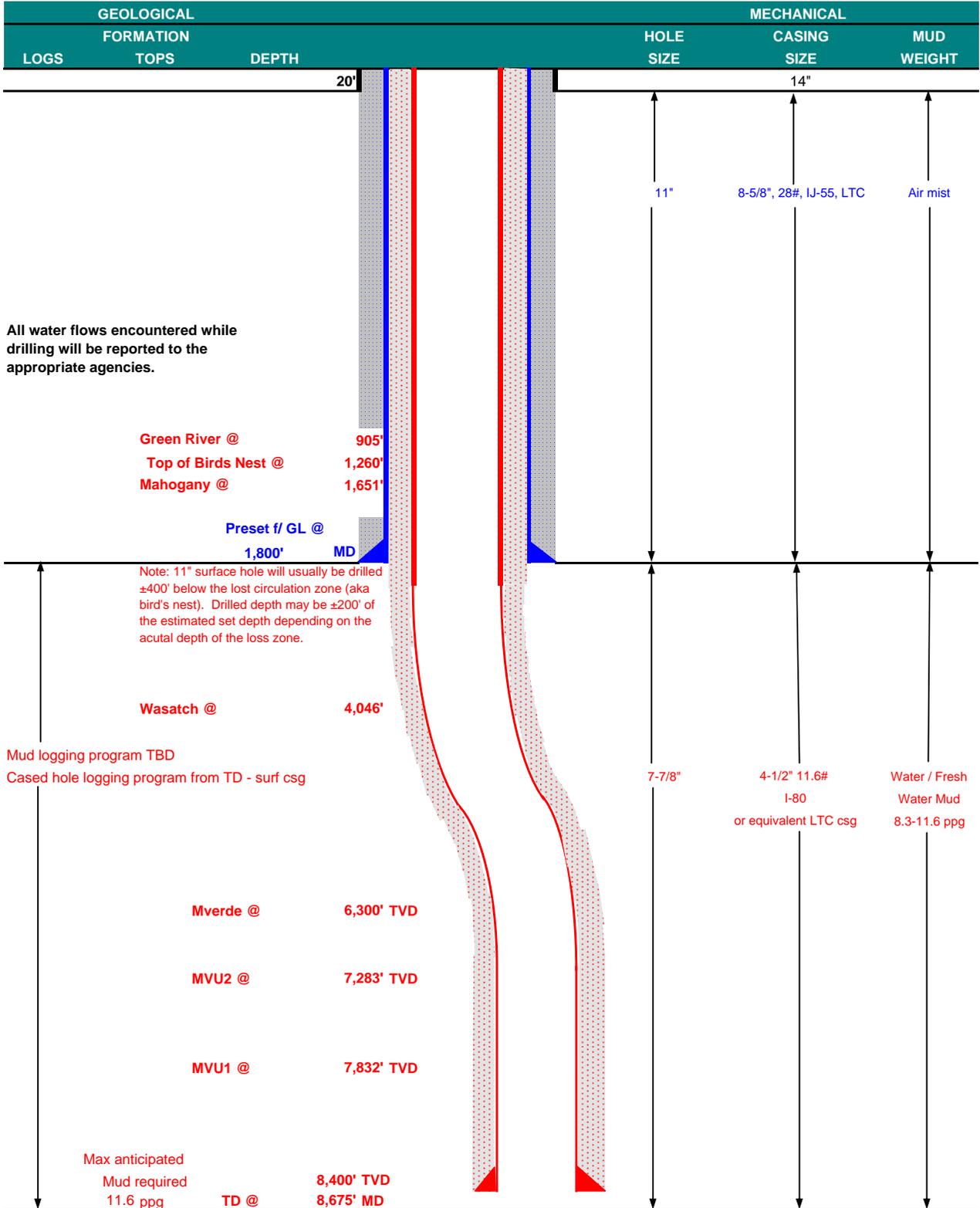
By: *Danielle Piernot*

<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/24/2010	



# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	February 24, 2010			
WELL NAME	<b>NBU 1022-11J3S</b>		TD	8,400'	TVD	8,675' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	ELEVATION	5,115' GL KB 5,130'
SURFACE LOCATION	NE/4 SW/4	2,551' FSL	2,212' FWL	Sec 11	T 10S	R 22E	
	Latitude:	39.963250	Longitude:	-109.408067		NAD 27	
BTM HOLE LOCATION	SW/4 SE/4	1,600' FSL	2,340' FEL	Sec 11	T 10S	R 22E	
	Latitude:	39.960693	Longitude:	-109.405447		NAD 27	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde						
ADDITIONAL INFO	Regulatory Agencies: SITLA (Minerals), UDOGM (Surface), Tri-County Health Dept.						





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

### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,390	1,880	348,000
SURFACE	8-5/8"	0 to 1,800'	28.00	IJ-55	LTC	1.02	2.23	6.84
PRODUCTION	4-1/2"	0 to 8,675'	11.60	I-80	LTC	2.34	1.21	2.29

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

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)  
 (Burst Assumptions: TD = 11.6 ppg) 0.22 psi/ft = gradient for partially evac wellbore  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoyn.Fact. of water)  
**MASP 3,124 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD  
 (Burst Assumptions: TD = 11.6 ppg) 0.59 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoyn.Fact. of water)  
**MABHP 5,134 psi**

### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD	
SURFACE	LEAD	500	Premium cmt + 2% CaCl + .25 pps flocele	215	60%	15.60	1.18	
<b>Option 1</b>	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + .25 pps flocele	310	0%	15.60	1.18	
	TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18	
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>						
<b>Option 2</b>	LEAD	1500	65/35 Poz + 6% Gel + 10 pps gilsonite + .25 pps Flocele + 3% salt BWOW	140	35%	11.00	3.81	
	TAIL	500	Premium cmt + 2% CaCl + .25 pps flocele	150	35%	15.60	1.18	
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18	
PRODUCTION	LEAD	3,545'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	290	40%	11.00	3.38	
	TAIL	5130	50/50 Poz/G + 10% salt + 2% gel +.1% R-3	1260	40%	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. No centralizers will be used.

### ADDITIONAL INFORMATION

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

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

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

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

DRILLING ENGINEER: \_\_\_\_\_  
John Huycke / Grant Schluender

DATE: \_\_\_\_\_

DRILLING SUPERINTENDENT: \_\_\_\_\_  
John Merkel / Lovel Young

DATE: \_\_\_\_\_

<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> ST UO 01197A	

<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 1022-11J3S
------------------------------------	---

<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047502130000
---	---

<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
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<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2551 FSL 2212 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 11 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"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<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 type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:			
<input checked="" type="checkbox"/> <b>SPUD REPORT</b> Date of Spud: 3/31/2010			
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:			

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

MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.  
 RAN 14" SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL LOCATION ON 3/31/2010 AT 9:00 HRS.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 April 05, 2010

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/1/2010	

<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> ST UO 01197A
---	---

<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 1022-11J3S
------------------------------------	---

<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047502130000
---	---

<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
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<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2551 FSL 2212 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 11 Township: 10.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> Uintah  <b>STATE:</b> Utah
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11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> 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"/> <b>SPUD REPORT</b> 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"/> <b>DRILLING REPORT</b> Report Date: 4/10/2010	<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:

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

MIRU PROPETRO AIR RIG ON 4/9/2010. DRILLED 11' SURFACE HOLE TO 1860'. RAN 8-5/8' 28# J55 SURFACE CSG. PUMP 140 BBLS H2O, PUMP 20 BBLS GEL WATER. PUMP 225 SX CLASS G PREM LITE TAIL CMT @ 15.8 PPG, 1.15. DROP PLUG ON FLY DISP W/145 BBLS FRESH WATER, 300 PSI LIFT RETURNS, BUMP PLUG W /550 PSI. TOP OUT W/125 SX OF CLASS G PREM LITE CMT @ 15.8 PPG, 1.15 YLD. WAIT 2 HRS AND PUMP 175 SX SAME CMNT. WAIT TWO HOURS PUMP 150 SX SAME CEMENT. WAIT TWO HOURS AND PUMP 150 SX SAME CEMENT. CEMENT TO SURFACE. WORT.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 April 15, 2010

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 4/13/2010

<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> ST UO 01197A
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<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
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<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 1022-11J3S
------------------------------------	---

<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047502130000
---	---

<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
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<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2551 FSL 2212 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 11 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"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> 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"/> <b>SPUD REPORT</b> 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"/> <b>DRILLING REPORT</b> Report Date: 7/16/2010	<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:

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

FINISHED DRILLING FROM 1860' TO 8740' ON JULY 13, 2010. RAN 4 1/2" 11.6# I-80 PRODUCTION CSG. PUMP 40 BBLS SPACER, LEAD CEMENT W/ 427 SX CLASS G PREM LITE @ 12.4 PPG, 2.03 YD. TAILED CEMENT W/ 922 SX CLASS G 50/50 POZ MIX @ 14.3 PPG, 1.31 YD. DISPLACED W/ 134 BBLS CLAYTREAT WATER, BUMPED PLUG @ 3000 PSI, 500 OVER FINAL LIFT OF 2500. EST. TOP OF TAIL @ 3800'. FULL RETURNS THROUGHOUT JOB. 1.5 BBLS TO SURFACE. RD CEMENTERS AND CLEANED PITS. RELEASED ENSIGN RIG #145 ON JULY 16, 2010 @ 23:59 HRS.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 July 20, 2010

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/19/2010	

<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> ST UO 01197A
---	---

<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 1022-11J3S
------------------------------------	---

<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047502130000
---	---

<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
---	--	--

<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2551 FSL 2212 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 11 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 checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 7/19/2010  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> 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 checked="" 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: Update Water Source Ir

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

Kerr-McGee Oil & Gas Onshore, LP respectfully requests to update the water source for this location to Permit Numbers 49-2306 and 49-2319, both obtained by R.N. Industries. Please contact the undersigned for with any questions.

**Accepted by the Utah Division of Oil, Gas and Mining**

Date: July 22, 2010

By:

<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/19/2010	

<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> ST UO 01197A
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<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
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<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 1022-11J3S
------------------------------------	---

<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047502130000
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<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
---	--	--

<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2551 FSL 2212 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 11 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"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> 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"/> <b>SPUD REPORT</b> 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"/> <b>DRILLING REPORT</b> Report Date: 9/20/2010	<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"/> <b>PRODUCTION START OR RESUME</b>	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
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	<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 SEPTEMBER 20, 2010  
 AT 11:00 A.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
**FOR RECORD ONLY**  
 September 21, 2010

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/20/2010	

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

AMENDED REPORT  FORM 8  
(highlight changes)

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**ST UO 01197A**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME  
**UTU63047A**

8. WELL NAME and NUMBER:  
**NBU 1022-11J3S**

9. API NUMBER:  
**4304750213**

10. FIELD AND POOL, OR WILDCAT  
**NATURAL BUTTES**

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  
**NESW 11 10S 22E S**

12. COUNTY  
**UINTAH**

13. STATE  
**UTAH**

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  OTHER \_\_\_\_\_  
b. TYPE OF WORK: NEW WELL  HORIZ. LATS.  DEEP-EN  RE-ENTRY  DIFF. RESVR.  OTHER \_\_\_\_\_

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

3. ADDRESS OF OPERATOR: P.O. BOX 173779 CITY DENVER STATE CO ZIP 80217 PHONE NUMBER: (720) 929-6100

4. LOCATION OF WELL (FOOTAGES)  
AT SURFACE: **NESW 2551 FSL 2212 FWL S11,T10S,R22E**  
AT TOP PRODUCING INTERVAL REPORTED BELOW: **NWSE 1586 FSL 2342 FEL S11,T10S,R22E**  
AT TOTAL DEPTH: **NWSE 1587 FSL 2338 FEL S11,T10S,R22E**

*BHL Reviewed by HSM*

14. DATE SPURRED: 3/31/2010 15. DATE T.D. REACHED: 7/13/2010 16. DATE COMPLETED: 9/20/2010 ABANDONED  READY TO PRODUCE

17. ELEVATIONS (DF, RKB, RT, GL):  
**5115 GL**

18. TOTAL DEPTH: MD 8,740 TVD 8,522  
19. PLUG BACK T.D.: MD 8,708 TVD 8,489

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-CHI TRIPLE COMBO**

23. WAS WELL CORED? NO  YES  (Submit analysis)  
WAS DST RUN? NO  YES  (Submit report)  
DIRECTIONAL SURVEY? NO  YES  (Submit copy)

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

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#		40		28			
11"	8 5/8" J-55	28#		1,832		825			
7 7/8"	4 1/2" I-80	11.6#		8,750		1,349			

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,049							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) WASATCH	6,480	6,484		
(B) MESAVERDE	6,536	8,511		
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
6,480 6,484	0.36	12	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
6,536 8,511	0.36	156	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6480 - 8511	PUMP 8,964 BBLs SLICK H2O & 316,851 LBS 30/50 SAND

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29. ENCLOSED ATTACHMENTS:

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

30. WELL STATUS:

**PROD**

31. INITIAL PRODUCTION

INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED: 9/20/2010		TEST DATE: 9/22/2010		HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 1,690	WATER – BBL: 360	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 1,294	CSG. PRESS. 1,749	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 1,690	WATER – BBL: 360	INTERVAL STATUS: PROD

INTERVAL B (As shown in item #26)

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

INTERVAL C (As shown in item #26)

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

INTERVAL D (As shown in item #26)

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

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

33. SUMMARY OF POROUS ZONES (Include Aquifers):

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

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.
GREEN RIVER	935		
BIRD'S NEST	1,267		
MAHOGANY	1,751		
WASATCH	4,220		
MESAVERDE	6,524	8,740	TD

34. FORMATION (Log) MARKERS:

Name	Top (Measured Depth)
<p><b>RECEIVED</b> 11/2/2010 DIV OF OIL, GAS &amp; MINING</p>	

35. ADDITIONAL REMARKS (Include plugging procedure)

Attached is the chronological well history and final survey. Completion chrono details individual frac stages.

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

NAME (PLEASE PRINT) ANDREW LYTLE

TITLE REGULATORY ANALYST

SIGNATURE *Andrew Lytle*

DATE 11/2/2010

This report must be submitted within 30 days of

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

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

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

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

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

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US ROCKIES REGION

Operation Summary Report

DIV. OF OIL, GAS & MINING

Well: NBU 1022-11J3S YELLOW Spud Conductor: 3/31/2010 Spud Date: 4/9/2010

Project: UTAH-UINTAH Site: NBU 1022-11K PAD Rig Name No: PROPETRO/, ENSIGN 145/145

Event: DRILLING Start Date: 4/6/2010 End Date: 7/16/2010

Active Datum: RKB @5,128.00ft (above Mean Sea Level) UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
4/9/2010	3:00 - 4:00	1.00	DRLSUR	02	C	P		SPUD WELL 4-9-2010 @ 0300 DRILL F/ 40' - 120'
	4:00 - 5:30	1.50	DRLSUR	06	A	P		PICK UP DIRECTIONAL TOOLS ORIENT MUD MOTOR
	5:30 - 20:00	14.50	DRLSUR	02	C	P		DRILL F/ 120' - 1860' T.D. WELL 4-10-2010 @ 2000 550 GPM 15-20K WOB 60-65 ROT 93.5 DHR AVERAGE ROP 120 BUILDING ANGLE TO 2 DEG AND 142 AZI WELL COMMUNICATED WITH WELL #2 LAST 50 FT DRILLED IN THE BLIND AND WILL CEMENT TO SURFACE ON CEMENT JOB TO PREVENT FURTHER COMMUNICATION
	20:00 - 21:00	1.00	DRLSUR	05	C	P		CIRCULATE AND CONDITON MUD PRIOR TO TRIP
	21:00 - 0:00	3.00	DRLSUR	06	A	P		LDDS
4/10/2010	0:00 - 1:30	1.50	DRLSUR	12	A	P		RIG UP TO RUN CASING
	1:30 - 4:30	3.00	DRLSUR	12	C	P		RUN 41 JOINT 8.625 28# J-55 CASING SHOE @ 1823'
	4:30 - 5:30	1.00	DRLSUR	12	A	P		RIG DOWN FROM RUNNING CASING RIG UP TO CEMENT RELEASE RIG 4-10-2010 @ 0530
	5:30 - 10:30	5.00	DRLSUR	12	E	P		HELD SAFETY MTNG,PRESS TEST TO 2000 PSI,PUMP 140 BBLs H2O,PUMP 20 BBLs GEL WATER,PUMP 225 SX 15.8 # 1.15 YLD 5 GAL/SK TAIL CMNT DROP PLUG ON FLY DISP W/ 145 BBLs FRESH WATER 300 PSI LIFT NO RETURNS, BUMP PLUG W / 550 PSI, TOP OUT 125 SX OF 15.8#. 1.15 YLD 5 GAL SK 4% CALC CMNT, WAIT 2 HRS PUMP 175 SX SAME CMNT. WAIT TWO HOURS PUMP 150 SX SAME CEMENT WAIT TWO HOURS PUMP 150 SX SAME CEMENT, CEMENT TO SURFACE
7/6/2010	15:30 - 17:00	1.50	MIRU	01	C	P		MOVE OUT CAT WALK, UNDO FLOW LINES, SKID RIG OVER THE #3 WELL ON 4 WELL PAD. LEVEL RIG AND CENTER OVER HOLE. MOVE BACK CATWALK.
	17:00 - 17:30	0.50	DRLPRO	14	A	P		NIPPLE UP BOP. INSTALL ROT HEAD. NIPPLE UP FLOWLINE.
	17:30 - 22:00	4.50	DRLPRO	15	A	P		PRESSURE TEST PIPE RAMS, BLIND RAMS, BOP, FLOOR VALVE, KILL LINE, & KILL LINE VALVES, BOP WING VALVES, HCR VALVE, CHOKE LINE INNER & OUTER CHOKE VALVES, & MANIFOLD 250 PSI LOW/ 5 MINUTES, 5K HIGH FOR 10 MINUTES, TEST ANNULAR 250 LOW/5 MINUTES, 2500 HIGH/10 MINUTES, TEST SUPER CHOKE & CSG TO 1500 PSI FOR 30 MINUTES. FUNCTION TEST CLOSING UNIT. SET WEAR BUSHING.
	22:00 - 23:30	1.50	DRLPRO	09	A	P		SLIP AND CUT DRILL LINE. RIG INSPECTION
	23:30 - 0:00	0.50	DRLPRO	06	A	P		P/U A SDI ADJUSTABLE BENT HOUSE MOTOR .27 RPG. ADJUST MOTOR TO 0 DEG. M/U 7 7/8" Q506F SN 7020460. (RE-RUN #2 BIT FROM LAST HOLE) TAKE IBS OUT OF STRING. TRIP IN HOLE.
7/7/2010	0:00 - 2:30	2.50	DRLPRO	06	A	P		TIH W/ 0 DEG ADJUSTABLE MOTOR .27 RPG AND RERAN Q507F SN 7020460 TAG CEMENT 1705'.
	2:30 - 5:00	2.50	DRLPRO	02	F	P		DRILL CEMENT AND FE 1705'-1869' SHOE 1833'.
	5:00 - 7:00	2.00	DRLPRO	06	A	P		TRIP OUT OF HOLE.
	7:00 - 9:30	2.50	DRLPRO	06	A	P		ADJUST MOTOR TO 1.76 DEG. M/U NEW BIT #2 Q506F SN 7019033. SCRIBE MOTOR. INSTALL MWD TOOLS. TRIP IN HOLE.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-11J3S YELLOW      Spud Conductor: 3/31/2010      Spud Date: 4/9/2010  
 Project: UTAH-UINTAH      Site: NBU 1022-11K PAD      Rig Name No: PROPETRO/, ENSIGN 145/145  
 Event: DRILLING      Start Date: 4/6/2010      End Date: 7/16/2010  
 Active Datum: RKB @5,128.00ft (above Mean Sea Level)      UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	9:30 - 17:00	7.50	DRLPRO	02	C	P		DRILL & SLIDE 1833' TO 2751',(981' 122'/HR) ,WOB-15-19, SPP ON/OFF- 1262/783, GPM-477, BIT RPM 149, MOTOR RPM-109 , DIF- 250-350, TQE ON/OFF- 12/3, MW IN/OUT-8.4/8.4, VIS-26
	17:00 - 17:30	0.50	DRLPRO	07	A	P		DAILY RIG SERVICE
	17:30 - 0:00	6.50	DRLPRO	02	C	P		DRILL & SLIDE 2751'-3540', (789' 121'/HR) WOB-14-18, SPP ON/OFF- 1262/783, GPM-477, BIT RPM 149, MOTOR RPM-109 , DIF- 350-450, TQE ON/OFF- 12/3, MW IN/OUT-8.4/8.4, VIS-30
7/8/2010	0:00 - 15:00	15.00	DRLPRO	02	C	P		DRILL & SLIDE F/3540'-5015', (1475' 98'/HR) WOB-14-18, SPP ON/OFF- 1262/783, GPM-477, BIT RPM 149, MOTOR RPM-109 , DIF- 450-550, TQE ON/OFF- 42/13, MW IN/OUT-8.4/8.4, VIS-30
	15:00 - 15:30	0.50	MAINT	07	A	P		DAILY RIG LUBE
	15:30 - 0:00	8.50	DRLPRO	02	C	P		DRILL & SLIDE F/5015'-5569', (554' 65'/HR) WOB-14-18, SPP ON/OFF- 1262/783, GPM-477, BIT RPM 149, MOTOR RPM-109 , DIF- 450-650, TQE ON/OFF- 34/19, MW IN/OUT-9.6/9.5, VIS-36, SPR @5245' #1 PUMP @ 40 SPM 363 PSI BOP DRILL 49 SEC RESPONSE TIME
7/9/2010	0:00 - 11:00	11.00	DRLPRO	02	D	P		DRILL SLIDE AND ROTATE 5569'-6292' (723', 66'/HR) MOTOR RPM-130, ROTARY RPM 50- 65, WOB-18-23K, SPP ON/OFF- 2300/1900, DIFF-400, TQE ON/OFF- 20/8 HOOK LOAD UP/DOWN/ROT -198/126/163 DRAG-35K, 480 GPM, #1-107 SPM, #2-0, ROTATE 97% SLIDE 3% . 20' OF SLIDE @ 20'/HR. MUD IN 36 VIS 9.8 WT OUT 37 VIS 9.8+ OUT. NO LOSSES AT THIS TIME.
	11:00 - 11:30	0.50	DRLPRO	07	A	P		RIG SERVICE, FUNCTION PIPE RAMS AND ANNULAR.
	11:30 - 0:00	12.50	DRLPRO	02	D	P		DRILL SLIDE AND ROTATE 6292'-7033' (741', 59'/HR) MOTOR RPM-130, ROTARY RPM 50- 65, WOB-18-23K, SPP ON/OFF- 2400/2000, DIFF-400, TQE ON/OFF- 25/10 HOOK LOAD UP/DOWN/ROT -220/130/166 DRAG-54K, 480 GPM, #1-107 SPM, #2-0, ROTATE 99% SLIDE 1% . 5' OF SLIDE @ 20'/HR. MUD IN 39 VIS 10.4 WT OUT 36 VIS 10.3+ OUT. NO LOSSES AT THIS TIME.
7/10/2010	0:00 - 13:00	13.00	DRLPRO	02	D	P		DRILL SLIDE AND ROTATE 7033'-7561' (528', 41'/HR) MOTOR RPM-130, ROTARY RPM 50- 65, WOB-18-23K, SPP ON/OFF- 2500/2200, DIFF-300, TQE ON/OFF- 20/13 HOOK LOAD UP/DOWN/ROT -226/140/180 DRAG-46K, 480 GPM, #1-107 SPM, #2-0, ROTATE 91% SLIDE 9% 45' OF SLIDE @ 20'/HR. MUD IN 39 VIS 10.6+ WT OUT 38 VIS 10.6+ OUT. NO LOSSES AT THIS TIME. ALL P/U WTS ARE WITH PUMP ON AND REAMING UP.
	13:00 - 13:30	0.50	DRLPRO	07	A	P		RIG SERVICE, FUNCTION BOP'S.
	13:30 - 0:00	10.50	DRLPRO	02	D	P		DRILL SLIDE AND ROTATE 7561'- 7960' (399', 38'/HR) MOTOR RPM-130, ROTARY RPM 50- 65, WOB-18-26K, SPP ON/OFF- 2500/2200, DIFF-300-200, TQE ON/OFF- 24/15 HOOK LOAD UP/DOWN/ROT -245/144/184 DRAG-61K, 480 GPM, #1-107 SPM, #2-0, ROTATE 96% SLIDE 4% 15' OF SLIDE @ 15'/HR. MUD IN 41 VIS 11+ WT OUT 418 VIS 11+ OUT. NO LOSSES AT THIS TIME. ALL P/U WTS ARE WITH PUMP ON AND REAMING UP.

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 10/15/2010  
 9:21:24AM

US ROCKIES REGION  
**Operation Summary Report**

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Well: NBU 1022-11J3S YELLOW	Spud Conductor: 3/31/2010	Spud Date: 4/9/2010
Project: UTAH-UINTAH	Site: NBU 1022-11K PAD	Rig Name No: PROPETRO/ ENSIGN 145/145
Event: DRILLING	Start Date: 4/6/2010	End Date: 7/16/2010
Active Datum: RKB @5,128.00ft (above Mean Sea Level)		
UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
7/11/2010	0:00 - 10:30	10.50	DRLPRO	06	A	P		TRIP OUT OF HOLE, BACK REAM OUT OF HOLE TO 3300'. 80,000+ PULL W/ OUT PUMPS. REAM OUT. REAM OUT DOG LEGS IN DROP AND TANGENT. NO LOSSES OR GAINS ON TRIP. PULL OUT DIR. TOOLS. LD SDI MOTOR .27 RPG 1.76 BH. (BIT DAMAGED BEYOND REPAIR)
	10:30 - 15:00	4.50	DRLPRO	06	A	P		M/U Q506F 6x13'S SN 7126649, P/U 6.5" SDI MUD MOTOR .14 RPG 1.5 BH SN 6346. TRIP IN HOLE. FILL PIPE 2500'. BRIDGE 4100'. 4300'.
	15:00 - 20:00	5.00	DRLPRO	03	E	P		WASH DOWN DRILL STRING FROM 4300'-7960'. DRILL STRING WOULD NOT SLIDE DOWN HOLE WITH OUT PUMP ON. HEAVY CUTTINGS OVER SHAKER. LOSS 75 BBLs OF MUD. BYPASS SHAKERS AND INCREASE LCM% TO 5%. MUD WT 11.3 VIS 40. BUILT MUD VOLUME W/ STORED LIQUID MUD WHILE TRIPPING IN. BOTTOMS UP FLARE 2-3'. MUD WT OUT 10.4 .
	20:00 - 0:00	4.00	DRLPRO	02	D	P		DRILL 7960'- 8160' (200', 50'/HR) MOTOR RPM-67, ROTARY RPM 50- 65, WOB-18-23K, SPP ON/OFF- 2800/2350 DIFF-450 , TQE ON/OFF- 20/10 HOOK LOAD UP/DOWN/ROT -230/155/187 DRAG-43 K, 480 GPM, #1-107 SPM, #2-0, ROTATE 100% SLIDE 0% . MUD IN 46 VIS 11.7+ WT OUT 42 VIS 11.5 OUT 5% LCM .
7/12/2010	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL 8160' -8465' (305, 51'/HR) MOTOR RPM-67, ROTARY RPM 50- 65, WOB-18-23K, SPP ON/OFF- 2800 /2400 DIFF-400 , TQE ON/OFF- 22/12 HOOK LOAD UP/DOWN/ROT -234/148/188 DRAG-46 K, 480 GPM, #1-107 SPM, #2-0, ROTATE 100% SLIDE 0% . MUD IN 44 VIS 12+ WT OUT 45 VIS 11.9+ OUT 8 % LCM . STARTED SEEPING @ 11.8 WT INCREASED LCM TO 8%. LOSS 20 BBLs WHILE PICKING UP FOR CONNECTION. DRILLER KICKED IN HYDRALIC PUMPS LIKE HE DOES ON EVERY CONNECTION. THE RIG POWER DIED. AFTER BRINGING POWER UP THE RIG SMART CPU WAS SHOWING THE I.D.R. WAS EXTENDED HALFWAY IN THE DERRICK EVEN THOUGH IT WAS STILL AT THE BACK OF THE BOARD. TROUBLE SHOT PROBLEM. RESET SYSTEM, CHANGE OUT COM LINES TO IRON DERRICKMAN. TROUBLE SHOT ELECTRICAL PROBLEM. WAIT FOR I. D. R. SPECIALIST FROM CASPER. HE ARRIVED AT 22:00. HE DISCOVERED THAT THE CPU FOR I.D.R. WAS BURNED OUT. REPLACING CPU @ REPORT TIME. WE WERE ABLE TO CIRC AND ROT. CIRC @ 50 SPM AND ROT @ 20 RPM.
	6:00 - 0:00	18.00	MAINT	08	A	Z		REPLACE CPU FOR I.D.M.
7/13/2010	0:00 - 1:00	1.00	MAINT	08	A	Z		
	1:00 - 6:00	5.00	DRLPRO	02	D	P		DRILL 8465'-8740' (275', 55'/HR) MOTOR RPM-67, ROTARY RPM 50- 65, WOB-18-23K, SPP ON/OFF- 2800 /2400 DIFF-400 , TQE ON/OFF- 12/17 HOOK LOAD UP/DOWN/ROT -240/168/190 DRAG-50 K, 480 GPM, #1-107 SPM, #2-0, ROTATE 100% SLIDE 0% . MUD IN 44 VIS 12.4 WT OUT 45 VIS 12.4 OUT 8 % LCM . NO LOSSES AT THIS TIME.
	6:00 - 8:00	2.00	EVALPR	05	F	P		CIRC. HOLE CLEAN FOR SHORT TRIP. MUD IN 44 VIS 12.5 WT, OUT 45 VIS 12.4+ WT 8% LCM.
	8:00 - 17:30	9.50	EVALPR	06	E	P		WIPER TRIP TO SHOE. BACK REAM OUT OF HOLE W/ PUMP 8740'- 3500'. TRIPTO 2800'. MAXIMUM PULL WT OF 50-80K OVER STRING.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-11J3S YELLOW	Spud Conductor: 3/31/2010	Spud Date: 4/9/2010
Project: UTAH-UINTAH	Site: NBU 1022-11K PAD	Rig Name No: PROPETRO/, ENSIGN 145/145
Event: DRILLING	Start Date: 4/6/2010	End Date: 7/16/2010
Active Datum: RKB @5,128.00ft (above Mean Sea Level)		UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	17:30 - 19:30	2.00	MAINT	08	A	Z		LOSS COMMUNICATIONS W/ I.D.M. LAN CABLE BLEW OVER INTO DRILL LINE CABLE AND BROKE. REPLACE LAN CABLE. SECURE LAN CABLE WITH TIES.
	19:30 - 22:00	2.50	EVALPR	06	D	P		TRIP OUT OF HOLE, 2800'- 0'. LD DIRECTIONAL TOOLS AND MUD MOTOR. WORK PIPE AND BLIND RAMS.
	22:00 - 0:00	2.00	EVALPR	06	D	P		P/U BIT AND BIT SUB WITH FLOAT ON THE END OF HEAVY WT. TRIP IN HOLE. 2300' @ REPORT TIME.
7/14/2010	0:00 - 10:30	10.50	EVALPR	06	E	P		TRIP IN HOLE , WASH MAJORITY OF HOLE FROM 3500'-6000'. 7994 TO 8740', WIPER TRIP FOR LOGS.
	10:30 - 12:00	1.50	EVALPR	05	A	P		CIRC & COND HOLE F/ TOO H TO LOG
	12:00 - 22:30	10.50	EVALPR	06	E	P		POOH F/ LOGS, PUMP & ROT 45 STDS, PUMP PILL POOH, TIGHT @ 4800 & 4000, WASH & REAM CLEAN, 80 TO 100K OVER PULL OFF BOTTOM
	22:30 - 0:00	1.50	EVALPR	11	C	P		HPJSM W/ RIG & LOGGING CREWS, R/U & RIH W/ TRIPLE COMBO, BRIDGE OUT @ 4775'
7/15/2010	0:00 - 2:30	2.50	DRLPRO	11	C	X		RIN IN HOLE TO 4775 HIT BRIDGE, TRY TO WORK THOUGH, NO GO, R/D, POOH F/ WIPER TRIP
	2:30 - 7:00	4.50	DRLPRO	06	E	X		TIH, WIPER TRIP, WASH & REAM TIGHT SPOT @ 4750', TIH
	7:00 - 7:30	0.50	DRLPRO	07	A	P		SERVICE IRON ROUGHNECK
	7:30 - 8:30	1.00	DRLPRO	06	E	X		TIH TO 8175'
	8:30 - 11:00	2.50	DRLPRO	03	E	X		WASH & REAM TIGHT HOLE F/ 8175 TO 8740'
	11:00 - 12:30	1.50	DRLPRO	05	A	X		CIRC & COND HOLE, PUMP HIGH VIS SWEEP
	12:30 - 21:30	9.00	DRLPRO	06	E	X		POOH, PUMP & ROT 45 STDS OUT, 80-100 OVER PULL, PUMP PILL POOH F/ LOGS, PULL WEAR BUSHING
	21:30 - 0:00	2.50	DRLPRO	11	C	X		HPJSM W/ RIG & LOGGING CREWS, R/U & RUN TOOLS TO 4775 BRIDGE OUT, WORK TO GET THOUGH, NO GO, POOH, R/D
7/16/2010	0:00 - 3:00	3.00	DRLPRO	21	E	Z		WAIT ON CASING CREW, F/T BLIND & PIPE RAMS
	3:00 - 11:00	8.00	DRLPRO	12	C	P		HPJSM W/ RIG & CASING CREWS, R/U & RUN 211 JTS, 4 1/2" I-80 BTC
	11:00 - 13:30	2.50	DRLPRO	05	D	P		CIRC OUT GAS
	13:30 - 17:30	4.00	DRLPRO	12	E	P		HPJSM W/ RIG & CEMENT CREWS, TEST LINES TO 4500 PSI, PUMP 40 BBLS WATER SPACER, LEAD 427 SXS 12.4 PPG 2.03 YLD, TAIL 922 SXS 14.3 PPG 1.31 YLD, DROP PLUG & DISPLACE W/ 134 BBLS CLAYTREAT WATER, BUMP PLUG @ 3000 PSI, 500 OVER FINAL LIFT PSI OF 2500, EST TOP OF TAIL 3800', FULL RETURNS THOUGHOUT JOB W/ TRACE OF WATER SPACER TO PIT, 1.5 BBLS BACK TO TRUCK, PLUG BACK @ 8695', R/D
	17:30 - 19:00	1.50	DRLPRO	14	A	P		N/D BOP & P/U STACK TO SET SLIPS W/ 80K
	19:00 - 23:59	4.98	DRLPRO	01	E	P		MOVE BACK YARD MATTING BOARDS & DIG OUT MUD & REPLACE W/ DRY DIRT TO SKID RIG ON, CLEAN PITS & RELEASE RIG @ 23:59 7/16/10

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JUL 16 2010

DIV. OF OIL, GAS & MINING

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-11J3S YELLOW		Spud Conductor: 3/31/2010		Spud Date: 4/9/2010	
Project: UTAH-UINTAH		Site: NBU 1022-11K PAD		Rig Name No: PROPETRO/, ENSIGN 145/145	
Event: DRILLING		Start Date: 4/6/2010		End Date: 7/16/2010	
Active Datum: RKB @5,128.00ft (above Mean Sea Level)		UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
------	----------------	---------------	-------	------	----------	-----	--------------	-----------

23:59 - 0:00      0.02      DRLPRO

CONDUCTOR CASING:  
Cond. Depth set: 40  
Cement sx used:

SPUD DATE/TIME: 4/6/2010 0:00

SURFACE HOLE:  
Surface From depth: 40  
Surface To depth: 1,860  
Total SURFACE hours: 15.50  
Surface Casing size: 8 5/8  
# of casing joints ran: 41  
Casing set MD: 1,823.0  
# sx of cement: TAIL 225, TOPOUT 425  
Cement blend (ppg): 15.8  
Cement yield (ft3/sk): 1.15  
# of bbls to surface: 0  
Describe cement issues: 3-TOPOUTS  
Describe hole issues: N/A

PRODUCTION:  
Rig Move/Skid start date/time: 7/6/2010 15:30  
Rig Move/Skid finish date/time: 7/6/2010 16:30  
Total MOVE hours: 1.0  
Prod Rig Spud date/time: 7/7/2010 2:30  
Rig Release date/time: 7/16/2010 23:59  
Total SPUD to RR hours: 237.5  
Planned depth MD 8,684  
Planned depth TVD 8,409  
Actual MD: 8,740  
Actual TVD: 8,517  
Open Wells \$: \$768,538  
AFE \$: \$746,103  
Open wells \$/ft: \$87.93

PRODUCTION HOLE:  
Prod. From depth: 1,860  
Prod. To depth: 8,740  
Total PROD hours: 103  
Log Depth: N/A  
Production Casing size: 4 1/2  
# of casing joints ran: 211  
Casing set MD: 8,740.0  
# sx of cement: LEAD 427, TAIL 922  
Cement blend (ppg): LEAD 12.4, TAIL 14.3  
Cement yield (ft3/sk): LEAD 2.03, TAIL 1.31  
Est. TOC (Lead & Tail) or 2 Stage : LEAD 0, TAIL 3800  
Describe cement issues:  
Describe hole issues:

DIRECTIONAL INFO:  
KOP: 1984' @ 3.87 DEG  
Max angle: 30.34  
Departure: 1210'  
Max dogleg MD: 5.46 @ 3433

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DEV. OF OIL, GAS & MINING

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-11J3S YELLOW		Spud Conductor: 3/31/2010	Spud Date: 4/9/2010
Project: UTAH-UINTAH		Site: NBU 1022-11K PAD	Rig Name No: LEED 733/733
Event: COMPLETION		Start Date: 8/26/2010	End Date: 9/10/2010
Active Datum: RKB @5,128.00ft (above Mean Sea Level)		UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/27/2010	8:00 - 15:00	7.00	COMP	37	B	P		RU T/ PSI TEST W/ B&C QUICK TEST. PSI TEST CSG & BOTH FRAC VALVES T/ 7000#. GOOD TEST. BLEED OFF PSI. RD B&C QICK TEST. PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 & 120 DEG PHASING. RIH PERF F/ 8508'-11', 4 SPF, 12 HOLES. 8478'-80', 3 SPF, 6 HOLES. 8354'-56', 3 SPF, 6 HOLES. 24 HOLES. POOH. SWIFWE.
8/30/2010	9:00 - 18:00	9.00	COMP	36	B	P		FRAC STG 1)BEFORE STARTING THIS STG CHANGED OUT 4" GROUND VALVE. WHP 1205 PSI, BRK 8781 PSI @ 4.7 BPM. ISIP 2480 PSI, FG .73. PUMP 100 BBLS @ 46.7 BPM @ 5473 PSI = 76% HOLES OPEN. ISIP 2480 PSI, FG .73, NPI 0 PSI. MP 6537 PSI, MR 48.7 BPM, AP 5368 PSI, AR 38.7 BPM, PMP 724 BBLS SW & 17,580 LBS OF 30/50 SND & 5,000 LBS OF 20/40 SLC SND. TOTAL PROP 22,580 LBS, SWI X-OVER FOR WL. PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 & 120 DEG PHASING. RIH SET CBP @ 8300' P/U PERF F/ 8198'-00', 3 SPF, 6 HOLES. 8159'-61', 3 SPF, 6 HOLES. 8122'-24', 4 SPF, 8 HOLES. 8083'-84', 4 SPF, 4 HOLES. 24 HOLES. POOH, SWI FN.
8/31/2010	6:30 - 6:57	0.45	COMP	48		P		HSM. HIGH PSI LINES & WL SAFETY.

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8/31/2010

BY: [Signature]

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-11J3S YELLOW		Spud Conductor: 3/31/2010	Spud Date: 4/9/2010
Project: UTAH-UINTAH		Site: NBU 1022-11K PAD	Rig Name No: LEED 733/733
Event: COMPLETION		Start Date: 8/26/2010	End Date: 9/10/2010
Active Datum: RKB @5,128.00ft (above Mean Sea Level)		UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:57 - 7:52	0.92	COMP	36	B	P		<p>FRAC STG 2)WHP 1670 PSI, BRK 4584 PSI @ 4.7 BPM. ISIP 2530 PSI, FG .75. PUMP 100 BBLS @ 45.2 BPM @ 6036 PSI = 67% HOLES OPEN. ISIP 2622 PSI, FG .76, NPI 92 PSI. MP 6718 PSI, MR 49.6 BPM, AP 5723 PSI, AR 44.2 BPM, PMP 1925 BBLS SW &amp; 70,262 LBS OF 30/50 SND &amp; 5,000 LBS OF 20/40 SLC SND. TOTAL PROP 75,262 LBS, SWI, X-OVER FOR WL.</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 &amp; 120 DEG PHASING. RIH SET CBP @ 8033' P/U PERF F/ 7984'-88', 3 SPF, 12 HOLES. 7953'-54', 4 SPF, 4 HOLES. 7880'-82', 4 SPF, 4 HOLES. 24 HOLES. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 3)WHP 2420 PSI, BRK 3328 PSI @ 4.7 BPM. ISIP 2489 PSI, FG .75. PUMP 100 BBLS @ 45.2 BPM @ 6036 PSI = 67% HOLES OPEN. PUMP 25,078 LBS WHITE SAND. HAD T/ GO TO FLUSH. BECAUSE GROUND VALVE FOR THE RED WELL ( 11K2S ) WERE LEAKING THROUGH WHILE WL WAS RIH. THEY SET CBP IN RED WELL. PSI ON THIS WELL CAME UP F/ 5500# T/ 6700#. FINISH FLUSH ON YELLOW WELL. SWITCH OVER T/ RED WELL. PSI TEST CBP T/ 5000#. IT HELD. BLEED OFF PSI. CHANGE OUT GROUND VALVES FOR RED WELL. CONT T/ FRAC. PUMP 62,278 LBS WHITE &amp; 5000 LBS OF TLC. SCREEN OUT IN FLUSH. LACKED 60 BBLS F/ FINISHING FLUSH. LEFT ABOUT 2800# OF TLC IN CSG. OPEN WELL T/ PIT. FLOW BACK FOR 20 MIN. REFLUSH W/ 123 BBLS. SWI TURN WELL OVER TO WL. PMP 2424 BBLS SW &amp; 62,278 LBS OF 30/50 SND &amp; 2,200 LBS OF 20/40 TLC SND. TOTAL PROP 67,278 LBS,</p> <p>PERF STG 4)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7442' P/U PERF F/ 7340'-42', 4 SPF, 8 HOLES. 7306'-08', 4 SPF, 8 HOLES. 7266'-68', 4 SPF, 8 HOLES. 24 HOLES. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 4)WHP 480 PSI, BRK 2575 PSI @ 4.7 BPM. ISIP 1603 PSI, FG .66. PUMP 100 BBLS @ 50 BPM @ 5373 PSI = 66% HOLES OPEN. ISIP 2361 PSI, FG .76, NPI 758 PSI. MP 5717 PSI, MR 50.8 BPM, AP 4685 PSI, AR 48.9 BPM, PMP 1342 BBLS SW &amp; 49,645 LBS OF 30/50 SND &amp; 5,000 LBS OF 20/40 SLC SND. TOTAL PROP 54,645 LBS, SWI, X-OVER FOR WL.</p> <p>PERF STG 5)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 7216' P/U PERF F/</p>

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DIV. OF OIL, GAS & MINING

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-11J3S YELLOW		Spud Conductor: 3/31/2010	Spud Date: 4/9/2010
Project: UTAH-UINTAH		Site: NBU 1022-11K PAD	Rig Name No: LEED 733/733
Event: COMPLETION		Start Date: 8/26/2010	End Date: 9/10/2010
Active Datum: RKB @5,128.00ft (above Mean Sea Level)		UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
								7154'-59', 3 SPF, 15 HOLES. 7029'-32', 3 SPF, 9 HOLES. 24 HOLES. POOH, SWI FN.

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10/11/2010

DIRECTOR, OIL, GAS & MINING

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1022-11J3S YELLOW	Spud Conductor: 3/31/2010	Spud Date: 4/9/2010
Project: UTAH-UINTAH	Site: NBU 1022-11K PAD	Rig Name No: LEED 733/733
Event: COMPLETION	Start Date: 8/26/2010	End Date: 9/10/2010
Active Datum: RKB @5,128.00ft (above Mean Sea Level)	UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
9/1/2010	8:00 - 18:00	10.00	COMP	36	B	P		<p>FRAC STG 5)WHP 920 PSI, BRK 2195 PSI @ 4.7 BPM. ISIP 1144 PSI, FG .60. PUMP 100 BBLS @ 46 BPM @ 5202 PSI = 66% HOLES OPEN. ISIP 2255 PSI, FG .76, NPI 1111 PSI. MP 6592 PSI, MR 48.8 BPM, AP 4874 PSI, AR 47.6 BPM, PMP 907 BBLS SW &amp; 29,677 LBS OF 30/50 SND &amp; 5,000 LBS OF 20/40 SLC SND. TOTAL PROP 34,677 LBS, SWI, X-OVER FOR WL.</p> <p>PERF STG 6)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 &amp; 120 DEG PHASING. RIH SET CBP @ 6977' P/U PERF F/ 6875'-77', 4 SPF, 8 HOLES. 6847'-48', 4 SPF, 4 HOLES 6740'-42', 3 SPF, 6 HOLES. 6692'-94', 3 SPF, 6 HOLES. 24 HOLES. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 6)WHP 960 PSI, BRK 1217 PSI @ 4.7 BPM. ISIP 100 PSI, FG .45. CALL DENVER, TALK TO CODY WEITZEL. INSTEAD OF PUMPING 82,000 LBS, CUT IT DOWN T/ 30,000 LBS. PUMP 100 BBLS @ 47.9 BPM @ 5031 PSI = 66% HOLES OPEN. ISIP 1669 PSI, FG .68, NPI 1569 PSI. MP 5044 PSI, MR 50.2 BPM, AP 4161 PSI, AR 48.3 BPM, PMP 780 BBLS SW &amp; 25,537 LBS OF 30/50 SND &amp; 5,000 LBS OF 20/40 SLC SND. TOTAL PROP 30,537 LBS, SWI X-OVER FOR WL.</p> <p>PERF STG 7)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 6640' P/U PERF F/ 6536'-40', 3 SPF, 12 HOLES. 6480'-84', 3 SPF, 12 HOLES. 24 HOLES. POOH, X-OVER FOR FRAC.</p> <p>FRAC STG 7)WHP 0000 PSI, BRK 0000 PSI @ 6.4 BPM. ISIP 0000 PSI, FG .00. PUMP 100 BBLS @ 48 BPM @ 5473 PSI = 65% HOLES OPEN. CHANGE FRAC DESIGN F/ 73000 LBS T/ 31,800 LBS. ( VERY LOW F.G. = .54) ISIP 2248 PSI, FG .78, NPI 1543 PSI. MP 5601 PSI, MR 48.6 BPM, AP 4580 PSI, AR 47.5 BPM, PMP 862 BBLS SW &amp; 26,872 LBS OF 30/50 SND &amp; 5,000 LBS OF 20/40 SLC SND. TOTAL PROP 31,872 LBS, SWI, X-OVER FOR WL.</p> <p>PU 4 1/2 8K HAL CBP. RIH SET @ 6430'. POOH. SWI. DONE FRACING THIS WELL.</p> <p>TOTAL SAND = 316,851# TOTAL CLFL = 8964 BBLS.</p> <p>TOTAL SCALE = 835 GAL. TOTAL BIOCIDE = 190 GAL. JSA- RD/RU. PU TBG. PWR SWIVEL.</p>
9/10/2010	6:45 - 7:00	0.25	COMP	48		P		

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**US ROCKIES REGION**  
**Operation Summary Report**

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Well: NBU 1022-11J3S YELLOW		Spud Conductor: 3/31/2010		Spud Date: 4/9/2010	
Project: UTAH-UINTAH		Site: NBU 1022-11K PAD		Rig Name No: LEED 733/733	
Event: COMPLETION		Start Date: 8/26/2010		End Date: 9/10/2010	
Active Datum: RKB @5,128.00ft (above Mean Sea Level)			UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 12:45	5.75	COMP	31	I	P		RDSU FROM 11K1T. MOVE OVER AND RUSU. ND WH. NU BOP. RU FLOOR AND TBG EQUIP. MU 3-7/8" WTFD BIT, FE POBS, 1.87" XN AND RIH AS MEAS AND PU 202-JTS 2-3/8" L-80 TBG TO TAG AT 6405'. RU DRLG EQUIP. FILL TBG AND P-TEST TO 3000#. EST CIRC AND D/O PLUGS.
	12:45 - 19:30	6.75	COMP	44	C	P		#1- C/O 25' SAND TO CBP AT 6430'. D/O IN 5 MIN. 0# INC. RIH. #2- C/O 70' SAND TO CBP AT 6640'. D/O IN 8 MIN. 0# INC. RIH. #3- C/O 120' SAND TO CBP AT 6977'. D/O IN 10 MIN. 50# INC. RIH. #4- C/O 70' SAND TO CBP AT 7216'. D/O IN 8 MIN. 80# INC. RIH. #5- C/O 60' SAND TO CBP AT 7442'. D/O IN 5 MIN. 25# INC. RIH. #6- C/O 25' SAND TO CBP AT 8033'. D/O IN 3 MIN. 200# INC. RIH. #7- C/O 90' SAND TO CBP AT 8300'. D/O IN 8 MIN. 0# INC. RIH. (HOLE IS VERY DEVIATED, SWIVEL SLOW TO ROTATE) PBSD. C/O 90' SAND TO PBSD AT 8641' W/ 272-JTS IN (130' RATHOLE). CIRC CLEAN.  RD PWR SWIVEL. POOH AS LD -JTS TBG. PU 7" 5K HANGER. LUB IN AND LAND 253-JTS 2-3/8" L-80 TBG W/ EOT AT 8049.94'. RD FLOOR. ND BOP. NU WH. POBS AT 1300#. SHUT WELL IN FOR 30 MIN. TURN OVER TO FLOW BACK CREW. WILL RD IN AM. SITP 100, SICP 1800.  TBG DETAIL KB 13.00 282-JTS DELIVERED 7" 5K WTFD HANGER 1.00 29-JTS RETURNED 253-JTS 2-3/8" L-80 TBG 8033.74 LOAD 8697 BBLs. FE POBS W/ 1.87" XN 2.20 RCVR 2040 BBLs EOT 8049.94 LTR 6657 BBLs
9/11/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2300#, TP 1700#, 20/64" CK, 40 BWPH, HVY SAND, LIGHT GAS TTL BBLs RECOVERED: 2630 BBLs LEFT TO RECOVER: 6067
9/12/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2650#, TP 2025#, 20/64" CK, 30 BWPH, HVY SAND, MED GAS TTL BBLs RECOVERED: 3430 BBLs LEFT TO RECOVER: 5267
9/13/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2725#, TP 1725#, 20/64" CK, 25 BWPH, MED SAND, MED GAS TTL BBLs RECOVERED: 4101 BBLs LEFT TO RECOVER: 4596
9/17/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2150#, TP 1500#, 20/64" CK, 15 BWPH, LIGHT SAND, MED GAS TTL BBLs RECOVERED: 4547 BBLs LEFT TO RECOVER: 4150
9/18/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2000#, TP 1300#, 20/64" CK, 12 BWPH, TRACE SAND, MED GAS TTL BBLs RECOVERED: 4823 BBLs LEFT TO RECOVER: 3874

**US ROCKIES REGION**  
**Operation Summary Report**

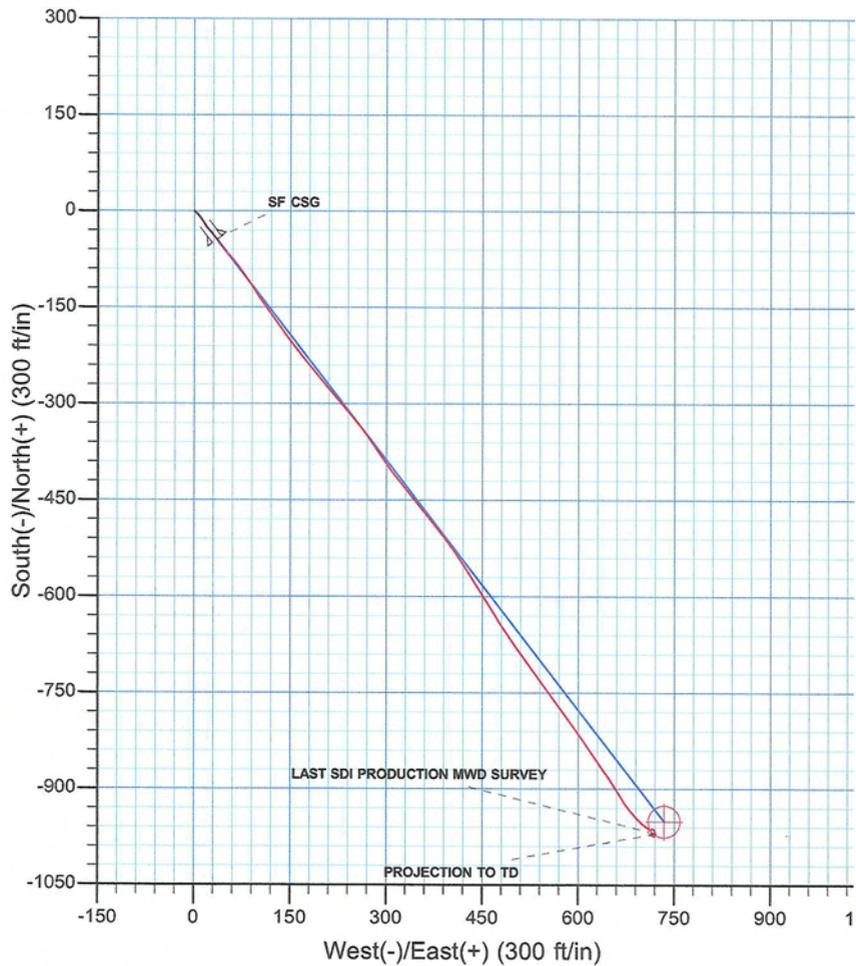
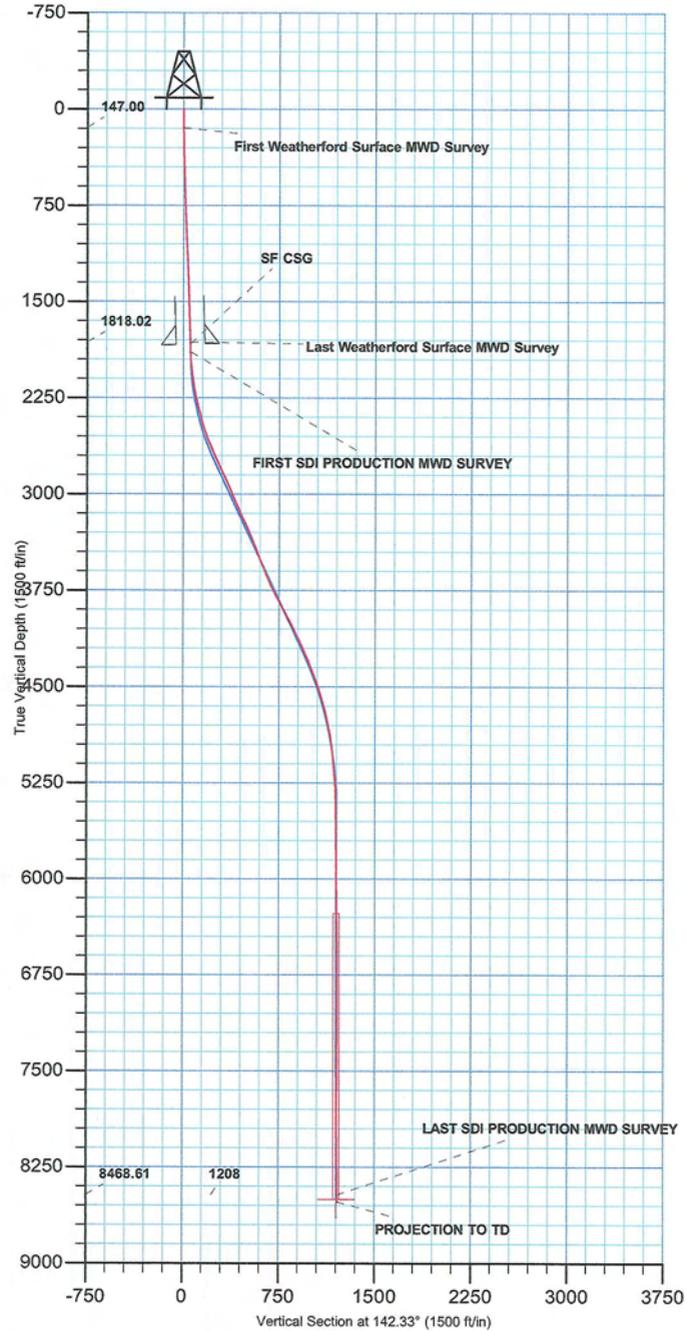
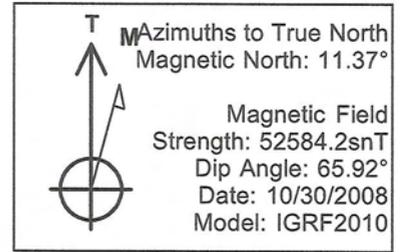
Well: NBU 1022-11J3S YELLOW	Spud Conductor: 3/31/2010	Spud Date: 4/9/2010
Project: UTAH-UINTAH	Site: NBU 1022-11K PAD	Rig Name No: LEED 733/733
Event: COMPLETION	Start Date: 8/26/2010	End Date: 9/10/2010
Active Datum: RKB @5,128.00ft (above Mean Sea Level)		UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
9/19/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2400#, TP 1650#, 20/64" CK, 10 BWPH, TRACE SAND, HVY GAS TTL BBLS RECOVERED: 5063 BBLS LEFT TO RECOVER: 3634
9/20/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2475#, TP 1600#, 20/64" CK, 10 BWPH, TRACE SAND, HVY GAS TTL BBLS RECOVERED: 5303 BBLS LEFT TO RECOVER: 3394
	11:00 -		PROD	50				WELL TURNED TO SALES @ 1100 HR ON 9/20/10 - 1900 MCFD, 240 BWPD, CP2450#, FTP 1600#, CK 18/64"
9/22/2010	7:00 -			50				WELL IP'D ON 9/22/10 -1690 MCFD, 0 BOPD, 360 BWPD, CP 1749#, FTP 1294#, CK 20/64", LP 71#, 24 HRS

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WELL DETAILS: NBU 1022-11J3S					
GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	600515.89	2586300.48	39° 57' 47.700 N	109° 24' 29.040 W

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
PBHL	8503.00	-951.05	734.24	599582.27	2587056.76	39° 57' 38.300 N	109° 24' 19.610 W	Circle (Radius: 25.00)	
- actual wellpath misses target center by 22.81ft at 8721.35ft MD (8502.96 TVD, -969.74 N, 721.16 E)									



PROJECT DETAILS: Uintah County, UT NAD27
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Utah Central 4302
Location: Sec 11 T10S R22E
System Datum: Mean Sea Level

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DIV. OF OIL, GAS & MINING



**Scientific Drilling**  
Rocky Mountain Operations

# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT NAD27  
NBU 1022-11K2 Pad  
NBU 1022-11J3S**

**OH**

**Design: OH**

## **Standard Survey Report**

**19 August, 2010**

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**Anadarko**   
Petroleum Corporation

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-11K2 Pad  
**Well:** NBU 1022-11J3S  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-11J3S  
**TVD Reference:** GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
**MD Reference:** GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

<b>Project</b>	Uintah County, UT NAD27		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Utah Central 4302		

<b>Site</b>	NBU 1022-11K2 Pad, Sec 11 T10S R22E				
<b>Site Position:</b>		<b>Northing:</b>	600,476.33 usft	<b>Latitude:</b>	39° 57' 47.310 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,586,295.18 usft	<b>Longitude:</b>	109° 24' 29.120 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.34 °

<b>Well</b>	NBU 1022-11J3S, 2551' FSL 2212' FWL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	600,515.89 usft	<b>Latitude:</b>	39° 57' 47.700 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,586,300.48 usft	<b>Longitude:</b>	109° 24' 29.040 W
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,113.20 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	10/30/2008	11.37	65.92	52,584

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<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	142.33	

<b>Survey Program</b>	<b>Date</b>	08/18/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
10.00	1,819.00	Survey #1 - Weatherford Surface MWD (O	MWD	MWD - Standard	
1,893.00	8,740.00	Survey #2 SDI Production MWD (OH)	MWD SDI	MWD - Standard ver 1.0.1	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10.00	0.00	1.34	10.00	0.00	0.00	0.00	0.00	0.00	0.00	
147.00	0.82	138.70	147.00	-0.74	0.65	0.98	0.60	0.60	0.00	
<b>First Weatherford Surface MWD Survey</b>										
235.00	0.75	119.09	234.99	-1.49	1.57	2.14	0.31	-0.08	-22.28	
321.00	0.88	128.84	320.98	-2.18	2.57	3.30	0.22	0.15	11.34	
409.00	1.63	129.84	408.96	-3.40	4.06	5.17	0.85	0.85	1.14	
499.00	1.88	131.46	498.91	-5.20	6.15	7.87	0.28	0.28	1.80	

Company: Kerr McGee Oil and Gas Onshore LP  
 Project: Uintah County, UT NAD27  
 Site: NBU 1022-11K2 Pad  
 Well: NBU 1022-11J3S  
 Wellbore: OH  
 Design: OH

Local Co-ordinate Reference: Well NBU 1022-11J3S  
 TVD Reference: GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
 MD Reference: GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature  
 Database: EDM5000-RobertS-Local

RECEIVED

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Bull. Rate (°/100ft)	Turn Rate (°/100ft)
589.00	2.63	148.96	588.85	-7.95	8.32	11.37	1.12	0.83	19.44
679.00	2.56	144.96	678.75	-11.36	10.54	15.43	0.22	-0.08	-4.44
769.00	2.50	144.71	768.67	-14.61	12.83	19.40	0.07	-0.07	-0.28
859.00	2.44	145.84	858.58	-17.80	15.04	23.28	0.09	-0.07	1.26
949.00	2.38	151.09	948.50	-21.02	17.02	27.04	0.25	-0.07	5.83
1,039.00	1.94	145.71	1,038.44	-23.91	18.78	30.40	0.54	-0.49	-5.98
1,129.00	1.94	138.21	1,128.39	-26.31	20.65	33.44	0.28	0.00	-8.33
1,219.00	1.94	134.96	1,218.34	-28.52	22.74	36.47	0.12	0.00	-3.61
1,309.00	1.94	138.46	1,308.28	-30.74	24.83	39.50	0.13	0.00	3.89
1,399.00	1.94	144.96	1,398.23	-33.12	26.72	42.55	0.24	0.00	7.22
1,489.00	1.63	142.71	1,488.19	-35.39	28.37	45.35	0.35	-0.34	-2.50
1,579.00	1.69	140.84	1,578.15	-37.44	29.98	47.95	0.09	0.07	-2.08
1,669.00	2.06	139.71	1,668.10	-39.70	31.86	50.90	0.41	0.41	-1.26
1,759.00	1.81	143.09	1,758.05	-42.07	33.76	53.93	0.31	-0.28	3.76
1,819.00	1.69	142.71	1,818.02	-43.53	34.87	55.77	0.20	-0.20	-0.63
<b>Last Weatherford Surface MWD Survey</b>									
1,893.00	1.41	147.67	1,892.00	-45.17	36.02	57.76	0.42	-0.38	6.70
<b>FIRST SDI PRODUCTION MWD SURVEY</b>									
1,984.00	3.87	144.94	1,982.89	-48.63	38.38	61.95	2.71	2.70	-3.00
2,075.00	7.12	140.72	2,073.46	-55.51	43.72	70.65	3.60	3.57	-4.64
2,165.00	9.76	140.55	2,162.48	-65.72	52.10	83.86	2.93	2.93	-0.19
2,256.00	12.40	139.85	2,251.78	-79.15	63.30	101.33	2.90	2.90	-0.77
2,346.00	14.25	144.33	2,339.35	-95.53	75.99	122.06	2.35	2.06	4.98
2,437.00	15.92	146.35	2,427.21	-115.02	89.44	145.70	1.92	1.84	2.22
2,528.00	18.38	146.26	2,514.16	-137.35	104.32	172.47	2.70	2.70	-0.10
2,618.00	21.98	144.86	2,598.62	-162.93	121.91	203.46	4.04	4.00	-1.56
2,709.00	24.36	144.77	2,682.28	-192.19	142.54	239.23	2.62	2.62	-0.10
2,754.00	24.80	141.69	2,723.20	-207.17	153.74	257.94	3.01	0.98	-6.84
2,799.00	24.36	142.22	2,764.12	-221.91	165.28	276.66	1.09	-0.98	1.18
2,845.00	24.89	140.90	2,805.94	-236.93	177.19	295.82	1.66	1.15	-2.87
2,890.00	25.68	140.72	2,846.63	-251.82	189.34	315.04	1.76	1.76	-0.40
2,980.00	23.04	138.88	2,928.61	-280.19	213.27	352.12	3.05	-2.93	-2.04
3,071.00	23.57	140.28	3,012.18	-307.60	236.61	388.07	0.84	0.58	1.54
3,162.00	24.18	141.43	3,095.40	-336.17	259.86	424.89	0.84	0.67	1.26
3,252.00	24.09	146.17	3,177.54	-365.84	281.58	461.65	2.16	-0.10	5.27
3,343.00	25.85	145.29	3,260.03	-397.58	303.22	500.00	1.98	1.93	-0.97
3,433.00	21.37	140.20	3,342.48	-426.32	324.90	536.00	5.46	-4.98	-5.66
3,524.00	21.10	141.34	3,427.30	-451.85	345.74	568.95	0.54	-0.30	1.25
3,615.00	21.98	140.64	3,511.95	-477.81	366.78	602.35	1.01	0.97	-0.77
3,705.00	22.07	142.92	3,595.38	-504.32	387.65	636.09	0.96	0.10	2.53
3,796.00	23.48	145.03	3,679.29	-532.82	408.35	671.30	1.79	1.55	2.32
3,886.00	27.61	147.93	3,760.47	-565.20	429.71	709.98	4.79	4.59	3.22

Company: Kerr McGee Oil and Gas Onshore LP  
 Project: Uintah County, UT NAD27  
 Site: NBU 1022-11K2 Pad  
 Well: NBU 1022-11J3S  
 Wellbore: OH  
 Design: OH

Local Co-ordinate Reference: Well NBU 1022-11J3S  
 TVD Reference: GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
 MD Reference: GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature  
 Database: EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,977.00	30.34	148.20	3,840.08	-602.61	453.02	753.84	3.00	3.00	0.30
4,068.00	26.91	146.88	3,919.94	-639.40	476.39	797.24	3.83	-3.77	-1.45
4,158.00	26.29	145.73	4,000.42	-672.93	498.74	837.44	0.90	-0.69	-1.28
4,249.00	26.64	143.89	4,081.88	-706.06	522.12	877.95	0.98	0.38	-2.02
4,339.00	26.12	144.06	4,162.51	-738.40	545.64	917.92	0.58	-0.58	0.19
4,430.00	23.48	144.59	4,245.11	-769.40	567.90	956.07	2.91	-2.90	0.58
4,521.00	22.25	144.33	4,328.96	-798.18	588.45	991.40	1.36	-1.35	-0.29
4,611.00	20.05	145.03	4,412.89	-824.66	607.23	1,023.85	2.46	-2.44	0.78
4,702.00	17.67	146.26	4,499.00	-848.94	623.85	1,053.21	2.65	-2.62	1.35
4,793.00	16.00	144.77	4,586.10	-870.67	638.75	1,079.52	1.90	-1.84	-1.64
4,883.00	16.97	145.91	4,672.40	-891.68	653.27	1,105.02	1.14	1.08	1.27
4,974.00	12.75	149.95	4,760.33	-911.38	665.75	1,128.24	4.77	-4.64	4.44
5,064.00	9.50	143.71	4,848.63	-925.96	675.12	1,145.51	3.85	-3.61	-6.93
5,155.00	7.47	142.57	4,938.63	-936.71	683.16	1,158.94	2.24	-2.23	-1.25
5,246.00	5.98	134.75	5,029.01	-944.75	690.12	1,169.55	1.92	-1.64	-8.59
5,336.00	5.45	133.96	5,118.56	-951.02	696.53	1,178.43	0.60	-0.59	-0.88
5,427.00	4.84	131.76	5,209.19	-956.57	702.50	1,186.48	0.70	-0.67	-2.42
5,517.00	3.52	125.08	5,298.95	-960.69	707.60	1,192.85	1.56	-1.47	-7.42
5,608.00	1.49	130.09	5,389.86	-963.06	710.79	1,196.67	2.24	-2.23	5.51
5,699.00	0.62	64.96	5,480.85	-963.61	712.14	1,197.94	1.49	-0.96	-71.57
5,789.00	0.70	82.54	5,570.84	-963.33	713.13	1,198.32	0.24	0.09	19.53
5,880.00	0.70	58.20	5,661.83	-962.97	714.15	1,198.66	0.32	0.00	-26.75
5,970.00	0.70	92.12	5,751.83	-962.70	715.17	1,199.07	0.45	0.00	37.69
6,061.00	0.79	95.46	5,842.82	-962.78	716.35	1,199.85	0.11	0.10	3.67
6,152.00	0.62	81.49	5,933.81	-962.77	717.46	1,200.52	0.26	-0.19	-15.35
6,242.00	0.70	130.62	6,023.81	-963.05	718.36	1,201.30	0.62	0.09	54.59
6,333.00	0.44	138.35	6,114.80	-963.68	719.01	1,202.19	0.30	-0.29	8.49
6,423.00	0.79	163.40	6,204.80	-964.53	719.42	1,203.11	0.48	0.39	27.83
6,514.00	0.62	169.46	6,295.79	-965.61	719.69	1,204.14	0.20	-0.19	6.66
6,605.00	0.70	177.37	6,386.79	-966.65	719.80	1,205.03	0.13	0.09	8.69
6,695.00	0.79	182.74	6,476.78	-967.82	719.80	1,205.95	0.13	0.10	5.97
6,786.00	0.53	169.20	6,567.77	-968.86	719.85	1,206.80	0.33	-0.29	-14.88
6,876.00	0.70	177.37	6,657.77	-969.82	719.95	1,207.63	0.21	0.19	9.08
6,967.00	0.79	175.70	6,748.76	-971.00	720.02	1,208.61	0.10	0.10	-1.84
7,058.00	0.97	164.28	6,839.75	-972.37	720.28	1,209.84	0.28	0.20	-12.55
7,148.00	0.53	266.06	6,929.74	-973.13	720.07	1,210.32	1.33	-0.49	113.09
7,238.00	0.53	206.55	7,019.74	-973.53	719.47	1,210.27	0.58	0.00	-66.12
7,329.00	0.70	253.84	7,110.73	-974.06	718.75	1,210.25	0.57	0.19	51.97
7,420.00	1.58	316.95	7,201.72	-973.30	717.36	1,208.80	1.55	0.97	69.35
7,511.00	1.23	301.39	7,292.69	-971.87	715.67	1,206.63	0.57	-0.38	-17.10
7,601.00	0.88	281.09	7,382.68	-971.24	714.16	1,205.21	0.56	-0.39	-22.56
7,692.00	0.26	275.90	7,473.67	-971.08	713.27	1,204.54	0.68	-0.68	-5.70

<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-11J3S
<b>Project:</b>	Uintah County, UT NAD27	<b>TVD Reference:</b>	GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)
<b>Site:</b>	NBU 1022-11K2 Pad	<b>MD Reference:</b>	GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)
<b>Well:</b>	NBU 1022-11J3S	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM5000-RobertS-Local

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
7,782.00	0.35	284.34	7,563.67	-970.99	712.80	1,204.19	0.11	0.10	9.38	
7,873.00	0.18	173.86	7,654.67	-971.07	712.55	1,204.09	0.49	-0.19	-121.41	
7,965.00	0.26	51.25	7,746.67	-971.08	712.73	1,204.21	0.42	0.09	-133.27	
8,056.00	0.79	56.00	7,837.67	-970.60	713.41	1,204.25	0.58	0.58	5.22	
8,147.00	0.88	64.44	7,928.66	-969.95	714.56	1,204.43	0.17	0.10	9.27	
8,237.00	0.70	59.25	8,018.65	-969.37	715.65	1,204.64	0.22	-0.20	-5.77	
8,328.00	0.70	85.35	8,109.64	-969.04	716.69	1,205.01	0.35	0.00	28.68	
8,418.00	0.62	73.84	8,199.63	-968.86	717.70	1,205.49	0.17	-0.09	-12.79	
8,509.00	0.79	93.09	8,290.63	-968.76	718.80	1,206.08	0.32	0.19	21.15	
8,600.00	0.70	105.92	8,381.62	-968.94	719.96	1,206.94	0.21	-0.10	14.10	
8,687.00	0.70	133.52	8,468.61	-969.45	720.86	1,207.89	0.38	0.00	31.72	
<b>LAST SDI PRODUCTION MWD SURVEY</b>										
8,740.00	0.70	133.52	8,521.61	-969.90	721.33	1,208.53	0.00	0.00	0.00	
<b>PROJECTION TO TD</b>										

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
NBU 1022-11J3S PBHL	0.00	0.00	8,503.00	-951.05	734.24	599,582.27	2,587,056.76	39° 57' 38.300 N	109° 24' 19.610 W
- hit/miss target									
- Shape									
- actual wellpath misses target center by 22.81ft at 8721.35ft MD (8502.96 TVD, -969.74 N, 721.16 E)									
- Circle (radius 25.00)									

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
147.00	147.00	-0.74	0.65	First Weatherford Surface MWD Survey
1,819.00	1,818.02	-43.53	34.87	Last Weatherford Surface MWD Survey
1,893.00	1,892.00	-45.17	36.02	FIRST SDI PRODUCTION MWD SURVEY
8,687.00	8,468.61	-969.45	720.86	LAST SDI PRODUCTION MWD SURVEY
8,740.00	8,521.61	-969.90	721.33	PROJECTION TO TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

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DIV. OF OIL, GAS & MINING



**Scientific Drilling**  
Rocky Mountain Operations

# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT NAD27  
NBU 1022-11K2 Pad  
NBU 1022-11J3S**

**OH**

**Design: OH**

## **Survey Report - Geographic**

**19 August, 2010**

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AUG 20 2010

DMV OF CO., 6000 W. 10TH

**Anadarko**   
Petroleum Corporation

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-11K2 Pad  
**Well:** NBU 1022-11J3S  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-11J3S  
**TVD Reference:** GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
**MD Reference:** GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

RECEIVED

<b>Project</b>	Uintah County, UT NAD27		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Utah Central 4302		

<b>Site</b>	NBU 1022-11K2 Pad, Sec 11 T10S R22E		
<b>Site Position:</b>		<b>Northing:</b>	600,476.33 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,586,295.18 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	39° 57' 47.310 N
		<b>Longitude:</b>	109° 24' 29.120 W
		<b>Grid Convergence:</b>	1.34 °

<b>Well</b>	NBU 1022-11J3S, 2551' FSL 2212' FWL		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 600,515.89 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 2,586,300.48 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	39° 57' 47.700 N
		<b>Longitude:</b>	109° 24' 29.040 W
		<b>Ground Level:</b>	5,113.20 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</b>
	IGRF2010	10/30/2008	(°)	(°)	(nT)
			11.37	65.92	52,584

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	142.33	

<b>Survey Program</b>	<b>Date</b>	08/18/2010			
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
(ft)	(ft)				
10.00	1,819.00	Survey #1 - Weatherford Surface MWD (O	MWD	MWD - Standard	
1,893.00	8,740.00	Survey #2 SDI Production MWD (OH)	MWD SDI	MWD - Standard ver 1.0.1	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	600,515.89	2,586,300.48	39° 57' 47.700 N	109° 24' 29.040 W
10.00	0.00	1.34	10.00	0.00	0.00	600,515.89	2,586,300.48	39° 57' 47.700 N	109° 24' 29.040 W
147.00	0.82	138.70	147.00	-0.74	0.65	600,515.17	2,586,301.15	39° 57' 47.692 N	109° 24' 29.032 W
<b>First Weatherford Surface MWD Survey</b>									
235.00	0.75	119.09	234.99	-1.49	1.57	600,514.44	2,586,302.08	39° 57' 47.685 N	109° 24' 29.020 W
321.00	0.88	128.84	320.98	-2.18	2.57	600,513.78	2,586,303.10	39° 57' 47.678 N	109° 24' 29.007 W
409.00	1.63	129.84	408.96	-3.40	4.06	600,512.59	2,586,304.62	39° 57' 47.666 N	109° 24' 28.988 W
499.00	1.88	131.46	498.91	-5.20	6.15	600,510.84	2,586,306.75	39° 57' 47.648 N	109° 24' 28.961 W
589.00	2.63	148.96	588.85	-7.95	8.32	600,508.14	2,586,308.98	39° 57' 47.621 N	109° 24' 28.933 W

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-11K2 Pad  
**Well:** NBU 1022-11J3S  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-11J3S  
**TVD Reference:** GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
**MD Reference:** GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

RECEIVED

**Survey**

DIV. OF OIL, GAS & MINING

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
679.00	2.56	144.96	678.75	-11.36	10.54	600,504.78	2,586,311.28	39° 57' 47.587 N	109° 24' 28.905 W
769.00	2.50	144.71	768.67	-14.61	12.83	600,501.59	2,586,313.65	39° 57' 47.555 N	109° 24' 28.875 W
859.00	2.44	145.84	858.58	-17.80	15.04	600,498.45	2,586,315.93	39° 57' 47.524 N	109° 24' 28.847 W
949.00	2.38	151.09	948.50	-21.02	17.02	600,495.28	2,586,317.98	39° 57' 47.492 N	109° 24' 28.821 W
1,039.00	1.94	145.71	1,038.44	-23.91	18.78	600,492.43	2,586,319.81	39° 57' 47.463 N	109° 24' 28.799 W
1,129.00	1.94	138.21	1,128.39	-26.31	20.65	600,490.08	2,586,321.74	39° 57' 47.440 N	109° 24' 28.775 W
1,219.00	1.94	134.96	1,218.34	-28.52	22.74	600,487.91	2,586,323.89	39° 57' 47.418 N	109° 24' 28.748 W
1,309.00	1.94	138.46	1,308.28	-30.74	24.83	600,485.75	2,586,326.02	39° 57' 47.396 N	109° 24' 28.721 W
1,399.00	1.94	144.96	1,398.23	-33.12	26.72	600,483.40	2,586,327.97	39° 57' 47.372 N	109° 24' 28.697 W
1,489.00	1.63	142.71	1,488.19	-35.39	28.37	600,481.18	2,586,329.67	39° 57' 47.350 N	109° 24' 28.676 W
1,579.00	1.69	140.84	1,578.15	-37.44	29.98	600,479.17	2,586,331.33	39° 57' 47.330 N	109° 24' 28.655 W
1,669.00	2.06	139.71	1,668.10	-39.70	31.86	600,476.95	2,586,333.27	39° 57' 47.307 N	109° 24' 28.631 W
1,759.00	1.81	143.09	1,758.05	-42.07	33.76	600,474.63	2,586,335.22	39° 57' 47.284 N	109° 24' 28.606 W
1,819.00	1.69	142.71	1,818.02	-43.53	34.87	600,473.19	2,586,336.36	39° 57' 47.269 N	109° 24' 28.592 W
<b>Last Weatherford Surface MWD Survey</b>									
1,893.00	1.41	147.67	1,892.00	-45.17	36.02	600,471.58	2,586,337.54	39° 57' 47.253 N	109° 24' 28.577 W
<b>FIRST SDI PRODUCTION MWD SURVEY</b>									
1,984.00	3.87	144.94	1,982.89	-48.63	38.38	600,468.18	2,586,339.99	39° 57' 47.219 N	109° 24' 28.547 W
2,075.00	7.12	140.72	2,073.46	-55.51	43.72	600,461.42	2,586,345.48	39° 57' 47.151 N	109° 24' 28.479 W
2,165.00	9.76	140.55	2,162.48	-65.72	52.10	600,451.41	2,586,354.10	39° 57' 47.050 N	109° 24' 28.371 W
2,256.00	12.40	139.85	2,251.78	-79.15	63.30	600,438.25	2,586,365.61	39° 57' 46.917 N	109° 24' 28.227 W
2,346.00	14.25	144.33	2,339.35	-95.53	75.99	600,422.16	2,586,378.68	39° 57' 46.755 N	109° 24' 28.064 W
2,437.00	15.92	146.35	2,427.21	-115.02	89.44	600,402.99	2,586,392.58	39° 57' 46.563 N	109° 24' 27.891 W
2,528.00	18.38	146.26	2,514.16	-137.35	104.32	600,381.03	2,586,407.99	39° 57' 46.342 N	109° 24' 27.700 W
2,618.00	21.98	144.86	2,598.62	-162.93	121.91	600,355.86	2,586,426.16	39° 57' 46.089 N	109° 24' 27.474 W
2,709.00	24.36	144.77	2,682.28	-192.19	142.54	600,327.09	2,586,447.47	39° 57' 45.800 N	109° 24' 27.209 W
2,754.00	24.80	141.69	2,723.20	-207.17	153.74	600,312.37	2,586,459.03	39° 57' 45.652 N	109° 24' 27.065 W
2,799.00	24.36	142.22	2,764.12	-221.91	165.28	600,297.91	2,586,470.90	39° 57' 45.506 N	109° 24' 26.917 W
2,845.00	24.89	140.90	2,805.94	-236.93	177.19	600,283.18	2,586,483.17	39° 57' 45.358 N	109° 24' 26.764 W
2,890.00	25.68	140.72	2,846.63	-251.82	189.34	600,268.57	2,586,495.66	39° 57' 45.211 N	109° 24' 26.608 W
2,980.00	23.04	138.88	2,928.61	-280.19	213.27	600,240.77	2,586,520.25	39° 57' 44.930 N	109° 24' 26.301 W
3,071.00	23.57	140.28	3,012.18	-307.60	236.61	600,213.91	2,586,544.22	39° 57' 44.660 N	109° 24' 26.001 W
3,162.00	24.18	141.43	3,095.40	-336.17	259.86	600,185.90	2,586,568.13	39° 57' 44.377 N	109° 24' 25.703 W
3,252.00	24.09	146.17	3,177.54	-365.84	281.58	600,156.74	2,586,590.54	39° 57' 44.084 N	109° 24' 25.424 W
3,343.00	25.85	145.29	3,260.03	-397.58	303.22	600,125.52	2,586,612.91	39° 57' 43.770 N	109° 24' 25.146 W
3,433.00	21.37	140.20	3,342.48	-426.32	324.90	600,097.29	2,586,635.26	39° 57' 43.486 N	109° 24' 24.867 W
3,524.00	21.10	141.34	3,427.30	-451.85	345.74	600,072.25	2,586,656.70	39° 57' 43.234 N	109° 24' 24.599 W
3,615.00	21.98	140.64	3,511.95	-477.81	366.78	600,046.80	2,586,678.33	39° 57' 42.977 N	109° 24' 24.329 W
3,705.00	22.07	142.92	3,595.38	-504.32	387.65	600,020.78	2,586,699.82	39° 57' 42.715 N	109° 24' 24.061 W
3,796.00	23.48	145.03	3,679.29	-532.82	408.35	599,992.77	2,586,721.18	39° 57' 42.434 N	109° 24' 23.795 W
3,886.00	27.61	147.93	3,760.47	-565.20	429.71	599,960.90	2,586,743.29	39° 57' 42.114 N	109° 24' 23.521 W
3,977.00	30.34	148.20	3,840.08	-602.61	453.02	599,924.05	2,586,767.47	39° 57' 41.744 N	109° 24' 23.222 W
4,068.00	26.91	146.88	3,919.94	-639.40	476.39	599,887.81	2,586,791.70	39° 57' 41.380 N	109° 24' 22.922 W
4,158.00	26.29	145.73	4,000.42	-672.93	498.74	599,854.82	2,586,814.83	39° 57' 41.049 N	109° 24' 22.634 W
4,249.00	26.64	143.89	4,081.88	-706.06	522.12	599,822.23	2,586,838.97	39° 57' 40.721 N	109° 24' 22.334 W
4,339.00	26.12	144.06	4,162.51	-738.40	545.64	599,790.45	2,586,863.23	39° 57' 40.402 N	109° 24' 22.032 W
4,430.00	23.48	144.59	4,245.11	-769.40	567.90	599,759.98	2,586,886.22	39° 57' 40.095 N	109° 24' 21.746 W
4,521.00	22.25	144.33	4,328.96	-798.18	588.45	599,731.70	2,586,907.44	39° 57' 39.811 N	109° 24' 21.482 W
4,611.00	20.05	145.03	4,412.89	-824.66	607.23	599,705.66	2,586,926.83	39° 57' 39.549 N	109° 24' 21.241 W
4,702.00	17.67	146.26	4,499.00	-848.94	623.85	599,681.78	2,586,944.01	39° 57' 39.309 N	109° 24' 21.028 W
4,793.00	16.00	144.77	4,586.10	-870.67	638.75	599,660.41	2,586,959.42	39° 57' 39.094 N	109° 24' 20.836 W
4,883.00	16.97	145.91	4,672.40	-891.68	653.27	599,639.74	2,586,974.42	39° 57' 38.887 N	109° 24' 20.650 W
4,974.00	12.75	149.95	4,760.33	-911.38	665.75	599,620.34	2,586,987.36	39° 57' 38.692 N	109° 24' 20.490 W

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-11K2 Pad  
**Well:** NBU 1022-11J3S  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-11J3S  
**TVD Reference:** GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
**MD Reference:** GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,064.00	9.50	143.71	4,848.63	-925.96	675.12	599,605.97	2,586,997.07	39° 57' 38.548 N	109° 24' 20.369 W
5,155.00	7.47	142.57	4,938.63	-936.71	683.16	599,595.41	2,587,005.36	39° 57' 38.442 N	109° 24' 20.266 W
5,246.00	5.98	134.75	5,029.01	-944.75	690.12	599,587.54	2,587,012.51	39° 57' 38.362 N	109° 24' 20.177 W
5,336.00	5.45	133.96	5,118.56	-951.02	696.53	599,581.43	2,587,019.06	39° 57' 38.300 N	109° 24' 20.094 W
5,427.00	4.84	131.76	5,209.19	-956.57	702.50	599,576.01	2,587,025.16	39° 57' 38.245 N	109° 24' 20.018 W
5,517.00	3.52	125.08	5,298.95	-960.69	707.60	599,572.02	2,587,030.35	39° 57' 38.205 N	109° 24' 19.952 W
5,608.00	1.49	130.09	5,389.86	-963.06	710.79	599,569.72	2,587,033.60	39° 57' 38.181 N	109° 24' 19.911 W
5,699.00	0.62	64.96	5,480.85	-963.61	712.14	599,569.20	2,587,034.96	39° 57' 38.176 N	109° 24' 19.894 W
5,789.00	0.70	82.54	5,570.84	-963.33	713.13	599,569.50	2,587,035.94	39° 57' 38.178 N	109° 24' 19.881 W
5,880.00	0.70	58.20	5,661.83	-962.97	714.15	599,569.89	2,587,036.95	39° 57' 38.182 N	109° 24' 19.868 W
5,970.00	0.70	92.12	5,751.83	-962.70	715.17	599,570.18	2,587,037.96	39° 57' 38.185 N	109° 24' 19.855 W
6,061.00	0.79	95.46	5,842.82	-962.78	716.35	599,570.13	2,587,039.15	39° 57' 38.184 N	109° 24' 19.840 W
6,152.00	0.62	81.49	5,933.81	-962.77	717.46	599,570.17	2,587,040.26	39° 57' 38.184 N	109° 24' 19.826 W
6,242.00	0.70	130.62	6,023.81	-963.05	718.36	599,569.91	2,587,041.16	39° 57' 38.181 N	109° 24' 19.814 W
6,333.00	0.44	138.35	6,114.80	-963.68	719.01	599,569.30	2,587,041.83	39° 57' 38.175 N	109° 24' 19.806 W
6,423.00	0.79	163.40	6,204.80	-964.53	719.42	599,568.46	2,587,042.26	39° 57' 38.167 N	109° 24' 19.800 W
6,514.00	0.62	169.46	6,295.79	-965.61	719.69	599,567.38	2,587,042.55	39° 57' 38.156 N	109° 24' 19.797 W
6,605.00	0.70	177.37	6,386.79	-966.65	719.80	599,566.34	2,587,042.69	39° 57' 38.146 N	109° 24' 19.795 W
6,695.00	0.79	182.74	6,476.78	-967.82	719.80	599,565.17	2,587,042.71	39° 57' 38.134 N	109° 24' 19.795 W
6,786.00	0.53	169.20	6,567.77	-968.86	719.85	599,564.13	2,587,042.79	39° 57' 38.124 N	109° 24' 19.795 W
6,876.00	0.70	177.37	6,657.77	-969.82	719.95	599,563.18	2,587,042.91	39° 57' 38.114 N	109° 24' 19.794 W
6,967.00	0.79	175.70	6,748.76	-971.00	720.02	599,562.00	2,587,043.01	39° 57' 38.103 N	109° 24' 19.793 W
7,058.00	0.97	164.28	6,839.75	-972.37	720.28	599,560.64	2,587,043.30	39° 57' 38.089 N	109° 24' 19.789 W
7,148.00	0.53	266.06	6,929.74	-973.13	720.07	599,559.87	2,587,043.11	39° 57' 38.082 N	109° 24' 19.792 W
7,238.00	0.53	206.55	7,019.74	-973.53	719.47	599,559.46	2,587,042.52	39° 57' 38.078 N	109° 24' 19.800 W
7,329.00	0.70	253.84	7,110.73	-974.06	718.75	599,558.91	2,587,041.81	39° 57' 38.072 N	109° 24' 19.809 W
7,420.00	1.58	316.95	7,201.72	-973.30	717.36	599,559.64	2,587,040.40	39° 57' 38.080 N	109° 24' 19.827 W
7,511.00	1.23	301.39	7,292.69	-971.87	715.67	599,561.02	2,587,038.68	39° 57' 38.094 N	109° 24' 19.849 W
7,601.00	0.88	281.09	7,382.68	-971.24	714.16	599,561.62	2,587,037.16	39° 57' 38.100 N	109° 24' 19.868 W
7,692.00	0.26	275.90	7,473.67	-971.08	713.27	599,561.76	2,587,036.27	39° 57' 38.102 N	109° 24' 19.879 W
7,782.00	0.35	284.34	7,563.67	-970.99	712.80	599,561.84	2,587,035.79	39° 57' 38.103 N	109° 24' 19.885 W
7,873.00	0.18	173.86	7,654.67	-971.07	712.55	599,561.76	2,587,035.54	39° 57' 38.102 N	109° 24' 19.889 W
7,965.00	0.26	51.25	7,746.67	-971.08	712.73	599,561.75	2,587,035.72	39° 57' 38.102 N	109° 24' 19.886 W
8,056.00	0.79	56.00	7,837.67	-970.60	713.41	599,562.25	2,587,036.39	39° 57' 38.107 N	109° 24' 19.878 W
8,147.00	0.88	64.44	7,928.66	-969.95	714.56	599,562.92	2,587,037.53	39° 57' 38.113 N	109° 24' 19.863 W
8,237.00	0.70	59.25	8,018.65	-969.37	715.65	599,563.53	2,587,038.61	39° 57' 38.119 N	109° 24' 19.849 W
8,328.00	0.70	85.35	8,109.64	-969.04	716.69	599,563.88	2,587,039.63	39° 57' 38.122 N	109° 24' 19.835 W
8,418.00	0.62	73.84	8,199.63	-968.86	717.70	599,564.09	2,587,040.64	39° 57' 38.124 N	109° 24' 19.822 W
8,509.00	0.79	93.09	8,290.63	-968.76	718.80	599,564.22	2,587,041.74	39° 57' 38.125 N	109° 24' 19.808 W
8,600.00	0.70	105.92	8,381.62	-968.94	719.96	599,564.06	2,587,042.90	39° 57' 38.123 N	109° 24' 19.793 W
8,687.00	0.70	133.52	8,468.61	-969.45	720.86	599,563.57	2,587,043.81	39° 57' 38.118 N	109° 24' 19.782 W
<b>LAST SDI PRODUCTION MWD SURVEY</b>									
8,740.00	0.70	133.52	8,521.61	-969.90	721.33	599,563.13	2,587,044.29	39° 57' 38.114 N	109° 24' 19.776 W
<b>PROJECTION TO TD</b>									

RECEIVED  
 DIV OF OIL & GAS  
 08/19/2010

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-11K2 Pad  
**Well:** NBU 1022-11J3S  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-11J3S  
**TVD Reference:** GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
**MD Reference:** GL 5113.2 & RKB 14' @ 5127.20ft (ENSIGN 145)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Design Targets**

**Target Name**

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
NBU 1022-11J3S PBHL	0.00	0.00	8,503.00	-951.05	734.24	599,582.27	2,587,056.76	39° 57' 38.300 N	109° 24' 19.610 W
- actual wellpath misses target center by 22.81ft at 8721.35ft MD (8502.96 TVD, -969.74 N, 721.16 E)									
- Circle (radius 25.00)									

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
147.00	147.00	-0.74	0.65	First Weatherford Surface MWD Survey
1,819.00	1,818.02	-43.53	34.87	Last Weatherford Surface MWD Survey
1,893.00	1,892.00	-45.17	36.02	FIRST SDI PRODUCTION MWD SURVEY
8,687.00	8,468.61	-969.45	720.86	LAST SDI PRODUCTION MWD SURVEY
8,740.00	8,521.61	-969.90	721.33	PROJECTION TO TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

RECEIVED  
 08/19/10  
 DEPT OF CIVIL, GAS & WATER

<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> ST UO 01197A
<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 1022-11J3S
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047502130000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2551 FSL 2212 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 11 Township: 10.0S Range: 22.0E Meridian: S	<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 checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 3/14/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> 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 checked="" 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: 50px;" type="text"/>

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

The operator requests approval to conduct wellhead/repair operations on the subject well location. Please find the attached procedure for the proposed repair work on the subject well location.

**Approved by the Utah Division of Oil, Gas and Mining**

Date: 03/15/2011

By: *Derek Duff*

<b>NAME (PLEASE PRINT)</b> Gina Becker	<b>PHONE NUMBER</b> 720 929-6086	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A		<b>DATE</b> 3/14/2011

**WORKORDER #: 88119329**

2/28/11

**Name:** NBU 1022-11J3S - 1022-11K PAD  
**Surface Location:** NESW Sec. 11, T10S, R22E  
Uintah County, UT

**ELEVATIONS:** 5115' GL 5128' KB

**TOTAL DEPTH:** 8740' **PBTD:** 8708'

**SURFACE CASING:** 8 5/8", 28# J-55 ST&C @ 1832'

**PRODUCTION CASING:** 4 1/2", 11.6#, I-80 @ 8750'  
T.O.C.@ ~1630 per CBL

**PERFORATIONS:** Wasatch 6480' - 6484'  
Mesaverde 6536' - 8511'

Tubular/Borehole	Drift inches	Collapse psi	Burst psi	Capacities		
				Gal./ft.	Cuft/ft.	Bbl./ft.
2.375" 4.7# J-55 tbg.	1.901	8100	7700	0.1624	0.02173	0.00387
4.5" 11.6# I-80	3.875	6350	7780	0.6528	0.0872	0.01554
8.625" 28# J-55	8.097	1370	2950	2.6223	0.3505	0.0624
<b>Annular Capacities</b>						
2.375" tbg. X 4 1/2" 11.6# csg				0.4227	0.0565	0.01006

**GEOLOGICAL TOPS:**

935' Green River  
1267' Bird's Nest  
1751' Mahogany  
4220' Wasatch  
6524' Mesaverde

## **NBU 1022-11J3S – WELLHEAD REPLACEMENT PROCEDURE**

### **PREP-WORK PRIOR TO MIRU:**

1. Dig out down to the 2” surface casing valve or to the valve on the riser off the surface casing.
2. Install a tee with 2 valves, with a pressure gauge and sensor on one valve.
3. Open casing valve and record pressures.
4. Install nipple and steel hose on the other valve, the relief valve,. Do not use hammer unions. No impact equipment or tools to be used for any of this installation. Extend hose and hard piping to a downwind location at least 100’ from the wellhead. Consider installing a manifold so that vent area could be in two locations approx. 90 degrees apart from the wellhead.
5. Open the relief valve and blow well down to the atmosphere.
6. Make a determination of amount of gas flow, either by installation of a choke nipple, bucket test or other.
7. Shut well in. Observe for rate of build-up by utilizing sensor data. Do not build-up for more than 24 hours. Vent gas through the vent line and leave open to the atmosphere.

### **WORKOVER PROCEDURE:**

1. MIRU workover rig.
2. Kill well with 10# brine / KCL (dictated by well pressure ).
3. Remove tree, install double BOP with blind and 2 3/8” pipe rams, with accumulator closing unit and manual back-ups. Function test BOP system.
4. POOH w/ tubing laying down extra tubing.
5. Rig up wireline service. RIH and set CBP @ ~6430’. Dump bail 4 sx cement on top of plug. POOH and RD wireline service. TIH w/ tubing and seating nipple. Land tubing ±60’ above cement. RDMO.
6. Monitor well pressures. If surface casing is dead. MIRU. ND WH and NU BOP. POOH w/ tubing.
7. Depending on conditions at wellsite, continue with either CUT/PATCH Procedure or BACK-OFF Procedure.

### **CUT/PATCH PROCEDURE:**

1. PU internal casing cutters and RIH. Cut casing at +/- 30' from surface.
2. POOH, LD cutters and casing.
3. PU 7 3/8" overshoot with 4 1/2" right hand standard wicker grapple, 1 - 4 3/4" drill collar with 3 1/2" IF threads, pup joint, manual bumper sub, and crossovers. If casing cut is deeper than ±30' utilize >7000 ft-lb torque pipe as needed. Pull a minimum of 10,000# to keep grapple engaged if cement top is high (<~900'). If cement top is low (>~900'), more weight will be required to put casing in neutral. Torque casing string to ±7000 ft-lbs, count number of turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place ±7000 ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out, release overshoot, POOH, and lay down.
4. TIH w/ skirted mill and dress off the fish top for approximately 1/2 hour. TOO H.
5. PU & RIH w/ 4 1/2" 10k external casing patch on 4 1/2" P-110 casing. Ensure that sliding sleeve assembly shifts ±3' and casing tags no-go portion of patch. NOTE: Shear pins will shear at 3500 to 4500 lbs.
6. Latch fish, PU to 100,000# tension. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
7. Install slips. Land casing w/ 80,000# tension.
8. Cut-off and dress 4 1/2" casing stub.
9. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6380'. Clean out to PBTD (8708').
10. POOH, land tbg and pump off POBS.
11. NUWH, RDMO. Turn well over to production ops.

### **BACK-OFF PROCEDURE:**

1. PU internal casing cutters and RIH. Cut casing at +/- 6' from surface.
2. POOH, LD cutters and casing.
3. PU 4 1/2" overshoot. RIH, latch fish. Pick string weight to neutral.
4. MIRU casing crew and wireline services. RIH and shoot string shot at casing collar @ ± 46'.
5. Back-off casing, POOH.

6. PU new casing joint with buttress threads and entry guide and RIH. Tag casing top. Thread into casing and torque up to  $\pm 7000$  ft-lbs, count number of additional turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place  $\pm 7000$  ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out go to step 7.
7. PU 100,000# tension string weight. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
8. Install slips. Land casing w/ 80,000# tension.
9. Cut-off and dress 4 1/2" casing stub.
10. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6380'. Clean out to PBTD (8708').
11. POOH, land tbg and pump off POBS.
12. NUWH, RDMO. Turn well over to production ops.



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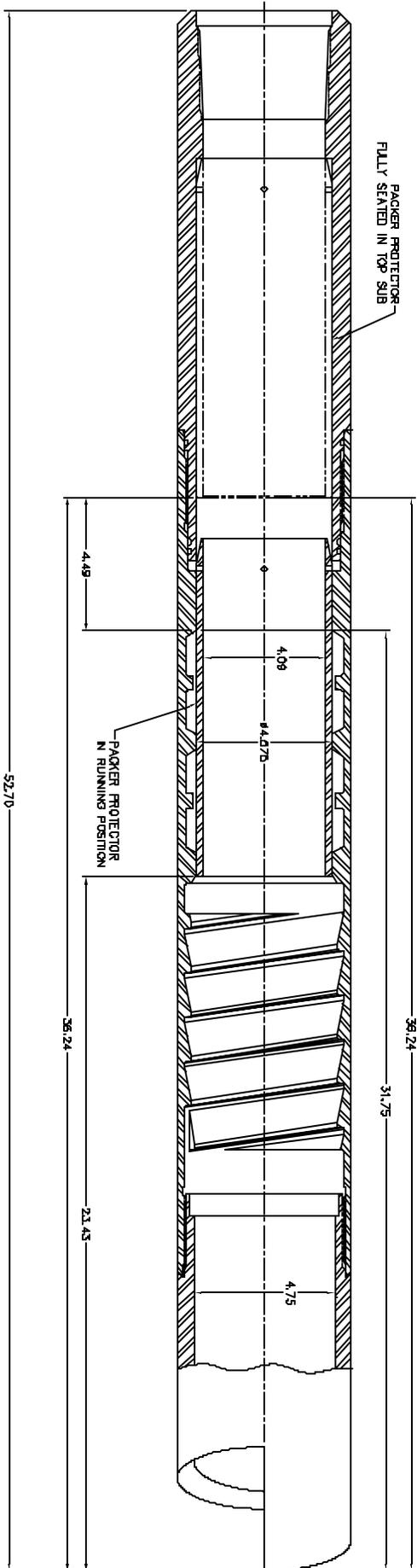
## **Logan High Pressure Casing Patches Assembly Procedure**

All parts should be thoroughly greased before being assembled.

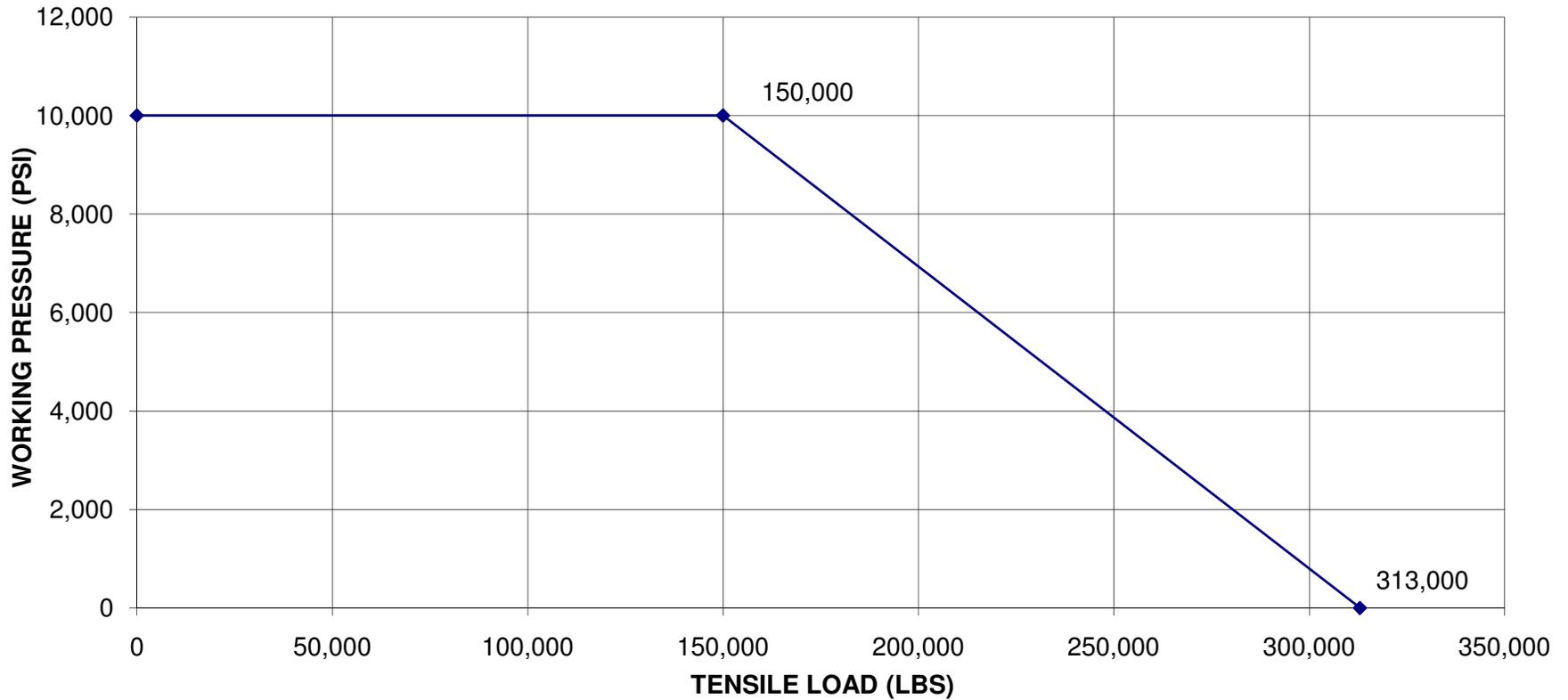
1. Install all four Logan Type “L” Packers in the spaces provided in the Casing Patch Bowl. Refer to diagram provided for proper installation.
2. Install Packer Protector from the Basket Grapple end of the Bowl. The beveled end of the Packer Protector goes in first. Carefully push the Packer Protector through the four Type “L” Packers.
3. Align Shear Pin Holes in Packer Protector so that the holes have just passed into the counter bore at the Top Sub end, refer to diagram. The Packer Protector is provided with four Shear Pin Holes. Use only two holes, 180 degrees apart and install the pins.
4. Screw the Basket Grapple in from the lower end of the Bowl, using left-hand rotation. The Tang Slot in the Basket Grapple must land in line with the slot in the Bowl.
5. Insert the Basket Grapple Control into the end of the Bowl. Align Tang on the Basket Grapple Control with the Tang Slot of the Bowl and Basket Grapple. This secures the Bowl and the Basket Grapple together.
6. Install the Cutlipped Guide into the lower end of the Bowl.
7. Install O-Rings on the two five-foot long Extensions. Screw the first Extension into the top end of the Bowl. Screw the second Extension into the top end of the first Extension.
8. Install O-Ring on Top Sub. Screw Top Sub into top end of second Extension.

Follow recommended Make-Up Torque as provided in chart.

510L-005-001 4-1/2" LOGAN HP CASING PATCH



**STRENGTH DATA FOR LOGAN 5.88" OD "L" TYPE CSG PATCH  
4-1/2 CASING, 10K PSI MAX WP 125K YIELD MAT'L  
LOGAN ASSEMBLY NO. 510L-005 -000**



COLLAPSE PRESSURE:  
11,222 PSI @ 0 TENSILE  
8,634 PSI @ 220K TENSILE

Tensile Strength @ Yield:  
Tensile Strength w/ 0 Int. Press.= 472,791lbs.  
Tensile Strength w/ 10K Int. Press.= 313,748lbs.

DATA BY SLS 11/16/2009

# DIVISION OF OIL, GAS AND MINING

## SPUDDING INFORMATION

Name of Company: KERR-McGEE OIL & GAS ONSHORE, L.P.

Well Name: NBU 1022-11J3S

Api No: 43-047-50213 Lease Type: STATE

Section 11 Township 10S Range 22E County UINTAH

Drilling Contractor PETE MARTIN DRLG RIG # BUCKET

### SPUDDED:

Date 03/31/2010

Time 9:00 AM

How DRY

**Drilling will Commence:** \_\_\_\_\_

Reported by ARDEN SULLIVAN

Telephone # (435) 823-3629

Date 03/31/2010 Signed CHD

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

FORM 6

ENTITY ACTION FORM

Operator: KERR MCGEE OIL & GAS ONSHORE LP  
Address: P.O. Box 173779  
city DENVER  
state CO zip 80217

Operator Account Number: N 2995

Phone Number: (720) 929-6100

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750215	NBU 1022-11K1T		NESW	11	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	3/30/2010			4/1/10	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 3/30/2010 AT 16:00 HRS.							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750213	NBU 1022-11J3S		NESW	11	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	3/31/2010			4/1/10	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 3/31/2010 AT 9:00 HRS. <i>BHL = NWSE</i>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750212	NBU 1022-11F4S		NESW	11	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	3/31/2010			4/1/10	
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 3/31/2010 AT 11:00 HRS. <i>BHL = SENW</i>							

ACTION CODES:

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

ANDY LYTLE

Name (Please Print)

Signature

REGULATORY ANALYST

Title

4/1/2010

Date

RECEIVED

APR 01 2010

DIV. OF OIL, GAS & MINING

<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> ST UO 01197A	
<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 1022-11J3S	
<b>9. API NUMBER:</b> 43047502130000	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

<b>1. TYPE OF WELL</b> Gas Well	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6456
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2551 FSL 2212 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 11 Township: 10.0S Range: 22.0E Meridian: S	

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: 6/27/2016	<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 style="width: 100px;" type="text" value="WORKOVER"/>

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

A SCALE CLEANOUT HAS BEEN COMPLETED ON THE NBU 1022-11J3S WELL. PLEASE SEE THE ATTACHED OPERATIONS SUMMARY REPORT FOR DETAILS.

**Accepted by the  
Utah Division of  
Oil, Gas and Mining**

**FOR RECORD ONLY**

July 11, 2016

<b>NAME (PLEASE PRINT)</b> Candice Barber	<b>PHONE NUMBER</b> 435 781-9749	<b>TITLE</b> HSE Representative
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/11/2016	

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-11J3S YELLOW		Spud Conductor: 3/31/2010		Spud date: 4/9/2010	
Project: UTAH-UINTAH			Site: NBU 1022-11K PAD		
Event: WELL WORK EXPENSE			Start date: 6/21/2016		End date: 6/27/2016
Active datum: RKB @5,128.00usft (above Mean Sea Level)			UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
6/21/2016	12:00 - 14:00	2.00	MIRU					ROAD TO LOCATION. MIRU. SPOT IN ALL EQUIP.
	14:00 - 17:00	3.00	MAINT					FCP & FTP =160#. CNTRL TBNG W/ 15BBLS TMAC. CNTRL CSG W/ 20BBLS TMAC. FUNCTION TEST BOP. NDWH. UN-LAND TBG TO SEE IF IT WAS STUCK (TBG WAS STUCK). STRIP IN 2-3/8" X 6' P-110 TBG PUP JT. LAND TBG BACK ON HANGER. NUBOP. R/U FLOOR & TBG EQUIP. UN-LAND TBG. RMV HANGER. P/U 1JT 2-3/8" L-80 TBNG. BEGIN WORKING STUCK PIPE. TBNG WORKED FREE AFTER 2HRS. L/D JT USED TO WORK TBNG. L/D PUP JT. L/D 2JTS OF PRODUCTION TBNG. SWIFN. LOCK RAMS. SDFN.
6/22/2016	7:00 - 7:15	0.25	MAINT	48				SAFETY = JSA.
	7:00 - 11:00	4.00	MAINT					SICP= 500#. SITP= 200#. BLOW DOWN WELL TO FLOWBACK TANK. CNTRL TBNG W/ 15BBLS TMAC. P/U 2JTS OF 2-3/8" L-80 THAT WERE L/D YESTERDAY. MIRU SCANNERS. POOH WHILE SCANNING 248JTS 2-3/8" L-80 TBNG. TBNG WAS PARTED ON THE UPSET OF JT # 249. 5JTS TBNG LEFT IN THE WELL. FISH TOP @ 7892'. SCAN RESULTS AS FOLLOWS:
								Y-BND= 76JT R-BND= 172JTS. WORST INTERVAL FOR PITTING F-JT#121 T- JT#248. MULTIPLE HOLES FOUND IN JT 214, 232,233, 243, 244, & 247. LAST 3JTS WERE ALSO PLUGGED W/ SAND. VERY HEAVY SCALE JT# 237 THRU JT #248. HEAVY INTERNAL SCALE JT #170 THRU JT #248.
	11:00 - 14:00	3.00	MAINT					RDMO SCANNERS. WAITING FOR 2-3/8" P-110 FISHING STRING.
	14:00 - 17:00	3.00	MAINT					SPOT IN PIPE TRAILER. PREP & TALLY TBNG. P/U & RIH W/ 3-7/8" MILL + BIT SUB + 199JTS 2-3/8" NEW P-110 TBNG. LEAVE EOT ABOVE PERFS @ 6326'. SWIFN. LOCK RAMS. SDFN.
6/23/2016	7:00 - 7:15	0.25	MAINT	48				SAFETY = JSA.

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-11J3S YELLOW	Spud Conductor: 3/31/2010	Spud date: 4/9/2010
Project: UTAH-UINTAH	Site: NBU 1022-11K PAD	Rig name no.: MILES-GRAY 1/1
Event: WELL WORK EXPENSE	Start date: 6/21/2016	End date: 6/27/2016
Active datum: RKB @5,128.00usft (above Mean Sea Level)	UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	7:15 - 16:00	8.75	MAINT					<p>SICP= 250#. SITP= 100#. BLOW DOWN CSNG. CNTRL TBG W/ 10BBLS  TMAC. CONT RIH W/ 3-7/8" MILL + 2-3/8" P-110 TBNG. T/U ON SCALE @  7791' W/ 246JTS TOTAL + BHA. R/U POWER SWIVEL. MIRU FOAM-AIR  UNIT. TRY TO BREAK CONV CIRC BUT MILL WAS PLUGGED. WORK PIPE  TO TRY AND LOOSEN PLUGGED MILL (NO LUCK). BLEED OFF TBNG  PRESSURE TO FLOWBACK TANK. PUMP 20BBLS TMAC DOWN TBNG &amp;  PRESSURED UP TO #500 AND PLUG BROKE FREE.</p> <p>BREAK CONV CIRC W/ FOAM-AIR UNIT IN 2-1/2HRS. MILL OUT SOFT  DOWN TO FISH TOP @ 7892' W/ 249JTS TOTAL TBNG + BHA. CIRC WELL  CLEAN FOR 45MIN. CNTRL TBNG W/ 5BBLS TMAC. HANG BACK POWER  SWIVEL. L/D 13JTS TBNG TO MAKE ROOM FOR WASH PIPE &amp; FISHING  TOOLS. POOH WHILE STD BACK REM 236JTS. L/D MILL &amp; BIT SUB.</p>
	16:00 - 18:00	2.00	MAINT					<p>P/U &amp; RIH W/ WASHOVER SHOE, WASH PIPE, DRILL COLLARS, JARS,  INTENSIFIER, BUMPER SUB + 40JTS 2-3/8" P-110 TBNG. INSTALL DRILLING  RUBBER. SWIFN. LOCK RAMS. SDFN.</p>
6/24/2016	7:00 - 7:15	0.25	MAINT	48				SAFETY = JSA.
	7:15 - 11:00	3.75	MAINT					<p>SICP= 250#. SITP= 50#. BLOW DOWN WELL TO FLOWBACK TANK. CONT  RIH W/ WAVY BTTM SHOE, 6JTS 3-3/4" WASH PIPE, JARS, BUMPER SUB,  4JTS 3-1/8" DRILL COLLARS, BUMPER SUB + 238JTS NEW 2-3/8" P-110  TBG. INSTAL TSF. R/U POWER SWIVEL. MIRU FOAM-AIR UNIT. BREAK  CONV CIRC IN 2HRS.</p>

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1022-11J3S YELLOW	Spud Conductor: 3/31/2010	Spud date: 4/9/2010
Project: UTAH-UINTAH	Site: NBU 1022-11K PAD	Rig name no.: MILES-GRAY 1/1
Event: WELL WORK EXPENSE	Start date: 6/21/2016	End date: 6/27/2016
Active datum: RKB @5,128.00usft (above Mean Sea Level)	UWI: NE/SW/0/10/S/22/E/11/0/0/6/PM/S/2,551.00/W/0/2,212.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	11:00 - 19:00	8.00	MAINT					<p>T/U ON FISH TOP @7892'. BEGIN WASHING OVER FISH. WASH DOWN TO 8384'. CLEAN OUT PATCHY HARD SCALE ENTIRE LENGTH. R/D FOAMER. PUMP 7BBL TMAC TOP KILL DOWN TBNG. PUH &amp; RMV STRING FLOAT. TIH 253 TOTAL JTS TBNG + BHA. R/U SWIVEL. R/U FOAMER. BREAK CONNV CIRC IN 20MIN. RIH TBNG &amp; TAG SAND @ 8393'. WASH DOWN SAND TO 8694'. PBD @ 8695'. CIRC CLEAN 45MIN. BLEED OFF TBG PRESSURE. L/D 11JTS TBG. PUH TO TSF. PUMP 10BBLs TMAC TOP KILL DOWN TBNG. POOH WHILE STD BACK 60JTS TBG. EOT @ 6451' (ABOVE) PERFS. SWIFN. LOCK RAMS. SDFN.</p> <p>NOTE: 158' OF TBG LEFT IN RATHOLE (4 FULL JTS + 29' OF 5TH JT). TBG TUBE LOOKING UP. TOP OF FISH LEFT @ 8702'. BTTM PERF @8695'. SAFETY = JSA.</p>
6/27/2016	7:00 - 7:15	0.25	MAINT					SICP= 750#. SITP= 550#. BLOW DOWN WELL TO FLOWBACK TANK. CNTRL TBNG W/ 10BBLs TMAC. CONT POOH W/ REMAINING 192JTS NEW 2-3/8" P-110 TBNG AND FISHING TOOLS. L/D ALL FISHING TOOLS.
	7:15 - 15:00	7.75	MAINT					<p>P/U &amp; RIH W/ 1.875" XN W/ N.C. + 253JTS 2-3/8" P-110 NEW TBNG. BROACH ALL TBNG GOOD W/ 1.910" BROACH WHILE TIH. LAND TBG ON HANGER. R/D FLOOR &amp; TBNG EQUIP. NDBOP. NUWH. RDMOL.</p> <p>PRODUCTION TBNG LANDED AS FOLLOWS:  K.B.= 13.00'  HANGER= .83'  253JTS NEW 2-3/8" P-110 TBNG= 8029.19'  1.875" XN W/ N.C.= 1.34'  EOT @ 8044.36'</p>
	15:00 - 19:30	4.50	MAINT					MIRU N2 FOAM UNIT. BREAK CONV CIRC. UN-LOAD WELLBORE FLUID IN 2HRS. PURGE WELL FOR 2.5HRS. SWI. RDMO N2 FOAM UNIT.
7/1/2016	7:00 - 17:00	10.00	PROD	42		P		SWABBING FL 4400, 5 RUNS, 51 BARRELS