

**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 1021-13B3CS		
<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> ML 23608		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>		<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>
<b>LOCATION AT SURFACE</b>	696 FNL 1328 FEL	NENE	13	10.0 S	21.0 E	S
<b>Top of Uppermost Producing Zone</b>	1320 FNL 2360 FEL	NWNE	13	10.0 S	21.0 E	S
<b>At Total Depth</b>	1320 FNL 2360 FEL	NWNE	13	10.0 S	21.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1320		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 640		
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 1025		<b>26. PROPOSED DEPTH</b> MD: 9525 TVD: 9200		
<b>27. ELEVATION - GROUND LEVEL</b> 5262		<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 ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

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

<b>NAME</b> Kathy Schneebeck-Dulnoan	<b>TITLE</b> Staff Regulatory Analyst	<b>PHONE</b> 720 929-6007
<b>SIGNATURE</b>	<b>DATE</b> 04/05/2009	<b>EMAIL</b> Kathy.SchneebeckDulnoan@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047503410000	<b>APPROVAL</b>  Permit Manager	

**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	9289		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade I-80 LT&C	9525	11.6			

**Proposed Hole, Casing, and Cement**

<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	2200		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade J-55 LT&C	2200	36.0			

**NBU 1021-13B3CS**

Pad: NBU 1021-13A

Surface: 696' FNL, 1,328' FEL (NE/4NE/4)

BHL: 1,320' FNL 2,360' FEL (NW/4NE/4)

Sec. 13 T10S R21E

Uintah, Utah

Mineral Lease: ML 23608

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN***

**Directional Drilling:**

In accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. Existing Roads:**

Refer to Topo Map A for directions to the location.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

**2. Planned Access Roads:**

Approximately  $\pm 0.0$  mi. ( $\pm 0'$ ) of new access road is proposed. Please refer to the attached Topo Map B.

The upgraded and new portions of the access road will be crowned and ditched with a running surface of 18 feet and a maximum disturbed width of 30 feet. Appropriate water control will be installed to control erosion.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.*

The access road was centerline flagged during time of staking.

Surfacing material may be necessary, depending upon weather conditions.

Surface disturbance and vehicular traffic will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

**3. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**4.      Location of Existing & Proposed Facilities:**

*The following guidelines will apply if the well is productive.*

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks, and/or heater/treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The required color is Shadow Gray, a non-reflective earthtone.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

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

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim #43-8496, Application #53617.

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

No water well is to be drilled on this lease.

**6.      Source of Construction Materials:**

Surface and subsoil materials in the immediate area will be utilized.

Any gravel will be obtained from a commercial source.

**7.      Methods of Handling Waste Materials:**

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, will be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit walls. The reserve pit will be constructed so that it will not leak, break, or allow discharge of liquids.

A plastic reinforced liner and felt will be used; it will be a minimum of 20 mil thick, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit. Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical porta-toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites: RNI in Sec. 5 T9S R22E, NBU #159 in Sec. 35 T9S R21E, Ace Oilfield in Sec. 2 T6S R20E, MC&MC in Sec. 12 T6S R19E, Pipeline Facility in Sec. 36 T9S R20E, Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E, Bonanza Evaporation Pond in Sec. 2 T10S R23E.

**8. Ancillary Facilities:**

None are anticipated.

**9. Well Site Layout: (See Location Layout Diagram)**

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

The reserve pit will be lined, and when the reserve pit is closed, the pit liner will be buried below plow depth.

All pits will be fenced according to the following minimum standards:

39 inch net wire will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.

The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.

Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

The reserve pit fencing will be on three sides during drilling operations, and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

Location size may change prior to the drilling of the well due to current rig availability. If the proposed location is not large enough to accommodate the drilling rig the location will be re-surveyed and a Form 9 shall be submitted.

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

*Producing Location:*

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.

A plastic, nylon reinforced liner will be used, it shall be torn and perforated before backfilling of the reserve pit.

Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.

To prevent surface water(s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface three feet above surrounding ground surface to allow the reclaimed pit area to drain effectively.

Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

*Dry Hole/Abandoned Location:*

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified.

All disturbed surfaces will be recontoured to the approximate natural contours, with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. Reseeding operations will be performed after completion of other reclamation operations.

**11. Surface/Mineral Ownership:**

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

**12. Other Information:**

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, the approved Plan of Operations, and any applicable Notice of Lessees. The Operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The Operator will control noxious weeds along Rights-Of-Way for roads, pipelines, well sites, or other applicable facilities.

A Class III archaeological survey report is attached.

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

Kathy Schneebeck Dulnoan  
Staff Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6226

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

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

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

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

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond 22013542.

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

Kathy Schneebeck Dulnoan  
Kathy Schneebeck Dulnoan

April 2, 2009  
Date

**NBU 1021-13B3CS**

Pad: NBU 1021-13A

Surface: 696' FNL, 1,328' FEL (NE/4NE/4)

BHL: 1,320' FNL 2,360' FEL (NW/4NE/4)

Sec. 13 T10S R21E

Uintah, Utah

Mineral Lease: ML 23608

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

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

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	1,252'	
Birds Nest	1,546'	Water
Mahogany	1,990'	Water
Wasatch	4,454'	Gas
Mesaverde	7,140'	Gas
MVU2	8,057'	Gas
MVL1	8,571'	Gas
TVD	9,200'	
TD	9,525'	

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 9,525' TD, approximately equals 5,638 psi (calculated at 0.59 psi/foot).

Maximum anticipated surface pressure equals approximately 3,421 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. Variations:**

*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.*

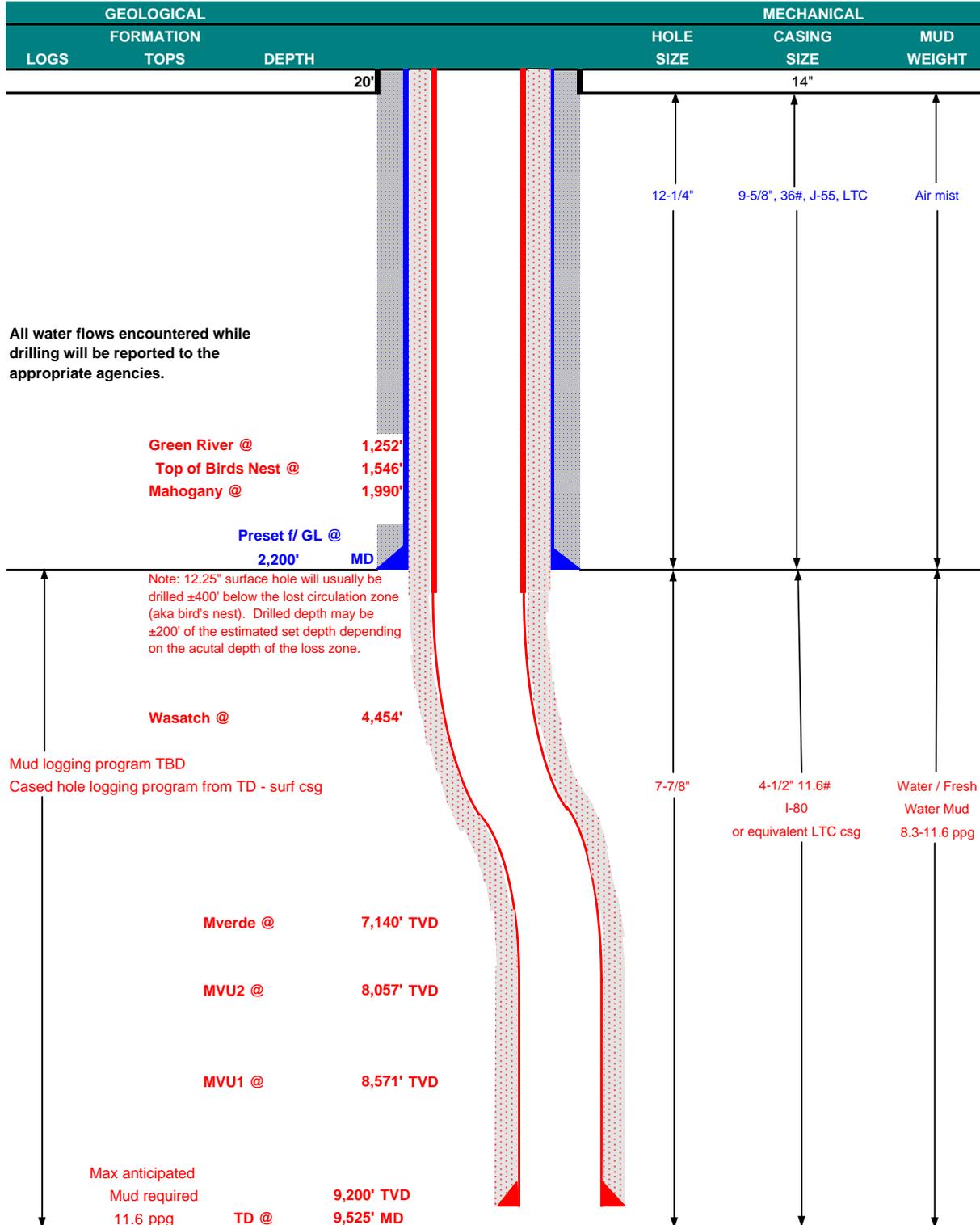
**10. Other Information:**

*Please refer to the attached Drilling Program.*



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	June 10, 2009			
WELL NAME	<b>NBU 1021-13B3CS</b>		TD	9,200' TVD	9,525' MD		
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	ELEVATION	5,262' GL KB 5,277'
SURFACE LOCATION	NE/4 NE/4	696' FNL	1,328' FEL	Sec 13	T 10S R 21E		
	Latitude:	39.953727	Longitude:	-109.494412	NAD 27		
BTM HOLE LOCATION	NW/4 NE/4	1,320' FNL	2,360' FEL	Sec 13	T 10S R 21E		
	Latitude:	39.952005	Longitude:	-109.498080	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'				3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2,200	36.00	J-55	LTC	0.96	1.96	7.28
PRODUCTION	4-1/2"	0 to 9,525	11.60	I-80	LTC	2.21	1.14	2.08

- 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 3,421 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 5,638 psi**

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 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 + 0.25 pps flocele Premium cmt + 2% CaCl	380	0%	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	1,700'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	400	35%	12.60	1.81
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 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	3,945'	Premium Lite II + 3% KCl + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	380	40%	11.00	3.38
	TAIL	5,580'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1370	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**

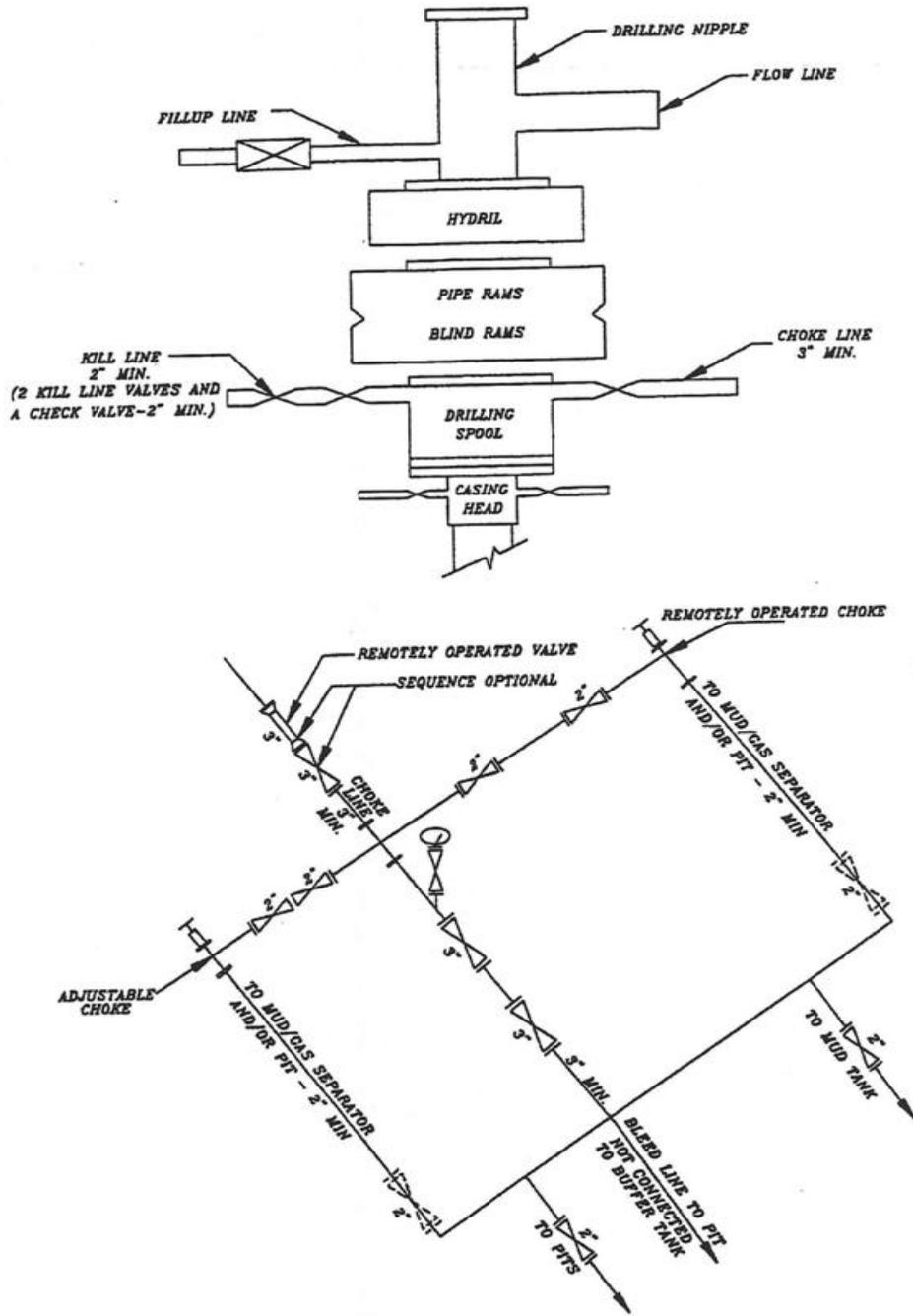
SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

**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 / Emile Goodwin  
**DRILLING SUPERINTENDENT:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 John Merkel / Lovel Young

### EXHIBIT A NBU 1021-13B3CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



# WELL PAD INTERFERENCE PLAT

## DIRECTIONAL PAD - NBU 1021-13A

LATITUDE & LONGITUDE Surface Position - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
1021-13B3CS	39°57'13.292" 39.953692°	109°29'42.349" 109.495097°
1021-13A3CS	39°57'13.436" 39.953732°	109°29'42.174" 109.495048°
1021-13H4CS	39°57'13.581" 39.953772°	109°29'41.999" 109.495000°
1021-13H4AS	39°57'13.725" 39.953812°	109°29'41.823" 109.494951°
Existing Well NBU 1021-13A	39°57'13.752" 39.953820°	109°29'42.143" 109.495040°

### BOTTOM HOLE FOOTAGES

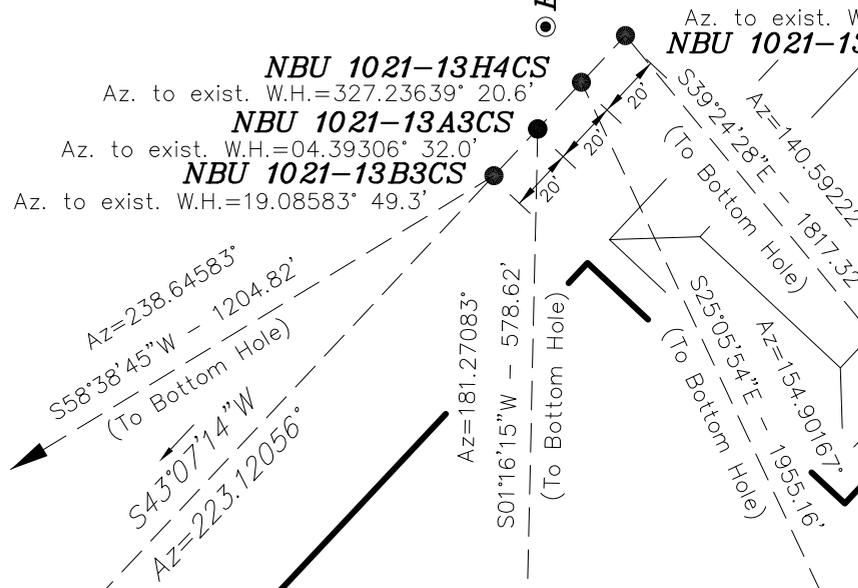
NBU 1021-13B3CS  
1320' FNL, 2360' FEL

NBU 1021-13A3CS  
1260' FNL, 1330' FEL

NBU 1021-13H4CS  
2440' FNL, 480' FEL

NBU 1021-13H4AS  
2060' FNL, 140' FEL

RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
1021-13B3CS	-627'	-1029'
1021-13A3CS	-578'	-13'
1021-13H4CS	-1771'	829'
1021-13H4AS	-1404'	1154'



BASIS OF BEARINGS IS THE WEST LINE OF THE NW 1/4 OF SECTION 18, T10S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°16'49"W.

LATITUDE & LONGITUDE Bottom Hole - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
1021-13B3CS	39°57'07.094" 39.951971°	109°29'55.555" 109.498765°
1021-13A3CS	39°57'07.721" 39.952145°	109°29'42.336" 109.495093°
1021-13H4CS	39°56'56.091" 39.948914°	109°29'31.345" 109.492040°
1021-13H4AS	39°56'59.856" 39.949960°	109°29'27.006" 109.490835°

LATITUDE & LONGITUDE Surface Position - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
1021-13B3CS	39°57'13.417" 39.953727°	109°29'39.882" 109.494412°
1021-13A3CS	39°57'13.561" 39.953767°	109°29'39.707" 109.494363°
1021-13H4CS	39°57'13.706" 39.953807°	109°29'39.532" 109.494315°
1021-13H4AS	39°57'13.850" 39.953847°	109°29'39.356" 109.494265°
Existing Well NBU 1021-13A	39°57'13.877" 39.953855°	109°29'39.676" 109.494354°

### SURFACE POSITION FOOTAGES:

NBU 1021-13B3CS  
696' FNL, 1328' FEL

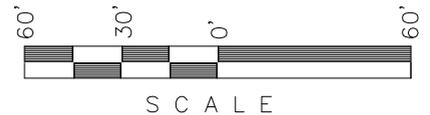
NBU 1021-13A3CS  
682' FNL, 1314' FEL

NBU 1021-13H4CS  
667' FNL, 1301' FEL

NBU 1021-13H4AS  
652' FNL, 1287' FEL

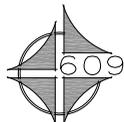
NBU 1021-13A (Existing Well Head)  
650' FNL, 1312' FEL

LATITUDE & LONGITUDE Bottom Hole - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
1021-13B3CS	39°57'07.219" 39.952005°	109°29'53.087" 109.498080°
1021-13A3CS	39°57'07.846" 39.952179°	109°29'39.869" 109.494408°
1021-13H4CS	39°56'56.215" 39.948949°	109°29'28.879" 109.491355°
1021-13H4AS	39°56'59.981" 39.949995°	109°29'24.540" 109.490150°



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

NBU 1021-13B3CS, NBU 1021-13A3CS,  
NBU 1021-13H4CS & NBU 1021-13H4AS  
LOCATED IN SECTION 13, T10S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.

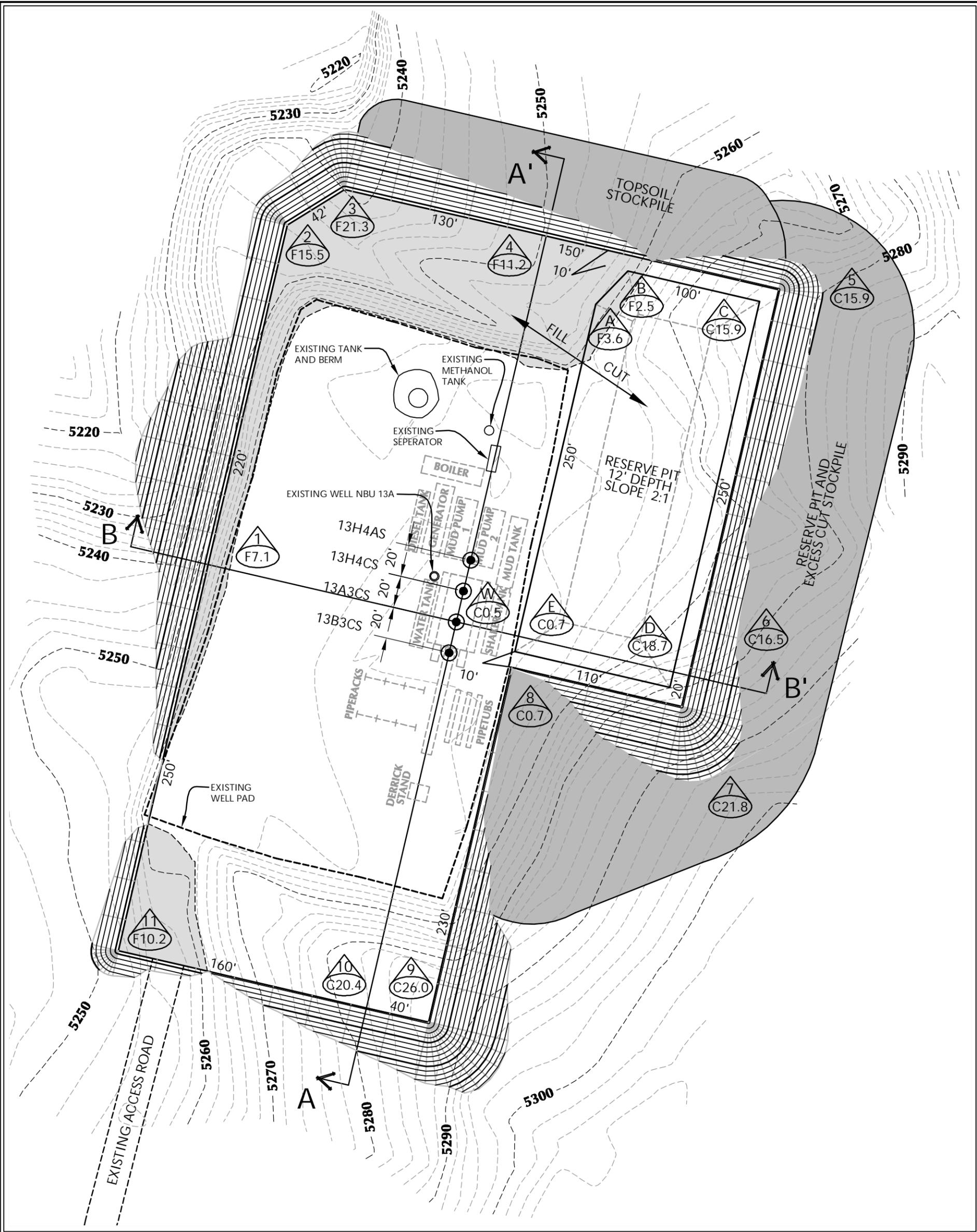


CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

DATE SURVEYED: 12-01-08	SURVEYED BY: M.S.B.
DATE DRAWN: 12-19-08	DRAWN BY: E.M.S.
	REVISED: 01-28-09

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET  
**5**  
OF 13



**WELL PAD NBU 13A QUANTITIES**

EXISTING GRADE @ CENTER OF WELL PAD = 5,261.9'  
 FINISHED GRADE ELEVATION = 5,261.4'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 17,310 C.Y.  
 TOTAL FILL FOR WELL PAD = 13,743 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,951 C.Y.  
 EXCESS MATERIAL = 3,567 C.Y.  
 TOTAL DISTURBANCE = 3.88 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 28,600 BARRELS  
 RESERVE PIT VOLUME  
 +/- 7,680 CY

**WELL PAD LEGEND**

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)



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

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 ONSHORE L.P.**  
 1099 18th Street - Denver, Colorado 80202



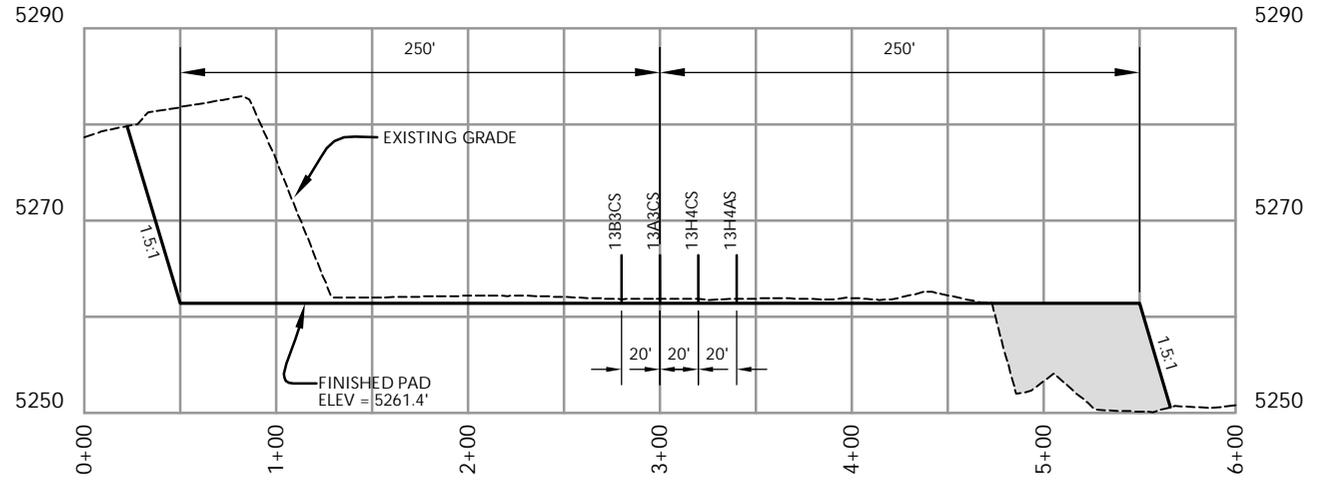
**CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**WELL PAD - LOCATION LAYOUT**  
 NBU 1021-13B3CS, NBU 1021-13A3CS,  
 NBU 1021-13H4CS, NBU 1021-13H4AS  
 LOCATED IN SECTION 13, T.10S., R.21E.  
 S.L.B.&M., Uintah County, Utah

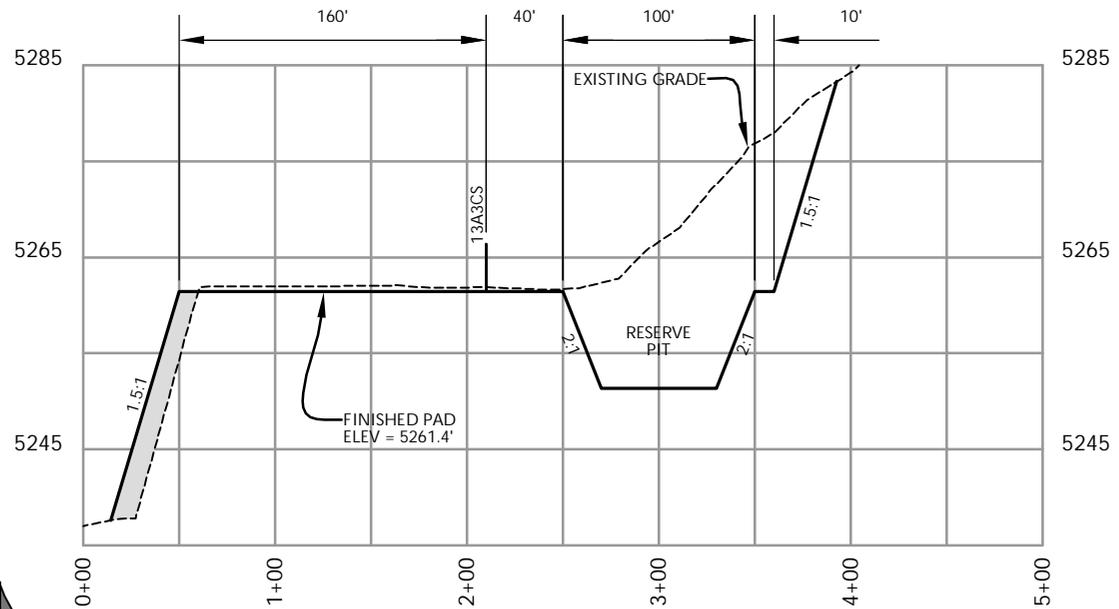
Scale: 1"=60'	Date: 2/6/09	SHEET NO:
REVISED:	BY DATE	<b>6</b> 6 OF 13

**Timberline** (435) 789-1365  
 Engineering & Land Surveying, Inc.  
 38 WEST 100 NORTH VERNAL, UTAH 84078

APIWellNo:43047503410000  
 K:\MADARKO\2008\_27\_NBU\_Directional\_Wells\DWGS\NBU\_DIRECTIONAL\_JAN\_FEB\_2009\_CESI.dwg, 2/6/2009 3:58:05 PM, PDF-XChange for Acrobat Pro

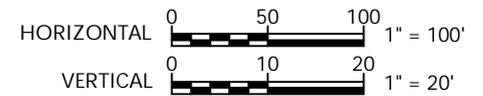


**CROSS SECTION A-A'**

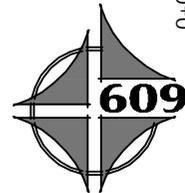


**CROSS SECTION B-B'**

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



**KERR-MCGEE OIL & GAS  
ONSHORE L.P.**  
1099 18th Street - Denver, Colorado 80202

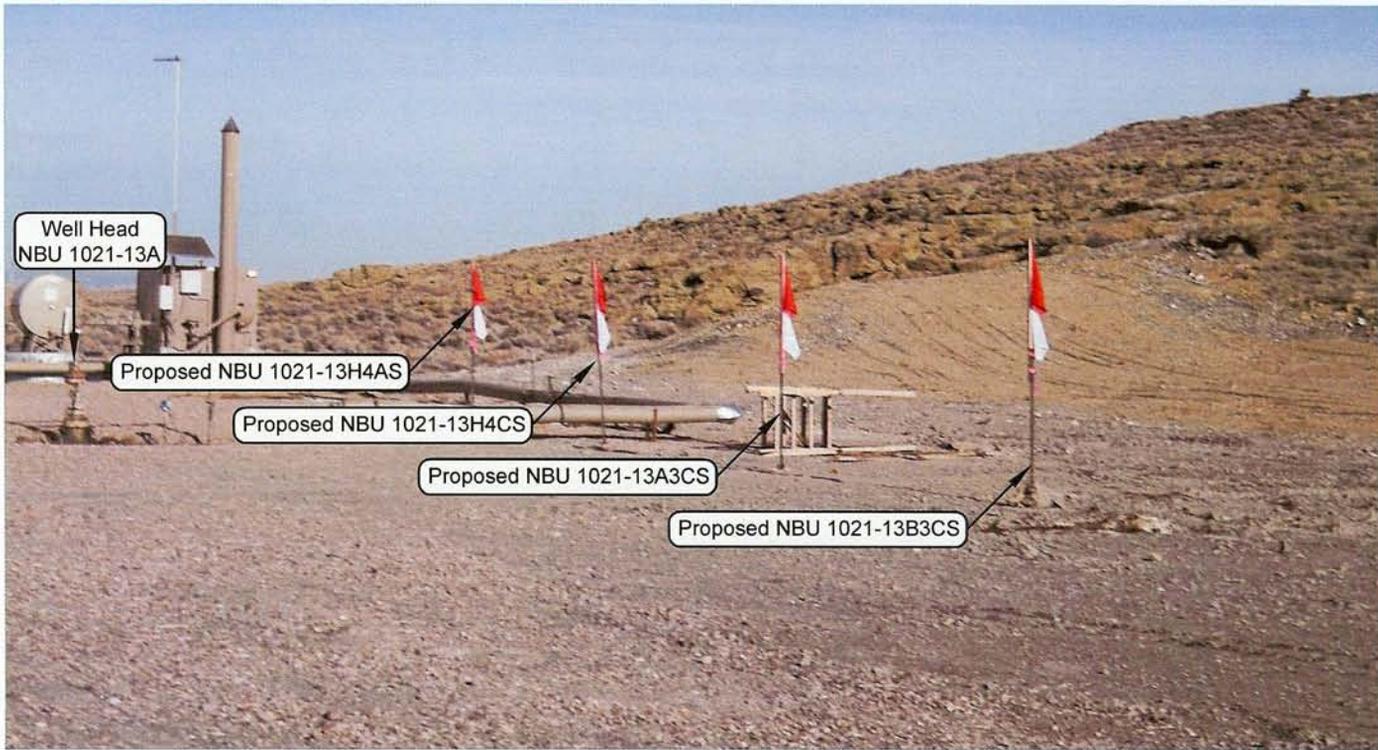


**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

**WELL PAD - CROSS SECTIONS**  
NBU 1021-13B3CS, NBU 1021-13A3CS,  
NBU 1021-13H4CS, NBU 1021-13H4AS  
LOCATED IN SECTION 13, T.10S., R.21E.  
S.L.B.&M., Uintah County, Utah

Scale: 1"=100'	Date: 2/6/09	SHEET NO:
REVISED:	BY DATE	<b>7</b> 7 OF 13

**Timberline** (435) 789-1365  
*Engineering & Land Surveying, Inc.*  
38 WEST 100 NORTH VERNAL, UTAH 84078



Well Head  
NBU 1021-13A

Proposed NBU 1021-13H4AS

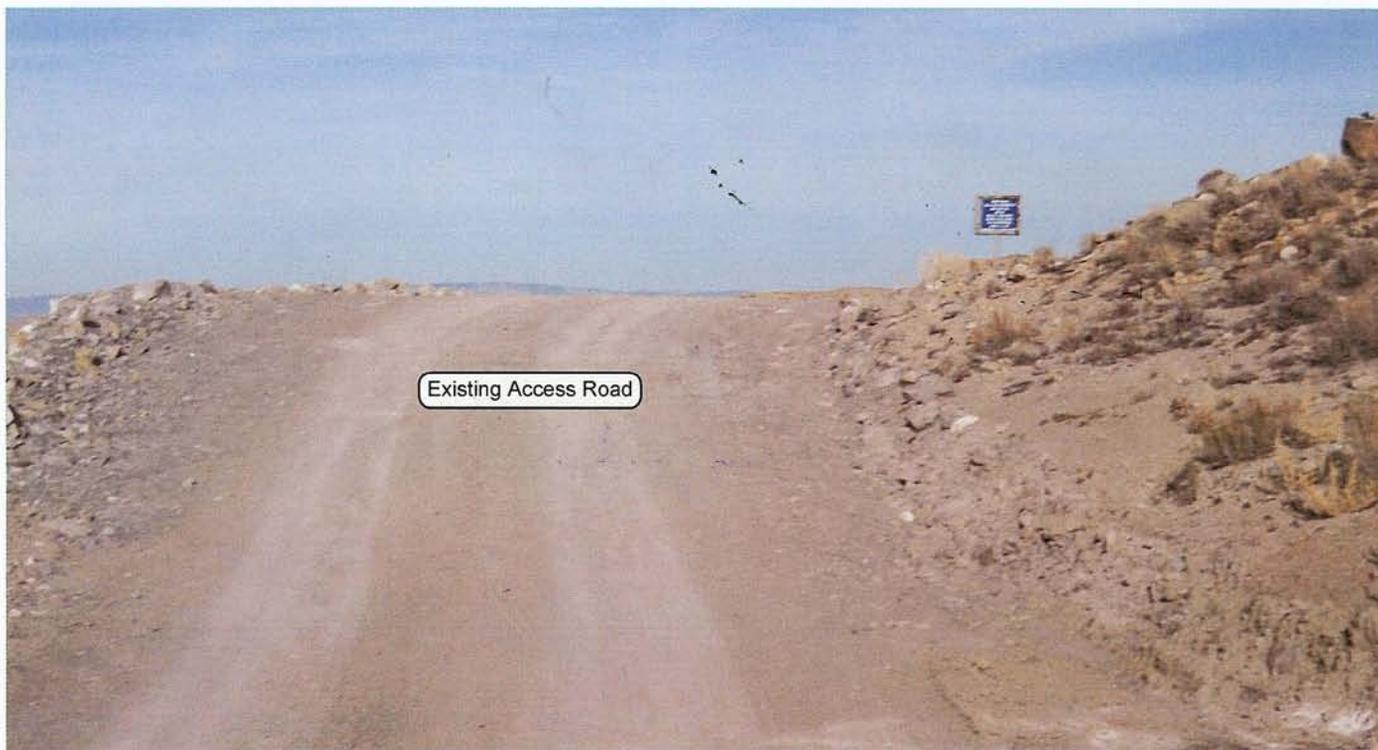
Proposed NBU 1021-13H4CS

Proposed NBU 1021-13A3CS

Proposed NBU 1021-13B3CS

PHOTO VIEW: TO LOCATION STAKES

CAMERA ANGLE: NORTHEASTERLY



Existing Access Road

PHOTO VIEW: FROM EXISTING ROAD

CAMERA ANGLE: NORTHEASTERLY

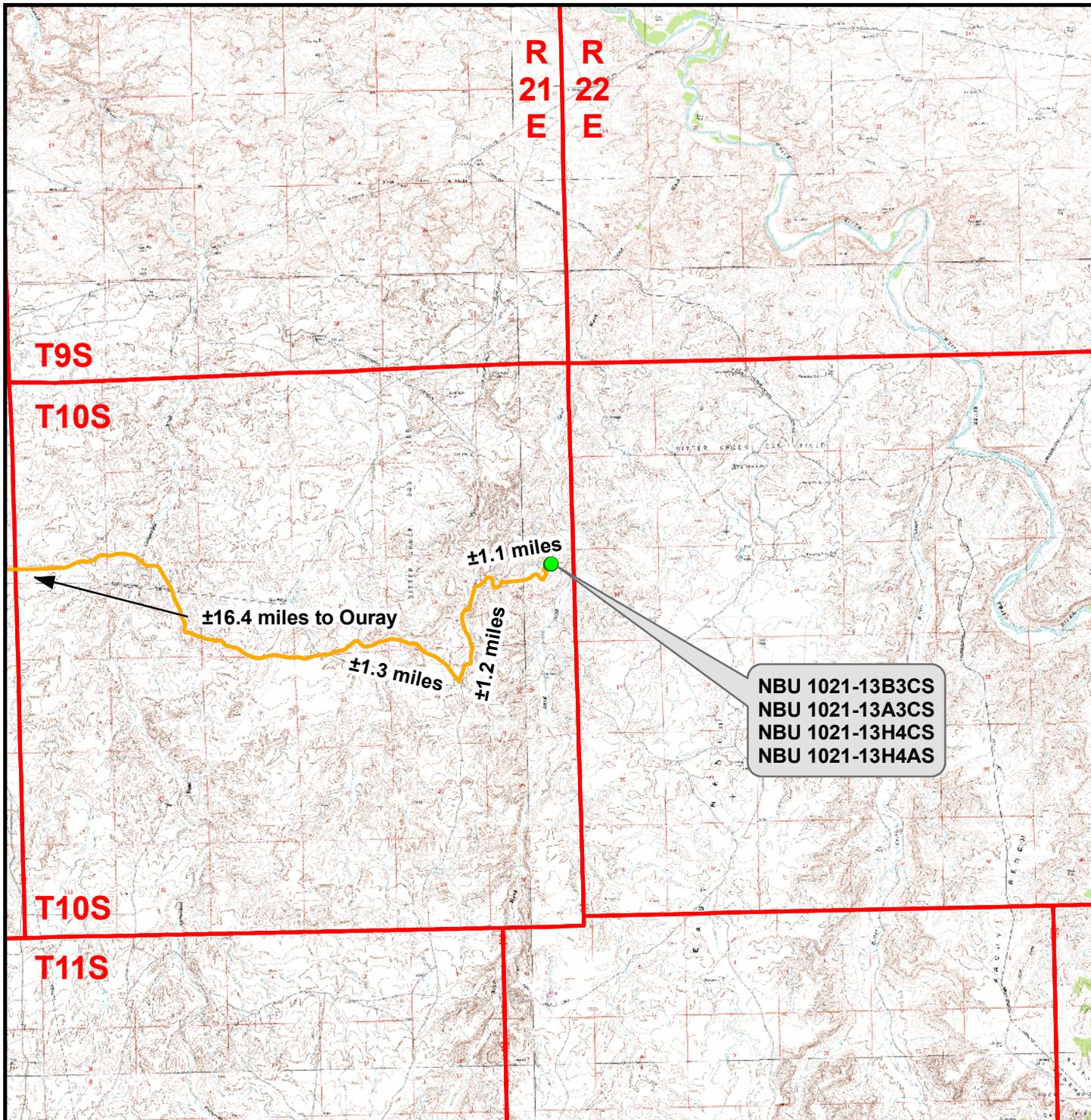
**Kerr-McGee**  
**Oil & Gas Onshore, LP**  
 1099 18th Street - Denver, Colorado 80202



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

NBU 1021-13B3CS, NBU 1021-13A3CS,  
 NBU 1021-13H4CS & NBU 1021-13H4AS  
 LOCATED IN SECTION 13, T10S, R21E,  
 S.L.B.&M. UINTAH COUNTY, UTAH.

<b>LOCATION PHOTOS</b>		DATE TAKEN: 12-01-08
		DATE DRAWN: 12-19-08
TAKEN BY: M.S.B.	DRAWN BY: E.M.S.	REVISED: 01-28-09
<b>Timberline</b> Engineering & Land Surveying, Inc. 209 NORTH 300 WEST VERNAL, UTAH 84078		(435) 789-1365 SHEET <b>8</b> OF 13



**Legend**

- Proposed Well Location
- Access Route - Proposed

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

**NBU 1021-13B3CS, NBU 1021-13A3CS,  
 NBU 1021-13H4CS & NBU 1021-13H4AS**

**Topo A**

**Located In Section 13, T10S, R21E  
 S.L.B.&M., Uintah County, Utah**

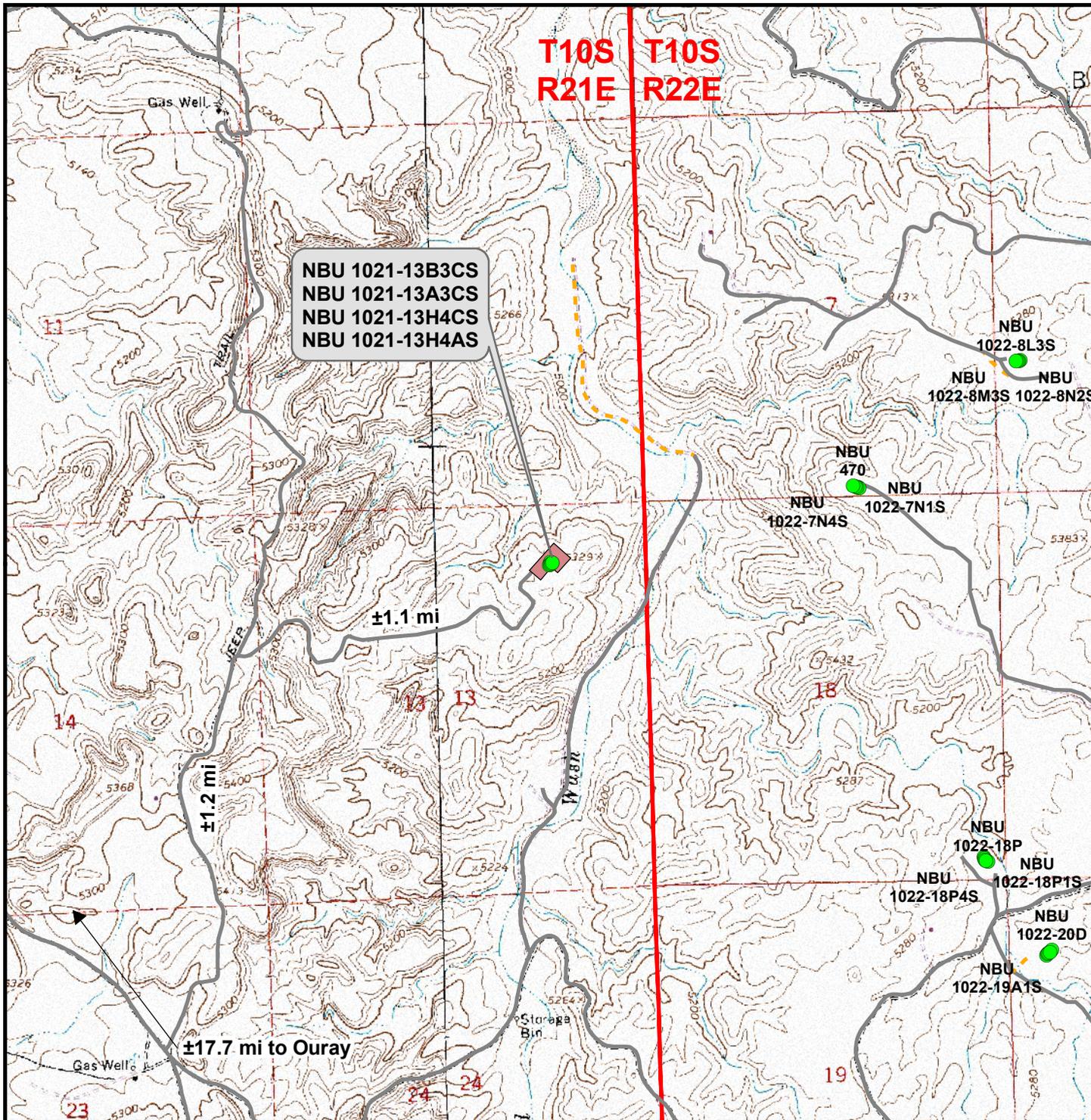


**CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan, WY 82801  
 Phone (307) 674-0609  
 Fax (307) 674-0182



Scale: 1:100,000	NAD83 USP Central
Drawn: JELO	Date: 6 Feb 2009
Revised:	Date:

Sheet No:
<b>9</b>
9 of 13



**Legend**

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

Total Proposed Road Length: ±0ft

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

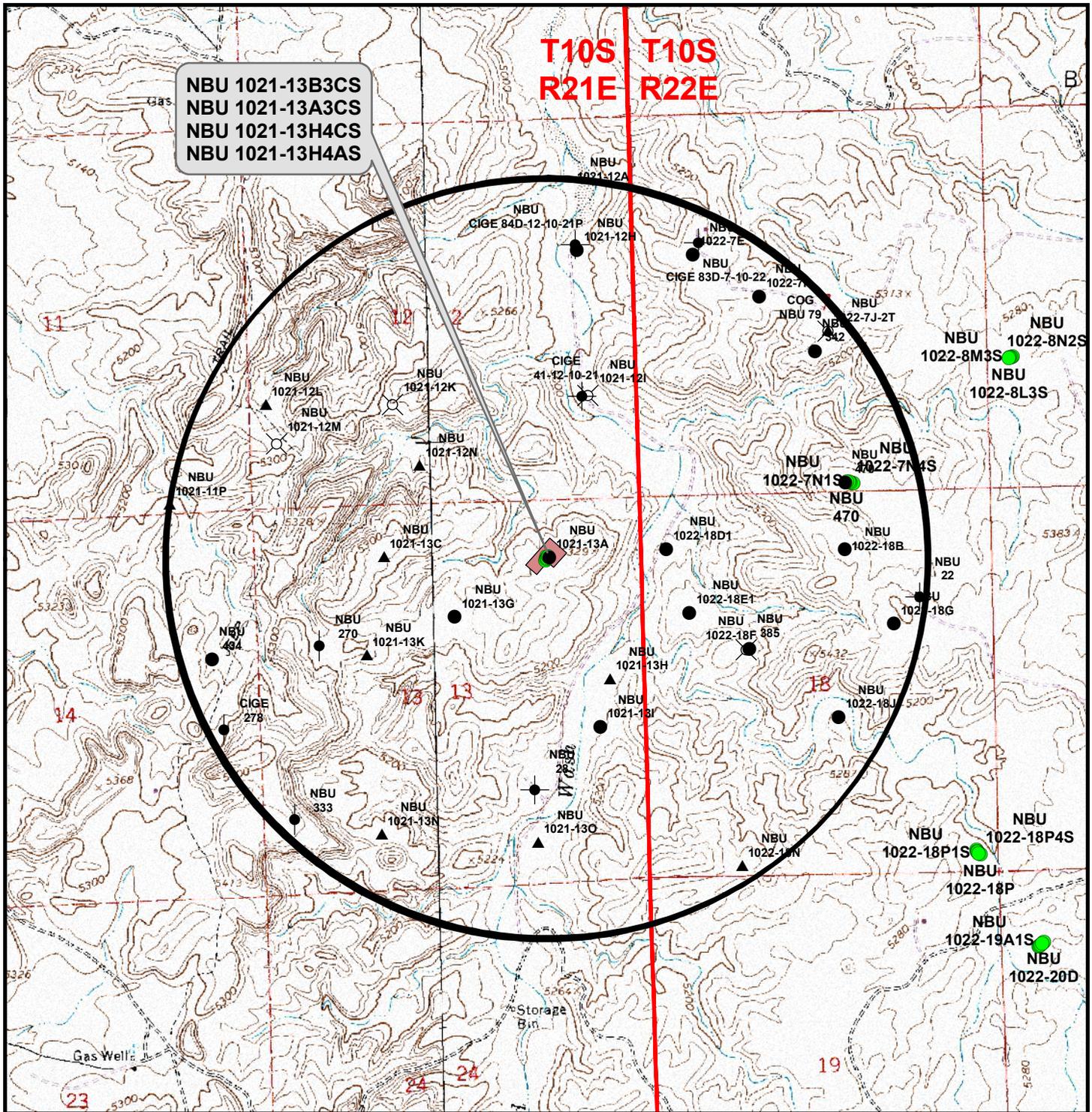
**NBU 1021-13B3CS, NBU 1021-13A3CS,  
NBU 1021-13H4CS & NBU 1021-13H4AS**  
**Topo B**  
**Located In Section 13, T10S, R21E**  
**S.L.B.&M., Uintah County, Utah**



**609**  
**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2000ft	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 6 Feb 2009	10
Revised:	Date:	



NBU 1021-13B3CS  
 NBU 1021-13A3CS  
 NBU 1021-13H4CS  
 NBU 1021-13H4AS

T10S T10S  
 R21E R22E

**Legend**

- Well - Proposed
- Well - 1 Mile Radius
- Producing
- ▲ Approved permit (APD); not yet spudded
- Spudded (Drilling commenced: Not yet complete)
- ×
 Location Abandoned
- Shut-In
- Well Pad
- Temporarily-Abandoned
- Plugged and Abandoned

Well locations derived from State of Utah, Dept. of Natural Resources, Division of Oil, Gas and Mining

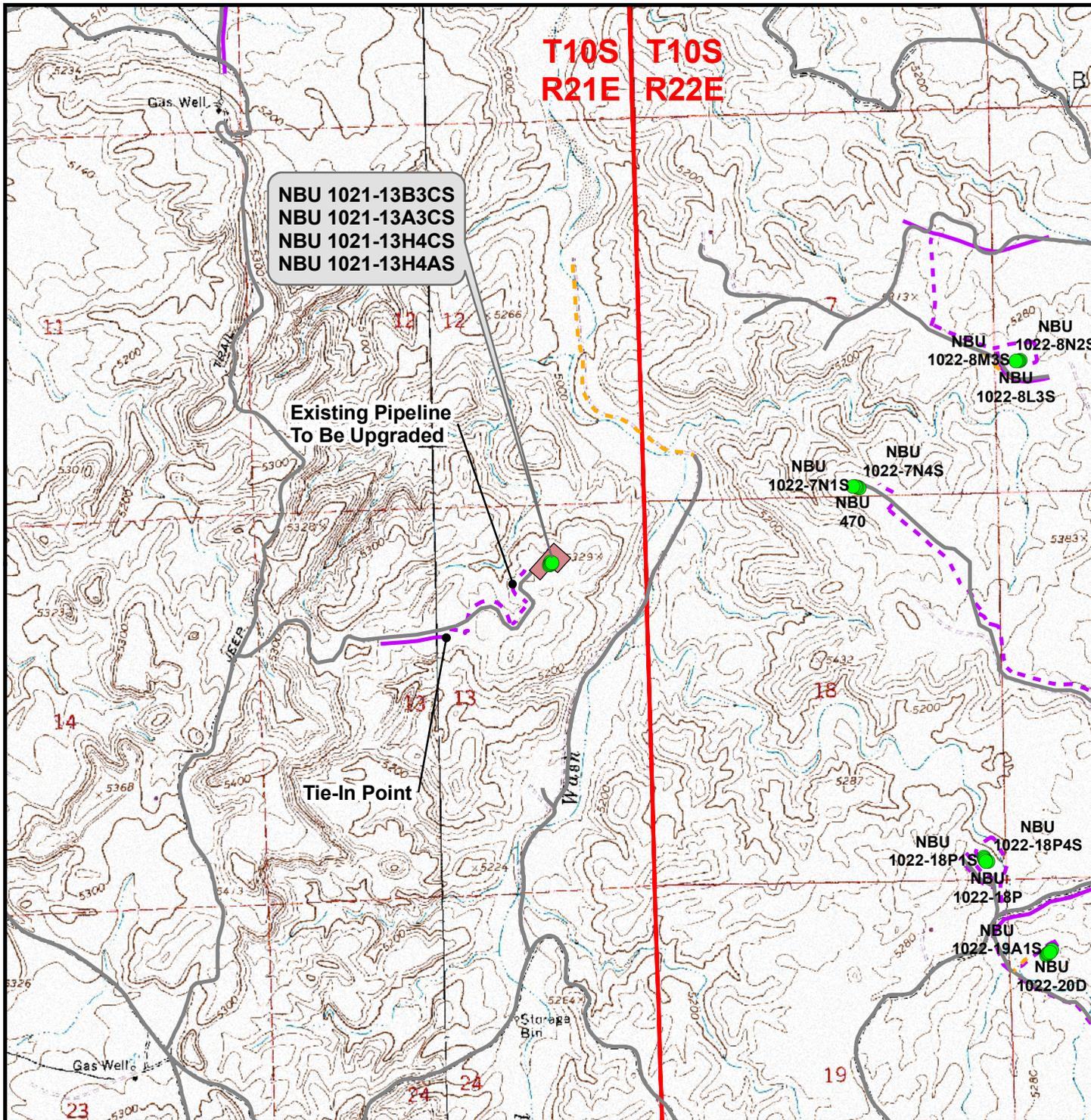
**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street, Denver, Colorado 80202

**NBU 1021-13B3CS, NBU 1021-13A3CS,  
 NBU 1021-13H4CS & NBU 1021-13H4AS**  
 Topo C  
 Located In Section 13, T10S, R21E  
 S.L.B.&M., Uintah County, Utah

**609**  
 CONSULTING, LLC  
 371 Coffeen Avenue  
 Sheridan, WY 82801  
 Phone (307) 674-0609  
 Fax (307) 674-0182



Scale: 1" = 2000ft	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 6 Feb 2009	<b>11</b> 11 of 13
Revised:	Date:	



**Legend**

- Well - Proposed
- Well Pad
- Road - Proposed
- Pipeline - Proposed
- Road - Existing
- Pipeline - Existing

Proposed Pipeline Length From Tie-In Point To Edge Of Pad: ±2,465ft  
Proposed Pipeline Length Around Pad: ±660ft

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

**NBU 1021-13B3CS, NBU 1021-13A3CS,  
NBU 1021-13H4CS & NBU 1021-13H4AS**  
**Topo D**  
**Located In Section 13, T10S, R21E**  
**S.L.B.&M., Uintah County, Utah**

**609**  
**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2000ft	NAD83 USP Central	Sheet No: <b>12</b> 12 of 13
Drawn: JELO	Date: 6 Feb 2009	
Revised:	Date:	

**Kerr-McGee Oil & Gas Onshore, LP**  
**NBU 1021-13B3CS, NBU 1021-13A3CS, NBU 1021-13H4CS**  
**& NBU 1021-13H4AS**  
**Section 13, T10S, R21E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 5.2 MILES TO THE INTERSECTION OF THE BITTER CREEK ROAD (COUNTY B ROAD 4120). EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION ALONG THE BITTER CREEK ROAD APPROXIMATELY 1.3 MILES TO THE INTERSECTION OF THE WEST SAND WASH ROAD (COUNTY B ROAD 4110). EXIT LEFT AND PROCEED IN A NORTHERLY DIRECTION ALONG THE WEST SAND WASH ROAD APPROXIMATELY 1.2 MILES TO A SERVICE ROAD RUNNING EASTERLY. EXIT RIGHT AND PROCEED IN AN EAST BY NORTHEAST DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 1.1 MILES TO THE EXISTING WELL PAD.

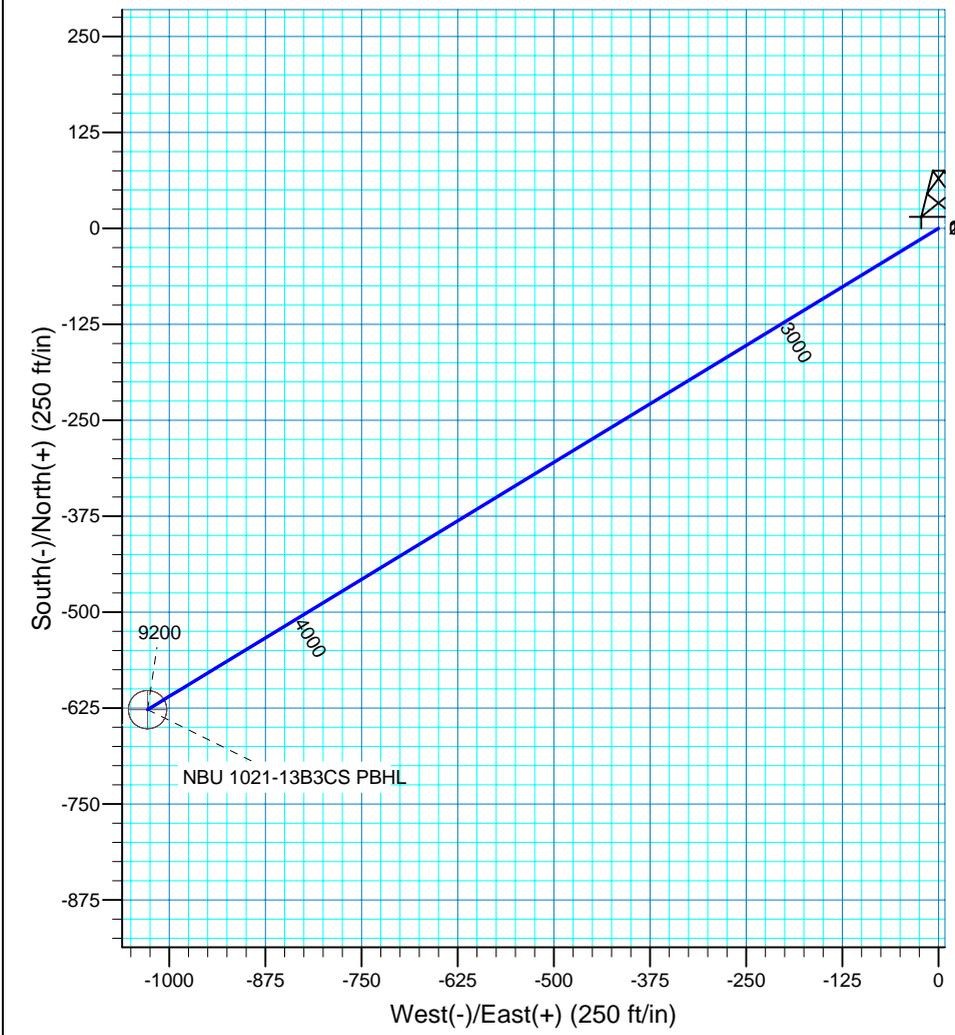
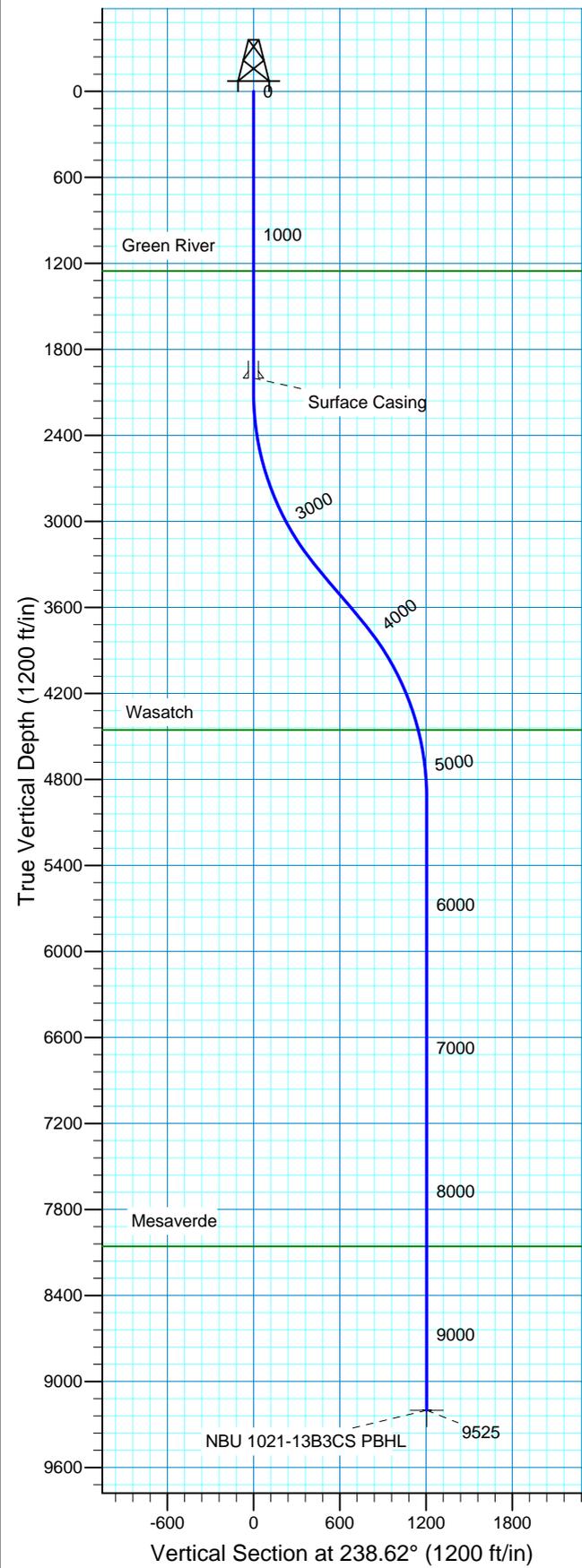
TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 50.7 MILES IN A SOUTHERLY DIRECTION.



**T M**  
  
 Azimuths to True North  
 Magnetic North: 11.33°  
 Magnetic Field  
 Strength: 52550.0snT  
 Dip Angle: 65.89°  
 Date: 3/25/2009  
 Model: IGRF200510

WELL DETAILS: NBU 1021-13B3CS

GL 5261' & RKB 18' @ 5279.00ft 5261.00  
 Easting 2562187.84 Latitude 39° 57' 13.417 N Longitude 109° 29' 39.882 W  
 +N/-S 0.00 +E/-W 0.00 Northing 596494.98



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1252.00	1252.00	Green River
4454.00	4773.58	Wasatch
8057.00	8381.51	Mesaverde

Plan: Plan #1 (NBU 1021-13B3CS/OH)  
 Created By: Laura Turner Date: 2009-03-25  
 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 1 T10S R21E  
 System Datum: Mean Sea Level  
 Local North: True

SECTION DETAILS										
Sec	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	0.00	
2100.00	0.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	0.00	
3433.33	40.00	238.62	3327.63	-232.64	-381.48	3.00	238.62	446.82		
3916.81	40.00	238.62	3698.00	-394.44	-646.82	0.00	0.00	757.60		
5250.15	0.00	0.00	4925.63	-627.08	-1028.30	3.00	180.00	1204.42		
9524.51	0.00	0.00	9200.00	-627.08	-1028.30	0.00	0.00	1204.42		NBU 1021-13B3CS PBHL

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

**Uintah County, UT NAD27  
NBU 1021-13A Pad  
NBU 1021-13B3CS  
OH**

**Plan: Plan #1**

## **Standard Planning Report**

**25 March, 2009**

## Scientific Drilling Planning Report

<b>Database:</b> EDM2003.16 MultiuserDB	<b>Local Co-ordinate Reference:</b> Well NBU 1021-13B3CS
<b>Company:</b> Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b> GL 5261' & RKB 18' @ 5279.00ft
<b>Project:</b> Uintah County, UT NAD27	<b>MD Reference:</b> GL 5261' & RKB 18' @ 5279.00ft
<b>Site:</b> NBU 1021-13A Pad	<b>North Reference:</b> True
<b>Well:</b> NBU 1021-13B3CS	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> OH	
<b>Design:</b> Plan #1	

<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 1021-13A Pad, Sec 1 T10S R21E		
<b>Site Position:</b>	<b>Northing:</b> 596,539.70 ft	<b>Latitude:</b> 39° 57' 13.850 N
<b>From:</b> Lat/Long	<b>Easting:</b> 2,562,227.81 ft	<b>Longitude:</b> 109° 29' 39.356 W
<b>Position Uncertainty:</b> 0.00 ft	<b>Slot Radius:</b> in	<b>Grid Convergence:</b> 1.28 °

<b>Well</b> NBU 1021-13B3CS, 696' FNL 1328' FEL			
<b>Well Position</b>	<b>+N/-S</b> 0.00 ft	<b>Northing:</b> 596,494.98 ft	<b>Latitude:</b> 39° 57' 13.417 N
	<b>+E/-W</b> 0.00 ft	<b>Easting:</b> 2,562,187.84 ft	<b>Longitude:</b> 109° 29' 39.882 W
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> 5,261.00 ft

<b>Wellbore</b> OH
--------------------

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	3/25/2009	11.33	65.89	52,550

<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	238.62

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,433.33	40.00	238.62	3,327.63	-232.64	-381.48	3.00	3.00	0.00	238.62	
3,916.81	40.00	238.62	3,698.00	-394.44	-646.82	0.00	0.00	0.00	0.00	
5,250.15	0.00	0.00	4,925.63	-627.08	-1,028.30	3.00	-3.00	0.00	180.00	
9,524.51	0.00	0.00	9,200.00	-627.08	-1,028.30	0.00	0.00	0.00	0.00	NBU 1021-13B3CS

## Scientific Drilling Planning Report

<b>Database:</b>	EDM2003.16 MultiuserDB	<b>Local Co-ordinate Reference:</b>	Well NBU 1021-13B3CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5261' & RKB 18' @ 5279.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5261' & RKB 18' @ 5279.00ft
<b>Site:</b>	NBU 1021-13A Pad	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1021-13B3CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
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
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
1,252.00	0.00	0.00	1,252.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Green River</b>									
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
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	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Surface Casing</b>									
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 3.00</b>									
2,200.00	3.00	238.62	2,199.95	-1.36	-2.23	2.62	3.00	3.00	0.00
2,300.00	6.00	238.62	2,299.63	-5.45	-8.93	10.46	3.00	3.00	0.00
2,400.00	9.00	238.62	2,398.77	-12.24	-20.08	23.51	3.00	3.00	0.00
2,500.00	12.00	238.62	2,497.08	-21.73	-35.63	41.74	3.00	3.00	0.00
2,600.00	15.00	238.62	2,594.31	-33.88	-55.56	65.08	3.00	3.00	0.00
2,700.00	18.00	238.62	2,690.18	-48.67	-79.81	93.48	3.00	3.00	0.00
2,800.00	21.00	238.62	2,784.43	-66.05	-108.30	126.85	3.00	3.00	0.00
2,900.00	24.00	238.62	2,876.81	-85.97	-140.97	165.12	3.00	3.00	0.00
3,000.00	27.00	238.62	2,967.06	-108.38	-177.72	208.16	3.00	3.00	0.00
3,100.00	30.00	238.62	3,054.93	-133.22	-218.46	255.87	3.00	3.00	0.00
3,200.00	33.00	238.62	3,140.18	-160.42	-263.06	308.12	3.00	3.00	0.00
3,300.00	36.00	238.62	3,222.59	-189.91	-311.41	364.75	3.00	3.00	0.00
3,400.00	39.00	238.62	3,301.91	-221.60	-363.38	425.62	3.00	3.00	0.00
3,433.33	40.00	238.62	3,327.63	-232.64	-381.48	446.82	3.00	3.00	0.00
<b>Start 40.00° Hold At 3433.33' MD</b>									
3,500.00	40.00	238.62	3,378.70	-254.95	-418.07	489.67	0.00	0.00	0.00
3,600.00	40.00	238.62	3,455.31	-288.41	-472.95	553.95	0.00	0.00	0.00
3,700.00	40.00	238.62	3,531.91	-321.88	-527.83	618.23	0.00	0.00	0.00
3,800.00	40.00	238.62	3,608.52	-355.35	-582.71	682.51	0.00	0.00	0.00
3,900.00	40.00	238.62	3,685.12	-388.81	-637.59	746.79	0.00	0.00	0.00
3,916.81	40.00	238.62	3,698.00	-394.44	-646.82	757.60	0.00	0.00	0.00
<b>Start Drop -3.00</b>									
4,000.00	37.50	238.62	3,762.87	-421.55	-691.27	809.66	3.00	-3.00	0.00
4,100.00	34.50	238.62	3,843.76	-452.15	-741.45	868.44	3.00	-3.00	0.00
4,200.00	31.50	238.62	3,927.61	-480.51	-787.95	922.91	3.00	-3.00	0.00
4,300.00	28.50	238.62	4,014.20	-506.54	-830.64	972.91	3.00	-3.00	0.00
4,400.00	25.50	238.62	4,103.29	-530.18	-869.40	1,018.31	3.00	-3.00	0.00

## Scientific Drilling Planning Report

<b>Database:</b>	EDM2003.16 MultiuserDB	<b>Local Co-ordinate Reference:</b>	Well NBU 1021-13B3CS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5261' & RKB 18' @ 5279.00ft
<b>Project:</b>	Uintah County, UT NAD27	<b>MD Reference:</b>	GL 5261' & RKB 18' @ 5279.00ft
<b>Site:</b>	NBU 1021-13A Pad	<b>North Reference:</b>	True
<b>Well:</b>	NBU 1021-13B3CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.00	22.50	238.62	4,194.63	-551.36	-904.13	1,058.98	3.00	-3.00	0.00
4,600.00	19.50	238.62	4,287.97	-570.02	-934.73	1,094.82	3.00	-3.00	0.00
4,700.00	16.50	238.62	4,383.07	-586.11	-961.12	1,125.73	3.00	-3.00	0.00
4,773.58	14.30	238.62	4,454.00	-596.28	-977.80	1,145.27	3.00	-3.00	0.00
<b>Wasatch</b>									
4,800.00	13.50	238.62	4,479.64	-599.58	-983.22	1,151.62	3.00	-3.00	0.00
4,900.00	10.50	238.62	4,577.45	-610.41	-1,000.97	1,172.41	3.00	-3.00	0.00
5,000.00	7.50	238.62	4,676.20	-618.56	-1,014.33	1,188.06	3.00	-3.00	0.00
5,100.00	4.50	238.62	4,775.64	-624.01	-1,023.26	1,198.52	3.00	-3.00	0.00
5,200.00	1.50	238.62	4,875.49	-626.73	-1,027.74	1,203.76	3.00	-3.00	0.00
5,250.15	0.00	0.00	4,925.63	-627.08	-1,028.30	1,204.42	3.00	-3.00	0.00
<b>Start 0.00° Hold At 5250.15' MD</b>									
5,300.00	0.00	0.00	4,975.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
5,400.00	0.00	0.00	5,075.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
5,500.00	0.00	0.00	5,175.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
5,600.00	0.00	0.00	5,275.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
5,700.00	0.00	0.00	5,375.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
5,800.00	0.00	0.00	5,475.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
5,900.00	0.00	0.00	5,575.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
6,000.00	0.00	0.00	5,675.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
6,100.00	0.00	0.00	5,775.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
6,200.00	0.00	0.00	5,875.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
6,300.00	0.00	0.00	5,975.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
6,400.00	0.00	0.00	6,075.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
6,500.00	0.00	0.00	6,175.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
6,600.00	0.00	0.00	6,275.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
6,700.00	0.00	0.00	6,375.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
6,800.00	0.00	0.00	6,475.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
6,900.00	0.00	0.00	6,575.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
7,000.00	0.00	0.00	6,675.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
7,100.00	0.00	0.00	6,775.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
7,200.00	0.00	0.00	6,875.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
7,300.00	0.00	0.00	6,975.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
7,400.00	0.00	0.00	7,075.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
7,500.00	0.00	0.00	7,175.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
7,600.00	0.00	0.00	7,275.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
7,700.00	0.00	0.00	7,375.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
7,800.00	0.00	0.00	7,475.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
7,900.00	0.00	0.00	7,575.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
8,000.00	0.00	0.00	7,675.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
8,100.00	0.00	0.00	7,775.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
8,200.00	0.00	0.00	7,875.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
8,300.00	0.00	0.00	7,975.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
8,381.51	0.00	0.00	8,057.00	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
<b>Mesaverde</b>									
8,400.00	0.00	0.00	8,075.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
8,500.00	0.00	0.00	8,175.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
8,600.00	0.00	0.00	8,275.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
8,700.00	0.00	0.00	8,375.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
8,800.00	0.00	0.00	8,475.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
8,900.00	0.00	0.00	8,575.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
9,000.00	0.00	0.00	8,675.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
9,100.00	0.00	0.00	8,775.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00

## Scientific Drilling Planning Report

<b>Database:</b> EDM2003.16 MultiuserDB	<b>Local Co-ordinate Reference:</b> Well NBU 1021-13B3CS
<b>Company:</b> Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b> GL 5261' & RKB 18' @ 5279.00ft
<b>Project:</b> Uintah County, UT NAD27	<b>MD Reference:</b> GL 5261' & RKB 18' @ 5279.00ft
<b>Site:</b> NBU 1021-13A Pad	<b>North Reference:</b> True
<b>Well:</b> NBU 1021-13B3CS	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> OH	
<b>Design:</b> Plan #1	

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,200.00	0.00	0.00	8,875.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
9,300.00	0.00	0.00	8,975.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
9,400.00	0.00	0.00	9,075.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
9,500.00	0.00	0.00	9,175.49	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00
9,524.51	0.00	0.00	9,200.00	-627.08	-1,028.30	1,204.42	0.00	0.00	0.00

**TD at 9524.51 - NBU 1021-13B3CS PBHL**

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
NBU 1021-13B3CS P - hit/miss target - Shape - Circle (radius 25.00)	0.00	0.00	9,200.00	-627.08	-1,028.30	595,845.01	2,561,173.86	39° 57' 7.219 N	109° 29' 53.087 W

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,000.00	2,000.00	Surface Casing	9.625	13.500

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,252.00	1,252.00	Green River		0.00	
4,773.58	4,454.00	Wasatch		0.00	
8,381.51	8,057.00	Mesaverde		0.00	

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,100.00	2,100.00	0.00	0.00	Start Build 3.00
3,433.33	3,327.63	-232.64	-381.48	Start 40.00° Hold At 3433.33' MD
3,916.81	3,698.00	-394.44	-646.82	Start Drop -3.00
5,250.15	4,925.63	-627.08	-1,028.30	Start 0.00° Hold At 5250.15' MD
9,524.51	9,200.00	-627.08	-1,028.30	TD at 9524.51

CLASS I REVIEW OF KERR-MCGEE OIL & GAS  
ONSHORE LP'S FIVE PROPOSED WELL LOCATIONS  
IN TOWNSHIP 10S, RANGE 21E, SECTION 13  
UINTAH COUNTY, UTAH

CLASS I REVIEW OF KERR-MCGEE OIL & GAS  
ONSHORE LP'S FIVE PROPOSED WELL LOCATIONS  
IN TOWNSHIP 10S, RANGE 21E, SECTION 13  
UINTAH COUNTY, UTAH

By:

Jacki A. Montgomery

Prepared For:

State of Utah  
School & Institutional Trust Lands Administration

Prepared Under Contract With:

Kerr-McGee Oil & 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. 09-001

February 26, 2009

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 February 2009 of Kerr-McGee Oil & Gas Onshore LP's five proposed well locations with associated pipeline corridor in Township 10S, Range 21E, Section 13. The project area is situated south of the White River, south of the town of Vernal, Uintah County, Utah. The well locations are designated NBU #13A (NBU #1021-13A) Directional Pad, NBU #1021-13B3CS, NBU #1021-13A3CS, NBU #1021-13H4AS, and NBU #1021-13H4CS. This document was implemented at the request of Ms. Raleen White, Kerr-McGee Oil & Gas Onshore LP, Denver, Colorado. Land status is state lands administered by the State of Utah School & Institutional Trust Lands Administration (SITLA).

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).

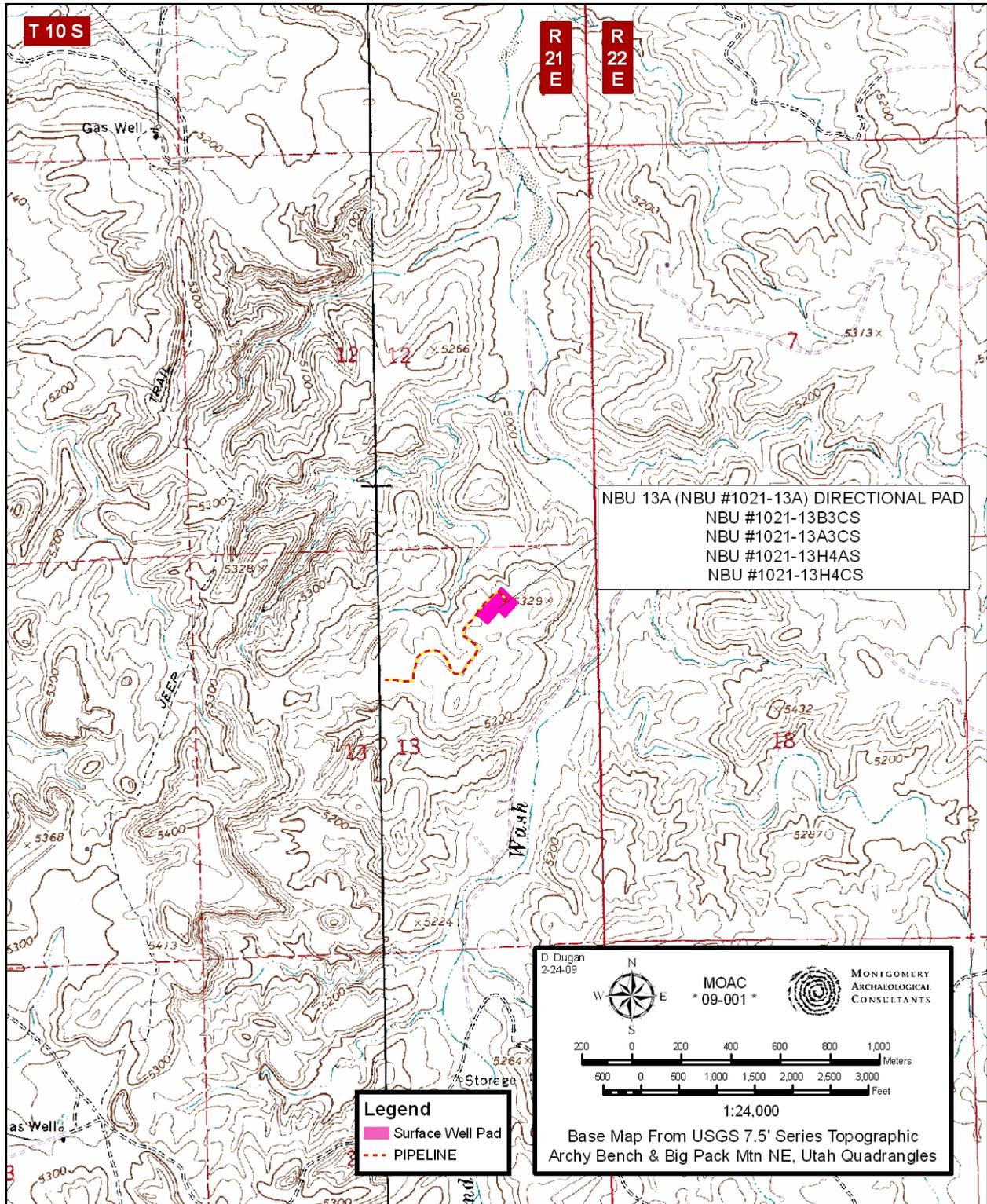
The project area was previously inventoried in 2005 by MOAC for Westport Oil and Gas Company's six well locations near Sand Wash (Jendresen and Montgomery 2005). A file search was completed by consulting MOAC's Class I existing data review of 459 square miles (293,805 acres) covering the Greater NBU study area between Bonanza and Ouray in Uintah County, northeastern Utah (Patterson et al. 2008). 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 previous archaeological sites occurs near the current project area.

## DESCRIPTION OF THE PROJECT AREA

The project area is situated west of Sand Wash and south of the White River in the Uinta Basin. The legal description is Township 10 South, Range 21 East, Section 13 (Table 1; Figure 1).

Table 1. Kerr-McGee Onshore's Five Proposed Well Locations.

Well Designation	Legal Description	Access/Pipeline Corridor	Cultural Resources
NBU #13A (NBU #1021-13A) Directional Pad NBU #1021-13B3CS NBU #1021-13A3CS NBU #1021-13H4AS NBU #1021-13H4CS	NE/NE Sec. 13, T10S, R21E	Pipeline: 2400 ft	None



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 adjacent to the White River and Bitter Creek. Elevation averages 5240 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 Oil & Gas Onshore LP's five proposed well locations with pipeline corridor resulted in no previously documented cultural resources. Therefore, archaeological clearance is recommended for this undertaking.

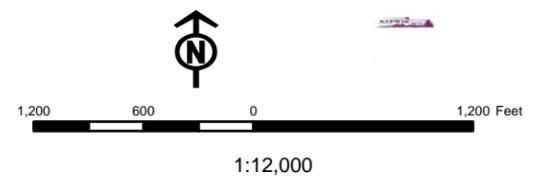
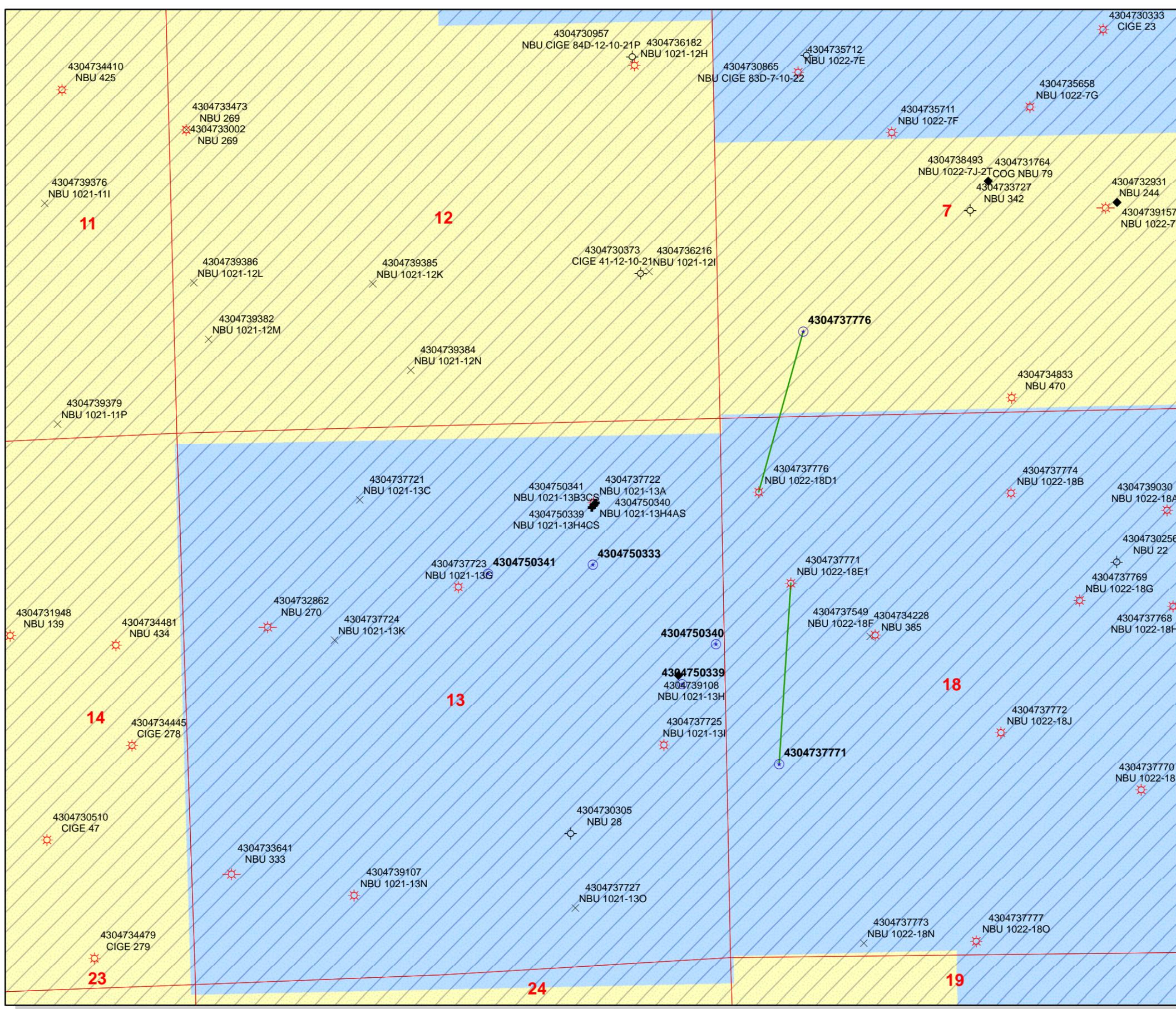
### REFERENCES CITED

- Jendresen, A., and K.R. Montgomery  
2005 Cultural Resource Inventory of Westport Oil and Gas Company's Six Proposed Well Locations near Sand Wash: NBU Wells 1021-13A, C, G, I, K, and O in T10S, R21E, Sec. 13, Uintah County, Utah. Montgomery Archaeological Consultants, Moab, Utah. Report U-05-MQ-1143.
- 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.

**API Number: 4304750341**  
**Well Name: NBU 1021-13B3CS**  
**Township 10.0 S Range 21.0 E Section 13**  
**Meridian: SLBM**  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason

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



**From:** Jim Davis  
**To:** Mason, Diana  
**Date:** 4/20/2009 4:48 PM  
**Subject:** The following APDs on a multi-well pad are approved by SITLA including arch and paleo clearance. Paleo clearance granted with the condition explained below.

The following APDs on a multi-well pad are approved by SITLA including arch and paleo clearance. Paleo clearance granted with the condition explained below.

NBU 1021-13B3CS (4304750341)  
NBU 1021-13A3CS (4304750333)  
NBU 1021-13H4CS (4304750340) and  
NBU 1021-13H4AS (4304750339).  
-Jim

This e-mail went to Kerr McGee/ Anadarko this afternoon.  
Raleen,

As recommended in the report from Intermountain Paleo-Consulting (IPC 09-58), SITLA is requiring that a permitted paleontologist be present during the beginning of construction of the multi-well pad, roads and pipelines for the NBU 1021-13B3CS, A3CS, H4CS and H4AS and then spot paleo monitoring thereafter as necessary. I'll be sending SITLA's approval of this well to DOGM later today- this requirement will be noted there as a condition of our approval. Call me if you have any questions.

-Jim

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



## Kerr-McGee Oil & Gas Onshore LP

1099 18th Street, Suite 1800  
Denver, CO 80202-1918  
P.O. Box 173779  
Denver, CO 80217-3779  
720-929-6000

April 22, 2009

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 1021-13B3CS  
T10S-R21E  
Section 13: NWNE  
Surface: 696' FNL, 1328' FEL  
Bottom Hole: 1320' FNL, 2360' FEL  
Uintah County, Utah

Dear Mrs. Mason:

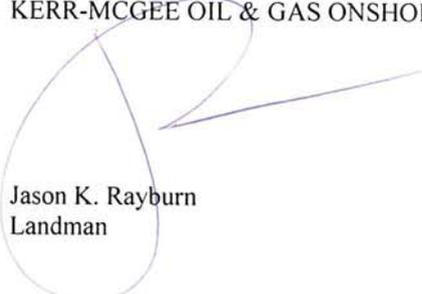
Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 1021-13B3CS 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



Jason K. Rayburn  
Landman

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1021-13B3CS 430475034		
String	Surf	Prod	
Casing Size(")	9.625	4.500	
Setting Depth (TVD)	2200	9200	
Previous Shoe Setting Depth (TVD)	20	2200	
Max Mud Weight (ppg)	8.3	11.6	
BOPE Proposed (psi)	500	5000	
Casing Internal Yield (psi)	3520	7780	
Operators Max Anticipated Pressure (psi)	5638	11.8	

Calculations	Surf String	9.625	"
Max BPH (psi)	$.052 * \text{Setting Depth} * \text{MW} =$	953	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	689	NO
MASP (Gas/Mud) (psi)	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	469	YES OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	473	NO Reasonable depth for area
Required Casing/BOPE Test Pressure=		2200	psi
*Max Pressure Allowed @ Previous Casing Shoe=		20	psi *Assumes 1psi/ft frac gradient

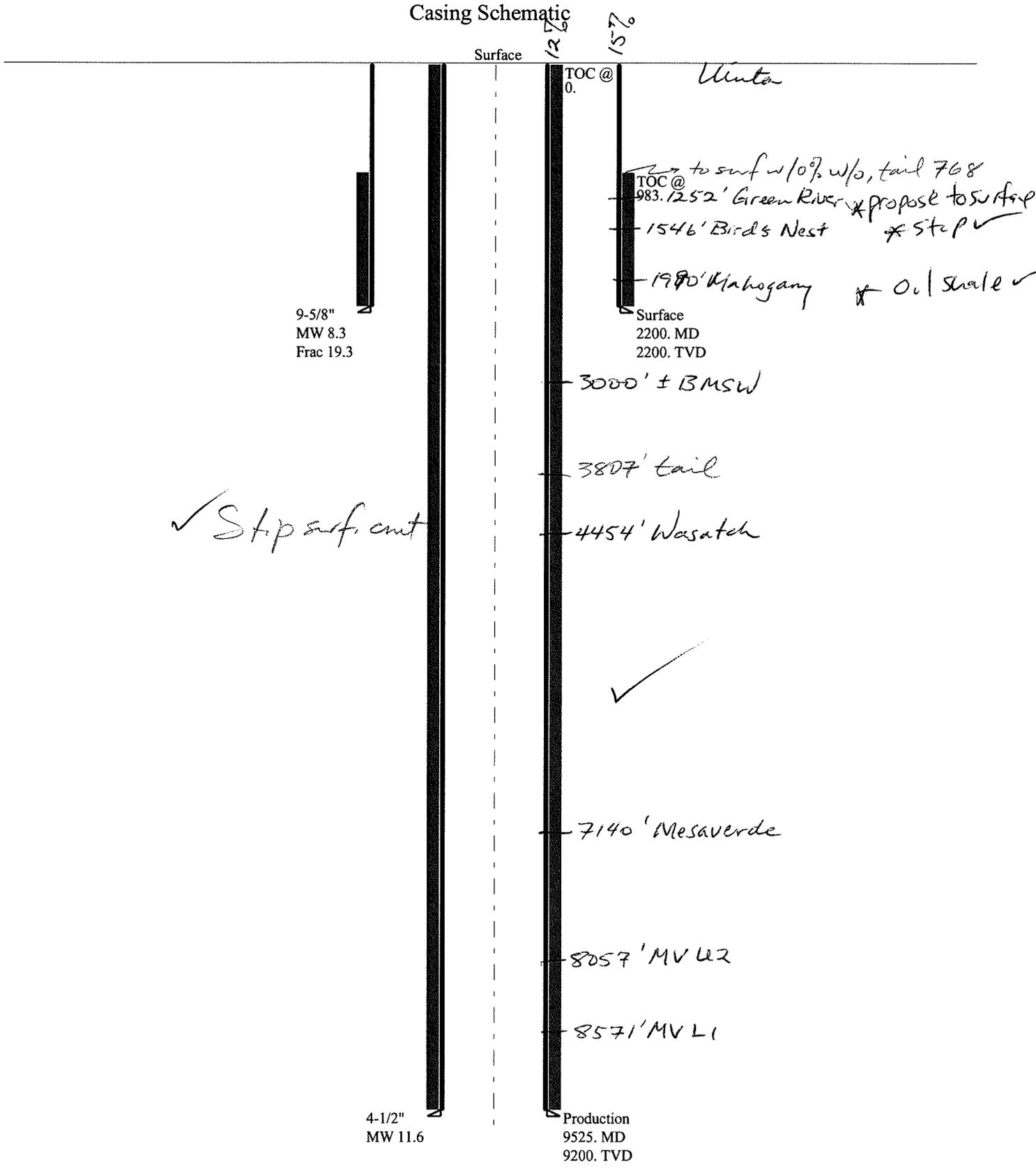
Calculations	Prod String	4.500	"
Max BPH (psi)	$.052 * \text{Setting Depth} * \text{MW} =$	5549	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	4445	YES
MASP (Gas/Mud) (psi)	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	3525	YES OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	4009	NO Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2200	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

# 43047503410000 NBU 1021-13B3CS

## Casing Schematic



Well name:	<b>43047503410000 NBU 1021-13B3CS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Surface	Project ID:	43-047-50341
Location:	UINTAH	COUNTY	

**Design parameters:**

**Collapse**

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

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 105 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft  
Cement top: 983 ft

**Burst**

Max anticipated surface pressure: 1,936 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,200 psi

No backup mud specified.

**Tension:**

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

Tension is based on air weight.  
Neutral point: 1,929 ft

**Directional Info - Build & Drop**

Kick-off point 2100 ft  
Departure at shoe: 3 ft  
Maximum dogleg: 3 °/100ft  
Inclination at shoe: 3 °

**Re subsequent strings:**

Next setting depth: 9,200 ft  
Next mud weight: 11,600 ppg  
Next setting BHP: 5,544 psi  
Fracture mud wt: 19,250 ppg  
Fracture depth: 2,200 ft  
Injection pressure: 2,200 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2200	9.625	36.00	J-55	LT&C	2200	2200	8.796	17989
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	952	1948	2.046	2200	3520	1.60	79.2	453	5.72 J

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

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

Date: June 10, 2009  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2200 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

Well name:	<b>43047503410000 NBU 1021-13B3CS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Production	Project ID:	43-047-50341
Location:	UINTAH COUNTY		

**Design parameters:**

**Collapse**

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

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
 Surface temperature: 74 °F  
 Bottom hole temperature: 203 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 100 ft  
 Cement top: Surface

**Burst**

Max anticipated surface pressure: 3,520 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 5,544 psi

No backup mud specified.

**Tension:**

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

Tension is based on air weight.  
 Neutral point: 7,930 ft

**Directional Info - Build & Drop**

Kick-off point 2100 ft  
 Departure at shoe: 1204 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)	Est. Cost (\$)
1	9525	4.5	11.60	I-80	LT&C	9200	9525	3.875	125730

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	5544	6360	1.147	5544	7780	1.40	106.7	212	1.99 J

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

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

Date: June 10, 2009  
 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 9200 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

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.  
**Well Name** NBU 1021-13B3CS  
**API Number** 43047503410000      **APD No** 1390      **Field/Unit** NATURAL BUTTES  
**Location: 1/4,1/4** NENE      **Sec** 13      **Tw** 10.0S      **Rng** 21.0E      696      **FNL** 1328      **FEL**  
**GPS Coord (UTM)** 628624 4423507      **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**

This location is in a tributary of the Sand Wash drainage of the Natural Buttes Unit approximately 50.7 road miles south of Vernal, Ut.. The Seep Ridge Road, Uintah County roads and existing oil field development roads access the site. Sand Wash, the major drainage in the area, drains northerly to the White River a distance of approximately 3-1/2 miles. The area is characterized by narrow ridges and steep sided hills, which are frequently divided by narrow to wide valley bottoms. Sand Wash is an ephemeral drainage. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. Washes are sometimes rimed with exposed sand stone bedrock cliffs.

Four additional gas wells are proposed on an enlarged pad that currently contains the NBU 13A producing gas well. Continued operation of this well is planned. The additional wells are the NBU 1021-13B3CS, 13A3CS, 13H4CS and 13H4AS. Steep rocky topography limits the size that the pad can be enlarged. The location is on a side ridge trending in a southeast to northwest direction. The pad will be extended on both ends with the reserve pit cut an additional distance into the adjacent side hill. A v shaped draw beyond Corners 2 and 3 should not be filled. Stakes at this location are numbered wrong and a new Location Layout drawing will be submitted. No drainages intersect the location and no diversions are required. Sand Wash is about 1/8 mile to the east. The selected location appears to be suitable for enlargement of the pad and drilling and operating the proposed additional wells. It is the only suitable site in the area.

Both the surface and minerals are owned by SITLA.

**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> 310 <b>Length</b> 470	Onsite	UNTA

**Ancillary Facilities** N

**Waste Management Plan Adequate?**

**Environmental Parameters**

**Affected Floodplains and/or Wetlands** N

**Flora / Fauna**

Vegetation in the non-disturbed area includes halogeton, black sagebrush, shadscale and annuals.

Sheep, antelope and small mammals and birds.

**Soil Type and Characteristics**

Soils are a ledgy rocky sandy loam.

**Erosion Issues** N

**Sedimentation Issues** N

**Site Stability Issues** N

**Drainage Diverson Required?** N

**Berm Required?** N

**Erosion Sedimentation Control Required?** N

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

**Reserve Pit**

**Site-Specific Factors**

**Site Ranking**

<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>	Mod permeability	10	
<b>Fluid Type</b>	Fresh Water	5	
<b>Drill Cuttings</b>	Normal Rock	0	
<b>Annual Precipitation (inches)</b>		0	
<b>Affected Populations</b>			
<b>Presence Nearby Utility Conduits</b>	Not Present	0	
<b>Final Score</b>		35	1 Sensitivity Level

**Characteristics / Requirements**

The reserve pit is planned in an area of cut in the southwest corner of the location. Dimensions are 110' x 250' x 12' deep with 2' of freeboard. Rounding between Corners C and D is planned. A liner with a minimum thickness of 30 mils. and a felt sub-liner are required.

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

**Other Observations / Comments**

Floyd Bartlett  
Evaluator

4/28/2009  
Date / Time

# Application for Permit to Drill Statement of Basis

6/17/2009

**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>
1390	43047503410000	LOCKED	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 1021-13B3CS	<b>Unit</b>		NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES	<b>Type of Work</b>		DRILL	
<b>Location</b>	NENE 13 10S 21E S 696 FNL 1328 FEL		GPS Coord (UTM)	628621E	4423495N

**Geologic Statement of Basis**

Kerr McGee proposes to set 1,900' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 5,000'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 13. The well is located .75 miles southwest of the proposed location. The well is owned by Target Trucking and is used for oil well drilling fluid. No depth is listed. 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**

4/30/2009  
**Date / Time**

**Surface Statement of Basis**

This location is in a tributary of the Sand Wash drainage of the Natural Buttes Unit approximately 50.7 road miles south of Vernal, Ut.. The Seep Ridge Road, Uintah County roads and existing oil field development roads access the site. Sand Wash, the major drainage in the area, drains northerly to the White River a distance of approximately 3-1/2 miles. The area is characterized by narrow ridges and steep sided hills, which are frequently divided by narrow to wide valley bottoms. Sand Wash is an ephemeral drainage. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. Washes are sometimes rimmed with exposed sand stone bedrock cliffs.

Four additional gas wells are proposed on an enlarged pad that currently contains the NBU 13A producing gas well. Continued operation of this well is planned. The additional wells are the NBU 1021-13B3CS, 13A3CS, 13H4CS and 13H4AS. Steep rocky topography limits the size that the pad can be enlarged. The location is on a side ridge trending in a southeast to northwest direction. The pad will be extended on both ends with the reserve pit cut an additional distance into the adjacent side hill. A v shaped draw beyond Corners 2 and 3 should not be filled. Stakes at this location are numbered wrong and a new Location Layout drawing will be submitted. No drainages intersect the location and no diversions are required. Sand Wash is about 1/8 mile to the east. The selected location appears to be suitable for enlargement of the pad and drilling and operating the proposed additional wells. It is the only suitable site in the area.

Both the surface and minerals are owned by SITLA. Ed Bonner of SITLA reviewed the site and had no concerns regarding the proposal except as covered above.

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

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# Application for Permit to Drill Statement of Basis

6/17/2009

Utah Division of Oil, Gas and Mining

Page 2

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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 30 mils with a felt subliner 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

**APD RECEIVED:** 4/5/2009

**API NO. ASSIGNED:** 43047503410000

**WELL NAME:** NBU 1021-13B3CS

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

**PHONE NUMBER:** 720 929-6007

**CONTACT:** Kathy Schneebeck-Dulnoan

**PROPOSED LOCATION:** NENE 13 100S 210E

**Permit Tech Review:**

**SURFACE:** 0696 FNL 1328 FEL

**Engineering Review:**

**BOTTOM:** 1320 FNL 2360 FEL

**Geology Review:**

**COUNTY:** UINTAH

**LATITUDE:** 39.95371

**LONGITUDE:** -109.49428

**UTM SURF EASTINGS:** 628621.00

**NORTHINGS:** 4423495.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 3 - State

**LEASE NUMBER:** ML 23608

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

**SURFACE OWNER:** 3 - State

**COALBED METHANE:** NO

## RECEIVED AND/OR REVIEWED:

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

**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:**  
3 - Commingle - ddoucet  
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 1021-13B3CS  
**API Well Number:** 43047503410000  
**Lease Number:** ML 23608  
**Surface Owner:** STATE  
**Approval Date:** 6/17/2009

**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

**Commingle:**

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

**General:**

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

**Conditions of Approval:**

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

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

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

Surface casing shall be cemented to the surface.

**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

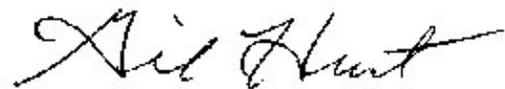
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

- 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:**



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> ML 23608	

<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 1021-13B3CS
------------------------------------	--

<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503410000
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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> 0696 FNL 1328 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 13 Township: 10.0S Range: 21.0E 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: 11/2/2009			
<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" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL LOCATION ON 11/2/2009 AT 15:00 HRS.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 November 09, 2009

<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> 11/9/2009	

**ENTITY ACTION FORM**

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

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750341	NBU 1021-13B3CS		NENE	13	10S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<i>B</i>	99999	<i>2900</i>	11/2/2009			<i>11/10/09</i>	
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL LOCATION ON 11/2/2009 AT 15:00 HRS. <i>BHL = N WNE</i>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750180	NBU 920-12G		SWNE	12	9S	20E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<i>B</i>	99999	<i>2900</i>	11/5/2009			<i>11/10/09</i>	
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <i>MVRD = WSMVD</i> SPUD WELL LOCATION ON 11/5/2009 AT 15:00 HRS.							

Well 3

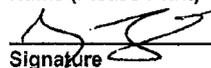
API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750160	NBU 920-12D		NWNW	12	9S	20E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<i>B</i>	99999	<i>2900</i>	11/6/2009			<i>11/10/09</i>	
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <i>MVRD = WSMVD</i> SPUD WELL LOCATION ON 11/6/2009 AT 9:30 HRS.							

**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

11/9/2009

Title

Date

**RECEIVED**  
NOV 09 2009

<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> ML 23608
<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 1021-13B3CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503410000
<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>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0696 FNL 1328 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 13 Township: 10.0S Range: 21.0E 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 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: 11/15/2009	<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 11/14/2009. DRILLED 12-1/4" SURFACE HOLE. RAN 9-5/8" 36# J-55 SURFACE CSG. PUMP 170 BBLs WATER AHEAD AND 20 BBLs GEL. CMT W/300 SX CLASS G PREM LITE @ 15.8 PPG, 1.15 YIELD. DISPLACE W/166.7 BBLs. BUMP PLUG, FLOATS HELD. TOP OUT #1 W/1500 SX CLASS G PREM LITE CMT @ 15.8 PPG, 1.15 YIELD. TOP OUT #2 W/1000 SX SAME CMT. TOTAL AMOUNT OF CMT WAS 550 SX CLASS G PREM. WORT.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 November 17, 2009

<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> 11/16/2009	

<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> ML 23608
<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 1021-13B3CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503410000
<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>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0696 FNL 1328 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 13 Township: 10.0S Range: 21.0E 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 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: 2/16/2010	<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 2241' TO 9516' ON 2/12/2010. RAN 4 1/2" 11.6 I-80 PRODUCTION CSG. LEAD CMT W/ 635 SX CLASS G ECONOCEM @ 12.3 PPG, 2.03 YIELD. TAILED CMNT W/ 1,505 SX CLASS G 50/50 POZ MIX @ 14.3 PPG, 1.22 YIELD. DISPLACED W/ 147 BBLs FRESH WATER, BUMP PLUG 500 OVER FINAL CIRC PSI OF 2700. PLUG HELD (LOST RETURNS @ 290 BBLs INTO TAIL CEMENT. REGAIN 1/2 RETURNS @ 330 BBLs IN TAIL CMNT. REGAIN 1/2 RETURNS @ 330 BBLs IN TAIL CEMENT & ON DISPLACEMENT LOST FULL RETURNS @ 142 BBLs. NO WATER OR CEMENT TO SURFACE. NIPPLE DOWN STACK & WASH AND CLEAN OUT MUD TANKS. RELEASED ENSIGN 139 ON 2/13/2010 @ 20:00 HOURS.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 February 17, 2010

<b>NAME (PLEASE PRINT)</b> Laura Gianakos	<b>PHONE NUMBER</b> 307 752-1169	<b>TITLE</b> Regulatory Affairs Supervisor
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/16/2010	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 23608
	<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 1021-13B3CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503410000
<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>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0696 FNL 1328 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 13 Township: 10.0S Range: 21.0E 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 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: 6/22/2010	<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"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
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	<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.

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON JUNE 22, 2010 AT 9:25 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**  
 June 24, 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> 6/23/2010	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 23608
	<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 1021-13B3CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503410000
<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>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0696 FNL 1328 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 13 Township: 10.0S Range: 21.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
	<b>COUNTY:</b> UINTAH
	<b>STATE:</b> UTAH

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TYPE OF SUBMISSION	TYPE OF ACTION		
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<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 6/22/2010	<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"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER:

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

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON JUNE 22, 2010 AT 9:25 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**  
 June 24, 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> 6/23/2010	

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

AMENDED REPORT  FORM 8  
(highlight changes)

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. TYPE OF WELL: OIL WELL  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: **NENE 696 FNL & 1328 FEL S13,T10S,R21E**  
AT TOP PRODUCING INTERVAL REPORTED BELOW: **NWNE 1318 FNL & 2353 FEL S13,T10S,R21E**  
*SUNR, 1323 FNL & 2338 FEL*  
AT TOTAL DEPTH: **NWNE 1322 FNL & 2338 FEL S13,T10S,R21E**

5. LEASE DESIGNATION AND SERIAL NUMBER: **ML23608**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME \_\_\_\_\_

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

8. WELL NAME and NUMBER: **NBU 1021-13B3CS**

9. API NUMBER: **4304750341**

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

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **NENE 13 10S 21E S**

12. COUNTY: **UINTAH** 13. STATE: **UTAH**

14. DATE SPUDDED: **11/2/2009** 15. DATE T.D. REACHED: **2/12/2010** 16. DATE COMPLETED: **6/22/2010** ABANDONED  READY TO PRODUCE

17. ELEVATIONS (DF, RKB, RT, GL): **5261 GL**

18. TOTAL DEPTH: MD **9,516** TVD **9,296** 19. PLUG BACK T.D.: MD **9,465** TVD **9,245** 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)  
**ACOUSTIC CBL-CHI TRIPLE COMBO-CCL/GR**

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			
12 1/4"	9 5/8" J-55	36#		2,215		550			
7 7/8"	4 1/2 I-80	11.6#		9,487		2,140			

**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"	8,740							

**26. PRODUCING INTERVALS**

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) WASATCH	6,228	6,645			6,228 6,645	0.36	37	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B) MESAVERDE	7,936	9,232			7,936 9,232	0.36	63	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

**27. PERFORATION RECORD**

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6228-6645	PUMP 2,254 BBLs SLICK H2O & 82,707 LBS 30/50 SAND
7936-9232	PUMP 4,834 BBLs SLICK H2O & 175,556 LBS 30/50 SAND

**29. ENCLOSED ATTACHMENTS:**

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

**30. WELL STATUS: PROD**

31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 6/22/2010		TEST DATE: 6/26/2010		HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 1,146	WATER – BBL: 432	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 731	CSG. PRESS. 1,981	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 1,146	WATER – BBL: 432	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.

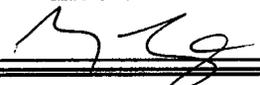
34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
GREEN RIVER	1,158				
BIRD'S NEST	1,535				
MAHOGANY	2,013				
WASATCH	4,620	7,375			
MESAVERDE	7,375	9,516	TD		

35. ADDITIONAL REMARKS (Include plugging procedure)

ATTACHED IS THE CHRONOLOGICAL WELL HISTORY AND FINAL SURVEY.

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

NAME (PLEASE PRINT) ANDREW LYTLE TITLE REGULATORY ANALYST  
 SIGNATURE  DATE 7/22/2010

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

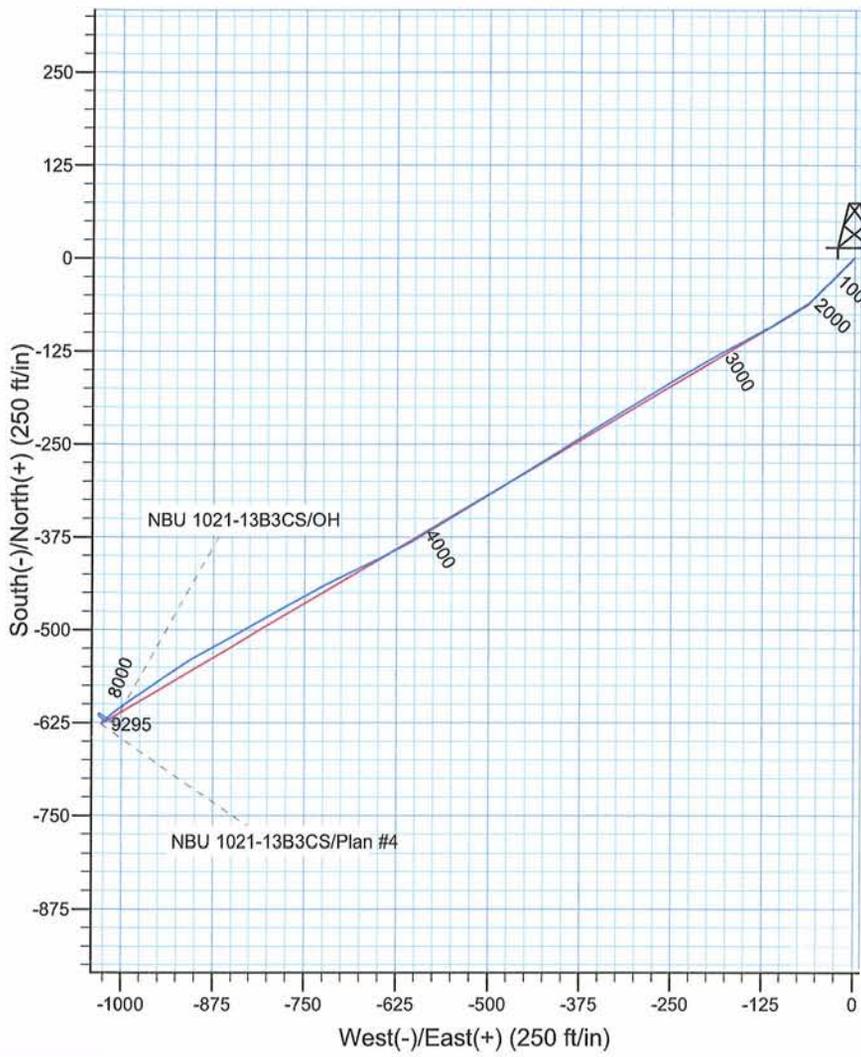
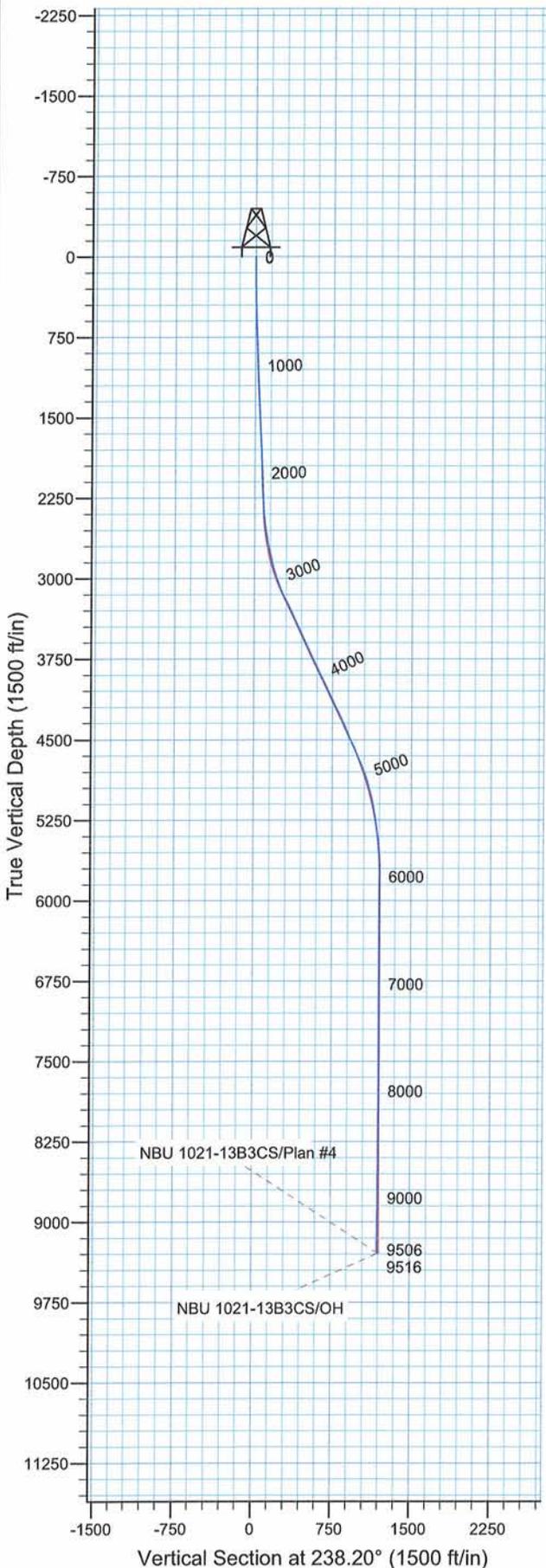
\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* 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



WELL DETAILS: NBU 1021-13B3CS

Ground Lev@L: 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
 +N/-S +E/-W    Northing    Easting    Latitude    Longitude  
 0.00   0.00   596493.78   2562182.72   39° 57' 13.417 N   109° 29' 39.882 W

REFERENCE INFORMATION

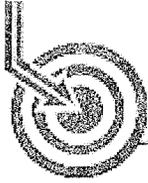
Co-ordinate (N/E) Reference: Well NBU 1021-13B3CS, True North  
 Vertical (TVD) Reference: GL 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
 Section (VS) Reference: Slot - (0.00N, 0.00E)  
 Measured Depth Reference: GL 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
 Calculation Method: Minimum Curvature  
 Local North: True  
 Location: Sec 1 T10S R21E

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

Design: OH (NBU 1021-13B3CS/OH)

Created By: Rex Hall    Date: 2010-02-26



**Scientific Drilling**  
Rocky Mountain Operations

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

Uintah County, UT NAD27  
NBU 1021-13A Pad  
NBU 1021-13B3CS  
OH

Design: OH

## **Standard Survey Report**

26 February, 2010





**Scientific Drilling International**  
Survey Report



**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1021-13A Pad  
**Well:** NBU 1021-13B3CS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1021-13B3CS  
**TVD Reference:** GL 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
**MD Reference:** GL 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Multi-User Db

<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 1021-13A Pad, Sec 1 T10S R21E				
<b>Site Position:</b>		<b>Northing:</b>	596,538.51 ft	<b>Latitude:</b>	39° 57' 13.850 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,562,222.69 ft	<b>Longitude:</b>	109° 29' 39.356 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	in	<b>Grid Convergence:</b>	1.28 °

<b>Well</b>	NBU 1021-13B3CS, 696' FNL 1328' FEL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	596,493.78 ft	<b>Latitude:</b>	39° 57' 13.417 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,562,182.72 ft	<b>Longitude:</b>	109° 29' 39.882 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,261.00 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>
	IGRF200510	11/6/2009	11.25	65.88	52,491

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	10.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	10.00	0.00	0.00	238.20	

<b>Survey Program</b>	Date 2/26/2010				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
230.00	2,241.00	Survey #1 - Surface (OH)	MWD SDI	MWD - Standard ver 1.0.1	
2,345.00	9,516.00	Survey #2 - Production (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)
10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
230.00	0.24	300.25	230.00	0.23	-0.40	0.22	0.11	0.11	0.00
320.00	0.55	213.42	320.00	-0.03	-0.80	0.70	0.65	0.34	-96.48
400.00	1.39	209.64	399.99	-1.20	-1.49	1.90	1.05	1.05	-4.72
490.00	1.77	217.42	489.95	-3.25	-2.87	4.16	0.48	0.42	8.64
580.00	2.35	230.02	579.89	-5.54	-5.13	7.28	0.81	0.64	14.00
670.00	2.59	227.62	669.81	-8.10	-8.05	11.11	0.29	0.27	-2.67
760.00	2.66	228.73	759.72	-10.84	-11.12	15.17	0.10	0.08	1.23
850.00	2.44	226.76	849.63	-13.53	-14.09	19.10	0.26	-0.24	-2.19
940.00	2.55	224.13	939.54	-16.28	-16.88	22.92	0.18	0.12	-2.92
1,030.00	2.32	223.45	1,029.46	-19.04	-19.52	26.63	0.26	-0.26	-0.76
1,120.00	2.55	224.03	1,119.38	-21.80	-22.17	30.33	0.26	0.26	0.64

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1021-13A Pad  
**Well:** NBU 1021-13B3CS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1021-13B3CS  
**TVD Reference:** GL 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
**MD Reference:** GL 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Multi-User Db

**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)
1,210.00	2.42	219.26	1,209.29	-24.72	-24.76	34.07	0.27	-0.14	-5.30
1,300.00	2.25	222.82	1,299.22	-27.48	-27.16	37.57	0.25	-0.19	3.96
1,390.00	2.30	226.16	1,389.15	-30.03	-29.67	41.04	0.16	0.06	3.71
1,480.00	2.65	223.45	1,479.06	-32.79	-32.40	44.82	0.41	0.39	-3.01
1,570.00	2.72	233.12	1,568.97	-35.58	-35.54	48.96	0.51	0.08	10.74
1,660.00	2.72	229.26	1,658.86	-38.26	-38.87	53.19	0.20	0.00	-4.29
1,750.00	2.70	227.27	1,748.76	-41.09	-42.04	57.38	0.11	-0.02	-2.21
1,840.00	2.60	219.93	1,838.67	-44.09	-44.91	61.40	0.39	-0.11	-8.16
1,930.00	2.66	225.22	1,928.57	-47.13	-47.70	65.38	0.28	0.07	5.88
2,020.00	2.51	222.91	2,018.48	-50.04	-50.53	69.31	0.20	-0.17	-2.57
2,110.00	2.48	225.17	2,108.40	-52.86	-53.25	73.11	0.11	-0.03	2.51
2,200.00	2.60	223.64	2,198.31	-55.71	-56.04	76.98	0.15	0.13	-1.70
2,241.00	2.67	224.38	2,239.26	-57.07	-57.35	78.81	0.19	0.17	1.80
<b>Last Survey in 11" Hole</b>									
2,345.00	3.96	235.98	2,343.09	-60.81	-62.02	84.75	1.39	1.24	11.15
<b>First SDI Production MWD Survey</b>									
2,435.00	6.07	240.99	2,432.74	-64.85	-68.76	92.61	2.39	2.34	5.57
2,526.00	8.62	239.58	2,522.99	-70.64	-78.85	104.24	2.81	2.80	-1.55
2,616.00	9.76	237.82	2,611.83	-78.12	-91.12	118.61	1.30	1.27	-1.96
2,707.00	10.38	237.30	2,701.43	-86.66	-104.55	134.52	0.69	0.68	-0.57
2,798.00	13.19	243.10	2,790.50	-95.78	-120.71	153.06	3.35	3.09	6.37
2,888.00	15.21	242.92	2,877.75	-105.81	-140.38	175.06	2.24	2.24	-0.20
2,979.00	18.03	241.87	2,964.94	-117.88	-163.43	201.02	3.12	3.10	-1.15
3,069.00	21.19	241.34	3,049.71	-132.25	-189.99	231.17	3.52	3.51	-0.59
3,160.00	24.09	239.76	3,133.69	-149.50	-220.48	266.16	3.26	3.19	-1.74
3,250.00	25.41	238.62	3,215.42	-168.80	-252.83	303.83	1.56	1.47	-1.27
3,341.00	26.20	239.58	3,297.34	-189.14	-286.82	343.44	0.98	0.87	1.05
3,431.00	26.82	240.02	3,377.88	-209.35	-321.54	383.60	0.72	0.69	0.49
3,522.00	25.59	237.56	3,459.53	-230.15	-355.91	423.77	1.80	-1.35	-2.70
3,612.00	25.41	238.44	3,540.76	-250.68	-388.77	462.51	0.47	-0.20	0.98
3,703.00	25.85	237.56	3,622.81	-271.54	-422.15	501.88	0.64	0.48	-0.97
3,793.00	26.03	239.41	3,703.74	-292.12	-455.71	541.24	0.92	0.20	2.06
3,884.00	26.29	238.70	3,785.42	-312.75	-490.12	581.35	0.45	0.29	-0.78
3,974.00	26.82	239.41	3,865.93	-333.44	-524.63	621.58	0.69	0.59	0.79
4,065.00	24.62	237.91	3,947.91	-353.96	-558.36	661.07	2.52	-2.42	-1.65
4,156.00	24.45	239.67	4,030.69	-373.54	-590.68	698.85	0.82	-0.19	1.93
4,246.00	26.47	243.19	4,111.95	-391.99	-624.66	737.46	2.80	2.24	3.91
4,337.00	26.38	244.06	4,193.44	-409.98	-660.94	777.77	0.44	-0.10	0.96
4,427.00	26.56	244.59	4,274.01	-427.36	-697.10	817.66	0.33	0.20	0.59
4,518.00	24.18	241.78	4,356.23	-444.91	-731.90	856.48	2.93	-2.62	-3.09
4,608.00	23.48	241.34	4,438.56	-462.22	-763.88	892.78	0.80	-0.78	-0.49
4,699.00	24.45	241.25	4,521.71	-479.98	-796.29	929.69	1.07	1.07	-0.10
4,790.00	24.97	240.90	4,604.38	-498.38	-829.59	967.68	0.59	0.57	-0.38
4,880.00	24.01	242.04	4,686.28	-516.20	-862.36	1,004.93	1.19	-1.07	1.27
4,970.00	21.54	240.90	4,769.26	-532.82	-892.98	1,039.71	2.79	-2.74	-1.27
5,061.00	18.99	236.33	4,854.62	-549.16	-919.90	1,071.20	3.30	-2.80	-5.02
5,152.00	15.56	236.33	4,941.50	-564.14	-942.39	1,098.20	3.77	-3.77	0.00
5,242.00	13.01	234.57	5,028.72	-576.71	-960.69	1,120.38	2.87	-2.83	-1.96
5,333.00	11.43	237.38	5,117.65	-587.50	-976.63	1,139.62	1.85	-1.74	3.09
5,423.00	9.32	234.31	5,206.18	-596.56	-990.06	1,155.81	2.42	-2.34	-3.41
5,514.00	8.18	233.25	5,296.11	-604.74	-1,001.24	1,169.61	1.27	-1.25	-1.16
5,604.00	6.33	233.17	5,385.39	-611.54	-1,010.34	1,180.93	2.06	-2.06	-0.09
5,695.00	5.19	232.02	5,475.93	-617.08	-1,017.60	1,190.02	1.26	-1.25	-1.26
5,785.00	3.34	225.34	5,565.68	-621.43	-1,022.67	1,196.63	2.12	-2.06	-7.42



**Scientific Drilling International**  
Survey Report



**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1021-13A Pad  
**Well:** NBU 1021-13B3CS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1021-13B3CS  
**TVD Reference:** GL 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
**MD Reference:** GL 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Multi-User Db

**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)
5,876.00	1.93	240.64	5,656.58	-624.05	-1,025.89	1,200.74	1.72	-1.55	16.81
5,967.00	0.97	21.79	5,747.56	-624.08	-1,026.94	1,201.65	3.03	-1.05	155.11
6,057.00	0.79	44.64	5,837.55	-622.93	-1,026.22	1,200.44	0.43	-0.20	25.39
6,148.00	0.53	49.83	5,928.55	-622.22	-1,025.46	1,199.41	0.29	-0.29	5.70
6,238.00	0.44	67.14	6,018.54	-621.81	-1,024.83	1,198.66	0.19	-0.10	19.23
6,329.00	0.53	108.01	6,109.54	-621.81	-1,024.10	1,198.04	0.38	0.10	44.91
6,419.00	0.62	131.56	6,199.54	-622.26	-1,023.34	1,197.63	0.28	0.10	26.17
6,510.00	0.62	140.09	6,290.53	-622.96	-1,022.66	1,197.42	0.10	0.00	9.37
6,600.00	0.53	256.02	6,380.53	-623.44	-1,022.75	1,197.75	1.08	-0.10	128.81
6,691.00	0.79	260.15	6,471.52	-623.65	-1,023.78	1,198.73	0.29	0.29	4.54
6,782.00	1.32	330.46	6,562.51	-622.84	-1,024.91	1,199.27	1.42	0.58	77.26
6,872.00	1.23	330.37	6,652.49	-621.10	-1,025.90	1,199.20	0.10	-0.10	-0.10
6,963.00	0.88	328.18	6,743.47	-619.66	-1,026.75	1,199.16	0.39	-0.38	-2.41
7,053.00	0.79	301.98	6,833.46	-618.74	-1,027.64	1,199.43	0.43	-0.10	-29.11
7,144.00	0.70	282.62	6,924.46	-618.29	-1,028.72	1,200.11	0.29	-0.10	-21.27
7,235.00	0.53	265.33	7,015.45	-618.20	-1,029.68	1,200.88	0.27	-0.19	-19.00
7,325.00	1.14	336.17	7,105.44	-617.42	-1,030.46	1,201.13	1.21	0.68	78.71
7,416.00	0.97	335.91	7,196.43	-615.88	-1,031.14	1,200.90	0.19	-0.19	-0.29
7,506.00	0.70	346.37	7,286.42	-614.65	-1,031.58	1,200.62	0.34	-0.30	11.62
7,597.00	0.53	338.81	7,377.41	-613.72	-1,031.86	1,200.37	0.21	-0.19	-8.31
7,688.00	0.09	248.55	7,468.41	-613.36	-1,032.08	1,200.37	0.59	-0.48	-99.19
7,778.00	0.26	110.65	7,558.41	-613.45	-1,031.95	1,200.31	0.37	0.19	-153.22
7,869.00	0.44	129.89	7,649.41	-613.75	-1,031.49	1,200.07	0.23	0.20	21.14
7,959.00	0.35	13.53	7,739.41	-613.70	-1,031.16	1,199.77	0.75	-0.10	-129.29
8,050.00	0.35	37.52	7,830.41	-613.21	-1,030.93	1,199.31	0.16	0.00	26.36
8,140.00	0.35	61.78	7,920.41	-612.87	-1,030.52	1,198.78	0.16	0.00	26.96
8,231.00	0.35	115.66	8,011.40	-612.86	-1,030.02	1,198.35	0.35	0.00	59.21
8,322.00	0.70	147.21	8,102.40	-613.44	-1,029.47	1,198.20	0.49	0.38	34.67
8,412.00	0.26	111.17	8,192.40	-613.98	-1,028.98	1,198.06	0.57	-0.49	-40.04
8,503.00	0.35	111.88	8,283.40	-614.16	-1,028.53	1,197.77	0.10	0.10	0.78
8,593.00	0.26	130.95	8,373.39	-614.39	-1,028.12	1,197.55	0.15	-0.10	21.19
8,684.00	0.68	132.27	8,464.39	-614.89	-1,027.57	1,197.34	0.46	0.46	1.45
8,774.00	1.01	121.33	8,554.38	-615.66	-1,026.49	1,196.84	0.41	0.37	-12.16
8,865.00	1.49	118.64	8,645.36	-616.65	-1,024.77	1,195.89	0.53	0.53	-2.96
8,955.00	1.41	118.03	8,735.33	-617.73	-1,022.77	1,194.76	0.09	-0.09	-0.68
9,046.00	1.49	120.75	8,826.30	-618.86	-1,020.76	1,193.65	0.12	0.09	2.99
9,136.00	1.41	124.01	8,916.27	-620.08	-1,018.84	1,192.66	0.13	-0.09	3.62
9,227.00	1.58	125.24	9,007.24	-621.43	-1,016.89	1,191.71	0.19	0.19	1.35
9,317.00	1.52	129.94	9,097.21	-622.91	-1,014.96	1,190.85	0.16	-0.07	5.22
9,408.00	1.58	127.96	9,188.18	-624.46	-1,013.04	1,190.04	0.09	0.07	-2.18
9,460.00	1.85	130.86	9,240.15	-625.45	-1,011.84	1,189.54	0.55	0.52	5.58
<b>Last SDI Production MWD Survey</b>									
9,516.00	1.85	130.86	9,296.12	-626.63	-1,010.48	1,189.00	0.00	0.00	0.00
<b>Projection To TD</b>									



**Scientific Drilling International**

Survey Report

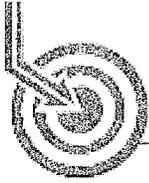


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**Project:** Uintah County, UT NAD27  
**Site:** NBU 1021-13A Pad  
**Well:** NBU 1021-13B3CS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1021-13B3CS  
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**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Multi-User Db

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 1021-13B3CS PBT	0.00	0.00	9,295.00	-627.07	-1,028.30	595,843.81	2,561,168.74	39° 57' 7.219 N	109° 29' 53.087 W
- actual wellpath misses target center by 17.80ft at 9514.45ft MD (9294.58 TVD, -626.60 N, -1010.51 E)									
- Circle (radius 25.00)									

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



**Scientific Drilling**  
Rocky Mountain Operations

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

Uintah County, UT NAD27  
NBU 1021-13A Pad  
NBU 1021-13B3CS  
OH

Design: OH

## **Survey Report - Geographic**

26 February, 2010





# Scientific Drilling International

Survey Report - Geographic



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<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 1021-13A Pad, Sec 1 T10S R21E				
<b>Site Position:</b>		<b>Northing:</b>	596,538.51 ft	<b>Latitude:</b>	39° 57' 13.850 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,562,222.69 ft	<b>Longitude:</b>	109° 29' 39.356 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	in	<b>Grid Convergence:</b>	1.28 °

<b>Well</b>	NBU 1021-13B3CS, 696' FNL 1328' FEL				
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	596,493.78 ft	<b>Latitude:</b> 39° 57' 13.417 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,562,182.72 ft	<b>Longitude:</b> 109° 29' 39.882 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b> 5,261.00 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>
	IGRF200510	11/6/2009	11.25	65.88	52,491

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	10.00
<b>Vertical Section:</b>		<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
		10.00	0.00	0.00	238.20

<b>Survey Program</b>	<b>Date</b>	2/26/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
230.00	2,241.00	Survey #1 - Surface (OH)	MWD SDI	MWD - Standard ver 1.0.1	
2,345.00	9,516.00	Survey #2 - Production (OH)	MWD SDI	MWD - Standard ver 1.0.1	

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**Local Co-ordinate Reference:** Well NBU 1021-13B3CS  
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**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Multi-User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
10.00	0.00	0.00	10.00	0.00	0.00	596,493.78	2,562,182.72	39° 57' 13.417 N	109° 29' 39.882 W
230.00	0.24	300.25	230.00	0.23	-0.40	596,494.00	2,562,182.32	39° 57' 13.419 N	109° 29' 39.887 W
320.00	0.55	213.42	320.00	-0.03	-0.80	596,493.73	2,562,181.92	39° 57' 13.416 N	109° 29' 39.892 W
400.00	1.39	209.64	399.99	-1.20	-1.49	596,492.55	2,562,181.26	39° 57' 13.405 N	109° 29' 39.901 W
490.00	1.77	217.42	489.95	-3.25	-2.87	596,490.47	2,562,179.92	39° 57' 13.385 N	109° 29' 39.919 W
580.00	2.35	230.02	579.89	-5.54	-5.13	596,488.13	2,562,177.71	39° 57' 13.362 N	109° 29' 39.948 W
670.00	2.59	227.62	669.81	-8.10	-8.05	596,485.50	2,562,174.85	39° 57' 13.337 N	109° 29' 39.985 W
760.00	2.66	228.73	759.72	-10.84	-11.12	596,482.69	2,562,171.84	39° 57' 13.310 N	109° 29' 40.025 W
850.00	2.44	226.76	849.63	-13.53	-14.09	596,479.93	2,562,168.94	39° 57' 13.283 N	109° 29' 40.063 W
940.00	2.55	224.13	939.54	-16.28	-16.88	596,477.12	2,562,166.21	39° 57' 13.256 N	109° 29' 40.099 W
1,030.00	2.32	223.45	1,029.46	-19.04	-19.52	596,474.30	2,562,163.63	39° 57' 13.229 N	109° 29' 40.133 W
1,120.00	2.55	224.03	1,119.38	-21.80	-22.17	596,471.48	2,562,161.05	39° 57' 13.201 N	109° 29' 40.167 W
1,210.00	2.42	219.26	1,209.29	-24.72	-24.76	596,468.51	2,562,158.52	39° 57' 13.173 N	109° 29' 40.200 W
1,300.00	2.25	222.82	1,299.22	-27.48	-27.16	596,465.69	2,562,156.18	39° 57' 13.145 N	109° 29' 40.231 W
1,390.00	2.30	226.16	1,389.15	-30.03	-29.67	596,463.09	2,562,153.73	39° 57' 13.120 N	109° 29' 40.263 W
1,480.00	2.65	223.45	1,479.06	-32.79	-32.40	596,460.27	2,562,151.06	39° 57' 13.093 N	109° 29' 40.298 W
1,570.00	2.72	233.12	1,568.97	-35.58	-35.54	596,457.41	2,562,147.99	39° 57' 13.065 N	109° 29' 40.338 W
1,660.00	2.72	229.26	1,658.86	-38.26	-38.87	596,454.66	2,562,144.72	39° 57' 13.039 N	109° 29' 40.381 W
1,750.00	2.70	227.27	1,748.76	-41.09	-42.04	596,451.76	2,562,141.61	39° 57' 13.011 N	109° 29' 40.422 W
1,840.00	2.60	219.93	1,838.67	-44.09	-44.91	596,448.69	2,562,138.81	39° 57' 12.981 N	109° 29' 40.459 W
1,930.00	2.66	225.22	1,928.57	-47.13	-47.70	596,445.59	2,562,136.09	39° 57' 12.951 N	109° 29' 40.495 W
2,020.00	2.51	222.91	2,018.48	-50.04	-50.53	596,442.61	2,562,133.33	39° 57' 12.922 N	109° 29' 40.531 W
2,110.00	2.48	225.17	2,108.40	-52.86	-53.25	596,439.74	2,562,130.67	39° 57' 12.894 N	109° 29' 40.566 W
2,200.00	2.60	223.64	2,198.31	-55.71	-56.04	596,436.83	2,562,127.94	39° 57' 12.866 N	109° 29' 40.602 W
2,241.00	2.67	224.38	2,239.26	-57.07	-57.35	596,435.44	2,562,126.66	39° 57' 12.853 N	109° 29' 40.618 W
<b>Last Survey in 11" Hole</b>									
2,345.00	3.96	235.98	2,343.09	-60.81	-62.02	596,431.60	2,562,122.08	39° 57' 12.816 N	109° 29' 40.678 W
<b>First SDI Production MWD Survey</b>									
2,435.00	6.07	240.99	2,432.74	-64.85	-68.76	596,427.40	2,562,115.43	39° 57' 12.776 N	109° 29' 40.765 W
2,526.00	8.62	239.58	2,522.99	-70.64	-78.85	596,421.39	2,562,105.48	39° 57' 12.719 N	109° 29' 40.895 W
2,616.00	9.76	237.82	2,611.83	-78.12	-91.12	596,413.64	2,562,093.37	39° 57' 12.645 N	109° 29' 41.052 W
2,707.00	10.38	237.30	2,701.43	-86.66	-104.55	596,404.80	2,562,080.14	39° 57' 12.560 N	109° 29' 41.225 W
2,798.00	13.19	243.10	2,790.50	-95.78	-120.71	596,395.31	2,562,064.19	39° 57' 12.470 N	109° 29' 41.432 W
2,888.00	15.21	242.92	2,877.75	-105.81	-140.38	596,384.85	2,562,044.75	39° 57' 12.371 N	109° 29' 41.685 W
2,979.00	18.03	241.87	2,964.94	-117.88	-163.43	596,372.26	2,562,021.97	39° 57' 12.252 N	109° 29' 41.981 W
3,069.00	21.19	241.34	3,049.71	-132.25	-189.99	596,357.30	2,561,995.74	39° 57' 12.110 N	109° 29' 42.322 W
3,160.00	24.09	239.76	3,133.69	-149.50	-220.48	596,339.37	2,561,965.65	39° 57' 11.939 N	109° 29' 42.713 W
3,250.00	25.41	238.62	3,215.42	-168.80	-252.83	596,319.35	2,561,933.73	39° 57' 11.748 N	109° 29' 43.129 W
3,341.00	26.20	239.58	3,297.34	-189.14	-286.82	596,298.25	2,561,900.21	39° 57' 11.547 N	109° 29' 43.565 W
3,431.00	26.82	240.02	3,377.88	-209.35	-321.54	596,277.27	2,561,865.95	39° 57' 11.348 N	109° 29' 44.011 W
3,522.00	25.59	237.56	3,459.53	-230.15	-355.91	596,255.71	2,561,832.05	39° 57' 11.142 N	109° 29' 44.453 W
3,612.00	25.41	238.44	3,540.76	-250.68	-388.77	596,234.44	2,561,799.67	39° 57' 10.939 N	109° 29' 44.875 W
3,703.00	25.85	237.56	3,622.81	-271.54	-422.15	596,212.84	2,561,766.76	39° 57' 10.733 N	109° 29' 45.303 W
3,793.00	26.03	239.41	3,703.74	-292.12	-455.71	596,191.52	2,561,733.67	39° 57' 10.530 N	109° 29' 45.734 W
3,884.00	26.29	238.70	3,785.42	-312.75	-490.12	596,170.12	2,561,699.74	39° 57' 10.326 N	109° 29' 46.176 W
3,974.00	26.82	239.41	3,865.93	-333.44	-524.63	596,148.66	2,561,665.70	39° 57' 10.121 N	109° 29' 46.619 W
4,065.00	24.62	237.91	3,947.91	-353.96	-558.36	596,127.39	2,561,632.43	39° 57' 9.918 N	109° 29' 47.052 W
4,156.00	24.45	239.67	4,030.69	-373.54	-590.68	596,107.09	2,561,600.57	39° 57' 9.725 N	109° 29' 47.467 W
4,246.00	26.47	243.19	4,111.95	-391.99	-624.66	596,087.88	2,561,567.00	39° 57' 9.542 N	109° 29' 47.904 W
4,337.00	26.38	244.06	4,193.44	-409.98	-660.94	596,069.08	2,561,531.14	39° 57' 9.365 N	109° 29' 48.370 W
4,427.00	26.56	244.59	4,274.01	-427.36	-697.10	596,050.90	2,561,495.38	39° 57' 9.193 N	109° 29' 48.834 W
4,518.00	24.18	241.78	4,356.23	-444.91	-731.90	596,032.57	2,561,460.98	39° 57' 9.019 N	109° 29' 49.281 W
4,608.00	23.48	241.34	4,438.56	-462.22	-763.88	596,014.55	2,561,429.40	39° 57' 8.848 N	109° 29' 49.691 W
4,699.00	24.45	241.25	4,521.71	-479.98	-796.29	595,996.07	2,561,397.39	39° 57' 8.673 N	109° 29' 50.108 W
4,790.00	24.97	240.90	4,604.38	-498.38	-829.59	595,976.93	2,561,364.51	39° 57' 8.491 N	109° 29' 50.535 W

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**Design:** OH

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Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
4,880.00	24.01	242.04	4,686.28	-516.20	-862.36	595,958.38	2,561,332.15	39° 57' 8.315 N	109° 29' 50.956 W
4,970.00	21.54	240.90	4,769.26	-532.82	-892.98	595,941.07	2,561,301.92	39° 57' 8.150 N	109° 29' 51.349 W
5,061.00	18.99	236.33	4,854.62	-549.16	-919.90	595,924.13	2,561,275.36	39° 57' 7.989 N	109° 29' 51.695 W
5,152.00	15.56	236.33	4,941.50	-564.14	-942.39	595,908.65	2,561,253.22	39° 57' 7.841 N	109° 29' 51.984 W
5,242.00	13.01	234.57	5,028.72	-576.71	-960.69	595,895.68	2,561,235.20	39° 57' 7.717 N	109° 29' 52.219 W
5,333.00	11.43	237.38	5,117.65	-587.50	-976.63	595,884.53	2,561,219.51	39° 57' 7.610 N	109° 29' 52.424 W
5,423.00	9.32	234.31	5,206.18	-596.56	-990.06	595,875.17	2,561,206.28	39° 57' 7.520 N	109° 29' 52.596 W
5,514.00	8.18	233.25	5,296.11	-604.74	-1,001.24	595,866.75	2,561,195.29	39° 57' 7.440 N	109° 29' 52.739 W
5,604.00	6.33	233.17	5,385.39	-611.54	-1,010.34	595,859.74	2,561,186.35	39° 57' 7.372 N	109° 29' 52.856 W
5,695.00	5.19	232.02	5,475.93	-617.08	-1,017.60	595,854.04	2,561,179.21	39° 57' 7.318 N	109° 29' 52.950 W
5,785.00	3.34	225.34	5,565.68	-621.43	-1,022.67	595,849.58	2,561,174.24	39° 57' 7.275 N	109° 29' 53.015 W
5,876.00	1.93	240.64	5,656.58	-624.05	-1,025.89	595,846.89	2,561,171.08	39° 57' 7.249 N	109° 29' 53.056 W
5,967.00	0.97	21.79	5,747.56	-624.08	-1,026.94	595,846.83	2,561,170.03	39° 57' 7.248 N	109° 29' 53.070 W
6,057.00	0.79	44.64	5,837.55	-622.93	-1,026.22	595,847.99	2,561,170.72	39° 57' 7.260 N	109° 29' 53.060 W
6,148.00	0.53	49.83	5,928.55	-622.22	-1,025.46	595,848.73	2,561,171.47	39° 57' 7.267 N	109° 29' 53.051 W
6,238.00	0.44	67.14	6,018.54	-621.81	-1,024.83	595,849.15	2,561,172.09	39° 57' 7.271 N	109° 29' 53.042 W
6,329.00	0.53	108.01	6,109.54	-621.81	-1,024.10	595,849.17	2,561,172.82	39° 57' 7.271 N	109° 29' 53.033 W
6,419.00	0.62	131.56	6,199.54	-622.26	-1,023.34	595,848.73	2,561,173.59	39° 57' 7.266 N	109° 29' 53.023 W
6,510.00	0.62	140.09	6,290.53	-622.96	-1,022.66	595,848.04	2,561,174.29	39° 57' 7.260 N	109° 29' 53.015 W
6,600.00	0.53	256.02	6,380.53	-623.44	-1,022.75	595,847.57	2,561,174.21	39° 57' 7.255 N	109° 29' 53.016 W
6,691.00	0.79	260.15	6,471.52	-623.65	-1,023.78	595,847.34	2,561,173.18	39° 57' 7.253 N	109° 29' 53.029 W
6,782.00	1.32	330.46	6,562.51	-622.84	-1,024.91	595,848.12	2,561,172.03	39° 57' 7.261 N	109° 29' 53.043 W
6,872.00	1.23	330.37	6,652.49	-621.10	-1,025.90	595,849.83	2,561,171.00	39° 57' 7.278 N	109° 29' 53.056 W
6,963.00	0.88	328.18	6,743.47	-619.66	-1,026.75	595,851.26	2,561,170.12	39° 57' 7.292 N	109° 29' 53.067 W
7,053.00	0.79	301.98	6,833.46	-618.74	-1,027.64	595,852.15	2,561,169.21	39° 57' 7.301 N	109° 29' 53.079 W
7,144.00	0.70	282.62	6,924.46	-618.29	-1,028.72	595,852.58	2,561,168.12	39° 57' 7.306 N	109° 29' 53.092 W
7,235.00	0.53	265.33	7,015.45	-618.20	-1,029.68	595,852.65	2,561,167.16	39° 57' 7.307 N	109° 29' 53.105 W
7,325.00	1.14	336.17	7,105.44	-617.42	-1,030.46	595,853.42	2,561,166.37	39° 57' 7.314 N	109° 29' 53.115 W
7,416.00	0.97	335.91	7,196.43	-615.88	-1,031.14	595,854.93	2,561,165.65	39° 57' 7.329 N	109° 29' 53.123 W
7,506.00	0.70	346.37	7,286.42	-614.65	-1,031.58	595,856.15	2,561,165.18	39° 57' 7.342 N	109° 29' 53.129 W
7,597.00	0.53	338.81	7,377.41	-613.72	-1,031.86	595,857.08	2,561,164.88	39° 57' 7.351 N	109° 29' 53.133 W
7,688.00	0.09	248.55	7,468.41	-613.36	-1,032.08	595,857.44	2,561,164.65	39° 57' 7.354 N	109° 29' 53.136 W
7,778.00	0.26	110.65	7,558.41	-613.45	-1,031.95	595,857.34	2,561,164.78	39° 57' 7.354 N	109° 29' 53.134 W
7,869.00	0.44	129.89	7,649.41	-613.75	-1,031.49	595,857.06	2,561,165.25	39° 57' 7.351 N	109° 29' 53.128 W
7,959.00	0.35	13.53	7,739.41	-613.70	-1,031.16	595,857.11	2,561,165.58	39° 57' 7.351 N	109° 29' 53.124 W
8,050.00	0.35	37.52	7,830.41	-613.21	-1,030.93	595,857.61	2,561,165.80	39° 57' 7.356 N	109° 29' 53.121 W
8,140.00	0.35	61.78	7,920.41	-612.87	-1,030.52	595,857.96	2,561,166.20	39° 57' 7.359 N	109° 29' 53.115 W
8,231.00	0.35	115.66	8,011.40	-612.86	-1,030.02	595,857.99	2,561,166.70	39° 57' 7.359 N	109° 29' 53.109 W
8,322.00	0.70	147.21	8,102.40	-613.44	-1,029.47	595,857.41	2,561,167.26	39° 57' 7.354 N	109° 29' 53.102 W
8,412.00	0.26	111.17	8,192.40	-613.98	-1,028.98	595,856.89	2,561,167.76	39° 57' 7.348 N	109° 29' 53.096 W
8,503.00	0.35	111.88	8,283.40	-614.16	-1,028.53	595,856.72	2,561,168.22	39° 57' 7.347 N	109° 29' 53.090 W
8,593.00	0.26	130.95	8,373.39	-614.39	-1,028.12	595,856.49	2,561,168.63	39° 57' 7.344 N	109° 29' 53.085 W
8,684.00	0.68	132.27	8,464.39	-614.89	-1,027.57	595,856.00	2,561,169.20	39° 57' 7.339 N	109° 29' 53.078 W
8,774.00	1.01	121.33	8,554.38	-615.66	-1,026.49	595,855.26	2,561,170.29	39° 57' 7.332 N	109° 29' 53.064 W
8,865.00	1.49	118.64	8,645.36	-616.65	-1,024.77	595,854.31	2,561,172.03	39° 57' 7.322 N	109° 29' 53.042 W
8,955.00	1.41	118.03	8,735.33	-617.73	-1,022.77	595,853.28	2,561,174.06	39° 57' 7.311 N	109° 29' 53.016 W
9,046.00	1.49	120.75	8,826.30	-618.86	-1,020.76	595,852.19	2,561,176.09	39° 57' 7.300 N	109° 29' 52.990 W
9,136.00	1.41	124.01	8,916.27	-620.08	-1,018.84	595,851.02	2,561,178.04	39° 57' 7.288 N	109° 29' 52.966 W
9,227.00	1.58	125.24	9,007.24	-621.43	-1,016.89	595,849.71	2,561,180.02	39° 57' 7.275 N	109° 29' 52.940 W
9,317.00	1.52	129.94	9,097.21	-622.91	-1,014.96	595,848.27	2,561,181.98	39° 57' 7.260 N	109° 29' 52.916 W
9,408.00	1.58	127.96	9,188.18	-624.46	-1,013.04	595,846.77	2,561,183.93	39° 57' 7.245 N	109° 29' 52.891 W
9,460.00	1.85	130.86	9,240.15	-625.45	-1,011.84	595,845.80	2,561,185.16	39° 57' 7.235 N	109° 29' 52.876 W
<b>Last SDI Production MWD Survey</b>									
9,516.00	1.85	130.86	9,296.12	-626.63	-1,010.48	595,844.65	2,561,186.55	39° 57' 7.223 N	109° 29' 52.858 W
<b>Projection To TD</b>									



# Scientific Drilling International

Survey Report - Geographic



**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1021-13A Pad  
**Well:** NBU 1021-13B3CS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1021-13B3CS  
**TVD Reference:** GL 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
**MD Reference:** GL 5261' & RKB 14' @ 5275.00ft (Ensign 145)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Multi-User Db

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
NBU 1021-13B3CS PBF - hit/miss target - Shape	0.00	0.00	9,295.00	-627.07	-1,028.30	595,843.81	2,561,168.74	39° 57' 7.219 N	109° 29' 53.087 W
- actual wellpath misses target center by 17.80ft at 9514.45ft MD (9294.58 TVD, -626.60 N, -1010.51 E) - Circle (radius 25.00)									

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,241.00	2,239.26	-57.07	-57.35	Last Survey in 11" Hole
2,345.00	2,343.09	-60.81	-62.02	First SDI Production MWD Survey
9,460.00	9,240.15	-625.45	-1,011.84	Last SDI Production MWD Survey
9,516.00	9,296.12	-626.63	-1,010.48	Projection To TD

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

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

Well: NBU 1021-13B3CS RED      Spud Conductor: 11/2/2009      Spud Date: 11/14/2009  
 Project: UTAH-UINTAH      Site: NBU 1021-13A PAD      Rig Name No: ENSIGN 139/139, PROPETRO/  
 Event: DRILLING      Start Date: 9/25/2009      End Date: 2/13/2010  
 Active Datum: RKB @5,276.01ft (above Mean Sea Leve)      UWI: NE/NE/0/10/S/21/E/13/0/0/26/PM/N/696.00/E/0/1,328.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
11/14/2009	5:30 - 7:30	2.00	MIRU	01	A	P		MOVE , RIG UP
	7:30 - 8:30	1.00	DRLSUR	02	C	P		P/U AIR HAMMER DRILL TO O TO 150'
	8:30 - 10:30	2.00	DRLSUR	06	A	P		TOH W/ AIR TOOLS, P/U MWDTOOLS
	10:30 - 0:00	13.50	DRLSUR	02	D	P		DRLG. SLIDE F /150 TO 1680' 18-20 K RPM 40 MM RPM 104 650 GPM ON BOTTOM 1600 OFF 1350 PS FOOTAGE 1680' 124.4 ROP
11/15/2009	0:00 - 7:00	7.00	DRLSUR	02	B	P		DRILL, SLIDE F/ 1680 TO 2231 WT 18-20 K RPM 40 MM RPM 104, PUMP PSI ON BOTTOM 1600 OFF 1350 PSI FT 551' ROP 78.71
	7:00 - 8:00	1.00	DRLSUR	05	A	P		CIRC. COND HOLE TO RUN 9 5/8 CSG
	8:00 - 10:30	2.50	DRLSUR	06	A	P		TOH L/D MWD TOOLS
	10:30 - 14:00	3.50	DRLSUR	12	A	P		RIG UP HSM RUN 50 JTS 95/8 # 36 J-55 LT&C SHOE @ 2201 BAF 2156'; RELEASED RIG @ 14:00 11/15/09
	14:00 - 15:30	1.50	DRLSUR	12	E	P		170 BBLS WATER AHEAD 20 BBLS GEL 300 SX CMT 15.8 1.15 YD 2% CAL.25 LBS SX FLOW SEAL DISPLACE W 166.7 BBLS BUMP PLUG , FLOATS HELD TOP # 1 150 SX CMT 15.8 Y1.15 4% CAL .25LBSX FLOW SEAL. TOP OUT # 2 100 SX CMT 15.8 YD 1.15 4% CAL .25 LBS SX FLOW SEAL
2/6/2010	1:30 - 6:30	5.00	DRLPRO	01	C	P		R/D - SKID RIG - R/U RIG
	6:30 - 8:30	2.00	DRLPRO	14	A	P		NIPPLE UP B.O.P'S & FLARE LINES
	8:30 - 17:30	9.00	DRLPRO	15	A	P		TEST B.O.P'S - WAIT ON TEST PLUG SEAL & TRY TO TEST BTM SEAL ON WELL HEAD ADAPTOR LEAKING - NIPPLE DOWN STACK & WAIT ON SEALS F/ WEATHERFORD C/O SEALS & NIPPLE BACK UP & CONT TO SET ALL TEST OK. PIPE RAMS - BLIND RAMS - 4" - 2" VALVES - CHOKE MAINFOLD - 250 LOW - 5000 HIGH - ANNULAR 250 LOW - 2500 HIGH - TEST CASING 1500 PSI.
	17:30 - 18:00	0.50	DRLPRO	14	B	P		SET WEAR BUSHING
	18:00 - 18:30	0.50	DRLPRO	14	B	P		RIG SER - C/O SAVER SUB & GRABBER DIES
	18:30 - 21:30	3.00	DRLPRO	06	A	P		P/U MOTOR - BIT & DIR TOOLS - T.I.H
	21:30 - 23:00	1.50	DRLPRO	02	F	P		DRILL CEMENT & F.E
	23:00 - 0:00	1.00	DRLPRO	02	D	P		DRILL F/ 2241 TO 2320 - 79.0' @ 79.0 FPH W/ 8.4 PPG MUD WT - RPM 45 - MRPM 102 - TQ 4/3 - GPM 441
	2/7/2010	0:00 - 1:00	1.00	DRLIN1	02	D	P	
1:00 - 1:30		0.50	DRLIN1	08	B	Z		WORK ON MUD PUMPS
1:30 - 2:00		0.50	DRLIN1	22	O	X		WORK TIGHT HOLE @ 2401 ( PACK OFF )
2:00 - 2:30		0.50	DRLIN1	05	F	P		PUMP HIGH VIS SWEEP & CIRC CLEAN OUT HOLE
2:30 - 14:30		12.00	DRLIN1	02	D	P		DIR DRILL F/ 2401 TO 3397 - 996' @ 83.0 FPH W/ 8.4 MUD WT - RPM 45 - MRPM 112 - WOB 14/16 - TQ 5/3 - GPM 486
14:30 - 15:00		0.50	DRLIN1	07	A	P		SER RIG
15:00 - 0:00		9.00	DRLIN1	02	D	P		DIR DRILL F/ 3397 TO 4197 - 800' - @ 88.8 FPH W/ 8.4 PPG MUD WT - RPM 45 - MRPM 112 - WOB 14/16 - TQ 5/3 - GPM 486
2/8/2010	0:00 - 15:30	15.50	DRLPRO	02	D	P		DIR DRILL F/ 4197 TO 5570 - 1373 - @ 88.5 FPH W/ 8.4 PPG MUD WT - RPM 45 - MRPM 112 - WOB 15/18 - TQ 7/5 - GPM 486

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

Well: NBU 1021-13B3CS RED      Spud Conductor: 11/2/2009      Spud Date: 11/14/2009  
 Project: UTAH-UINTAH      Site: NBU 1021-13A PAD      Rig Name No: ENSIGN 139/139, PROPETRO/  
 Event: DRILLING      Start Date: 9/25/2009      End Date: 2/13/2010  
 Active Datum: RKB @5,276.01ft (above Mean Sea Level)      UWI: NE/NE/0/10/S/21/E/13/0/0/26/PM/N/696.00/E/0/1,328.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	15:30 - 16:00	0.50	DRLPRO	07	A	P		SER RIG
	16:00 - 0:00	8.00	DRLPRO	02	D	P		DIR DRILL F/ 5570 TO 6268 - 698' @ 87.25 FPH W/ 8.4 PPG MUD WT - RPM 45 - MRPM 112 - WOB 15/18 - TQ 7/5 - GPM 486
2/9/2010	0:00 - 15:00	15.00	DRLPRO	02	D	P		DIR DRILL F/ 6268 TO 7199 - 931' @ 62.0 FPH W/ 9.8 PPG MUD WT - VIS 38 - WOB 15/18 - RPM 45 - MRPM 112 - TQ 10/6 - GPM 486
	15:00 - 15:30	0.50	DRLPRO	07	A	P		SER RIG
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DIR DRILL F/ 7199 TO 7631 - 432' @ 50.8FPH W/ 10.7 PPG MUD WT VIS 38 - RPM 45 - MRPM 112 - WOB 15/18 - TQ 10/6 - GPM 486
2/10/2010	0:00 - 15:30	15.50	DRLPRO	02	D	P		DIR DRILL F/ 7631 TO 8378 - 747' @ 48.1 FPH W/ 11.5 PPG MUD WT VIS 42 - RPM 45 - MRPM 112 - WOB 18/22 - TQ 12/8 - GPM 486
	15:30 - 16:00	0.50	DRLPRO	07	A	P		SER RIG
	16:00 - 0:00	8.00	DRLPRO	02	D	P		DIR DRILL F/ 8378 TO 8740 - 362' @ 45.25 FPH W/ 11.7 PPG MUD WT VIS 42 - RPM 45 - MRPM 112 - WOB 18/22 - TQ 12/8 - GPM 486
2/11/2010	0:00 - 17:30	17.50	DRLPRO	02	D	P		DIR DRILL F/ 8740 TO 9192 - 452' @ 25.8 W/ 11.8 PPG MUD WT - RPM 45/55 - MRPM 112 - WOB 18/24 - TQ 14/10 - GPM 486
	17:30 - 18:00	0.50	DRLPRO	07	A	P		SER RIG
	18:00 - 0:00	6.00	DRLPRO	02	D	P		DIR DRILL F/ 9192 TO 9374 - 182' @ 30.3' FPH W/ 11.9 PPG MUD WT - RPM 45 - MRPM 112 - WOB 18/24 - TQ - 14/10 - GPM 486
2/12/2010	0:00 - 6:30	6.50	DRLPRO	02	D	P		DIR DRILL F/ 9374 TO 9516 - 142' @ 21.8 FPH W/ 11.9 PPG MUD WT VIS 43 - RPM 45 - MRPM 112 - WOB 18/26 - TQ 15/12 - GPM 486
	6:30 - 7:30	1.00	DRLPRO	05	A	P		CIRC BTM UP
	7:30 - 11:00	3.50	DRLPRO	06	E	P		SHORT TRIP 18 STANDS - FIRST 15 W/ PUMP & ROT - PULL LAST 3 STANDS ( NO PUMP OR - ROT ) & T.I.H.
	11:00 - 12:30	1.50	DRLPRO	05	A	P		CIRC BTM
	12:30 - 0:00	11.50	DRLPRO	06	A	P		T.I.H RACK BACK 20 STANDS - PUMP DRY JOB & L.D.D.P TO BHA & RUN PIPE IN DERRICK & CONT TO L.D.D.P
2/13/2010	0:00 - 3:00	3.00	DRLPRO	06	A	P		CONT L.D.D.P & BHA & DIR TOOLS
	3:00 - 3:30	0.50	DRLPRO	14	B	P		PULL WEAR BUSHING
	3:30 - 11:00	7.50	DRLPRO	12	C	P		HELD S/M & R/U KIMZEY CASING & RUN PROD. CASING 228 JTS PLUS MARKER - SHOE SET @ 9488 MD - TVD 9268 - F/C SET @ 9465 MD - TVD 9245
	11:00 - 12:00	1.00	DRLPRO	05	D	P		CIRC BTM UP
	12:00 - 15:00	3.00	DRLPRO	12	E	P		HELD S/M W/ HALLIBURTON & TEST LINES TO 5000 PSI & CEMENT W/ 40 BBLS WATER AHEAD & F/ LEAD 635 SKS 12.4 PPG YIELD OF 2.03 - F/ TAIL 1505 SKS 14.2 PPG YIELD 1.22 & DROP PLUG & DISPLACED W/ 147 BBLS WATER BUMP PLUG 500 OVER FINAL CIRC PSI OF 2700 PLUG HELD ( LOST RETURNS @ 290 BBLS INTO TAIL CEMENT REGAIN 1/2 RETURNS @ 330 BBLS IN TAIL CEMENT & ON DISPLACEMENT LOST FULL RETURNS @ 142 BBLS ) NO WATER OR CEMENT TO SURFACE.
	15:00 - 16:00	1.00	DRLPRO	12	C	P		LAND CSG W/ 95K STRING WT L/D LANDING JT & INSTALL PACK OFF SEALS
	16:00 - 20:00	4.00	DRLPRO	14	A	P		NIPPLE DOWN STACK & WASH CLEAN OUT MUD TANKS & RELEASED RIG @ 20:00 HRS ON 2/13/2010

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1021-13B3CS RED		Spud Conductor: 11/2/2009	Spud Date: 11/14/2009
Project: UTAH-UINTAH		Site: NBU 1021-13A PAD	Rig Name No: ENSIGN 139/139, PROPETRO/
Event: DRILLING		Start Date: 9/25/2009	End Date: 2/13/2010
Active Datum: RKB @5,276.01ft (above Mean Sea Leve UWI: NE/NE/0/10/S/21/E/13/0/0/26/PM/N/696.00/E/0/1,328.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	20:00 - 20:00	0.00	DRLPRO					<p>CONDUCTOR CASING: Cond. Depth set: 40 Cement sx used:</p> <p>SPUD DATE/TIME: 11/14/2009 19:30</p> <p>SURFACE HOLE: Surface From depth:40 Surface To depth: 2,231 Total SURFACE hours: 20.50 Surface Casing size:9 5/8 # of casing joints ran: 50 Casing set MD:2,201.0 # sx of cement:550 Cement blend (ppg):15.8 Cement yield (ft3/sk): 1.15 # of bbls to surface: 1 Describe cement issues: 2 TOPOUTS Describe hole issues:</p> <p>PRODUCTION: Rig Move/Skid start date/time: 2/6/2010 1:30 Rig Move/Skid finish date/time:2/6/2010 6:30 Total MOVE hours: 5.0 Prod Rig Spud date/time: 2/6/2010 21:30 Rig Release date/time: 2/13/2010 20:00 Total SPUD to RR hours:166.5 Planned depth MD 9,516 Planned depth TVD 9,295 Actual MD: 9,540 Actual TVD: 9,319 Open Wells \$: \$690,990 AFE \$: \$842,968 Open wells \$/ft.\$72.43</p> <p>PRODUCTION HOLE: Prod. From depth: 2,231 Prod. To depth:9,516 Total PROD hours: 123.5 Production Casing size: 4 1/2 # of casing joints ran: 230 Casing set MD:9,502.0 # sx of cement:2,140 Cement blend (ppg):LEAD 12.4 - 5% TAIL 14.2 - 10% Cement yield (ft3/sk): 2.03 1.22 Est. TOC (Lead &amp; Tail) or 2 Stage : 4140 Describe cement issues: NO CEMENT TO SURFACE Describe hole issues:</p> <p>DIRECTIONAL INFO: KOP: 2,254 Max angle: 26.82 Departure: 1201.00 Max dogleg MD: 3.77</p>

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1021-13B3CS RED      Spud Conductor: 11/2/2009      Spud Date: 11/14/2009  
 Project: UTAH-UINTAH      Site: NBU 1021-13A PAD      Rig Name No: GWS 1/1  
 Event: COMPLETION      Start Date: 6/7/2010      End Date: 6/21/2010  
 Active Datum: RKB @5,276.01ft (above Mean Sea Level)      UWI: NE/NE/0/10/S/21/E/13/0/0/26/PM/N/696.00/E/0/1,328.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
6/4/2010	7:00 - 7:30	0.50	COMP	48		P		HSM. PRESSURE TESTING & PERFORATING MIRU B&C QUICK TEST & PRESSURE TEST CASING & FRAC VALVES TO 7,000 PSI. RDMO B&C. MIRU CASED HOLE SOLUTIONS. STG 1 ) PU 3 1/8" EXP GNS, 23 GRM, .36 HOLES, 120 DEG PHASING & RIH. PERF 9,230'-32' 3SPF, 9,188'-90' 3SPF, 9,124'-26' 3SPF, 9,020'-21' 3SPF, 21 HOLES. SWI SDFWE.
	7:30 - 9:00	1.50	COMP	37	B	P		
6/7/2010	6:00 - 6:30	0.50	COMP	48		P		HSM. FRACING & PERFORATING ON A PAD WELL PERFS 9020'-9232', 21 HOLES (LIMITED ENTRY) STG1 ) OPEN WELL W/ 550 PSI, BD 4653 AT 8.5 BPM. START STEP DOWN TEST PUMP 44.3 BPM @ 4810 PSI, 40.5 BPM @ 4,380 PSI, 26.9 BPM @ 3,565 PSI, 8.7 BPM @ 2,860 PSI, ISIP 2,724 FG 0.73. HOLE OPEN 21/21 (100% 47 BPM AT 4,600 PSI) MP 6,382 PSI, MR 52.4 BPM, AP 4,875 PSI, AR 52.1 BPM, ISIP 2,800 PSI, FG 0.74, NPI 76 PSI. PMP 1,199 BBLS OF SW & 34,237 LBS OF 30/50 SAND & 5,000 LBS OF 20/40 RESIN SAND. TOTAL PROP 39,237 LBS. STG 2 ) PU 4 1/2' HALLIBURTON CBP & 3 1/8" EXP GNS, 23 GRM, .36 HOLES, 120 DEG PHASING & RIH. SET CBP @ 8,990' & PERF 8,958'-60' 3SPF, 8,942'-43' 3SPF, 8,922'-23' 3SPF, 8,903'-04' 3SPF, 8,847'-48' 3SPF, 8,766-67 3SPF, 21 HOLES. (LIMITED ENTRY) WHP 1875 PSI, START STEP DOWN TEST PUMP 47.5 BPM @ 6045 PSI, 43 BPM @ 5480 PSI, 25.3 BPM @ 4100 PSI, 10.5 BPM @ 3012 PSI, ISIP 2653 FG 0.73. HOLES OPEN 21/21 (100% 43 BPM @ 5480 PSI). MP 6,388 PSI, MR 51.0 BPM, AP 5,365 PSI, AR 50.2 BPM, ISIP 2,659 PSI, FG 0.73, NPI 6 PSI. TAGGED SAND W/ RA TRACER (Sb-124 IN .25-1.25 PPG, Sc-46 IN 1.25-1.5 PPG, Ir-192 IN 1.5-2.0 PPG). PMP 1972 BBLS OF SW & 70,278 LBS OF 30/50 SAND & 5,000 LBS OF 20/40 RESIN SAND. TOTAL PROP 75,278 LBS. STG 3 ) PU 4 1/2' HALLIBURTON CBP & 3 1/8" EXP GNS, 23 GRM, .36 HOLES, 120 DEG PHASING & RIH. SET CBP @ 8,193' & PERF 8,162'-63' 3SPF, 8,114'-15' 3SPF, 8,001'-03' 3SPF, 7,965-66' 3SPF, 7,936'-38' 3SPF, 21 HOLES. (LIMITED ENTRY) WHP 500 PSI, START STEP DOWN TEST PUMP 50.7 BPM @ 6,130 PSI, 47 BPM @ 5,500 PSI, 26.8 BPM @ 3,575 PSI, 8.7 BPM @ 2,675 PSI, ISIP 2,476 FG 0.74. MP 6,176 PSI, MR 52.4 BPM, AP 4,450 PSI, AR 51.1 BPM, ISIP 2,365 PSI, FG 0.73, NPI -111 PSI. PMP 1,663 BBLS OF SW & 56,041 LBS OF 30/50 SAND & 5,000 LBS OF 20/40 RESIN SAND. TOTAL PROP 61,041 LBS. TAGGED SAND W/ RA TRACER (Sb-124 IN .25-1.25 PPG, SC-46 IN 1.25-1.5 PPG, Ir-192 IN 1.5-2 PPG)
	9:53 - 10:23	0.50	COMP	36	B	P		
	12:41 - 13:26	0.75	COMP	36	B	P		
15:22 - 16:15	0.88	COMP	36	B	P			

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

Well: NBU 1021-13B3CS RED      Spud Conductor: 11/2/2009      Spud Date: 11/14/2009  
 Project: UTAH-UINTAH      Site: NBU 1021-13A PAD      Rig Name No: GWS 1/1  
 Event: COMPLETION      Start Date: 6/7/2010      End Date: 6/21/2010  
 Active Datum: RKB @5,276.01ft (above Mean Sea Leve)      UWI: NE/NE/0/10/S/21/E/13/0/0/26/PM/N/696.00/E/0/1,328.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	16:15 - 16:15	0.00	COMP					STG 4 ) PU 4 1/2' HALLIBURTON CBP & 3 1/8" EXP GNS, 23 GRM, .36 HOLES, 120 DEG PHASING & RIH. SET CBP @ 6675' & PERF 6642-45' 3SPF, 6476-80' 3SPF, 21 HOLES. (LIMITED ENTRY) SDFN HSM. FRACING & PERFORATING ON A PAD WELL
6/8/2010	6:00 - 6:30	0.50	COMP	48	B	P		PERFS 6476'-6645', 21 HOLES (LIMITED ENTRY) STG 4 ) OPEN WELL W/ 53 PSI, BD 1977 AT 10.5 BPM. START STEP DOWN TEST PUMP 50.1 BPM @ 4642 PSI, 45.3 BPM @ 4,341 PSI, 30.5 BPM @ 3,106 PSI, 11.2 BPM @ 1,931 PSI, ISIP 1,977 FG 0.68. HOLE OPEN 21/21 (100% 50.1 BPM AT 4,652 PS)
	9:54 - 10:21	0.45	COMP	36	B	P		MP 5,801 PSI, MR 53.0 BPM, AP 4,008 PSI, AR 52.2 BPM, ISIP 1,959 PSI, FG 0.74, NPI -18 PSI. PMP 1,118 BBLS OF SW & 46,290 LBS OF 30/50 SAND & 5,000 LBS OF 20/40 RESIN SAND (PMP RESIN ACTIVATOR). TOTAL PROP 46,290 LBS.
	15:55 - 18:15	2.33	COMP	36	B	P		STG 5 ) PU 4 1/2' HALLIBURTON CBP & 3 1/8" EXP GNS, 23 GRM, .36 HOLES, 90 DEG PHASING & RIH SET CBP @ 6262' & PERF 6228'-32' 4SPF, 16 HOLES. (LIMITED ENTRY). OPEN WELL W/ 1199 PSI. UNABLE TO BREAK DOWN. RIH W/ DUMP BAILOR W/ ACID. TAG SAND AT 6218'. DUMP ACID. POOH W/ WIRELINE. ATTEMPT TO BREAK DOWN 2nd TIME. OPEN WELL W/ 596 PSI. UNABLE TO GET TO BREAK.
	18:15 - 18:15	0.00	COMP					CUMM SAND FOR 4 STAGES 226,846 LBS. CUMM SLK WTR FOR 4 STAGES 5952 BBLS. RDMO FRAC TECH AND CASED HOLE.
6/10/2010	12:00 - 12:30	0.50	COMP	48		P		HSM. BAILING SAND W / ACID IN WELL
	12:30 - 17:30	5.00	COMP	35	C	Z		MIRU SWABB UNIT RIH BAIL SAND AFTER 4 RUNS NO MORE SAND WOULD BAIL. EST. 150 LBS BAILED OUT PERFS SHOULD BE OPEN 4' BELOW BOTTOM PERF. RDMO DELSCO. SWI SDFN.
6/11/2010	6:00 - 6:15	0.25	COMP	48		P		HSM, WIRE LINE & FRACING
	6:15 - 18:30	12.25	COMP	36	B	P		RU FRACTECH PRIME PUMPS & PRESS TEST TO 8000 PSI. STG 5 ) OPEN WELL W/ 124 PSI, BD 3110 AT 2.6 BPM. START STEP DOWN TEST PUMP 46 BPM @ 4933 PSI, 41 BPM @ 4264 PSI, 24.8 BPM @ 3154 PSI, ISIP 1867 FG 0.74. HOLE OPENS 16/16 (100% 46 BPM AT 4953 PSI) LEAK ON WELL HAD TO SD & TIGHTEN. MP 5259 PSI, MR 54.2 BPM, AP 3969 PSI, AR 52.7 BPM, ISIP 1736 PSI, FG 0.72, NPI -131 PSI. PMP 1,136 BBLS OF SW & 26,417 LBS OF 30/50 SAND & 5,000 LBS OF 20/40 RESIN SAND (PMP RESIN ACTIVATOR). TOTAL PROP 31,417 LBS.
								CUMM SAND FOR 5 STAGES 258,263 LBS. CUMM SLK WTR FOR 5 STAGES 7,088 BBLS.
6/18/2010	6:00 - 6:30	0.50	COMP	48		P		SET KILL PLUG @ 6,178' HSM. RIGGING UP RIG & PICKING UP TUBING.

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

Well: NBU 1021-13B3CS RED      Spud Conductor: 11/2/2009      Spud Date: 11/14/2009  
 Project: UTAH-UINTAH      Site: NBU 1021-13A PAD      Rig Name No: GWS 1/1  
 Event: COMPLETION      Start Date: 6/7/2010      End Date: 6/21/2010  
 Active Datum: RKB @5,276.01ft (above Mean Sea Level)      UWI: NE/NE/0/10/S/21/E/13/0/0/26/PM/N/696.00/E/0/1,328.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:30 - 15:00	8.50	COMP	31	I	P		MIRU RIG & SPOT IN EQUIPMENT. ND FRAC VALVES NU BOP. PU 3 7/8" BIT & POBS DRIFT & TALLEY 195 JTS OF 2 3/8" L-80 TBG. EOT @ 6,163'. RU POWER SWIVEL. PREPPED TO DRLG OUT CBP'S ON MONDAY.
6/21/2010	6:30 - 7:00	0.50	COMP	48		P		HSM. DRILLING CBP & LANDING PRODUCTION TUBING
	7:00 - 15:00	8.00	COMP	44	C	P		RK CIRCULATION W / TMAC WATER & RIH. C/O 30' OF SAND & TAG PLG 1 @ 6,178' DRL PLG IN 8 MIN. 50 PSI INCREASE RIH. C/O 30' OF SAND & TAG PLG 2 @ 6,262' DRL PLG IN 4 MIN. 300 PSI INCREASE RIH. C/O 30' OF SAND & TAG PLG 3 @ 6,675' DRL PLG IN 5 MIN. 600 PSI INCREASE RIH. C/O 30' OF SAND & TAG PLG 4 @ 8,193' DRL PLG IN 6 MIN. 400 PSI INCREASE RIH. C/O 30' OF SAND & TAG PLG 5 @ 8,990' DRL PLG IN 5 MIN. 400 PSI INCREASE RIH. C/O TO PBTB @ 9,436' CIRCULATE WELL CLEAN. POOH LD 22 JTS. LAND TBG W / 276 JTS @ 8,740.40'. ND BOP NU WELL HEAD. DROP BALL TO SHEAR OFF BIT. BIT PUMPED OFF @ 1,850 PSI. TURN WELL OVER TO FLOW TESTERS.
6/22/2010	7:00 -		PROD	33	A			314 JTS OF L-80 OUTBOUND 276 JTS LANDED 38 JTS RETURNED 7 AM FLBK REPORT: CP 1675#, TP 1300#, 20/64" CK, 55 BWPH, med SAND, - GAS TTL BBLS RECOVERED: 2978 BBLS LEFT TO RECOVER: 4110
	9:25 -		PROD	50				WELL TURNED TO SALES @ 0925 HR ON 6/22/2010 - 900 MCFD, 1200 BWPD, CP 1600#, FTP 1275#, CK 20/64"
6/23/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 1800#, TP 1250#, 20/64" CK, 38 BWPH, MED SAND, - GAS TTL BBLS RECOVERED: 4046 BBLS LEFT TO RECOVER: 3042
6/24/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2050#, TP 1150#, 20/64" CK, 30 BWPH, MED SAND, - GAS TTL BBLS RECOVERED: 4828 BBLS LEFT TO RECOVER: 2260
6/25/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 1775#, TP 1000#, 20/64" CK, 18 BWPH, LIGHT SAND, - GAS TTL BBLS RECOVERED: 5311 BBLS LEFT TO RECOVER: 1777

<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> ML 23608
<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 1021-13B3CS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047503410000
<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> 0696 FNL 1328 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 13 Township: 10.0S Range: 21.0E 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: 4/11/2011  <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 checked="" type="checkbox"/> OTHER	<input checked="" type="checkbox"/> <b>CASING REPAIR</b> <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" value="WELLHEAD"/>

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

The operator requests approval to conduct wellhead/casing 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: 04/13/2011

By: *Dark K. Quist*

<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> 4/11/2011	

**WORKORDER # 88119379**

Name: NBU 1021-13B3CS - 1021-13A PAD 3/30/11  
 Surface Location: NENE Sec. 13, T10S, R21E  
 Uintah County, UT

API: 4304750341 LEASE#: ML-23608

ELEVATIONS: 5262' GL 5275' KB

TOTAL DEPTH: 9516' PBTD: 9465'

SURFACE CASING: 9 5/8", 36# J-55 ST&C @ 2215'

PRODUCTION CASING: 4 1/2", 11.6#, I-80 LT&C @ 9487'  
 T.O.C.@ Surface per CBL

PERFORATIONS: Wasatch 6228' - 6645'  
 Mesaverde 7936' - 9232'

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	0.02171	0.00387
4.5" 11.6# I-80	3.875	6350	7780	0.6528	0.0872	0.0155
9.625" 36# J-55	8.921	2020	3520	3.247	0.434	0.0773
<b>Annular Capacities</b>						
2.375" tbg. X 4 1/2" 11.6# csg				0.4227	0.0565	0.01

**GEOLOGICAL TOPS:**

1158' Green River  
 1535' Bird's Nest  
 2013' Mahogany  
 4620' Wasatch  
 7375' Mesaverde

**NBU 1021-13B3CS - 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 @ ~6178'. 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. TOOH.
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 ~6128'. Clean out to PBTD (9465').
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 ~6128'. Clean out to PBTD (9465').
11. POOH, land tbg and pump off POBS.
12. NUWH, RDMO. Turn well over to production ops.



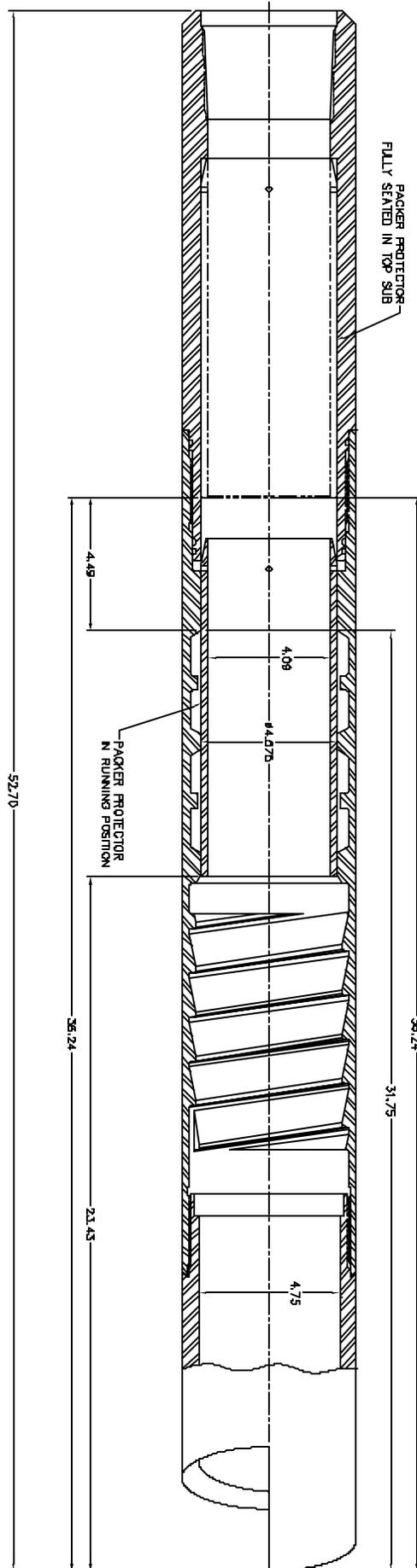
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## **Logan High Pressure Casing Patches Assembly Procedure**

All parts should be thoroughly greased before being assembled.

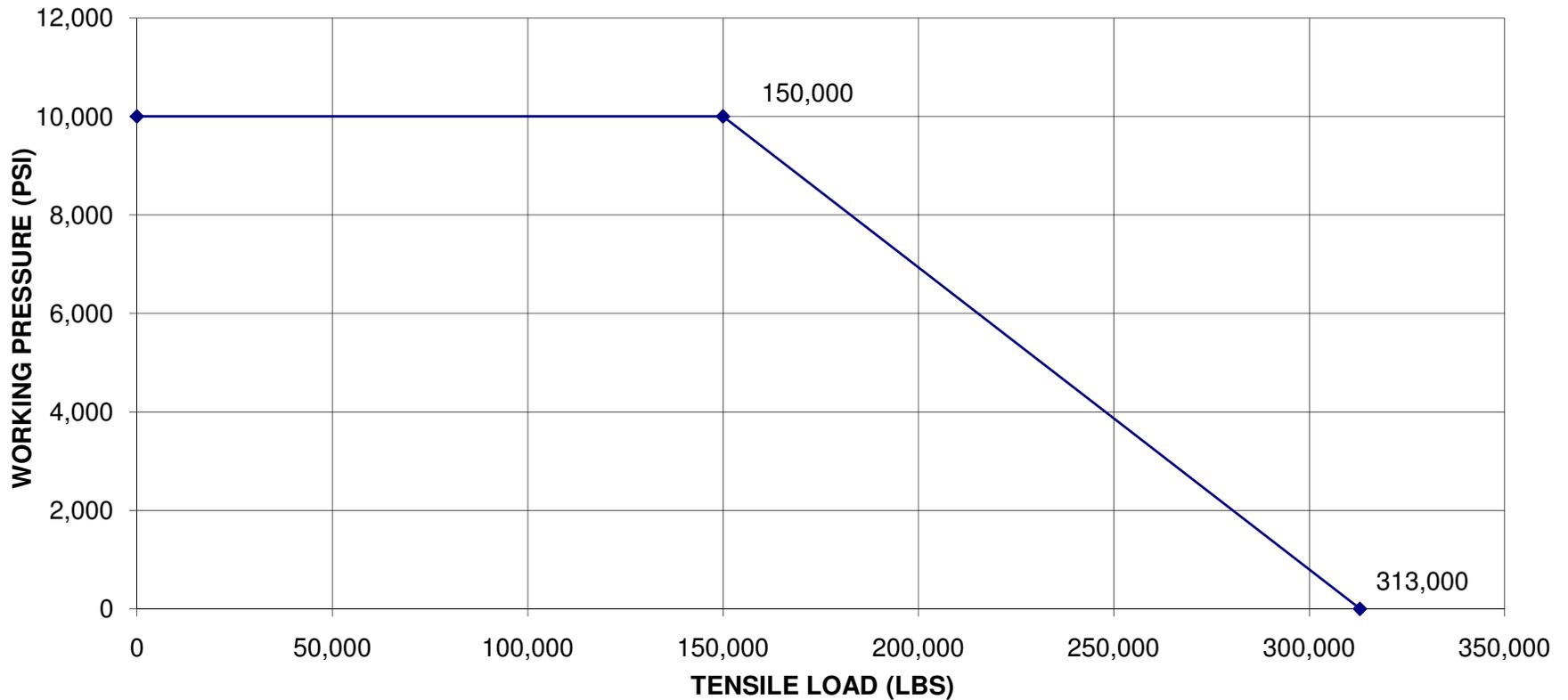
1. Install all four Logan Type "L" Packers in the spaces provided in the Casing Patch Bowl. Refer to diagram provided for proper installation.
2. Install Packer Protector from the Basket Grapple end of the Bowl. The beveled end of the Packer Protector goes in first. Carefully push the Packer Protector 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

**RECEIVED** Apr. 11, 2011

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 23608
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1021-13B3CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0696 FNL 1328 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 13 Township: 10.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047503410000
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<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		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT 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 checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 6/20/2011	<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"/> SPUD REPORT Date of Spud:	<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	
<input type="checkbox"/> DRILLING REPORT Report Date:	OTHER: <input style="width: 100px;" type="text" value="Wellhead Repair"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE OPERATOR HAS CONCLUDED WELLHEAD/CASING REPAIRS ON THE SUBJECT WELL LOCATION. PLEASE SEE THE ATTACHED CHRONOLOGICAL HISTORY FOR DETAILS OF THE OPERATIONS.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<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> 6/20/2011	

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

US ROCKIES REGION								
Operation Summary Report								
Well: NBU 1021-13B3CS RED			Spud Conductor: 11/2/2009			Spud Date: 11/14/2009		
Project: UTAH-UINTAH			Site: NBU 1021-13A PAD			Rig Name No: LEED 698/698		
Event: WELL WORK EXPENSE			Start Date: 5/27/2011			End Date: 6/3/2011		
Active Datum: DFE @0.00ft (above Mean Sea Level)			UWI: NE/NE/0/10/S/21/E/13/0/0/26/PM/N/696.00/E/0/1,328.00/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
5/27/2011	13:00 - 13:30	0.50	ALL	48		P		HSM, REVIEW SCANNING TBG.
	13:30 - 15:30	2.00	ALL	30	A	P		MIRU. NDWH, NU BOP'S RU FLOOR & TBG EQUIPMENT, RU CUTTERS, RIH 1-9/16 PUNCHER GUN & SHOT 4 HOLE IN TBG @ 8722'-23', POOH & RD CUTTERS.
	15:30 - 19:00	3.50	ALL	45	A	P		UNLAND TBG, RU PRS, POOH SCANNING 276 JTS. 2-3/8 L-80 TBG, FOUND JNT # 276 PLUGGED & 4 HOLES F/ PUNCHER GUN, BUMPER SPRING & PLUNGER STUCK IN JNT # 276. RD PRS, SWI SDFWE.
5/31/2011	7:00 - 7:30	0.50	ALL	48		P		HSM, REVIEW SETTING CBP.
	7:30 - 8:15	0.75	ALL	34	I	P		BLEW CSG DWN, CONTROL CSG W/ 20 BBLS, RU CUTTERS WIRELINE SERVICES, RIH W/ 4-1/2 BAKER 10K CBP & SET @ 6178', POOH TOOLS.
	8:15 - 10:30	2.25	ALL	34	D	P		RU DUMP BAILER, RIH & DUMP 4 SX CLASS "G" CMT ON TOP OF CBP PLUG, MADE 2 RUNS, POOH TOOLS, RD CUTTERS WIRELINE SERVICES, PRESSURE TEST CBP TO 3000 PSI. HELD.
	10:30 - 11:30	1.00	ALL	47	C	P		ND BOP'S, ND CSG BOWL,
	11:30 - 13:45	2.25	ALL	31	B	P		PU & RIH INTERNAL CUTTER, RU PWR SWVL, CUT CSG 3' F/ SURFACE, POOH LD PUP JNT & MANDREL, FILL CSG W/ T-MAC, PU 4-1/2 OVERSHOT, RIH LATCH ON FISH, RU CSG CREW & CUTTERS WIRELINE SERVICES, RIH STRING SHOT CSG COLLAR @ 6', RD CUTTERS WIRELINE SERVICES, BACK-OFF CSG PUP, THREAD NEW CSG PUP & TORQUE CSG TO 7000# W/ 79 ROTATIONS, RD CSG CREW, RU PWR SWVL, PU & RIH INTERNAL CUTTERS, CUT 4-1/2 CSG @ 41', POOH LD CSG JNT, RD PWR SWVL, PU & RIH W/ 4-1/2 10K EXTERNAL LOGAN HP CSG PATCH ON 4-1/2 P-110 CSG, LATCH ON FISH, PU CSG TO 100,000# TENSION, FILL CSG W/ T-MAC.
	13:45 - 16:00	2.25	ALL	33	C	P		RU B&C QUICK TEST, P.T. 4-1/2 CSG TO 1000 PSI. LOST 34 PSI. IN 15 MINS, P.T. 4-1/2 CSG TO 3500 PSI. FOR 30 MINS, LOST 60 PSI. IN 30 MINS, RE-TEST 4-1/2 CSG TO 3500 PSI. FOR 30 MINS, LOST 40 PSI. IN 30 MINS. BLEED WELL PSI. OFF, RD B&C QUICK TEST.
16:00 - 18:00	2.00	ALL	47	C	P		SET C-21 SLIPS, LAND CSG W/ 90,000# TENSION, CUT-OFF & DRESS 4-1/2 CSG STUB, INSTALL "H" PLATE, FLANGE & CROSSOVER SPOOL, TORQUE ALL 1-7/8 BOLTS, PRESSURE TEST SEALS TO 5000 PSI, NU CGS BOWL, NU BOP'S, RU FLOOR & TBG EQUIPMENT, SWI, SDFN.	
6/1/2011	7:00 - 7:30	0.50	ALL	48		P		HSM, REVIEW AIR FOAM UNIT
	7:30 - 9:00	1.50	ALL	31	I	P		PU 3-7/8 MILL, BIT SUB & RIH W/ 194 JTS. 2-3/8 L-80 TBG, TAG CMT @ 6138'
	9:00 - 9:30	0.50	ALL	47	A	P		NU PWR SWVL, INSTALL TSF,
	9:30 - 9:50	0.33	ALL	31	H	P		RU TECH FOAM, BROKE CIRC IN 20 MINS.
	9:50 - 10:05	0.25	ALL	44	A	P		D/O CMT F/ 6138' TO 6178' IN 13 MINS.

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 1021-13B3CS RED		Spud Conductor: 11/2/2009	Spud Date: 11/14/2009
Project: UTAH-UINTAH		Site: NBU 1021-13A PAD	Rig Name No: LEED 698/698
Event: WELL WORK EXPENSE		Start Date: 5/27/2011	End Date: 6/3/2011
Active Datum: DFE @0.00ft (above Mean Sea Level)		UWI: NE/NE/0/10/S/21/E/13/0/0/26/PM/N/696.00/E/0/1,328.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	10:05 - 13:30	3.42	ALL	44	D	P		D/O CBP @ 6178' IN 2.5 MINS, HAD 100 PSI. HAD 100 PSI. INCREASE, FELL THROUGH, POOH TO REMOVE TSF, KILL TBG, LD PWR SWVL, RIH TBG & TAG SCALE @ 6363' W/ 201 JTS. INSTALL TSF, RU PWR SWVL, BROKE CIRC IN 20 MINS, D/O SCALE F/ 6363' TO 6365' FELL THROUGH, KILL TBG, RD PWR SWVL, REMOVE TSF, RIH 2-3/8 TBG F/ TRAILER & TAG SCALE @ 9390' W/ 298 JTS. CIRC HOLE CLEAN.
	13:30 - 14:30	1.00	ALL	31	I	P		RD TECH FOAM, POOH LD 22 JTS. 2-3/8 L-80 TBG ON TRAILER, POOH 28 JTS. L-80 TBG, EOT @ 7845' W/ 248 JTS. IN WELL, SD RIG TRANSMISSION OVER HEATED, SWI, SDFN.
6/3/2011	7:00 - 7:30	0.50	ALL	48		P		HSM, REVIEW TRIPPING OUT TBG.
	7:30 - 13:00	5.50	ALL	31	I	P		SICP. 1000 PSI. SITP. 950 PSI. BLEW TBG DWN, CONTROL 10 BBLs, POOH 248 JTS. 2-3/8 L-80 TBG, LD MILL, PU HALF POBS W/ 1.875 XN & RIH 132 JTS. EOT @ 4173', RU SWAB EQUIPMENT, RIH 1.9 BROACH & BROACH TBG TO 4173', POOH LD SWAB EQUIPMENT, CONTINUE RIH 144 JTS. 2-3/8 L-80 TBG, LAND TBG HANGER, RU SWAB EQUIPMENT & RIH 1.9 BROACH TO 4552', POOH & RD SWAB EQUIPMENT, RD FLOOR & TBG EQUIPMENT, ND BOP'S, NU WH, RDMO. MOVE RIG TO BONANZA 1023-8C PAD.
TBG DETAIL								
KB-----13' HANGER-----83" 276 JTS. 2-3/8 L-80 TBG @-----8724.70' HALF POBS, 1.875 XN-----2.20' EOT @-----8740.73' WLTR. 100 BBLs. TOP PERF @ 6228' BTM PERF @ 9232' PBTD @ 9390' API # 43047503410000								

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
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1. TYPE OF WELL Gas Well	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	8. WELL NAME and NUMBER: NBU 1021-13B3CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0696 FNL 1328 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NENE Section: 13 Township: 10.0S Range: 21.0E Meridian: S	9. API NUMBER: 43047503410000
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH	
STATE: UTAH	

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 9/30/2016	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input 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 checked="" type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

Kerr-McGee Oil & Gas Onshore, LP respectfully requests to plug and abandon the NBU 1021-13B3CS well. Please see the attached procedure for details. Thank you.

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

Date: October 18, 2016

By: 

Please Review Attached Conditions of Approval

NAME (PLEASE PRINT) Candice Barber	PHONE NUMBER 435 781-9749	TITLE HSE Representative
SIGNATURE N/A	DATE 9/30/2016	



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

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Sundry Conditions of Approval Well Number 43047503410000**

- 1. Notify the Division at least 24 hours prior to conducting abandonment operations. Please call Dan Jarvis at 801-538-5338.**
- 2. Amend Plug #1: A 100' cement plug ( $\pm 8$  sx) should be spotted on top of the CIBP @ 7402' from  $\pm 7402'$  to 7302'.**
  - 3. All balanced plugs shall be tagged to ensure that they are at the depth specified.**
  - 4. All annuli shall be cemented from a minimum depth of 100' to the surface.**
- 5. The interval between plugs shall be filled with noncorrosive fluid of adequate density to prevent migration of formation water into or through the well bore (R649-3-24-3.5).**
- 6. Surface reclamation shall be done in accordance with R649-3-34 – Well Site Restoration.**
- 7. All requirements in the Oil and Gas Conservation General Rule R649-3-24 shall apply.**
- 8. If there are any changes to the procedure or the wellbore configuration, notify Dustin Doucet at 801-538-5281 (ofc) or 801-733-0983 (home) prior to continuing with the procedure.**
- 9. All other requirements for notice and reporting in the Oil and Gas Conservation General Rules shall apply.**

10/18/2016

# Wellbore Diagram

r263

API Well No: 43-047-50341-00-00 Permit No: Well Name/No: NBU 1021-13B3CS  
 Company Name: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Location: Sec: 13 T: 10S R: 21E Spot: NENE

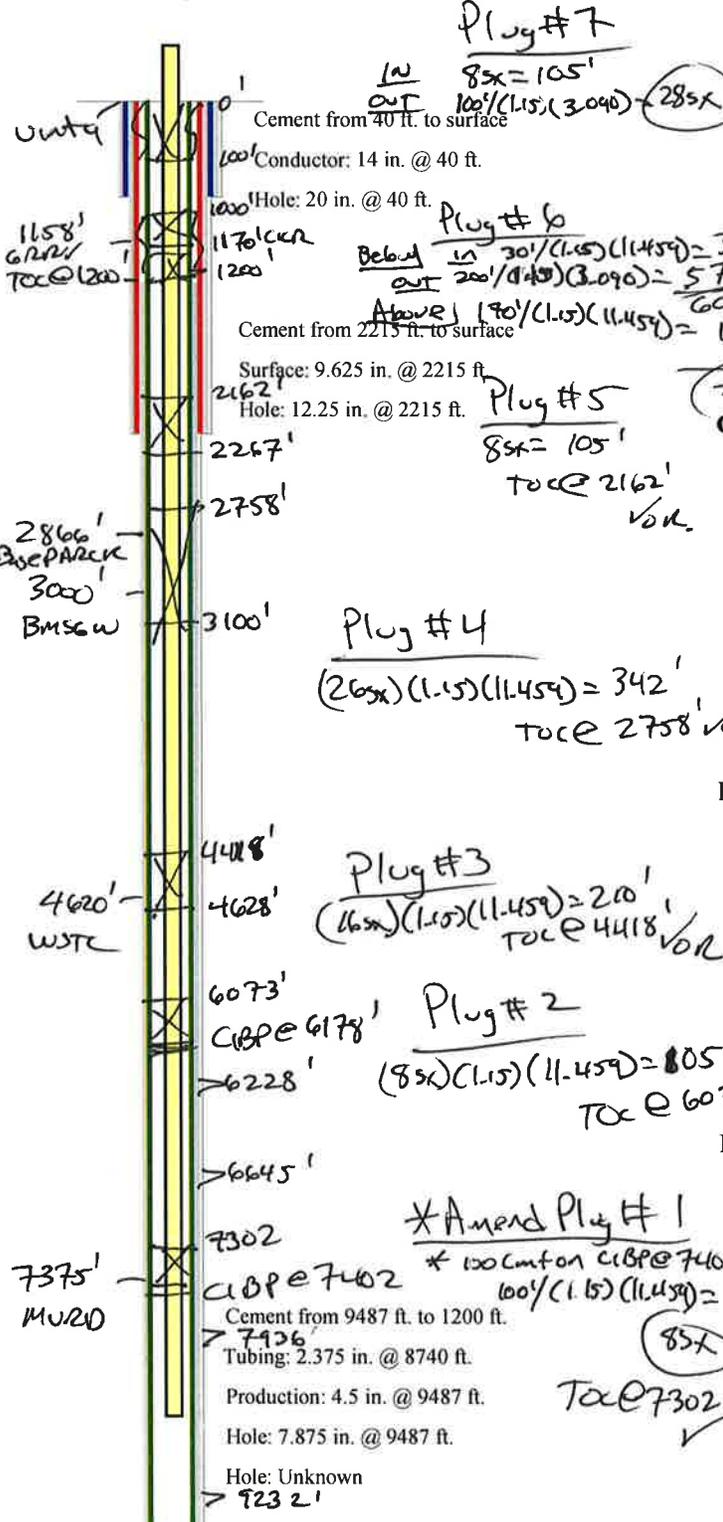
Coordinates: X: 628559 Y: 4423700

Field Name: NATURAL BUTTES

County Name: UINTAH

### String Information

String	Bottom (ft sub)	Diameter (inches)	Weight (lb/ft)	Length (ft)	Capacity (f/cf)
HOL1	40	20			
COND	40	14	36.7	40	
HOL2	2215	12.25			
SURF	2215	9.625	36	2215	
HOL3	9487	7.875			
PROD	9487	4.5	11.6	9487	11.459
TI	8740	2.375			



### Cement Information

String	BOC (ft sub)	TOC (ft sub)	Class	Sacks
COND	40	0	UK	28
PROD	9487	1200	HC	635
PROD	9487	1200	50	1505
SURF	2215	0	G	550

### Perforation Information

Top (ft sub)	Bottom (ft sub)	Shts/Ft	No Shts	Dt Squeeze
7936	9232			
6228	6645			

### Formation Information

Formation	Depth
UNTA	0
GRRV	1158
TRONA	1535
MHGBN	2013
PARCK	2866
BMSW	3000
WSTC	4620
MVRD	7375

TD: 9516 TVD: 9296 PBTD: 9465

**NBU 1021-13B3CS**  
**696' FNL & 1328' FEL**  
**NENE SEC. 13, T10S, R21E**  
**UINTAH UT**

**KBE:** 5276' **API NUMBER:** 4304750341  
**GLE:** 5262' **LEASE NUMBER:** ML-23608  
**TD:** 9516' **LAT/LONG:** 39.953692/-109.495097  
**PBTD:** 9465'

**CASING :** 12.25" hole  
**SURFACE** 9.625" 36# J-55 @ 2215'

**PRODUCTION** 7.875" hole  
 4.5" 11.6# L-80 @ 9488'  
 Est. TOC @ 1220' CBL

**PERFORATIONS:** WASATCH-MESAVERDE TOP-BOTTOM 6228'-9232'

**TUBING:** 2.375" 4.7# L-80 tbg at 8728'

Tubular/Borehole	ID	Drift inches	Collapse psi	Burst psi	Capacities		
	inches				Gal./ft.	Cuft/ft.	Bbl./ft.
2.375" 4.7# J-55 tbg	1.995	1.901	8100	7700	0.1624	0.02171	0.00387
2.375" 4.7# P-110 tbg	1.995	1.901	13800	15400	0.1624	0.02171	0.00387
2.375" 4.7# L-80 tbg	1.995	1.901	11780	11200	0.1624	0.02171	0.00387
4.5" 11.6# L-80 csg	4	0	6350	7780	0.65282	0.08727	0.01554
9.625" 36# J-55 csg	8.921	8.765	2020	3520	3.24699	0.43406	0.07731

Annular Capacities	Gal./ft.	Cuft/ft.	Bbl./ft.
2.375" tbg. X 4.5" csg	0.42272	0.05651	0.01006
4.5" csg. X 9.625" csg	2.42077	0.32361	0.05764
4.5" csg X 7.875 borehole	1.70406	0.2278	0.04057

**GEOLOGIC INFORMATION:**

Formation	Depth to top, ft.
Uinta	Surface
Top Green River	1158'
Top Mahogany	0'
Base Parachute	2866'
Top Wasatch	4628'
Top Mesaverde	7402'

<http://digitallibrary.utah.gov/awweb/awarchive?type=file&item=55737>

BMSW Elevation ~2276' MSL  
 BMSW Depth ~3000'

## NBU 1021-13B3CS PLUG & ABANDONMENT PROCEDURE

### GENERAL

- H2S MAY BE PRESENT. CHECK FOR H2S AND TAKE APPROPRIATE PRECAUTIONS.
- BLOW DOWN BRADEN HEAD AND SURFACE CASING AS NEEDED AS PER SOP.
- CEMENT QUANTITIES BELOW ASSUME NEAT CLASS G, 15.8ppg, YIELD 1.145 CUFT/SX. IF A DIFFERENT PRODUCT IS USED, WELLSITE PERSONNEL ARE RESPONSIBLE FOR CORRECTING QUANTITIES TO YIELD THE STATED SLURRY VOLUME.
- TREATED FRESH WATER WILL BE PLACED BETWEEN ALL PLUGS INSTEAD OF BRINE.
- ALL DISPLACEMENT FLUID SHALL CONTAIN CORROSION INHIBITOR AND BIOCIDES. PREMIX 5 GALLONS PER 100 BBLs FLUID AND IS TO BE PLACED BETWEEN ALL PLUGS.
- NOTIFY APPROPRIATE AGENCY 48 HOURS BEFORE MOVING ON LOCATION.

PERTINENT WELL HISTORY:s.n. @ 8740' (repair csg landing jt 5/2011)

### PROCEDURE

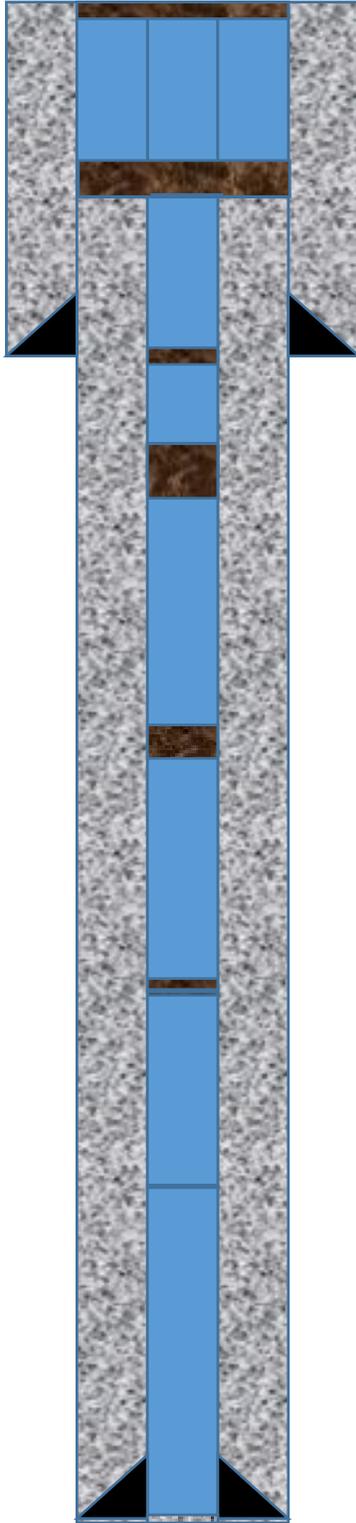
**Note:** Approx. 168 SXS Class "G" cement needed for procedure & (2) 4.5" CIBP

**Note:** YES GYRO ON RECORD. (IF GYRO NEEDED, A GPS READING WILL NEED TO BE TAKEN AT THE WELL SITE AND RECORDED IN OPENWELLS. PLEASE TAKE IT TO THE 6TH DECIMAL PLACE).

1. MIRU. KILL WELL AS NEEDED. ND WH, NU AND TEST BOPE.
2. POOH W/ TBG & L/D SAME. RU WIRELINE AND MAKE A GAUGE RING RUN TO CHECK FOR FILL PER FOREMAN DISCRETION.
3. ISOLATE MESAVERDE PERFORATIONS (> 7402'): RIH ON WIRELINE W/ 4.5" CIBP. SET @ ~7402'. RELEASE CIBP.
4. ISOLATE PERFORATIONS (9232'-6228'): RIH ON WIRELINE OR TUBING W/ 4.5" CIBP. SET @ ~6178', (50' above top perf at 6228'). RELEASE CIBP, PUH 10', CIRC ENTIRE HOLE W/ TREATED FRESH WATER AND PRESSURE TEST CASING. SET A 105FT BALANCED CMT PLUG F/ 6178' to 6073'(8 SXS, 9.16 FT3, 1.64 BBLs).
5. PROTECT WASATCH TOP (4628'): PUH WITH TUBING AND PUMP A MINIMUM OF (210FT) CMT F/ 4628' to 4418' (16 SXS, 18.32 FT3, 3.27 BBLs).
6. PROTECT PARACHUTE BASE (2866') & BMSW (3000'): PUH WITH TUBING AND PUMP A MINIMUM OF (341FT) CMT F/ 3100' to 2759' (26 SXS, 29.77 FT3, 5.30 BBLs).
7. PROTECT CASING SHOE (2215'): PUH WITH TUBING AND PUMP A MINIMUM OF (105FT) CMT F/ 2267' to 2162' (8 SXS, 9.16 FT3, 1.64 BBLs).
8. PROTECT GREEN RIVER (1158'): POOH AND RIG UP WIRELINE. RIH WITH PERF GUNS FOR PRODUCTION CASING. PERFORATE CASING AT ~1200' (TOC @ ~1220'). POOH AND CONTROL WELL WITH FRESH WATER AS NECESSARY. RIH WITH CIRC AND SET 30' ABOVE PERFORATIONS. POOH AND RIG DOWN WIRELINE. RIH WITH TUBING AND PUMP A MINIMUM OF (201FT) CMT F/ 1200' to 99999' (72SXS, 82.44 FT3, 14.68 BBLs).
9. PROTECT SURFACE (101'): PUH WITH TUBING AND PUMP A MINIMUM OF (105 FT) CMT F/ 105'-0' (8 SXS, 9.16 FT3, 1.64 BBLs). POOH AND RUN 1 INCH TUBING DOWN THE PRODUCTION/SURFACE CASING ANNULUS TO AS DEEP AS POSSIBLE (MINIMUM OF 100') AND CEMENT TO SURFACE (30 SXS, 34.35 FT3, 6.12 BBLs).
10. CUT OFF WELLHEAD AND INSTALL MARKER PER REGULATIONS.
11. RDMO. TURN OVER TO OPERATIONS FOR SURFACE REHAB. SURFACE RECLAMATION TO BE PERFORMED IN ACCORDANCE TO REGULATIONS.

# NBU 1021-13B3CS

Total SXS: 168, Total CIBP: 2 & CICR: 1



<- Plug for Surface at 0' from 0' to 105' with 38SXS,105'

<- Plug for GreenRiver at 1158' from 1200' to 999' with 72SXS,201ft.  
<- TOC at 1220'

<- Plug for Surface Shoe at 2215' from 2267' to 2162' with 8SXS,105ft.

<- Parachute Base at 2866'  
<- Plug for Parachute Base & BMSW from 3100' 2759' with 26 SXS,341ft.  
<- BMSW at 3000'

<- Plug for Wasatch at 4628' from 4628' to 4418' with 16SXS,210ft.

<- Plug above CIBP at 6178' from 6178' to 6073' with 8SXS,105ft.  
<-CIBP Above Perfs at 6178'  
<-Top Perf at 6228'

<-CIBP for Mesaverde at 7402'

<-PBTD at 9465'  
<- Production Casing Shoe at 9488'  
<-TD at 9516'

<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> ML 23608	
<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 1021-13B3CS	
<b>9. API NUMBER:</b> 43047503410000	
<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> 0696 FNL 1328 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 13 Township: 10.0S Range: 21.0E 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: 10/26/2016	<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 checked="" type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

Kerr-McGee Oil & Gas Onshore, LP has plugged and abandoned the NBU 1021-13B3CS well on 10/26/2016. Please see the operations summary report for details. Thank you.

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

**FOR RECORD ONLY**

November 22, 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> 10/31/2016	

US ROCKIES REGION  
Operation Summary Report

US ROCKIES REGION								
Operation Summary Report								
Well: NBU 1021-13B3CS RED			Spud Conductor: 11/2/2009			Spud date: 11/14/2009		
Project: UTAH-UINTAH			Site: NBU 1021-13A PAD			Rig name no.: MILES-GRAY 1/1		
Event: ABANDONMENT			Start date: 10/24/2016			End date: 10/26/2016		
Active datum: RKB @5,276.00usft (above Mean Sea Level)			UWI: NE/NE/0/10/S/21/E/13/0/0/26/PM/N/696.00/E/0/1,328.00/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
10/24/2016	12:00 - 12:40	0.67	ABANDP	30	G	P		ROAD RIG TO LOCATION
	12:40 - 14:30	1.83	ABANDP	30	A	P		MIRU. RUN PUMP LINES, FLOW LINES ETC.
	14:30 - 16:00	1.50	ABANDP	30	F	P		FCP & FTP = 60#. BLOW DOWN WELL TO PRODUCTION TANKS. CNTRL TBNG W/ 20BBLS TMAC. CNTRL CSNG W/ 20BBLS TMAC. NDWH. UN-LAND TBG (NOT STUCK). LAND TBG BACK ON HANGER. FUNCTION TEST BOP GOOD. NUBOP. R/U FLOOR & TBG EQUIP. UN-LAND TBG. RMV HANGER. PREP FOR TBNG SCAN IN THE AM. SWIFN. LOCK RAMS. SDFN.
								NOTE: RICHARD POWELL W/ UDOGM WAS NOTIFIED OF MIRU AND PLANS WHILE WORKING WITH HIM ON THE NBU 74N3 LOCATION. HE SAID TO PROCEED AS PLANNED. RICHARD WAS NOT ON LOCATION TO WITNESS P&A.
10/25/2016	7:00 - 7:15	0.25	ABANDP	48	B	P		SAFETY = JSA.
	7:15 - 12:00	4.75	ABANDP	31	I	P		SICP= 200#. SITP= 30#. BLOW DOWN WELL TO FLOWBACK TANK. CNTRL TBG W/ 10BBLS TMAC. CNTRL CSNG W/ 20BBLS TMAC. MIRU SCANNERS. POOH WHILE SCANNING 276JTS 2-3/8" L-80 TBNG. (L/D ALL TBNG). SCAN RESULTS AS FOLLOWS:  Y-BND= 269JTS R-BND= 7JTS  RDMO SCANNERS.
	12:00 - 15:40	3.67	ABANDP	34	I	P		MIRU WIRELINE. P/U & RIH W/ 4-1/2" GR-JB @ 7410' (GOOD). POOH & L/D GR-JB. P/U & RIH W/ 4-1/2" CIBP. SET CIBP @ 7402'. POOH & L/D SETTING TOOL. P/U & RIH W/ DUMP BAILER. SPOT 8SX CMT ON CIBP @ 7402' (4 WIRELINE RUNS @ 2SX EACH). POOH & L/D DUMP BAILER. P/U & RIH W/ 4-1/2" CIBP. SET CIBP ABOVE ALL PERFS @ 6178'. POOH E-LINE. RDMO E-LINE.
	15:40 - 17:00	1.33	ABANDP	31	I	P		P/U & RIH W/ N.C. + 107JTS 2-3/8" J-55 TBNG. SWIFN. LOCK RAMS. SDFN.
10/26/2016	7:00 - 7:15	0.25	ABANDP	48	B	P		SAFETY = JSA.
	7:15 - 8:30	1.25	ABANDP	31	I	P		0# ON WELL. CONT P/U & RIH W/ N.C. + TBNG. T/U ON CIBP @ 6178' W/ 195 JTS 2-3/8" J-55 TBNG TOTAL. L/D 1JT TBNG. PUH OFF CIBP 10'.
	8:30 - 8:50	0.33	ABANDP	31	H	P		MIRU CMT CREW. BREAK CONV CIRC W/ TMAC. CIRC ENTIRE WELLBORE CLEAN & GAS FREE W/ 90 BBLS TMAC.
	8:50 - 9:00	0.17	ABANDP	52	F	P		PRESSURE TEST 4-1/2" PRODUCTION CSNG & 4-1/2" CIBP GOOD @ 500#. LOST 0# IN 5MIN.

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1021-13B3CS RED	Spud Conductor: 11/2/2009	Spud date: 11/14/2009
Project: UTAH-UINTAH	Site: NBU 1021-13A PAD	Rig name no.: MILES-GRAY 1/1
Event: ABANDONMENT	Start date: 10/24/2016	End date: 10/26/2016
Active datum: RKB @5,276.00usft (above Mean Sea Level)	UWI: NE/NE/0/10/S/21/E/13/0/0/26/PM/N/696.00/E/0/1,328.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	9:00 - 11:50	2.83	ABANDP	51	D	P		<p>R/U CMT CREW. PUMP CMT PLUGS AS POOH W/ TBNG. ALL CMT PUMPED @ 15.8# AND IS G CMT. PLUGS PUMPED AS FOLLOWS:</p> <p>CIBP @ 6178'. PUMP 2.6BBLS FRESH WATER. PUMP 10SX CMT. DISPLACE W/ 1BBL FRESH WATER &amp; 22.3BBLS TMAC. PUH TBNG.</p> <p>EOT @ 4628'. FILL HOLE W/ TMAC. PUMP 2.6BBLS FRESH WATER. PUMP 16SX CMT. DISPLACE W/ 1BBL FRESH WATER &amp; 16BBLS TMAC. PUH TBNG.</p> <p>EOT @ 3100'. FILL HOLE W/ TMAC. PUMP 2.6BBLS FRESH WATER. PUMP 26SX CMT. DISPLACE W/ 1BBL FRESH WATER &amp; 9.5BBLS TMAC. PUH TBNG.</p> <p>EOT @ 2267'. FILL HOLE W/ TMAC. PUMP 2.6BBLS FRESH WATER. PUMP 10SX CMT. DISPLACE W/ 1BBL FRESH WATER &amp; 7.2BBLS TMAC. POOH WHILE L/D EXCESS TBNG NOT NEEDED FOR SQZ JOB. TOOH WHILE STD BACK 36JTS 2-3/8" J-55 TBNG.</p>
	11:50 - 12:40	0.83	ABANDP	34	H	P		<p>MIRU WIRELINE. P/U &amp; RIH W/ 4SPF X 1' CSG SQZ GUN. PERF 4-1/2" PRODUCTION CSG @ 1190'. POOH E-LINE. R/D E-LINE.</p> <p>R/U CMT CREW. EST INJECTION RATE INTO SQZ HOLES OF 2.5BPM @ 500#. NO COMMUNICATION W/ 4-1/2" X 9-5/8" ANNULUS. PUMP TOTAL OF 20BBLS TMAC. SHUT DOWN.</p>
	12:40 - 12:55	0.25	ABANDP	31	I	P		<p>P/U &amp; TIH W/ 4-1/2" CICR + 36JTS 2-3/8" J-55 TBNG. SET CICR @ 1149'. STING OUT OF CICR. FILL CSG ABOVE CICR FULL W/ TMAC. STING INTO CICR.</p>
	12:55 - 13:15	0.33	ABANDP	51	D	P		<p>R/U CMT CREW. EST INJECTION RATE THRU CICR OF 2BPM @ 320# W/ 5BBLS TMAC. PUMP 3BBLS FRESH WATER. PUMP 72SX CMT (2% CHLORIDE) THRU CICR.. STING OUT OF CICR &amp; PUMP 16SX CMT (2% CHLORIDE ON TOP OF CICR. DISPLACE W/ 2.3BBLS TMAC. SHUT DOWN. POOH WHILE L/D ALL TBNG.</p>
	13:15 - 13:30	0.25	ABANDP	34	H	P		<p>R/U WIRELINE. P/U &amp; RIH W/ 4SPF X 1' CSG SQZ GUN. PERF 4-1/2" PRODUCTION CSG @ 105'. POOH E-LINE. RDMO E-LINE.</p> <p>R/U CMT CREW. BREAK CONV CIRC DOWN 4-1/2" PRODUCTION CSNG &amp; UP 4-1/2" X 9-5/8" ANNULUS. FULL RETURNS @ SURFACE. SHUT DOWN.</p>

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 1021-13B3CS RED	Spud Conductor: 11/2/2009	Spud date: 11/14/2009
Project: UTAH-UINTAH	Site: NBU 1021-13A PAD	Rig name no.: MILES-GRAY 1/1
Event: ABANDONMENT	Start date: 10/24/2016	End date: 10/26/2016
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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	13:30 - 16:30	3.00	ABANDP	51	D	P		<p>R/D FLOOR &amp; TBG EQUIP. NDBOP. NUWH. RDMO RIG.</p> <p>R/U CMT CREW. MIX &amp; PUMP 60SX 15.8# CMT DOWN 4-1/2" PRODUCTION CSNG &amp; UP 4-1/2" X 9-5/8" ANNULUS. GOOD CMT @ SURFACE ON BOTH CSNG STRINGS. SHUT DOWN.</p> <p>MIRU ROUSTABOUT CREW. EXPOSE WELLHEAD. CUT &amp; LOWER WELLHEAD. FOUND CMT DOWN 2' IN BOTH STRINGS OF CSNG. MIX 1SK 15.8# CMT &amp; TOP OFF WELL TO SURFACE. STAYED FULL. INSTALL MARKER PLATE. BACKFILL WELL. P&amp;A COMPLETE.</p> <p>WELLHEAD COORDINATES:</p> <p>LAT: 39.953692 LONG: -109.495097</p> <p>NOTE: RICHARD POWELL W/ UDOGM ON LOCATION TO WITNESS P&amp;A. RICHARD APPROVED OF ALL ACTIONS.</p>