



Kerr-McGee Oil & Gas Onshore LP  
PO Box 173775  
Denver CO 80127

November 21, 2008

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

Re: Directional Drilling R649-3-11  
NBU 1022-25G4S  
T10S R22E  
Section 25: SWNE  
SWNE, 1758' FNL, 1443' FEL (surface)  
SWNE, 2615' FNL, 1955' FEL (bottom hole)  
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 1022-25G4S 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 (State lease UT ST ML 22447).

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

James C. Colligan III  
Landman

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DIV. OF OIL, GAS & MINING

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

FORM 3

AMENDED REPORT   
(highlight changes)

<b>APPLICATION FOR PERMIT TO DRILL</b>		5. MINERAL LEASE NO: <b>ST ML 22447</b>	6. SURFACE: State
1A. TYPE OF WORK: DRILL <input checked="" type="checkbox"/> REENTER <input type="checkbox"/> DEEPEN <input type="checkbox"/>		7. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A	
B. TYPE OF WELL: OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER _____ SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>		8. UNIT or CA AGREEMENT NAME: <b>UTU-63047A</b>	
2. NAME OF OPERATOR: <b>Kerr-McGee Oil &amp; Gas Onshore, LP</b>		9. WELL NAME and NUMBER: <b>NBU 1022-25G4S</b>	
3. ADDRESS OF OPERATOR: <b>P.O. Box 173779</b> CITY <b>Denver</b> STATE <b>CO</b> ZIP <b>80217-3779</b>		PHONE NUMBER: <b>(720) 929-6226</b>	10. FIELD AND POOL, OR WILDCAT: <b>Natural Buttes Field</b>
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: <b>1758' FNL &amp; 1443' FEL</b> LAT <b>39.922294</b> LON <b>-109.383378</b> (NAD 27) AT PROPOSED PRODUCING ZONE: <b>SWNE 2615' FNL &amp; 1955' FEL, Sec. 25, T10S, R22E</b> <b>638014X 4419914Y 39.919978 -109.385110</b>		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>SWNE 25 10S 22E</b>	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: <b>35.3 miles northeast of Ouray, Utah</b>		12. COUNTY: <b>Uintah</b>	13. STATE: <b>UTAH</b>
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) <b>1443'</b>	16. NUMBER OF ACRES IN LEASE: <b>640</b>	17. NUMBER OF ACRES ASSIGNED TO THIS WELL: <b>Unit Well</b>	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) <b>20'</b>	19. PROPOSED DEPTH: <b>7,821</b>	20. BOND DESCRIPTION: <b>22013542</b>	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): <b>5103'</b>	22. APPROXIMATE DATE WORK WILL START:	23. ESTIMATED DURATION: <b>10 days</b>	

24. PROPOSED CASING AND CEMENTING PROGRAM							
SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT			SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT		
12.25	9.625	J-55	36	4,000	Premium Cement	215	1.18 15.6
					Premium Cement	50	1.18 15.6
7.875	4.5	I-80	11.6	7,744	Premium Lite II	290	3.38 11.0
					50/50 Poz G	1190	1.31 14.3

25. 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 checked="" type="checkbox"/> EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER	<input type="checkbox"/> FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

NAME (PLEASE PRINT) Kevin McIntyre TITLE Regulatory Analyst

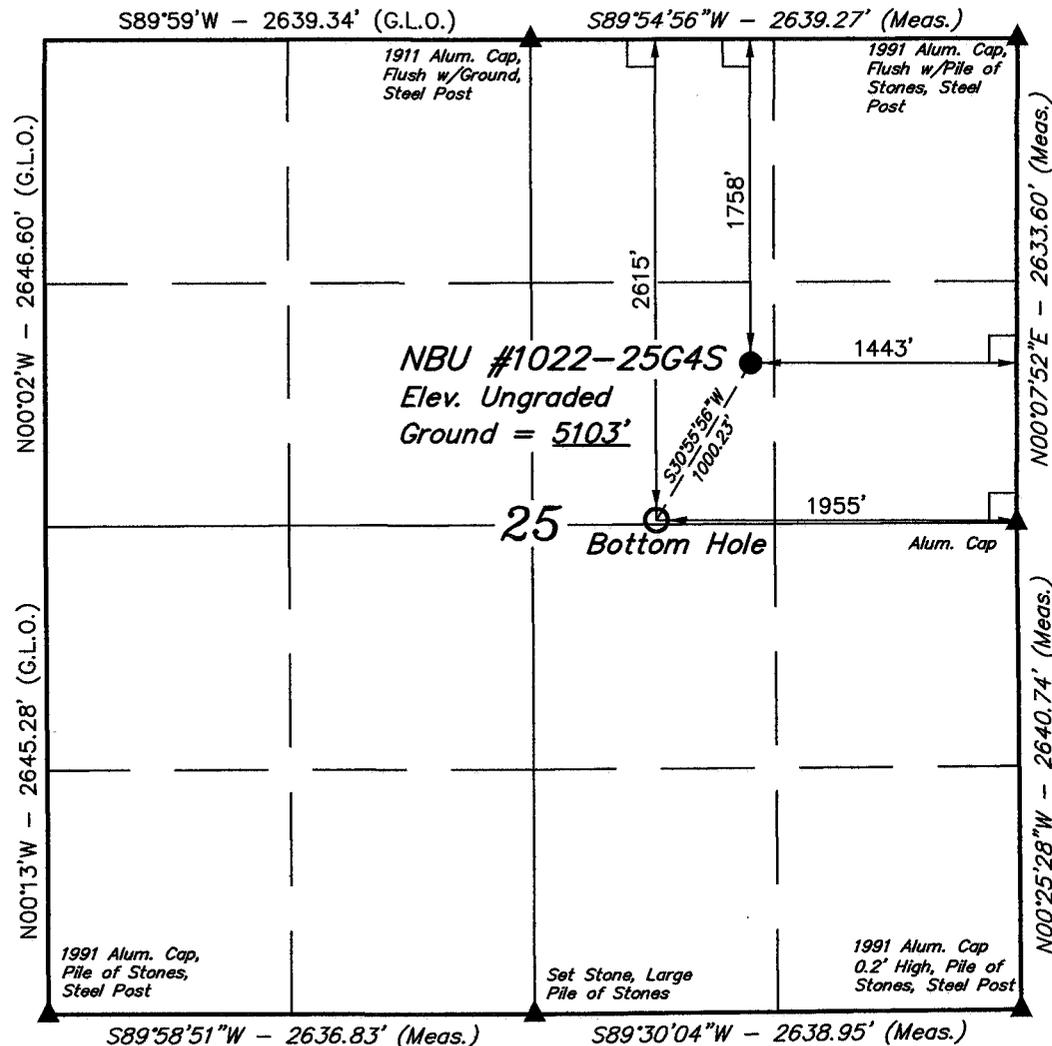
SIGNATURE *Kevin McIntyre* DATE 11/13/2008

(This space for State use only)

API NUMBER ASSIGNED: 43-047-40442 APPROVAL: \_\_\_\_\_

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



## Kerr-McGee Oil & Gas Onshore LP

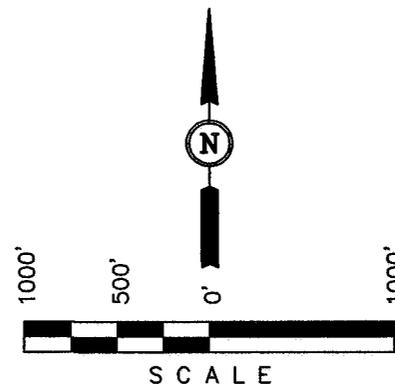
Well location, NBU #1022-25G4S, located as shown in the SW 1/4 NE 1/4 of Section 25, T10S, R22E, S.L.B.&M., Uintah County, Utah.

### BASIS OF ELEVATION

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

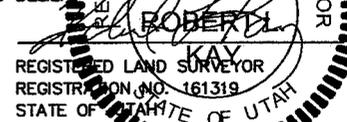
### BASIS OF BEARINGS

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



### CERTIFICATE

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



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

### LEGEND:

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

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 39°55'11.67" (39.919908)	LATITUDE = 39°55'20.14" (39.922261)
LONGITUDE = 109°23'09.21" (109.385892)	LONGITUDE = 109°23'02.61" (109.384058)
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (SURFACE LOCATION)
LATITUDE = 39°55'11.79" (39.919942)	LATITUDE = 39°55'20.26" (39.922294)
LONGITUDE = 109°23'06.76" (109.385211)	LONGITUDE = 109°23'00.16" (109.383378)

SCALE 1" = 1000'	DATE SURVEYED: 08-11-08	DATE DRAWN: 08-22-08
PARTY L.K. D.D. C.C.	REFERENCES G.L.O. PLAT	
WEATHER HOT	FILE Kerr-McGee Oil & Gas Onshore LP	

**NBU 1022-25G4S**  
Pad: NBU 1022-25G  
Surface: 1,758' FNL, 1,443' FEL (SW/4NE/4)  
BHL: 2,615' FNL 1,955' FEL (SW/4NE/4)  
Sec. 25 T10S R22E

Uintah, Utah  
Mineral Lease: ML 22447

**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	408'	
Birds Nest	836'	Water
Mahogany	1,238'	Water
Wasatch	3,454'	Gas
Mesaverde	5,526'	Gas
MVU2	6,402'	Gas
MVL1	7,104'	Gas
TVD	7,600'	
TD	7,821'	

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 7,821' TD, approximately equals 4,467 psi (calculated at 0.57 psi/foot).

Maximum anticipated surface pressure equals approximately 2,668 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

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

**9. Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

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

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

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

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

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

**Background**

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

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

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

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

***Variance for BOPE Requirements***

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

***Variance for Mud Material Requirements***

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

***Variance for Special Drilling Operation (surface equipment placement) Requirements***

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

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

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

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

***Conclusion***

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

**10. Other Information:**

*Please refer to the attached Drilling Program.*





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

### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'						
						3520	2020	453000
SURFACE	9-5/8"	0 to 1,450'	36.00	J-55	LTC	1.24	2.98	11.05
						7,780	6,350	201,000
PRODUCTION	4-1/2"	0 to 7,821'	11.60	I-80	LTC	2.74	1.39	2.54

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 = 11.2 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 2,668 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD  
 (Burst Assumptions: TD = 11.2 ppg) 0.57 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)  
**MABHP 4,467 psi**

### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500	Premium cmt + 2% CaCl + .25 pps flocele	215	60%	15.60	1.18
Option 1	TOP OUT CMT (1)	200	20 gals sodium silicate + Premium cmt + 2% CaCl + .25 pps flocele	50		15.60	1.18
	TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE	LEAD	1500	65/35 Poz + 6% Gel + 10 pps gilsonite + 25 pps Flocele + 3% salt BWOW	360	35%	12.60	1.81
Option 2	TAIL	500	Premium cmt + 2% CaCl + .25 pps flocele	180	35%	15.60	1.18
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	5,021'	Premium Lite II + 3% KCl + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	480	40%	11.00	3.38
	TAIL	2,800'	50/50 Poz/G + 10% salt + 2% gel + 1% R-3	690	40%	14.30	1.31

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

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

### FLOAT EQUIPMENT & CENTRALIZERS

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

### ADDITIONAL INFORMATION

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

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

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

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

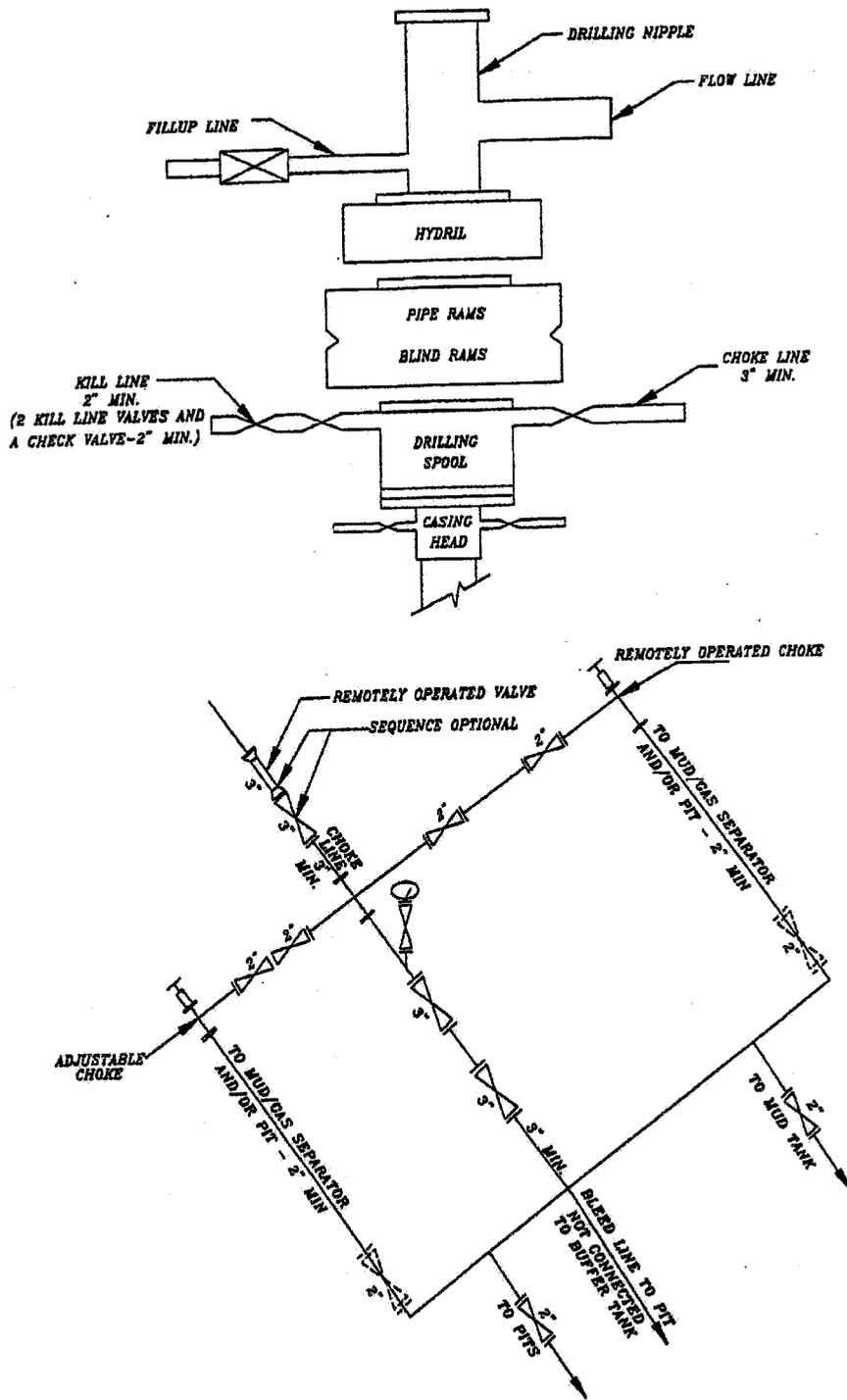
DRILLING ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

John Huycke / Grant Schluender

DRILLING SUPERINTENDENT: \_\_\_\_\_ DATE: \_\_\_\_\_

John Merkel / Lovel Young

EXHIBIT A



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

NBU 1022-25G4S  
SWNE SEC. 25, T10S, R22E  
UINTAH COUNTY, UTAH  
ST ML 22447

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 150' +/- 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.

**Approximately 147' of 4" pipeline is proposed. Refer to Topo D for the proposed pipeline.**

**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, Sec. 5, T9S, R22E, NBU #159, Sec. 35, T9S, R21E, Ace Oilfield, Sec. 2, T6S, R20E, MC&MC, Sec. 12, T6S, R19E, Pipeline Facility, Sec. 36, T9S, R20E, Goat Pasture Evaporation Pond, SW/4 Sec. 16, T10S, R22E, Bonanza Evaporation Pond, 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 will be submitted when report becomes available.

This location is not within 460' from the boundary of the Natural Buttes Unit, nor is it within 460' of any non-committed tract lying within the boundaries of the Unit.

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

Kevin McIntyre  
Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
P.O. Box 173779  
Denver, CO 80217-3779  
(720) 929-6226

Randy Bayne  
Drilling Manager  
Kerr-McGee Oil & Gas Onshore LP  
1368 South 1200 East  
Vernal, UT 84078  
(435)781-7018

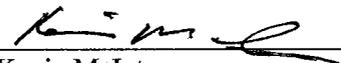
Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

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 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 by the Operator, its contractors, and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

  
\_\_\_\_\_  
Kevin McIntyre

11/13/2008  
Date

## Kerr-McGee Oil & Gas Onshore LP

NBU #1022-25G, #1022-25G2S, #1022-25G3S & #1022-25G4S  
SECTION 25, T10S, R22E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 11.2 MILES ON THE SEEP RIDGE ROAD TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 9.6 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY, THEN NORTHEASTERLY DIRECTION APPROXIMATELY 2.6 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN RIGHT AND PROCEED IN A NORTHEASTERLY, THEN SOUTHERLY DIRECTION APPROXIMATELY 0.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN SOUTHEASTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 1.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 4.4 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION APPROXIMATELY 1.2 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHWEST; TURN LEFT AND PROCEED IN A NORTHWESTERLY, THEN NORTHERLY DIRECTION APPROXIMATELY 3.2 MILES TO THE #2D-36 AND AN EXISTING ROAD TO THE NORTH; TURN LEFT AND PROCEED IN A NORTHERLY DIRECTION APPROXIMATELY 1.1 MILES TO THE BEGINNING OF THE PROPOSED ACCESS TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY DIRECTION APPROXIMATELY 150' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 66.3 MILES.

# Kerr-McGee Oil & Gas Onshore LP

NBU #1022-25G, #1022-25G2S, #1022-25G3S & #1022-25G4S

LOCATED IN UINTAH COUNTY, UTAH  
SECTION 25, T10S, R22E, S.L.B.&M.

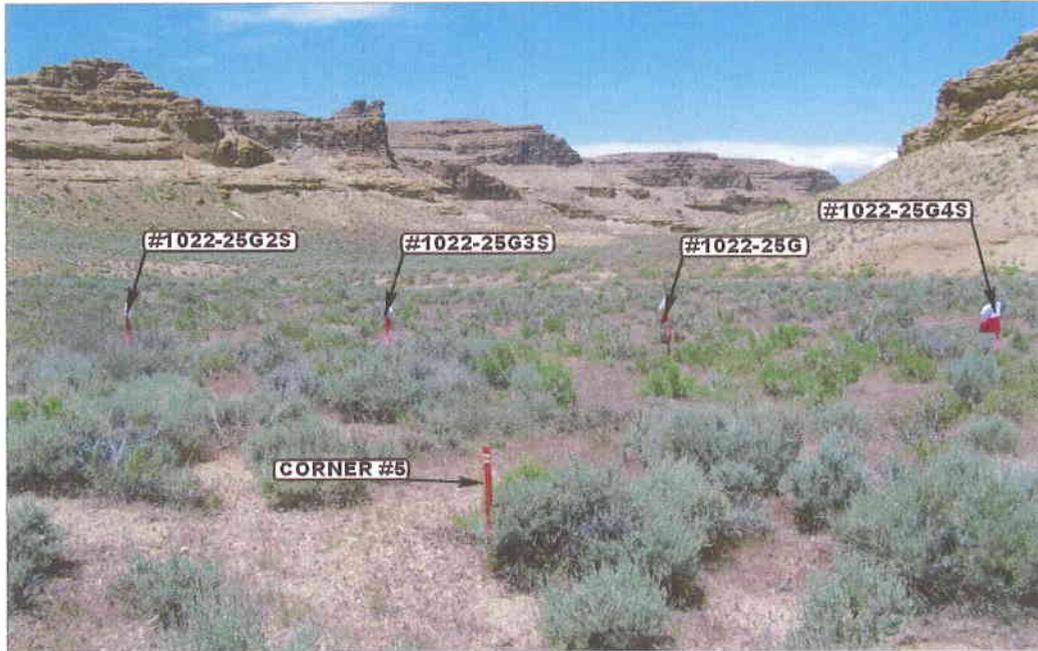


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: SOUTHWESTERLY



- Since 1964 -



Uintah Engineering & Land Surveying

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

LOCATION PHOTOS

12 05 06  
MONTH DAY YEAR

PHOTO

TAKEN BY: L.K.

DRAWN BY: C.P.

REV: 08-27-08 J.J.

**Kerr-McGee Oil & Gas Onshore LP**  
**NBU #1022-25G, #1022-25G2S, #1022-25G3S & #1022-25G4S**  
**PIPELINE ALIGNMENT**  
**LOCATED IN UINTAH COUNTY, UTAH**  
**SECTION 25, T10S, R22E, S.L.B.&M.**



PHOTO: VIEW FROM TIE-IN POINT

CAMERA ANGLE: SOUTHWESTERLY



PHOTO: VIEW OF PIPELINE ALIGNMENT

CAMERA ANGLE: SOUTHWESTERLY



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

- Since 1964 -

**PIPELINE PHOTOS**

**12 05 06**  
 MONTH DAY YEAR

PHOTO

TAKEN BY: L.K.

DRAWN BY: C.P.

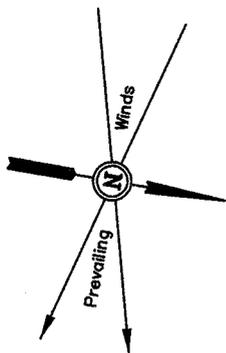
REV: 08-27-08 J.J.

# Kerr-McGee Oil & Gas Onshore LP

FIGURE #1

LOCATION LAYOUT FOR  
 NBU #1022-25G, #1022-25G2S, #1022-25G3S & #1022-25G4S  
 SECTION 25, T10S, R22E, S.L.B.&M.  
 SW 1/4 NE 1/4

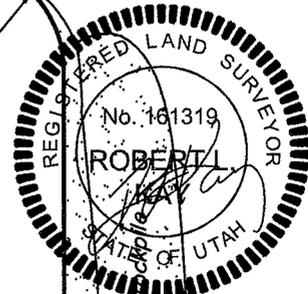
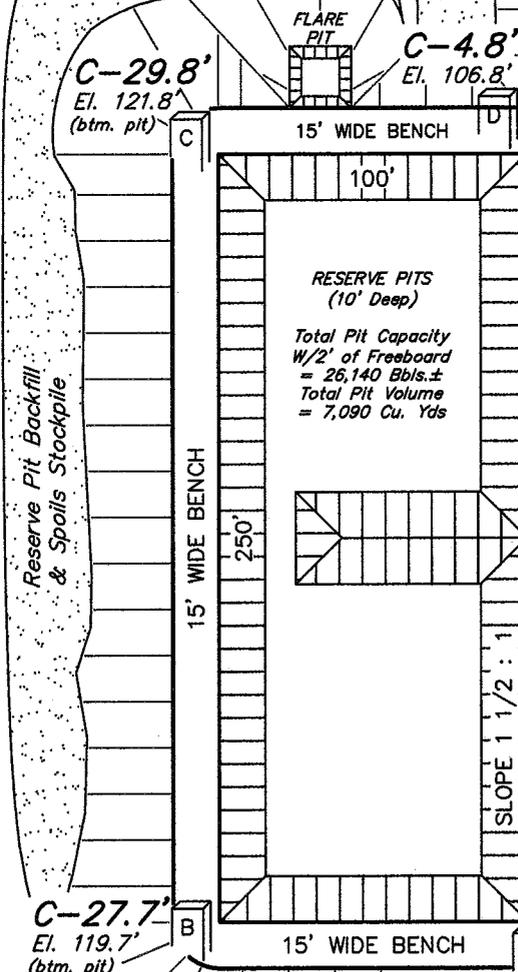
CONSTRUCT  
 DIVERSION  
 DITCH



SCALE: 1" = 60'  
 DATE: 12-12-06  
 Drawn By: C.H.  
 Revised: 08-22-08 C.C.

**NOTE:**

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



**NOTES:**

Elev. Ungraded Ground At #1022-25G Loc. Stake = 5103.1'  
 FINISHED GRADE ELEV. AT #1022-25G LOC. STAKE = 5102.0'

Proposed Access Road

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

# Kerr-McGee Oil & Gas Onshore LP

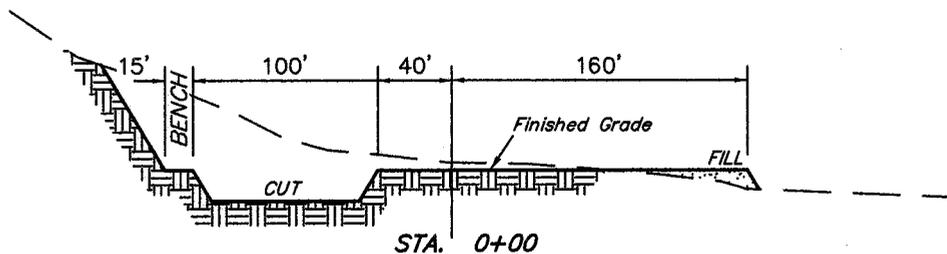
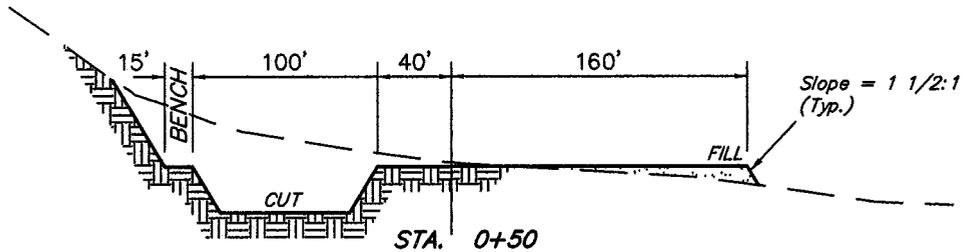
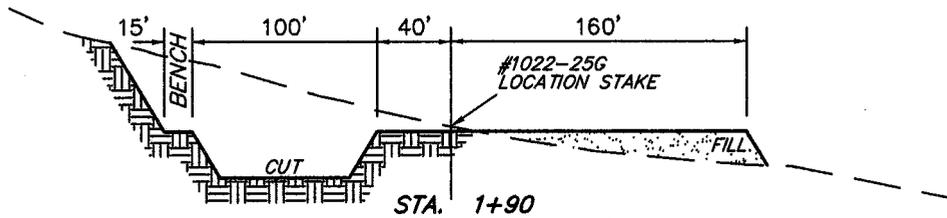
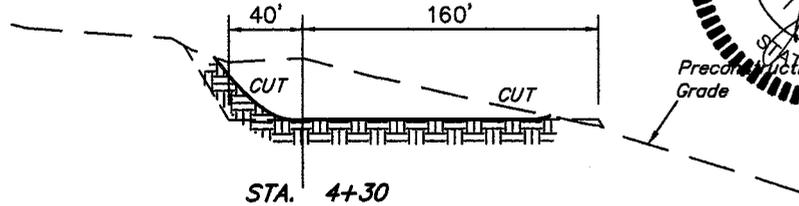
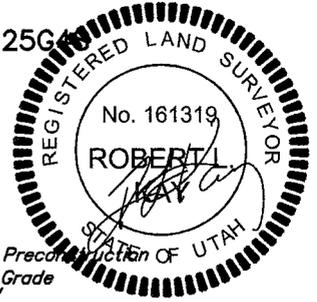
FIGURE #2

## TYPICAL CROSS SECTIONS FOR

NBU #1022-25G, #1022-25G2S, #1022-25G3S & #1022-25G4S  
SECTION 25, T10S, R22E, S.L.B.&M.  
SW 1/4 NE 1/4

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

DATE: 12-12-06  
Drawn By: C.H.  
Revised: 08-22-08 C.C.



**NOTE:**

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

**\* NOTE:**

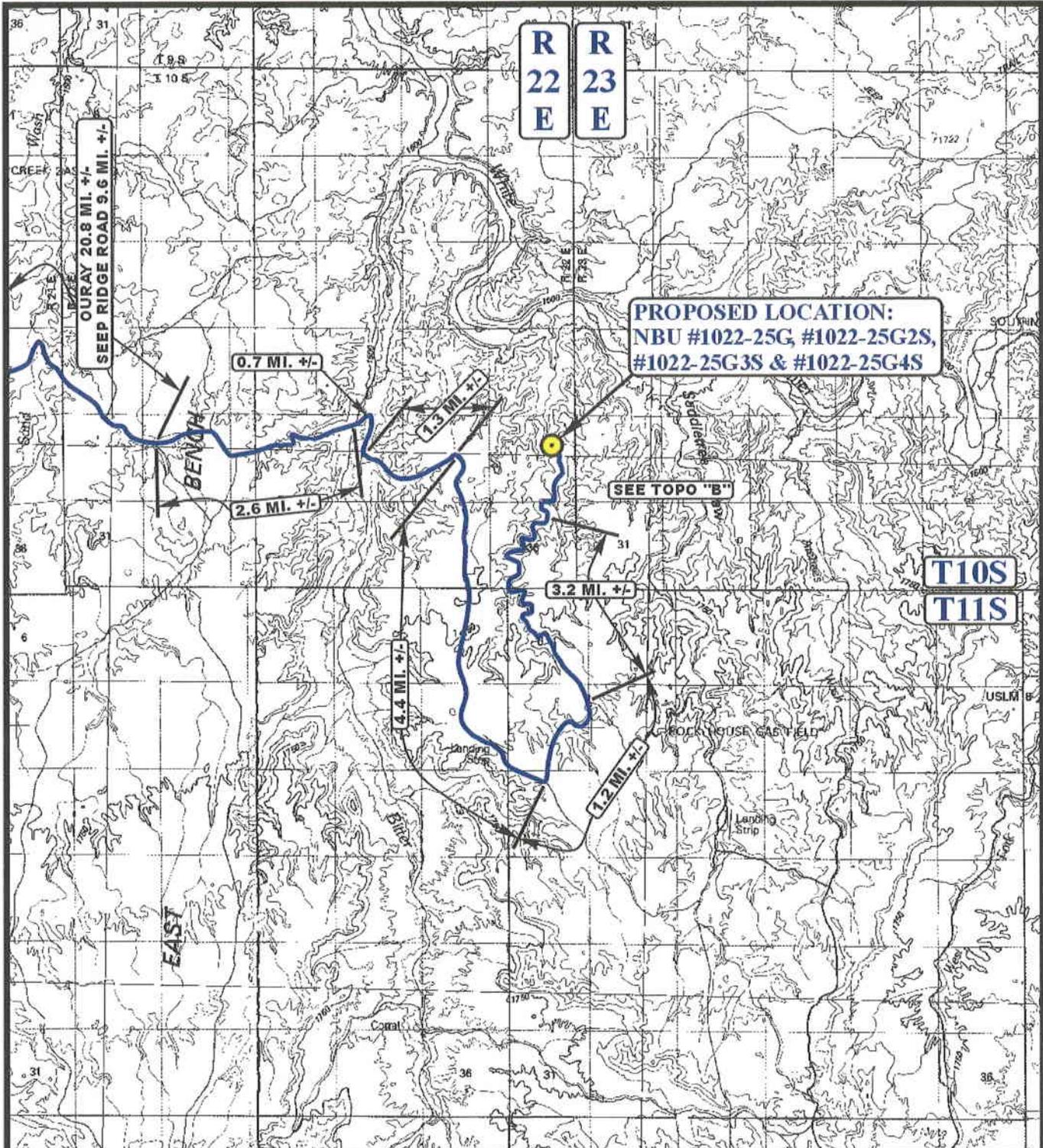
FILL QUANTITY INCLUDES 5% FOR COMPACTION

**APPROXIMATE YARDAGES**

(6") Topsoil Stripping	=	2,780 Cu. Yds.
Remaining Location	=	26,680 Cu. Yds.
<b>TOTAL CUT</b>	<b>=</b>	<b>29,460 CU.YDS.</b>
<b>FILL</b>	<b>=</b>	<b>7,510 CU.YDS.</b>

EXCESS MATERIAL	=	21,950 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	=	6,330 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	=	15,620 Cu. Yds.

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



**PROPOSED LOCATION:  
 NBU #1022-25G, #1022-25G2S,  
 #1022-25G3S & #1022-25G4S**

**LEGEND:**

 **PROPOSED LOCATION**

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

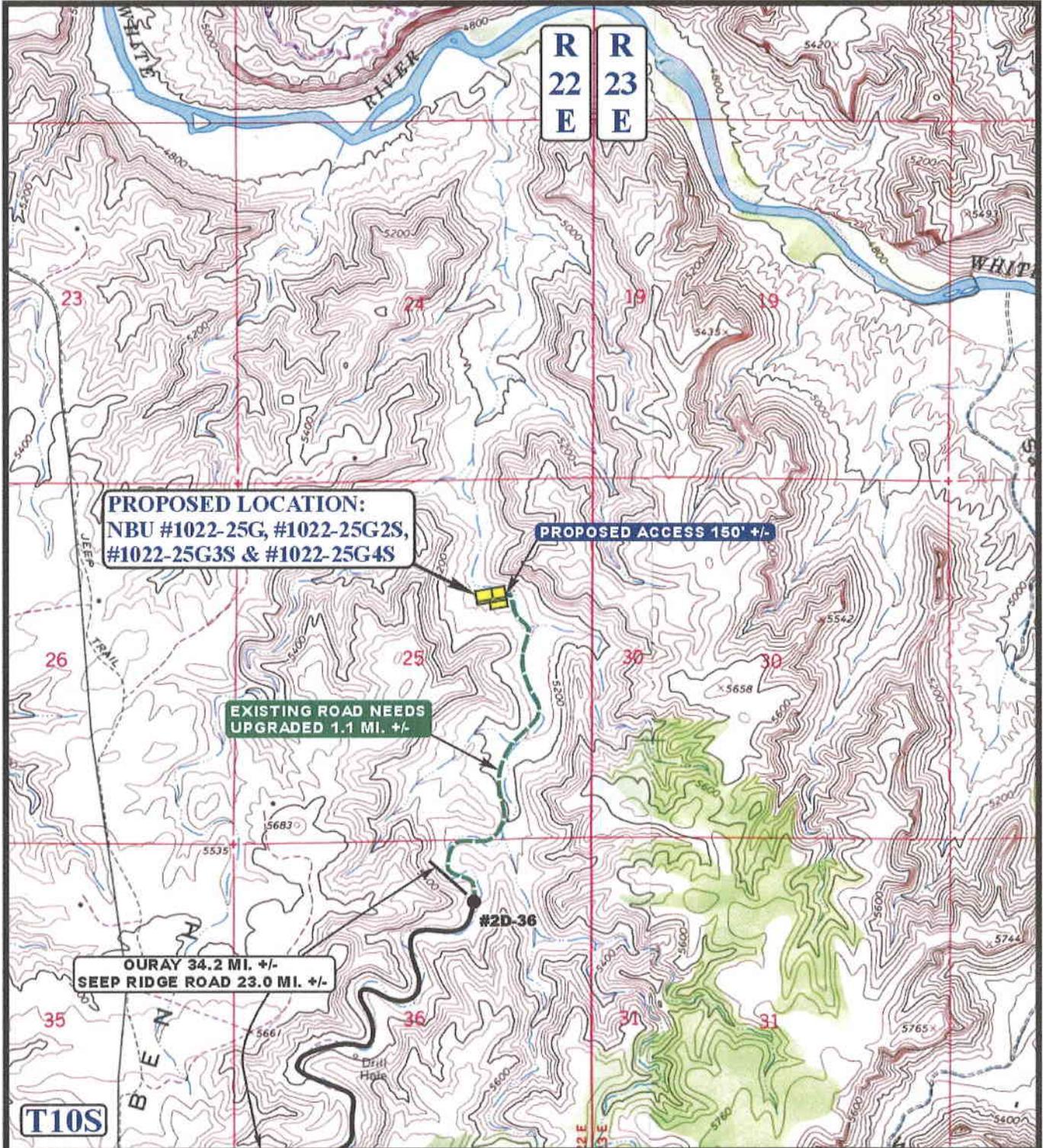
NBU #1022-25G, #1022-25G2S, #1022-25G3S & #1022-25G4S  
 SECTION 25, T10S, R22E, S.L.B.&M.  
 SW 1/4 NE 1/4

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



**TOPOGRAPHIC** 12 05 06  
**MAP** MONTH DAY YEAR  
 SCALE: 1:100,000 DRAWN BY: C.P. REV: 08-27-08 J.J.





**PROPOSED LOCATION:  
NBU #1022-25G, #1022-25G2S,  
#1022-25G3S & #1022-25G4S**

**PROPOSED ACCESS 150' +/-**

**EXISTING ROAD NEEDS  
UPGRADED 1.1 MI. +/-**

**OURAY 34.2 MI. +/-  
SEEP RIDGE ROAD 23.0 MI. +/-**

**#2D-36**

**T10S**

**LEGEND:**

-  EXISTING ROAD
-  PROPOSED ACCESS ROAD
-  EXISTING 2-TRACK NEEDS UPGRADED

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

**NBU #1022-25G, #1022-25G2S, #1022-25G3S & #1022-25G4S  
SECTION 25, T10S, R22E, S.L.B.&M.  
SW 1/4 NE 1/4**

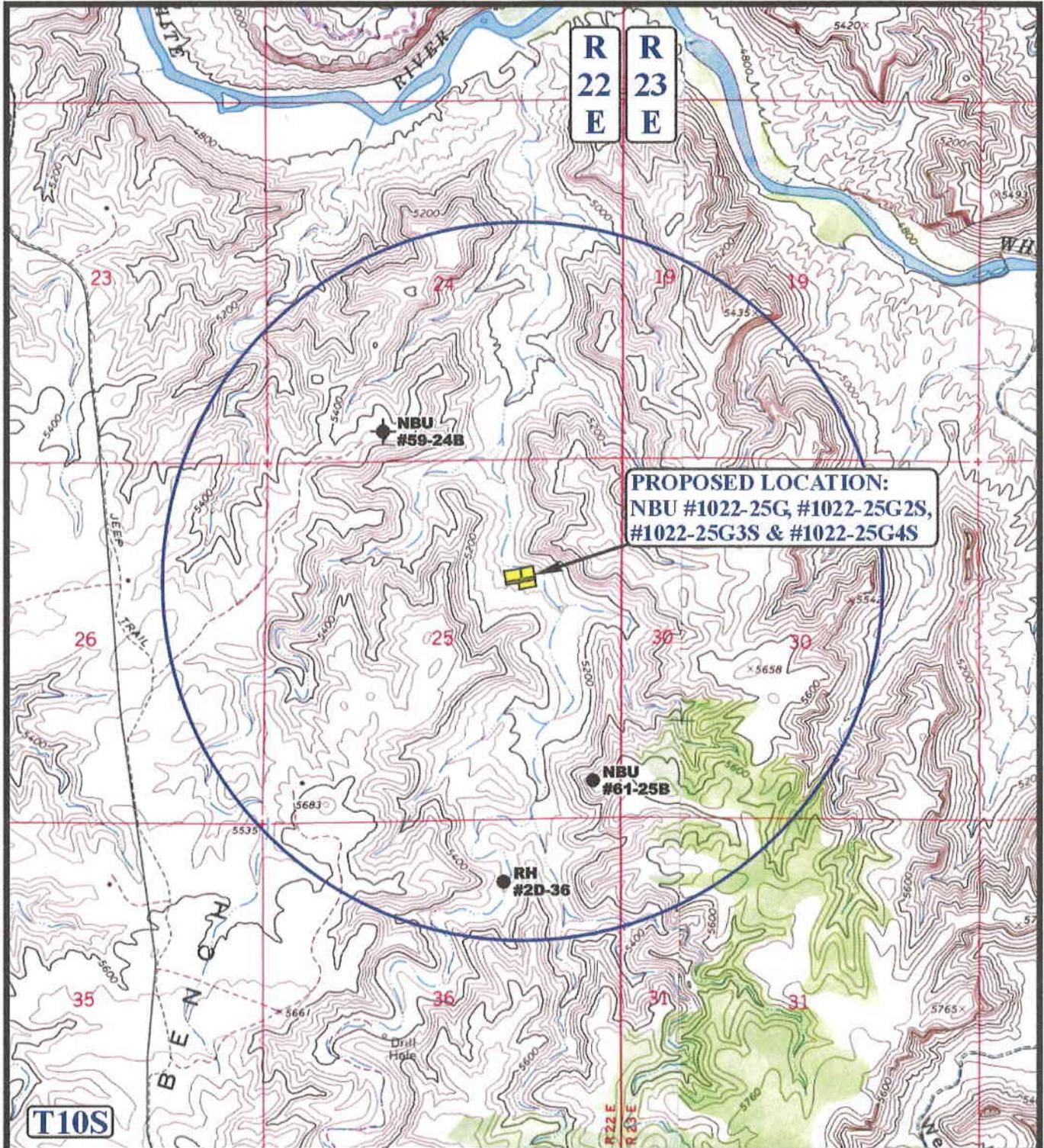


**Uintah Engineering & Land Surveying**  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813



**TOPOGRAPHIC MAP** 12 05 06  
MONTH DAY YEAR  
SCALE: 1" = 2000' DRAWN BY: C.P. REV: 08-27-08 J.J.





**LEGEND:**

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

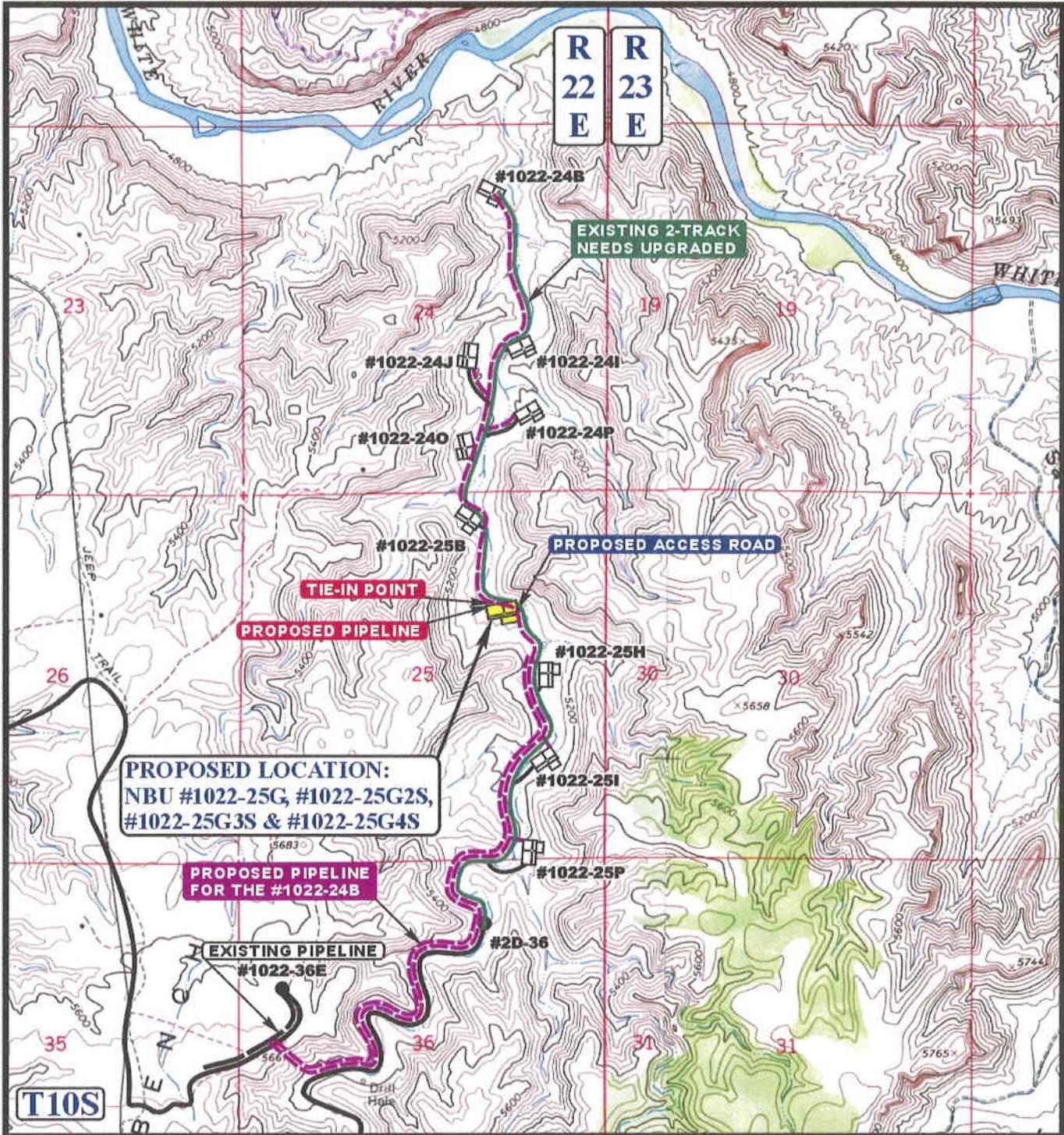
**Kerr-McGee Oil & Gas Onshore LP**

NBU #1022-25G, #1022-25G2S, #1022-25G3S & #1022-25G4S  
 SECTION 25, T10S, R22E, S.L.B.&M.  
 SW 1/4 NE 1/4

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

**TOPOGRAPHIC MAP** 12 05 06  
 MONTH DAY YEAR  
 SCALE: 1" = 2000' DRAWN BY: C.P. REV: 08-27-08 J.J.

**C**  
 TOPO



**APPROXIMATE TOTAL PIPELINE DISTANCE = 147' +/-**

**LEGEND:**

- PROPOSED ACCESS ROAD
- EXISTING 2-TRACK NEEDS UPGRADED
- EXISTING PIPELINE
- PROPOSED PIPELINE
- PROPOSED PIPELINE (SERVICING OTHER WELLS)

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

NBU #1022-25G, #1022-25G2S, #1022-25G3S & #1022-25G4S  
SECTION 25, T10S, R22E, S.L.B.&M.  
SW 1/4 NE 1/4



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



**TOPOGRAPHIC MAP**

**12 05 06**  
MONTH DAY YEAR



SCALE: 1" = 2000' DRAWN BY: C.P. REV: 08-27-08 J.J.

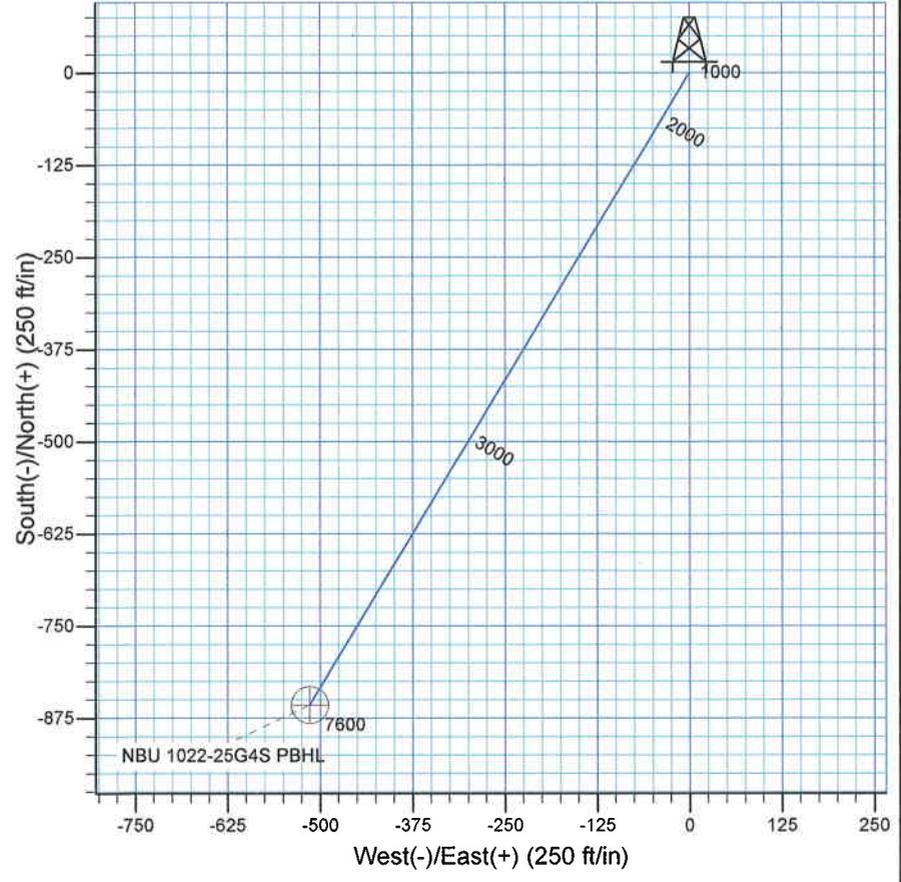
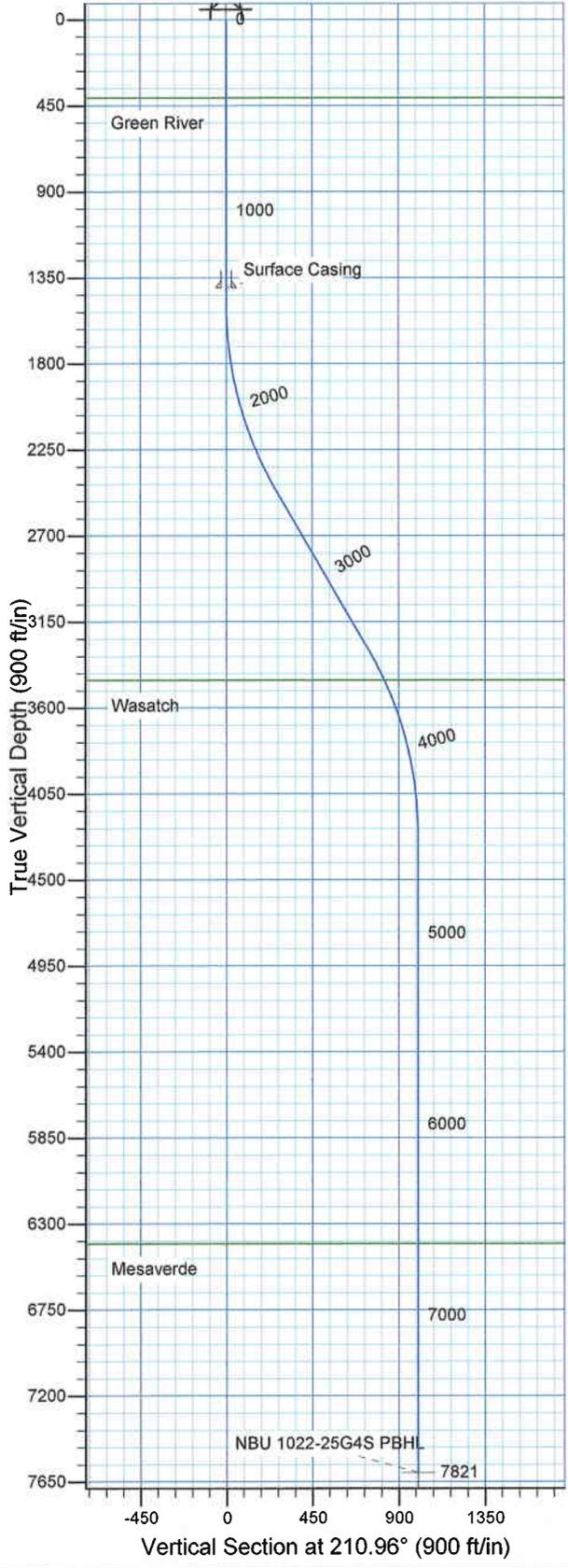


Azimuths to True North  
 Magnetic North: 11.34°

Magnetic Field  
 Strength: 52590.3snT  
 Dip Angle: 65.90°  
 Date: 10/21/2008  
 Model: IGRF2005-10

WELL DETAILS: NBU 1022-25G4S

		GL 5102' & RKB 18' @ 5120.00ft		5102.00	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	585766.41	2593576.86	39° 55' 20.260 N	109° 23' 0.160 W



Plan: Plan #1 (NBU 1022-25G4S/OH)

Created By: Julie Cruse Date: 2008-11-03

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 25 T10S R22E  
 System Datum: Mean Sea Level  
 Local North: True

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	
2500.00	30.00	210.96	2454.93	-219.41	-131.65	3.00	210.96	255.87	
3475.29	30.00	210.96	3299.56	-637.56	-382.55	0.00	0.00	743.52	
4475.29	0.00	0.00	4254.49	-856.96	-514.19	3.00	180.00	999.39	
7820.80	0.00	0.00	7600.00	-856.96	-514.19	0.00	0.00	999.39	NBU 1022-25G4S PBHL



**Scientific Drilling**  
Rocky Mountain Operations

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

**LP**

Uintah County, UT NAD27

NBU 1022-25G Pad

NBU 1022-25G4S

OH

Plan: Plan #1

## **Standard Planning Report**

03 November, 2008



# Scientific Drilling

## Planning Report

**Database:** EDM 2003.16 Multi User DB  
**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-25G Pad  
**Well:** NBU 1022-25G4S  
**Wellbore:** OH  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NBU 1022-25G4S  
**TVD Reference:** GL 5102' & RKB 18' @ 5120.00ft  
**MD Reference:** GL 5102' & RKB 18' @ 5120.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

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

<b>Site</b>	NBU 1022-25G Pad, Sec 25 T10S R22E		
<b>Site Position:</b>		<b>Northing:</b>	585,762.92 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,593,557.46 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	in
		<b>Latitude:</b>	39° 55' 20.230 N
		<b>Longitude:</b>	109° 23' 0.410 W
		<b>Grid Convergence:</b>	1.36 °

<b>Well</b>	NBU 1022-25G4S, 1758' FNL 1443' FEL		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 585,766.41 ft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 2,593,576.86 ft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	39° 55' 20.260 N
		<b>Longitude:</b>	109° 23' 0.160 W
		<b>Ground Level:</b>	5,102.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2005-10	10/21/2008	11.34	65.90	52,590

<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	210.96

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	30.00	210.96	2,454.93	-219.41	-131.65	3.00	3.00	0.00	210.96	
3,475.29	30.00	210.96	3,299.56	-637.56	-382.55	0.00	0.00	0.00	0.00	
4,475.29	0.00	0.00	4,254.49	-856.96	-514.19	3.00	-3.00	0.00	180.00	
7,820.80	0.00	0.00	7,600.00	-856.96	-514.19	0.00	0.00	0.00	0.00	NBU 1022-25G4S PB



# Scientific Drilling

## Planning Report

**Database:** EDM 2003.16 Multi User DB  
**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-25G Pad  
**Well:** NBU 1022-25G4S  
**Wellbore:** OH  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NBU 1022-25G4S  
**TVD Reference:** GL 5102' & RKB 18' @ 5120.00ft  
**MD Reference:** GL 5102' & RKB 18' @ 5120.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
408.00	0.00	0.00	408.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Green River</b>										
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	
1,300.00	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	
<b>Surface Casing</b>										
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	3.00	210.96	1,599.95	-2.24	-1.35	2.62	3.00	3.00	0.00	
1,700.00	6.00	210.96	1,699.63	-8.97	-5.38	10.46	3.00	3.00	0.00	
1,800.00	9.00	210.96	1,798.77	-20.16	-12.10	23.51	3.00	3.00	0.00	
1,900.00	12.00	210.96	1,897.08	-35.79	-21.47	41.74	3.00	3.00	0.00	
2,000.00	15.00	210.96	1,994.31	-55.80	-33.48	65.08	3.00	3.00	0.00	
2,100.00	18.00	210.96	2,090.18	-80.15	-48.09	93.48	3.00	3.00	0.00	
2,200.00	21.00	210.96	2,184.43	-108.77	-65.27	126.85	3.00	3.00	0.00	
2,300.00	24.00	210.96	2,276.81	-141.58	-84.95	165.12	3.00	3.00	0.00	
2,400.00	27.00	210.96	2,367.06	-178.50	-107.10	208.16	3.00	3.00	0.00	
2,500.00	30.00	210.96	2,454.93	-219.41	-131.65	255.87	3.00	3.00	0.00	
2,600.00	30.00	210.96	2,541.53	-262.28	-157.37	305.87	0.00	0.00	0.00	
2,700.00	30.00	210.96	2,628.13	-305.16	-183.10	355.87	0.00	0.00	0.00	
2,800.00	30.00	210.96	2,714.74	-348.03	-208.82	405.87	0.00	0.00	0.00	
2,900.00	30.00	210.96	2,801.34	-390.90	-234.55	455.87	0.00	0.00	0.00	
3,000.00	30.00	210.96	2,887.94	-433.78	-260.28	505.87	0.00	0.00	0.00	
3,100.00	30.00	210.96	2,974.54	-476.65	-286.00	555.87	0.00	0.00	0.00	
3,200.00	30.00	210.96	3,061.15	-519.53	-311.73	605.87	0.00	0.00	0.00	
3,300.00	30.00	210.96	3,147.75	-562.40	-337.45	655.87	0.00	0.00	0.00	
3,400.00	30.00	210.96	3,234.35	-605.28	-363.18	705.87	0.00	0.00	0.00	
3,475.29	30.00	210.96	3,299.56	-637.56	-382.55	743.52	0.00	0.00	0.00	
3,500.00	29.26	210.96	3,321.03	-648.03	-388.83	755.73	3.00	-3.00	0.00	
3,600.00	26.26	210.96	3,409.52	-687.96	-412.79	802.30	3.00	-3.00	0.00	
3,649.29	24.78	210.96	3,454.00	-706.17	-423.72	823.54	3.00	-3.00	0.00	
<b>Wasatch</b>										
3,700.00	23.26	210.96	3,500.31	-723.87	-434.34	844.18	3.00	-3.00	0.00	
3,800.00	20.26	210.96	3,593.18	-755.65	-453.41	881.24	3.00	-3.00	0.00	
3,900.00	17.26	210.96	3,687.86	-783.23	-469.95	913.40	3.00	-3.00	0.00	
4,000.00	14.26	210.96	3,784.09	-806.51	-483.92	940.55	3.00	-3.00	0.00	
4,100.00	11.26	210.96	3,881.61	-825.45	-495.28	962.64	3.00	-3.00	0.00	
4,200.00	8.26	210.96	3,980.15	-839.98	-504.00	979.58	3.00	-3.00	0.00	
4,300.00	5.26	210.96	4,079.44	-850.07	-510.06	991.35	3.00	-3.00	0.00	
4,400.00	2.26	210.96	4,179.21	-855.69	-513.43	997.91	3.00	-3.00	0.00	
4,475.29	0.00	0.00	4,254.49	-856.96	-514.19	999.39	3.00	-3.00	0.00	
4,500.00	0.00	0.00	4,279.20	-856.96	-514.19	999.39	0.00	0.00	0.00	



# Scientific Drilling

## Planning Report

**Database:** EDM 2003.16 Multi User DB  
**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-25G Pad  
**Well:** NBU 1022-25G4S  
**Wellbore:** OH  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NBU 1022-25G4S  
**TVD Reference:** GL 5102' & RKB 18' @ 5120.00ft  
**MD Reference:** GL 5102' & RKB 18' @ 5120.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,600.00	0.00	0.00	4,379.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,479.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,579.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,679.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,779.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
5,100.00	0.00	0.00	4,879.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
5,200.00	0.00	0.00	4,979.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,079.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,179.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,279.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,379.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,479.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,579.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,679.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,779.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,879.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,979.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,079.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,179.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,279.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,379.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
6,622.80	0.00	0.00	6,402.00	-856.96	-514.19	999.39	0.00	0.00	0.00	
<b>Mesaverde</b>										
6,700.00	0.00	0.00	6,479.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,579.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,679.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,779.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,879.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,979.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,079.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,179.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,279.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,379.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,479.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,579.20	-856.96	-514.19	999.39	0.00	0.00	0.00	
7,820.80	0.00	0.00	7,600.00	-856.96	-514.19	999.39	0.00	0.00	0.00	

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
NBU 1022-25G4S PBHL	0.00	0.00	7,600.00	-856.96	-514.19	584,897.52	2,593,083.08	39° 55' 11.790 N	109° 23' 6.760 W
- hit/miss target - Shape - plan hits target center - Circle (radius 25.00)									

**Database:** EDM 2003.16 Multi User DB  
**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT NAD27  
**Site:** NBU 1022-25G Pad  
**Well:** NBU 1022-25G4S  
**Wellbore:** OH  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well NBU 1022-25G4S  
**TVD Reference:** GL 5102' & RKB 18' @ 5120.00ft  
**MD Reference:** GL 5102' & RKB 18' @ 5120.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

**Casing Points**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,400.00	1,400.00	Surface Casing	9.625	13.500

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
408.00	408.00	Green River		0.00	
3,649.29	3,454.00	Wasatch		0.00	
6,622.80	6,402.00	Mesaverde		0.00	

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 12/01/2008

API NO. ASSIGNED: 43-047-40442

WELL NAME: NBU 1022-25G4S

OPERATOR: KERR-MCGEE OIL & GAS ( N2995 )

PHONE NUMBER: 720-929-6226

CONTACT: KEVIN MCINTYRE

PROPOSED LOCATION:

SWNE 25 100S 220E  
 SURFACE: 1758 FNL 1443 FEL  
 BOTTOM: 2615 FNL 1955 FEL  
 COUNTY: UINTAH  
 LATITUDE: 39.92234 LONGITUDE: -109.3833  
 UTM SURF EASTINGS: 638165 NORTHINGS: 4420179  
 FIELD NAME: NATURAL BUTTES ( 630 )

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering	DKD	4/05/09
Geology		
Surface		

LEASE TYPE: 3 - State  
 LEASE NUMBER: ST ML 22447  
 SURFACE OWNER: 3 - State

PROPOSED FORMATION: WSMVD  
 COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[] Ind[] Sta[] Fee[]  
(No. 22013542 )
- N Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit  
(No. 43-8496 )
- N RDCC Review (Y/N)  
(Date: \_\_\_\_\_ )
- MM Fee Surf Agreement (Y/N)
- MM Intent to Commingle (Y/N)

LOCATION AND SITING:

- R649-2-3.
- Unit: NATURAL BUTTES
- R649-3-2. General  
Siting: 460 From Qtr/Qtr & 920' Between Wells
- R649-3-3. Exception
- Drilling Unit  
Board Cause No: 173-14  
Eff Date: 12-2-1999  
Siting: 460' SW 1/4 Sec 17, T14N, R64E, W. Tract
- R649-3-11. Directional Drill

COMMENTS:

Needs Permit (09-02-08)

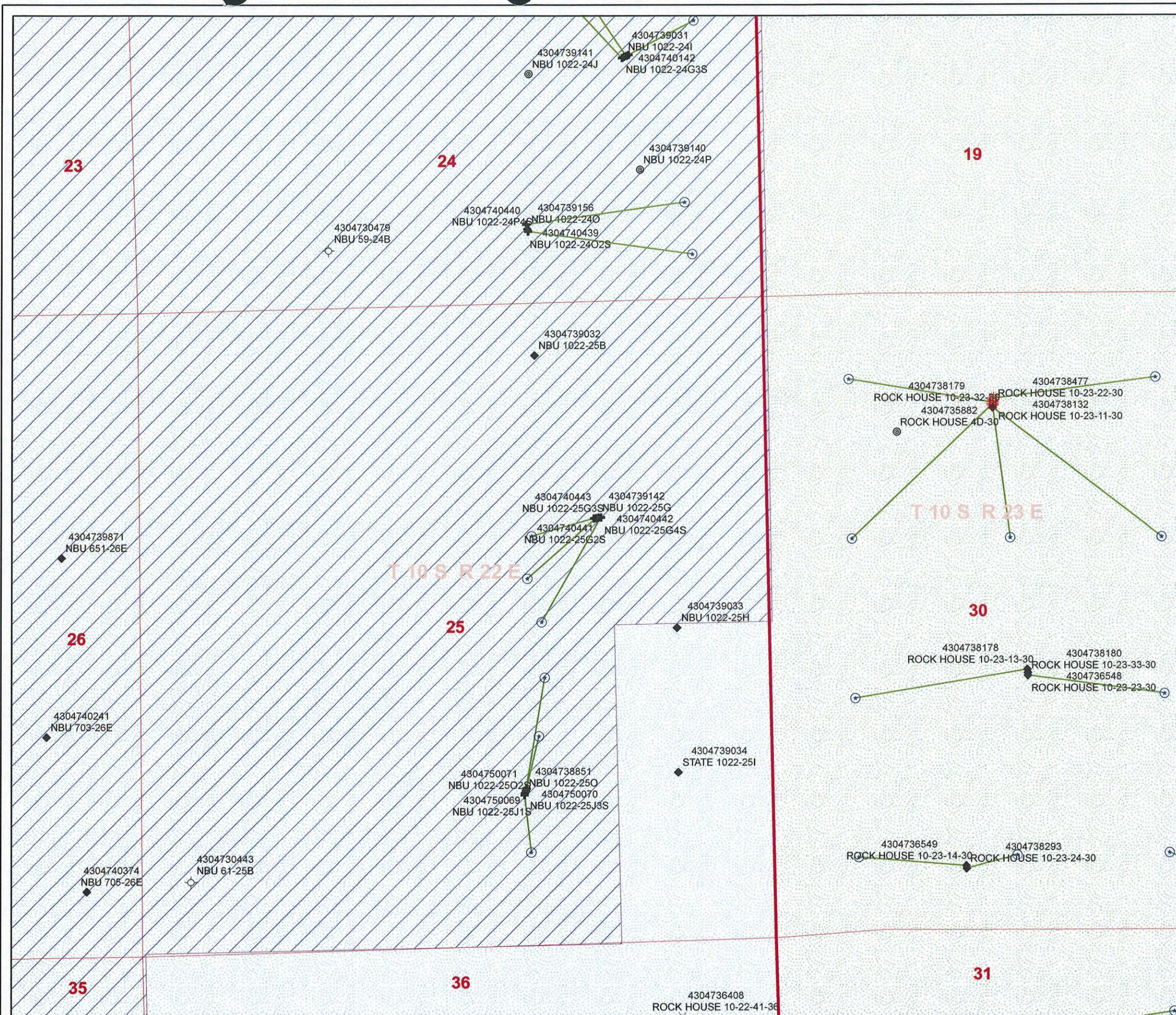
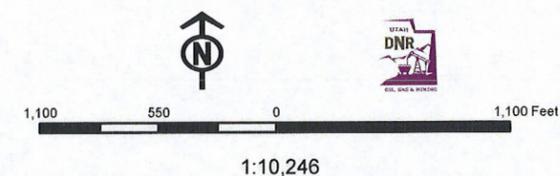
STIPULATIONS:

- 1- STATEMENT OF BASIS
- 2- Oil Shale

**API Number: 4304740442**  
**Well Name: NBU 1022-25G4S**  
 Township 10.0 S Range 22.0 E Section 25  
**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>
STATUS	✕ <all other values>
ACTIVE	GIS_STAT_TYPE
EXPLORATORY	<Null>
GAS STORAGE	◆ APD
NF PP OIL	⊙ DRL
NF SECONDARY	⊙ GI
PI OIL	⊙ GS
PP GAS	⊙ LA
PP GEOTHERML	⊕ NEW
PP OIL	⊕ OPS
SECONDARY	⊕ PA
TERMINATED	⊕ PGW
<b>Fields</b>	⊕ POW
STATUS	⊕ RET
ACTIVE	⊕ SGW
COMBINED	⊕ SOW
Sections	⊕ TA
Township	⊕ TW
	⊕ WD
	⊕ WI
	⊕ WS



# Application for Permit to Drill

## Statement of Basis

2/18/2009

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Ownr	CBM No
1218	43-047-40442-00-00		GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 1022-25G4S		<b>Unit</b> NATURAL BUTTES		
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>		
<b>Location</b>	SWNE 25 10S 22E S 1758 FNL 1443 FEL GPS Coord (UTM) 638165E 4420179N				

### Geologic Statement of Basis

Kerr McGee proposes to set 4,000' 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 5,100'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 25. 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

2/18/2009  
Date / Time

### Surface Statement of Basis

The general area is Archy Draw located south of the White River in Uintah County, Utah. Vernal, Utah is approximately 37 miles to the northwest and Bonanza, Utah approximately 12 miles to the northeast. Archy Bench is approximately 1 mile to the west and West Fork of Saddle Tree Draw 1-2 miles to the east. The topography in the area is characterized by steep sidehills bordering winding narrow to moderately narrow draws. Many side-slopes are rimmed with sandstone bedrock forming vertical cliffs. Numerous small side draws lead away from the main divides. All drainages are ephemeral only flowing during winter snowmelt and following intense summer rainstorms. Roads are commonly constructed in the bottom of the washes and are subject to washing out following runoff events. Erosion from side-slopes is moderate. No streams seeps or springs are known to exist in the area.

Four wells are planned on the original proposed NBU 1022-25G location. This location is approximately 58 road miles south of Ouray, Utah accessed by Uintah County and oilfield development to within approximately 150 feet of the site where a new road will be constructed to the location.

The original planned location will be lengthened 20' and widened 25 feet. The reserve pit will be increased to 100 feet wide and 250 feet long to facilitate the addition of 3 wells. The location is in a relatively wide area in the bottom of Archy Wash. It begins near the road on the north and extends south to near the toe of a steep slope of a ridge. The ridge was formed as part of the canyon rather than from outwash on side draws which are common in the wash. The wash is rimmed with steep near vertical walls with sandstone ledges near the top. Diversions are planned around both ends of the location to catch and divert possible side slope runoff. The White River is approximately 2 miles down drainage.

The surface and minerals are both owned by SITLA. Ed Bonner and Jim Davis of SITLA were invited the site visit but said they would not attend. SITLA is to be contacted for reclamation standards for the site, including seed mixes to be used for re-vegetation.

Ben Williams and Pat Rainbolt of the Utah Division of Wildlife Resources attended the pre-site. Mr. Williams stated that no wildlife values would be significantly affected by drilling and operating a well at this location

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# Application for Permit to Drill

## Statement of Basis

2/18/2009

Utah Division of Oil, Gas and Mining

Page 2

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Floyd Bartlett  
Onsite Evaluator

9/2/2008  
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 20 mils and an appropriate thickness of felt sub-liner to cushion the liners shall be properly installed and maintained in the reserve pit.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.

# ON-SITE PREDRILL EVALUATION

Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.  
**Well Name** NBU 1022-25G4S  
**API Number** 43-047-40442-0      **APD No** 1218      **Field/Unit** NATURAL BUTTES  
**Location:** 1/4,1/4 SWNE      **Sec** 25      **Tw** 10S      **Rng** 22E      1758 FNL 1443 FEL  
**GPS Coord (UTM)**      **Surface Owner**

## Participants

Floyd Bartlett (DOG M), Ramie Hoopes, Griz Oleen and Tony Kzneck (Kerr McGee), Ben Williams and Pat Rainbolt (UDWR) and David Kay (Uintah Engineering and Land Surveying).

## Regional/Local Setting & Topography

The general area is Archy Draw located south of the White River in Uintah County, Utah. Vernal, Utah is approximately 37 miles to the northwest and Bonanza, Utah approximately 12 miles to the northeast. Archy Bench is approximately 1 mile to the west and West Fork of Saddle Tree Draw 1-2 miles to the east. The topography in the area is characterized by steep sidehills bordering winding narrow to moderately narrow draws. Many side-slopes are rimmed with sandstone bedrock forming vertical cliffs. Numerous small side draws lead away from the main divides. All drainages are ephemeral only flowing during winter snowmelt and following intense summer rainstorms. Roads are commonly constructed in the bottom of the washes and are subject to washing out following runoff events. Erosion from side-slopes is moderate. No streams seeps or springs are known to exist in the area.

Four wells are planned on the original proposed NBU 1022-25G location. This location is approximately 58 road miles south of Ouray, Utah accessed by Uintah County and oilfield development to within approximately 150 feet of the site where a new road will be constructed to the location.

The original planned location will be lengthened 20' and widened 25 feet. The reserve pit will be increased to 100 feet wide and 250 feet long to facilitate the addition of 3 wells. The location is in a relatively wide area in the bottom of Archy Wash. It begins near the road on the north and extends south to near the toe of a steep slope of a ridge. The ridge was formed as part of the canyon rather than from outwash on side draws which are common in the wash. The wash is rimmed with steep near vertical walls with sandstone ledges near the top. Diversions are planned around both ends of the location to catch and divert possible side slope runoff. The White River is approximately 2 miles down drainage.

The surface and minerals are both owned by SITLA. Ed Bonner and Jim Davis of SITLA were invited the site visit but said they would not attend.

## Surface Use Plan

### **Current Surface Use**

Recreational  
Wildlife Habitat

### **New Road**

<b>Miles</b>	<b>Well Pad</b>		<b>Src Const Material</b>	<b>Surface Formation</b>
0.04	<b>Width</b> 315	<b>Length</b> 430	Onsite	UNTA

**Ancillary Facilities** N

## Waste Management Plan Adequate?

## Environmental Parameters

**Affected Floodplains and/or Wetland** N

**Flora / Fauna**

Vegetation included big sagebrush, greasewood, spiny hopsage, needle and thread grass, cheatgrass and broom snakeweed.

Antelope, rabbits, coyotes, and small mammals, birds and raptors.

**Soil Type and Characteristics**

Moderate to deep gravely sandy loam

**Erosion Issues** N

**Sedimentation Issues** Y

Diversions are planned around both ends of the location to catch and divert possible side slope runoff.

**Site Stability Issues** N

**Drainage Diverson Required** Y

Diversions are planned around both ends of the location to catch and divert possible side slope runoff.

**Berm Required?** N

**Erosion Sedimentation Control Required?** N

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

**Reserve Pit**

**Site-Specific Factors**

**Site Ranking**

<b>Distance to Groundwater (feet)</b>	100 to 200	5
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>	<300	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>	<10	0
<b>Affected Populations</b>	<10	0
<b>Presence Nearby Utility Conduits</b>	Not Present	0

**Final Score** 40    1    **Sensitivity Level**

**Characteristics / Requirements**

A reserve pit 100' x 250' x 10' deep is planned in the southeast side of the location. It will be lined with a 20-mil liner and an appropriate thickness of felt sub-liner to cushion the surface.

**Closed Loop Mud Required?** N    **Liner Required?** Y    **Liner Thickness** 20    **Pit Underlayment Required?** Y

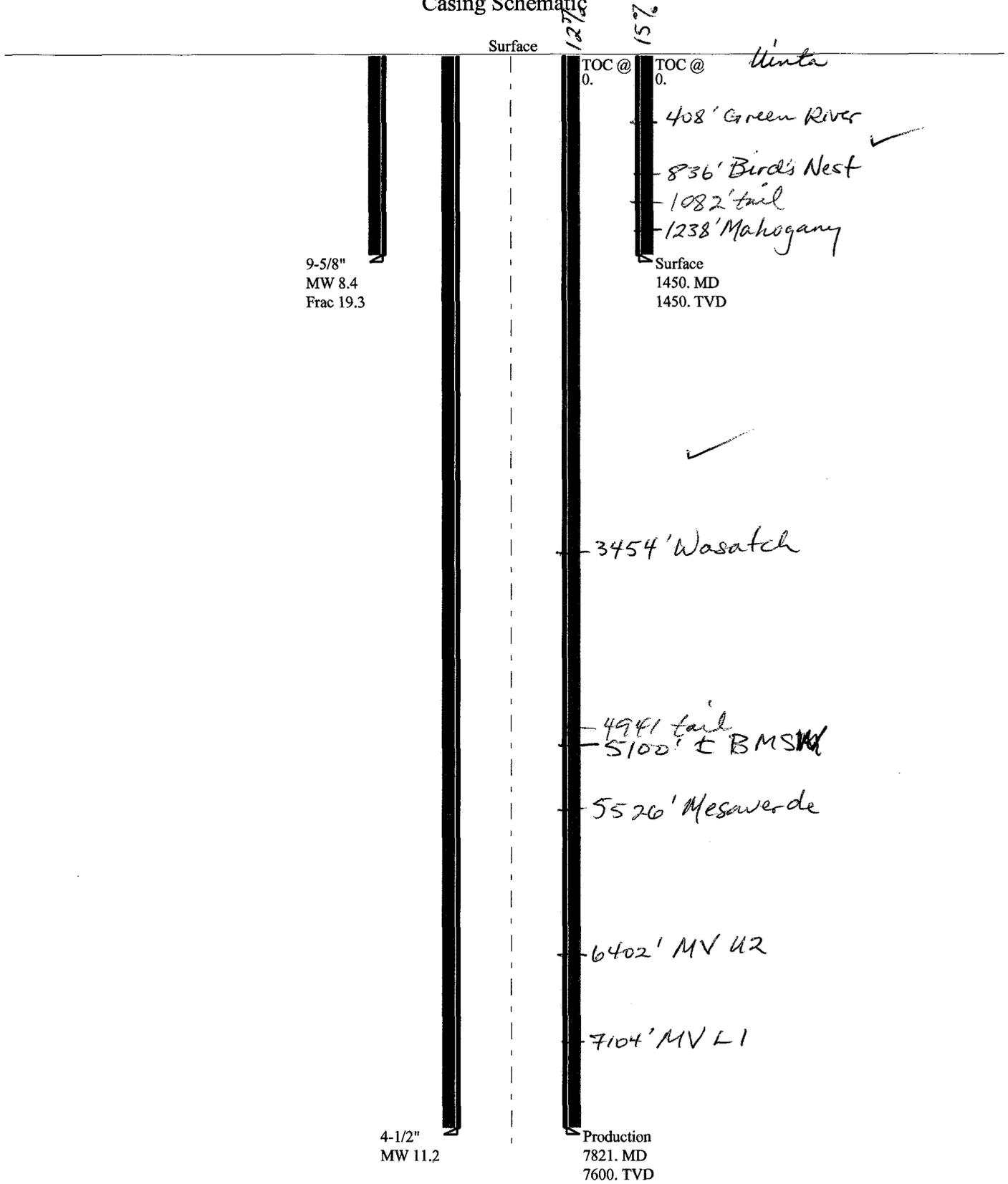
**Other Observations / Comments**

Floyd Bartlett  
Evaluator

9/2/2008  
Date / Time

43047404420000 NBU 1022-25G4S

Casing Schematic



Well name:	<b>43047404420000 NBU 1022-25G4S</b>	
Operator:	<b>Kerr McGee Oil &amp; Gas Onshore L.P.</b>	Project ID:
String type:	Surface	43-047-40442-0000
Location:	Uintah County, Utah	

**Design parameters:**

**Collapse**  
Mud weight: 8.400 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**  
Design factor 1.125

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 95 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,300 ft

**Burst**

Max anticipated surface pressure: 1,276 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 1,450 psi

**Burst:**  
Design factor 1.00

Cement top: Surface

No backup mud specified.

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

**Non-directional string.**

Tension is based on buoyed weight.  
Neutral point: 1,270 ft

**Re subsequent strings:**  
Next setting depth: 7,600 ft  
Next mud weight: 11,200 ppg  
Next setting BHP: 4,422 psi  
Fracture mud wt: 19,250 ppg  
Fracture depth: 1,450 ft  
Injection pressure: 1,450 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	1450	9.625	36.00	J-55	LT&C	1450	1450	8.796	629.4

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	633	2020	3.193	1450	3520	2.43	46	453	9.91 J

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

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

Date: April 9, 2009  
Salt Lake City, Utah

Remarks:  
Collapse is based on a vertical depth of 1450 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	<b>43047404420000 NBU 1022-25G4S</b>	
Operator:	<b>Kerr McGee Oil &amp; Gas Onshore L.P.</b>	Project ID:
String type:	Production	43-047-40442-0000
Location:	Uintah County, Utah	

**Design parameters:**

**Collapse**

Mud weight: 11.200 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: 75 °F  
 Bottom hole temperature: 181 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 1,500 ft

Cement top: Surface

**Burst**

Max anticipated surface pressure: 2,750 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 4,422 psi

No backup mud specified.

**Tension:**

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

**Directional well information:**

Kick-off point 1500 ft  
 Departure at shoe: 999 ft  
 Maximum dogleg: 3 °/100ft  
 Inclination at shoe: 0 °

Tension is based on buoyed weight.  
 Neutral point: 6,549 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	7821	4.5	11.60	I-80	LT&C	7600	7821	3.875	682.5

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	4422	6360	1.438	4422	7780	1.76	73	212	2.89 J

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

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

Date: April 9, 2009  
 Salt Lake City, Utah

Remarks:  
 Collapse is based on a vertical depth of 7600 ft, a mud weight of 11.2 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

**BOPE REVIEW**

**Kerr-McGee NBU 1022-25G4S**

**API 43-047-40442-0000**

**INPUT**

Well Name

Kerr-McGee NBU 1022-25G4S		API 43-047-40442-0000	
String 1	String 2		
Casing Size (")	9 5/8	4 1/2	
Setting Depth (TVD)	1450	7600	
Previous Shoe Setting Depth (TVD)	40	1450	
Max Mud Weight (ppg)	8.4	11.2	✓
BOPE Proposed (psi)	500	5000	
Casing Internal Yield (psi)	3520	7780	
Operators Max Anticipated Pressure (psi)	4332	11.0 ppg	✓

Calculations	String 1	9 5/8 "	
Max BHP [psi]	$.052 \cdot \text{Setting Depth} \cdot \text{MW} =$	633	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) [psi]	$\text{Max BHP} - (0.12 \cdot \text{Setting Depth}) =$	459	YES ✓ Air Drill to surface shoe with diverter
MASP (Gas/Mud) [psi]	$\text{Max BHP} - (0.22 \cdot \text{Setting Depth}) =$	314	YES
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	$\text{Max BHP} - .22 \cdot (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	323	← NO Reasonable Depth
Required Casing/BOPE Test Pressure		1450 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		40 psi	*Assumes 1psi/ft frac gradient

Calculations	String 2	4 1/2 "	
Max BHP [psi]	$.052 \cdot \text{Setting Depth} \cdot \text{MW} =$	4426	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) [psi]	$\text{Max BHP} - (0.12 \cdot \text{Setting Depth}) =$	3514	YES
MASP (Gas/Mud) [psi]	$\text{Max BHP} - (0.22 \cdot \text{Setting Depth}) =$	2754	YES ✓
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	$\text{Max BHP} - .22 \cdot (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	3073	← NO Reasonable
Required Casing/BOPE Test Pressure		5000 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		1450 psi	*Assumes 1psi/ft frac gradient

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

**IN REPLY REFER TO:**

3160

(UT-922)

December 5, 2008

**Memorandum**

**To:** Assistant District Manager Minerals, Vernal District  
**From:** Michael Coulthard, Petroleum Engineer  
**Subject:** 2008 Plan of Development Natural Buttes Unit Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2008 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ Wasatch/MesaVerde)		
43-047-40444	NBU 921-10G4S	Sec 10 T09S R21E 1937 FNL 1931 FWL
	BHL	Sec 10 T09S R21E 2158 FNL 1441 FEL
43-047-40445	NBU 921-10F2S	Sec 10 T09S R21E 1877 FNL 1927 FWL
	BHL	Sec 10 T09S R21E 1373 FNL 1959 FEL
43-047-40446	NBU 921-10E3S	Sec 10 T09S R21E 1917 FNL 1929 FWL
	BHL	Sec 10 T09S R21E 2080 FNL 0406 FWL
43-047-40447	NBU 921-10F3T	Sec 10 T09S R21E 1897 FNL 1928 FWL
43-047-40448	NBU 922-29D1T	Sec 29 T09S R22E 0571 FNL 1009 FWL
43-047-40423	NBU 921-10CT	Sec 10 T09S R21E 0811 FNL 1792 FWL
43-047-40428	NBU 921-13CT	Sec 13 T09S R21E 0655 FNL 1920 FWL
43-047-40435	NBU 1022-3B4T	Sec 03 T10S R22E 1022 FNL 1751 FEL
43-047-40434	NBU 1022-2A2T	Sec 02 T10S R22E 0203 FNL 0896 FEL
43-047-40424	NBU 921-10G2S	Sec 10 T09S R21E 0835 FNL 1824 FWL
	BHL	Sec 10 T09S R21E 1340 FNL 2462 FEL
43-047-40425	NBU 921-10D2S	Sec 10 T09S R21E 0799 FNL 1776 FWL

BHL Sec 10 T09S R21E 0543 FNL 0648 FWL

Page 2

43-047-40426 NBU 921-10B4S Sec 10 T09S R21E 0823 FNL 1808 FWL  
BHL Sec 10 T09S R21E 0705 FNL 1929 FEL

43-047-40427 NBU 921-13G2S Sec 13 T09S R21E 0655 FNL 1940 FWL  
BHL Sec 13 T09S R21E 1372 FNL 2523 FEL

43-047-40429 NBU 921-13B2S Sec 13 T09S R21E 0655 FNL 1960 FWL  
BHL Sec 13 T09S R21E 0488 FNL 2541 FEL

43-047-40430 NBU 921-13D4S Sec 13 T09S R21E 0655 FNL 1900 FWL  
BHL Sec 13 T09S R21E 0682 FNL 0912 FWL

43-047-40431 NBU 1022-2B2S Sec 02 T10S R22E 0202 FNL 0916 FEL  
BHL Sec 02 T10S R22E 0065 FNL 2075 FEL

43-047-40432 NBU 1022-2A3S Sec 02 T10S R22E 0206 FNL 0857 FEL  
BHL Sec 02 T10S R22E 0680 FNL 0820 FEL

43-047-40433 NBU 1022-2A4S Sec 02 T10S R22E 0207 FNL 0836 FEL  
BHL Sec 02 T10S R22E 1175 FNL 0315 FEL

43-047-40436 NBU 1022-3A3S Sec 03 T10S R22E 1013 FNL 1734 FEL  
BHL Sec 03 T10S R22E 0904 FNL 0822 FEL

43-047-40437 NBU 1022-3C1S Sec 03 T10S R22E 1040 FNL 1787 FEL  
BHL Sec 03 T10S R22E 0380 FNL 2354 FWL

43-047-40438 NBU 1022-3B2S Sec 03 T10S R22E 1031 FNL 1769 FEL  
BHL Sec 03 T10S R22E 0048 FNL 2516 FEL

43-047-40439 NBU 1022-24O2S Sec 24 T10S R22E 0684 FSL 2016 FEL  
BHL Sec 24 T10S R22E 0830 FSL 0690 FEL

43-047-40440 NBU 1022-24P4S Sec 24 T10S R22E 0625 FSL 2002 FEL  
BHL Sec 24 T10S R22E 0400 FSL 0635 FEL

43-047-40441 NBU 1022-25G2S Sec 25 T10S R22E 1768 FNL 1502 FEL  
BHL Sec 25 T10S R22E 1900 FNL 2025 FEL

43-047-40442 NBU 1022-25G4S Sec 25 T10S R22E 1758 FNL 1443 FEL  
BHL Sec 25 T10S R22E 2615 FNL 1955 FEL

43-047-40443 NBU 1022-25G3S Sec 25 T10S R22E 1765 FNL 1482 FEL  
BHL Sec 25 T10S R22E 2250 FNL 2065 FEL

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

/s/ Michael L. Coulthard

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

MCoulthard:mc:12-5-08

**From:** Jim Davis  
**To:** Bonner, Ed; Mason, Diana  
**Date:** 1/28/2009 10:59 AM  
**Subject:** APD approvals- A bunch of Kerr McGee

**CC:** Garrison, LaVonne; Raleen.White@anadarko.com  
The following wells have been approved by SITLA including arch and paleo clearance.

Condition of approval: Spot-checking of pad construction/ extension for paleo resources:

NBU 1022-24B1AS 4304740129  
NBU 1022-24B1DS 4304740130  
NBU 1022-24G1S 4304740131  
and  
NBU 1022-25J3S 4304750070  
NBU 1022-25J1S 4304750069  
NBU 1022-25O2S 4304750071

No COA's:  
NBU 1022-24G2S 4304740140  
NBU 1022-24G3S 4304740142  
NBU 1022-24I1S 4304740141

FYI: These wells had been approved by SITLA previously. The APDs have been extended. Kerr McGee recently sent paleo reports to SITLA- there were no recommendations from the surveying paleontologist. Just in case anyone needs it, SITLA (still) approves of these APDs.

NBU 1022-25G 4304739142  
NBU 1022-25G3S 4304740443  
NBU 1022-25G4S 4304740442  
NBU 1022-25G2S 4304740441

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

**From:** Dustin Doucet  
**To:** Sadik-Macdonald, Helen  
**Date:** 3/23/2009 11:21 AM  
**Subject:** Fwd: RE: Wells in Section 25G

Can you please answer Raleens question? Thanks.

Dustin

>>> "White, Raleen" <[Raleen.White@anadarko.com](mailto:Raleen.White@anadarko.com)> 3/19/2009 8:43 AM >>>  
Hi Dustin,

Do you know when we could expect these APD's back? We are planning to drill these locations in June.

Thank you,  
Raleen

Raleen White  
Sr. Regulatory Analyst  
Direct Phone:(720) 929-6666

-----Original Message-----

From: Diana Mason [<mailto:dianawhitney@utah.gov>]  
Sent: Thursday, March 19, 2009 7:52 AM  
To: White, Raleen  
Subject: Re: Wells in Section 25G

Dustin has all three APDs for engineering review and the 43-047-40441 still needs SITLAS approval.

>>> "White, Raleen" <[Raleen.White@anadarko.com](mailto:Raleen.White@anadarko.com)> 3/19/2009 7:30 AM >>>  
Diana,

Can you give me the status of the following well locations:

43-047-40441

43-047-40442

43-047-40443

Raleen White  
Sr. Regulatory Analyst  
Direct Phone:(720) 929-6666  
Fax: (720) 929-7666  
Cell: (720) 563-9637  
email: [Raleen.White@anadarko.com](mailto:Raleen.White@anadarko.com)

Mail Address:  
PO Box 173779  
Denver, CO 80217-3779

Physical Address:  
1099 18th Street, Suite 1800  
Denver, CO 80202-1918

## Helen Sadik-Macdonald - RE: RE: Application For Permit to Drill Sent Back for

---

**From:** "Schneebeck Dulnoan, Kathy"  
**To:** "Helen Sadik-Macdonald" , "White, Raleen"  
**Date:** 4/7/2009 3:30 PM  
**Subject:** RE: RE: Application For Permit to Drill Sent Back for  
**CC:** "Diana Mason" , "Dustin Doucet"

---

No worries. I just sent off replacement copies with the revised pages requested. The package you just received had something different anyway.

I'm sorry for all of this confusion. Sorry you have to go to the dentist, but I hope it goes well.

Thank you.

Kathy Schneebeck Dulnoan  
 Anadarko E&P Company, LP  
 Kerr-McGee Oil & Gas Onshore LP  
 A wholly-owned subsidiary of Anadarko Petroleum Corporation  
 Direct: 720-929-6007  
 kathy.schneebeckdulnoan@anadarko.com

---

**From:** Helen Sadik-Macdonald [mailto:HMACDONALD@utah.gov]  
**Sent:** Tuesday, April 07, 2009 3:28 PM  
**To:** Schneebeck Dulnoan, Kathy; White, Raleen  
**Cc:** Diana Mason; Dustin Doucet  
**Subject:** FW: RE: Application For Permit to Drill Sent Back for

Sorry, Kathy. The Fed-Ex package had surface location changes in it. I cannot use these. If you have new drill plans and wellbore diagrams, you can email them to me. I'm leaving for a dentist appointment. Will be back tomorrow morning.

*Helen Sadik-Macdonald, CPG  
 Engineering Geologist  
 Utah Div. of Oil, Gas & Mining  
 PO Box 145801  
 Salt Lake City, UT 84114-5801*

801/538-5357 Desk  
 801/359-3940 Fax

>>> On 4/7/2009 at 1:15 PM, in message  
 <4C00A07B0A6842468A3237500193BBB073FCE2@dnvmbx2.anadarko.com>, "Schneebeck Dulnoan, Kathy"  
 <Kathy.SchneebeckDulnoan@anadarko.com> wrote:

Hi, Helen,

Actually, these were sent to your office last Thursday for Monday delivery via Federal Express. (I'm sorry I'm so confused. This is not my usual self.) If you didn't receive them, I'll resend them today.

Please advise. Thanks!

Kathy Schneebeck Dulnoan  
 Anadarko E&P Company, LP

Kerr-McGee Oil & Gas Onshore LP  
A wholly-owned subsidiary of Anadarko Petroleum Corporation  
Direct: 720-929-6007  
kathy.schneebeckdulnoan@anadarko.com

---

**From:** Schneebeck Dulnoan, Kathy  
**Sent:** Tuesday, April 07, 2009 12:22 PM  
**To:** Helen Sadik-Macdonald; White, Raleen  
**Cc:** Diana Mason; Dustin Doucet  
**Subject:** RE: RE: Application For Permit to Drill Sent Back for

Oh, goodness, Helen. I'm so sorry. I just found them on my desk. I would have sworn I sent them out last week..... I have all of the paperwork ready to go, but they got buried. I will get them out to you today.

Kathy Schneebeck Dulnoan  
Anadarko E&P Company, LP  
Kerr-McGee Oil & Gas Onshore LP  
A wholly-owned subsidiary of Anadarko Petroleum Corporation  
Direct: 720-929-6007  
kathy.schneebeckdulnoan@anadarko.com

---

**From:** Helen Sadik-Macdonald [mailto:HMACDONALD@utah.gov]  
**Sent:** Tuesday, April 07, 2009 12:17 PM  
**To:** Schneebeck Dulnoan, Kathy; White, Raleen  
**Cc:** Diana Mason; Dustin Doucet  
**Subject:** Fwd: RE: Application For Permit to Drill Sent Back for

Kathy and Raleen,  
If you go to the bottom of this correspondence, it begins with "what is the status of these wells?"  
I have 3 hard copy APDs for  
NBU 1022-25G2S  
NBU 1022-25G3S  
NBU 1022-25G4S  
They have 4000' feet of surface casing proposed. I have not received corrections for them yet.

*Helen Sadik-Macdonald, CPG  
Engineering Geologist  
Utah Div. of Oil, Gas & Mining  
PO Box 145801  
Salt Lake City, UT 84114-5801*

801/538-5357 Desk  
801/359-3940 Fax

>>> On 3/26/2009 at 2:40 PM, in message  
<4C00A07B0A6842468A3237500193BBB05B5ADE@dnvmbx2.anadarko.com>, "Schneebeck Dulnoan,  
Kathy" <Kathy.SchneebeckDulnoan@anadarko.com> wrote:

Thanks!

Kathy Schneebeck Dulnoan  
Anadarko E&P Company, LP

Kerr-McGee Oil & Gas Onshore LP  
A wholly-owned subsidiary of Anadarko Petroleum Corporation  
Direct: 720-929-6007  
kathy.schneebeckdulnoan@anadarko.com

---

**From:** Helen Sadik-Macdonald [mailto:hmacdonald@utah.gov]  
**Sent:** Thursday, March 26, 2009 2:36 PM  
**To:** Schneebeck Dulnoan, Kathy  
**Subject:** RE: Application For Permit to Drill Sent Back for Revisions

Same to you!

>>> On 3/26/2009 at 2:22 PM, in message  
<4C00A07B0A6842468A3237500193BBB05B5ADB@dnvmbx2.anadarko.com>, "Schneebeck Dulnoan,  
Kathy" <Kathy.SchneebeckDulnoan@anadarko.com> wrote:

Thank you. You will likely have these pages on Monday.

Have a great weekend.

Kathy Schneebeck Dulnoan  
Anadarko E&P Company, LP  
Kerr-McGee Oil & Gas Onshore LP  
A wholly-owned subsidiary of Anadarko Petroleum Corporation  
Direct: 720-929-6007  
kathy.schneebeckdulnoan@anadarko.com

---

**From:** Helen Sadik-Macdonald [mailto:hmacdonald@utah.gov]  
**Sent:** Thursday, March 26, 2009 2:03 PM  
**To:** Schneebeck Dulnoan, Kathy  
**Subject:** RE: Application For Permit to Drill Sent Back for Revisions

One copy.

*Helen Sadik-Macdonald, CPG, PG  
Engineering Geologist  
Utah Div. of Oil, Gas & Mining  
PO Box 145801  
Salt Lake City, UT 84114-5801*

801/538-5357 Desk  
801/359-3940 Fax

>>> On 3/25/2009 at 3:58 PM, in message  
<4C00A07B0A6842468A3237500193BBB05B59D9@dnvmbx2.anadarko.com>, "Schneebeck  
Dulnoan, Kathy" <Kathy.SchneebeckDulnoan@anadarko.com> wrote:

Hi, Helen,

How many copies of the replacement pages do you need for these corrections?

Thanks!

Kathy Schneebeck Dulnoan  
Anadarko E&P Company, LP

Kerr-McGee Oil & Gas Onshore LP  
 A wholly-owned subsidiary of Anadarko Petroleum Corporation  
 Direct: 720-929-6007  
 kathy.schneebeckdulnoan@anadarko.com

---

**From:** Helen Sadik-Macdonald [mailto:hmacdonald@utah.gov]  
**Sent:** Wednesday, March 04, 2009 11:09 AM  
**To:** Schneebeck Dulnoan, Kathy  
**Subject:** RE: Application For Permit to Drill Sent Back for Revisions

Checking "Amended" is OK on Form 3. I may cross out and make changes on the original, will have to see what you send. Drill plan is most important. Thanks! hsm

*Helen Sadik-Macdonald, CPG, PG  
 Engineering Geologist  
 Utah Div. of Oil, Gas & Mining  
 PO Box 145801  
 Salt Lake City, UT 84114-5801*

801/538-5357 Desk  
 801/359-3940 Fax

>>> On 3/3/2009 at 4:15 PM, in message  
 <4C00A07B0A6842468A3237500193BBB041931B@dnvmbx2.anadarko.com>, "Schneebeck  
 Dulnoan, Kathy" <Kathy.SchneebeckDulnoan@anadarko.com> wrote:

Okee dokee. No worries. I'll send them back in via paper or e-mail. If I send in via paper, do you want a revised/updated Form 3 or not at all? I don't want to add to this confusion.....

Thank you for your patience. We're trying to get all of this straightened out and things will hopefully go more smoothly soon. Have a great evening!

Kathy Schneebeck Dulnoan  
 Anadarko E&P Company, LP  
 Kerr-McGee Oil & Gas Onshore LP  
 A wholly-owned subsidiary of Anadarko Petroleum Corporation  
 Direct: 720-929-6007  
 kathy.schneebeckdulnoan@anadarko.com

---

**From:** Helen Sadik-Macdonald [mailto:hmacdonald@utah.gov]  
**Sent:** Tuesday, March 03, 2009 3:41 PM  
**To:** Schneebeck Dulnoan, Kathy  
**Cc:** Diana Mason  
**Subject:** RE: Application For Permit to Drill Sent Back for Revisions

Kathy,  
 It was a thought, but won't work. An API number has already been assigned and a lot of data input has already occurred before I get the documents. Send a revised Drill Plan (e-mail is fine) with colored wellbore-cmt pages and I'll swap them out of the permit file. I'll cross out for changes on Form 3. It's much less hassle this way.  
 Regards,

*Helen Sadik-Macdonald, CPG, PG  
 Engineering Geologist  
 Utah Div. of Oil, Gas & Mining*

PO Box 145801  
Salt Lake City, UT 84114-5801

801/538-5357 Desk  
801/359-3940 Fax

>>> On 3/3/2009 at 1:52 PM, in message  
<4C00A07B0A6842468A3237500193BBB041929F@dnvmbx2.anadarko.com>, "Schneebeck  
Dulnoan, Kathy" <Kathy.SchneebeckDulnoan@anadarko.com> wrote:

Hi, Helen,

You are correct: 4000' of surface casing is not what is planned. We'd like to correct these  
and resubmit them. How would be best and easiest for you to do this? Can we resubmit  
them electronically even though they were submitted via paper initially?

Thank you.

Kathy Schneebeck Dulnoan  
Anadarko E&P Company, LP  
Kerr-McGee Oil & Gas Onshore LP  
A wholly-owned subsidiary of Anadarko Petroleum Corporation  
Direct: 720-929-6007  
kathy.schneebeckdulnoan@anadarko.com

---

**From:** Helen Sadik-Macdonald [mailto:HMCDONALD@utah.gov]  
**Sent:** Tuesday, March 03, 2009 1:45 PM  
**To:** Schneebeck Dulnoan, Kathy  
**Cc:** Mondragon, Mary  
**Subject:** RE: Application For Permit to Drill Sent Back for Revisions

Kathy and Mary,  
I have 3 hard copy APDs for  
NBU 1022-25G2S  
NBU 1022-25G3S  
NBU 1022-25G4S  
submitted by Kevin in November. Each has 4000' of surface csg. Is this what is  
planned? I recall, others like these were changed to around 2000' surface csg. Please  
advise. Thanks. hsm

Helen Sadik-Macdonald, CPG, PG  
Engineering Geologist  
Utah Div. of Oil, Gas & Mining  
PO Box 145801  
Salt Lake City, UT 84114-5801

801/538-5357 Desk  
801/359-3940 Fax

>>> On 3/3/2009 at 12:52 PM, in message  
<4C00A07B0A6842468A3237500193BBB0419257@dnvmbx2.anadarko.com>,  
"Schneebeck Dulnoan, Kathy" <Kathy.SchneebeckDulnoan@anadarko.com> wrote:

Hi, Helen,

I'll get onto fixing these 6 shortly. Sorry for the issues.

Thanks!

Kathy Schneebeck Dulnoan  
Anadarko E&P Company, LP  
Kerr-McGee Oil & Gas Onshore LP  
A wholly-owned subsidiary of Anadarko Petroleum Corporation  
Direct: 720-929-6007  
kathy.schneebeckdulnoan@anadarko.com

-----Original Message-----

From: hmacdonald@utah.gov [mailto:hmacdonald@utah.gov]  
Sent: Tuesday, March 03, 2009 12:15 PM  
To: Schneebeck Dulnoan, Kathy  
Cc: Mondragon, Mary  
Subject: Application For Permit to Drill Sent Back for Revisions

APD Number: 1157  
Well Name: NBU 1022-11L3S  
Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

There are 6 of these to revise for blanks on Form 3, csg, mud wt, cmt, drill plan.





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  
April 15, 2009

JOHN R. BAZA  
Division Director

Kerr-McGee Oil & Gas Onshore, LP  
P O Box 173779  
Denver, CO 80202-3779

Re: NBU 1022-25G4S Well, 1758' FNL, 1443' FEL, SW NE, Sec. 25, T. 10 South,  
R. 22 East, Bottom Location 2615' FNL, 1955' FEL, SW NE, Sec. 25, T. 10 South,  
R. 22 East, Uintah County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

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. The API identification number assigned to this well is 43-047-40442.

Sincerely,

Gil Hunt  
Associate Director

pab  
Enclosures

cc: Uintah County Assessor  
SITLA  
Bureau of Land Management, Vernal Office



Operator: Kerr-McGee Oil & Gas Onshore, LP  
 Well Name & Number NBU 1022-25G4S  
 API Number: 43-047-40442  
 Lease: ML-22447

Location: SW NE                      Sec. 25                      T. 10 South                      R. 22 East  
 Bottom Location: SW NE                      Sec. 25                      T. 10 South                      R. 22 East

**Conditions of Approval**

**1. 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.

**2. 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

**3. 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.

Page 2

43-047-40442

April 15, 2009

4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.
5. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)
6. 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.
7. In accordance with Order in Cause No. 190-5(b) dated October 28, 1982, the Operator shall comply with requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operator shall ensure that the surface and/or production casing is properly cemented over the entire oil shale interval as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the Division.

<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> ST ML 22447
	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 1022-25G4S
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047404420000
<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> 1758 FNL 1443 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 25 Township: 10.0S Range: 22.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
	<b>COUNTY:</b> UINTAH
	<b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 4/15/2010	<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 type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" 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.**

Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

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

**Date:** April 20, 2010

**By:**

<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/14/2010	



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

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047404420000**

**API:** 43047404420000

**Well Name:** NBU 1022-25G4S

**Location:** 1758 FNL 1443 FEL QTR SWNE SEC 25 TWNP 100S RNG 220E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 4/15/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?  Yes  No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?  Yes  No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?  Yes  No
- Has the approved source of water for drilling changed?  Yes  No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?  Yes  No
- Is bonding still in place, which covers this proposed well?  Yes  No

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

**Signature:** Danielle Piernot

**Date:** 4/14/2010

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date:** April 20, 2010

**By:** 

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ST ML 22447
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 1022-25G4S
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047404420000
<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> 1758 FNL 1443 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 25 Township: 10.0S Range: 22.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 4/15/2011	<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
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	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 50px;" type="text"/>

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

Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

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

**Date:** 04/14/2011

**By:**

<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> 4/7/2011	



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

- State of Utah  
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices**

**Request for Permit Extension Validation Well Number 43047404420000**

**API:** 43047404420000

**Well Name:** NBU 1022-25G4S

**Location:** 1758 FNL 1443 FEL QTR SWNE SEC 25 TWP 100S RNG 220E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 4/15/2009

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- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?  Yes  No
  
- Is bonding still in place, which covers this proposed well?  Yes  No

**Signature:** Andy Lytle

**Date:** 4/7/2011

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.



GARY R. HERBERT  
Governor

GREG BELL  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

May 9, 2012

Jenn Hawkins  
Anadarko Petroleum Corporation  
1099 18th Street, Suite 1800  
Denver, CO 80202

43 047 40442  
NBU 1022-25645  
10S 22E 25

Re: APDs Rescinded for Anadarko Petroleum Corporation  
Uintah County

Dear Ms. Hawkins:

Enclosed find the list of APDs that you requested to be rescinded. No drilling activity at these locations has been reported to the division. Therefore, approval to drill these wells is hereby rescinded, effective May 2, 2012.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

  
Diana Mason  
Environmental Scientist

cc: Well File  
Bureau of Land Management, Vernal  
SITLA, Ed Bonner

4304750055	NBU 753-32E	4304740374	NBU 705-26E
4304750683	NBU 634-12EX	4304750123	NBU 920-12N
4304740346	NBU 921-15N1S	4304750143	NBU 920-13J
4304740347	NBU 921-14M3S	4304750751	NBU 920-21G
4304740348	NBU 921-22A1S	4304750756	NBU 1022-35I1CS
4304750089	NBU 921-15O3T	4304750757	NBU 1022-35I4BS
4304740441	NBU 1022-25G2S	4304750758	NBU 1022-35J1CS
→ 4304740442	NBU 1022-25G4S	4304750759	NBU 1022-35J4CS
4304740443	NBU 1022-25G3S	4304740380	NBU 920-13D
4304750852	FEDERAL 920-23O	4304750155	FEDERAL 920-24O
4304751026	NBU 921-12K	4304750769	NBU 1022-35K4CS
4304751027	NBU 921-12L	4304750770	NBU 1022-35N1CS
4304751028	NBU 921-12M	4304750771	NBU 1022-35O1BS
4304751039	NBU 920-21O	4304750772	NBU 1022-35O1CS
4304750697	NBU 687-30E	4304750791	NBU 921-10O
4304750811	NBU 699-25E	4304750792	NBU 921-10M
4304740153	NBU 1022-05JT	4304740439	NBU 1022-24P2S
4304740135	NBU 921-15MT	4304740440	NBU 1022-24P4S
4304750468	NBU 738-30E		
4304739369	NBU 922-18O		
4304739372	NBU 922-20E		
4304740184	NBU 921-30FT		
4304740217	NBU 759-29E		
4304740218	NBU 737-30E		
4304750461	NBU 1022-24O2S		
4304740267	NBU 704-26E		
4304740240	NBU 702-26E		
4304740241	NBU 703-26E		
4304750578	NBU 920-14B		
4304750579	NBU 920-14A		
4304740268	NBU 701-26E		
4304750627	NBU 920-21P		
4304750628	NBU 920-21N		
4304750682	NBU 921-12J		
4304750695	NBU 921-12N		
4304750111	NBU 921-11GT		
4304750112	NBU 921-11HT		
4304750118	NBU 740-30E		