

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

FORM 3

AMENDED REPORT

<b>APPLICATION FOR PERMIT TO DRILL</b>		<b>1. WELL NAME and NUMBER</b> NBU 922-36E1BS
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>		<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO		<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. OPERATOR PHONE</b> 720 929-6515
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217		<b>9. OPERATOR E-MAIL</b> julie.jacobson@anadarko.com
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> ML-22650	<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>	
<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>
<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>
<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>
<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1067 FNL 1000 FWL	NWNW	36	9.0 S	22.0 E	S
Top of Uppermost Producing Zone	1572 FNL 825 FWL	SWNW	36	9.0 S	22.0 E	S
At Total Depth	1572 FNL 825 FWL	SWNW	36	9.0 S	22.0 E	S

<b>21. COUNTY</b> UINTAH	<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 825	<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 640
<b>24. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 174	<b>25. PROPOSED DEPTH</b> MD: 8943 TVD: 8888	
<b>26. ELEVATION - GROUND LEVEL</b> 5087	<b>27. BOND NUMBER</b> 22013542	<b>28. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496

Hole, Casing, and Cement Information										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2430	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 8943	11.6	I-80 LT&C	12.5	Premium Lite High Strength	290	3.38	11.0
							50/50 Poz	1190	1.31	14.3

**ATTACHMENTS**

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

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

<b>NAME</b> Gina Becker	<b>TITLE</b> Regulatory Analyst II	<b>PHONE</b> 720 929-6086
<b>SIGNATURE</b>	<b>DATE</b> 05/13/2011	<b>EMAIL</b> gina.becker@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047516200000	<b>APPROVAL</b>   Permit Manager	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 922-36E1BS**

Surface: 1067 FNL / 1000 FWL      NWNW  
 BHL: 1572 FNL / 825 FWL      SWNW

Section 36 T9S R22E

Unitah County, Utah  
 Mineral Lease: ML-22650

**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	1322	
Birds Nest	1613	Water
Mahogany	1979	Water
Wasatch	4427	Gas
Mesaverde	6635	Gas
MVU2	7648	Gas
MVL1	8238	Gas
TVD	8888	
TD	8943	

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

*Please refer to the attached Drilling Program*

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

*Please refer to the attached Drilling Program*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program*

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 8888' TVD, approximately equals  
 5,866 psi 0.64 psi/ft = actual bottomhole gradient

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

Maximum anticipated surface pressure equals approximately 3,720 psi (bottom hole pressure  
 minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

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

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

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

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

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

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

**Background**

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

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

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

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

#### ***Variance for BOPE Requirements***

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

#### ***Variance for Mud Material Requirements***

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

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

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

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

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

*on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

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

***Conclusion***

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

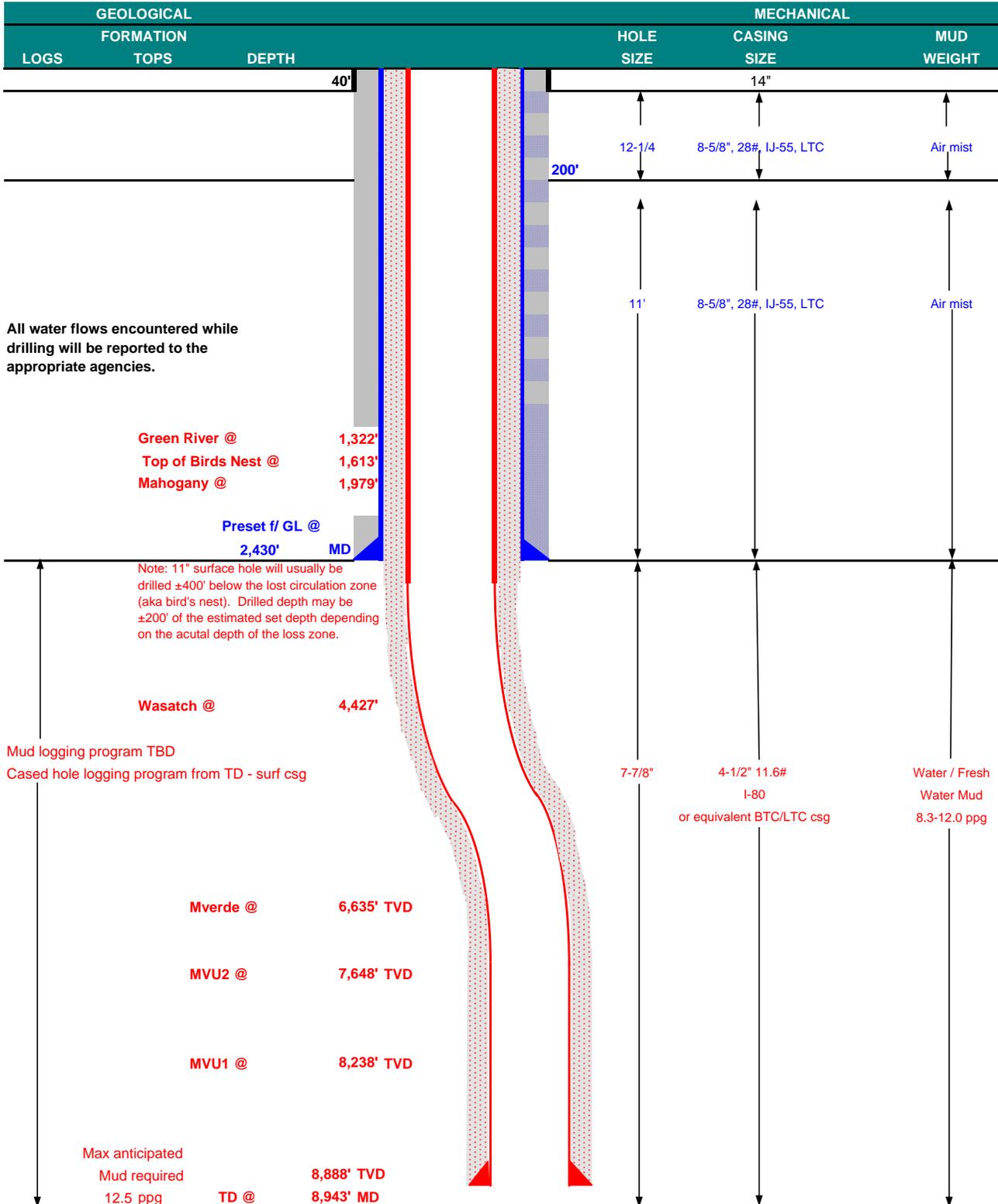
**10. Other Information:**

*Please refer to the attached Drilling Program.*



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	May 6, 2011	
WELL NAME	<b>NBU 922-36E1BS</b>		TD	8,888' TVD	8,943' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
SURFACE LOCATION	NWNW	1067 FNL	1000 FWL	Sec 36 T 9S R 22E	FINISHED ELEVATION 5087.1
	Latitude: 39.99689		Longitude: -109.393481		NAD 27
BTM HOLE LOCATION	SWNW	1572 FNL	825 FWL	Sec 36 T 9S R 22E	
	Latitude: 39.995505		Longitude: -109.394104		NAD 27
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.				





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	BTC
CONDUCTOR	14"	0-40'							
SURFACE	8-5/8"	0 to 2,430	28.00	IJ-55	LTC	3,390	1,880	348,000	N/A
						2.23	1.65	5.84	N/A
PRODUCTION	4-1/2"	0 to 8,943	11.60	I-80	LTC/BTC	7,780	6,350	279,000	367,000
						1.11	1.10	3.32	4.37

**Surface Casing:**

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe  
Fracture at surface shoe with 0.1 psi/ft gas gradient above

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

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

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

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD	
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15	
		Option 1						
		TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>								
SURFACE	LEAD	1,930'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	180	35%	11.00	3.82	
		TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
		TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,923'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	290	20%	11.00	3.38	
		TAIL	5,020'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,190	35%	14.30	1.31

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

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

**FLOAT EQUIPMENT & CENTRALIZERS**

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

**ADDITIONAL INFORMATION**

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

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

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

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

DRILLING ENGINEER:

Nick Spence / Emile Goodwin

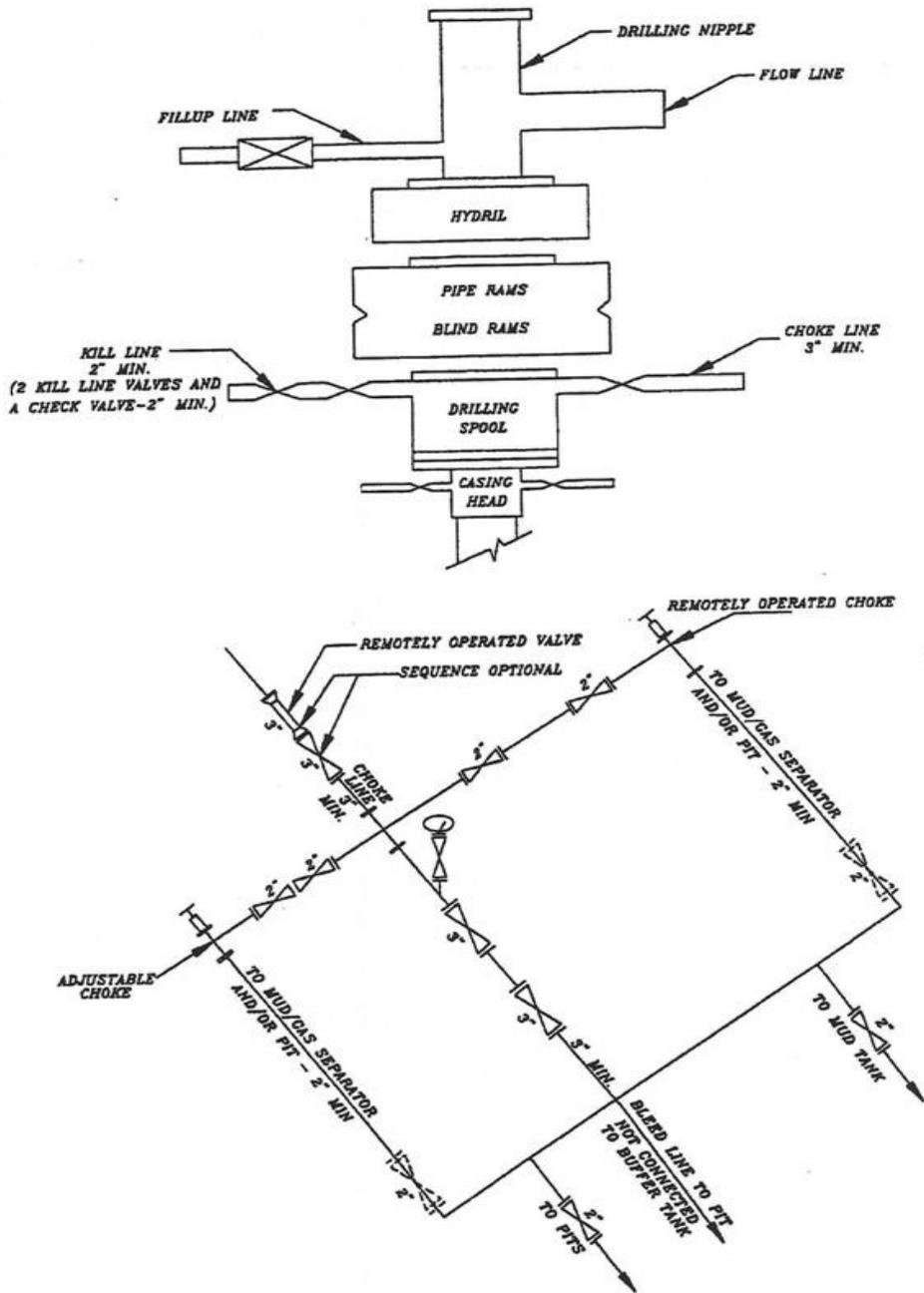
DATE:

DRILLING SUPERINTENDENT:

Kenny Gathings / Lovel Young

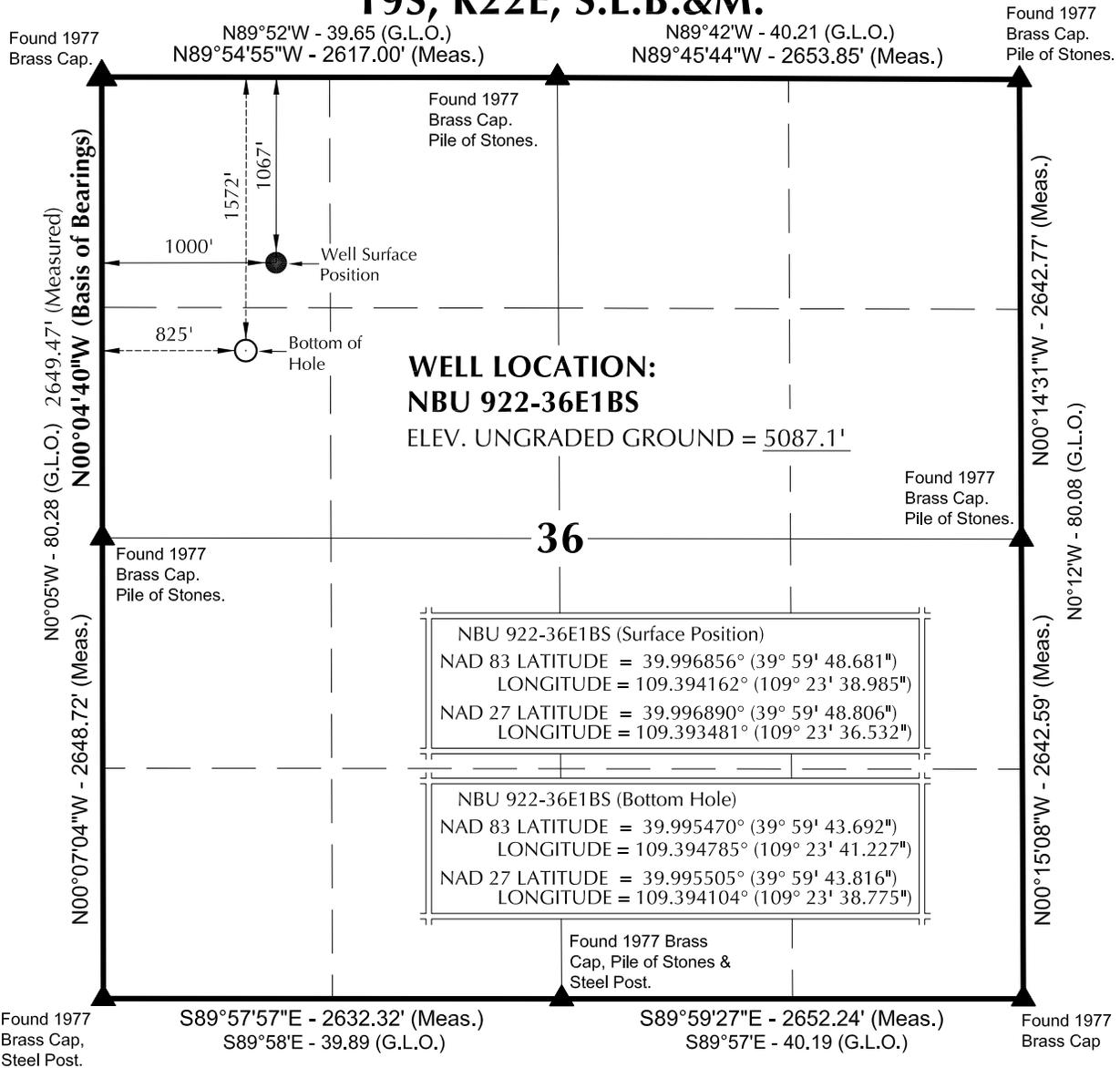
DATE:

### EXHIBIT A NBU 922-36E1BS



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

# T9S, R22E, S.L.B.&M.



**NOTES:**

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains.  
1 chain = 66 feet.
- 3. The Bottom of hole bears S19°01'34"W 534.33' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



**SURVEYOR'S CERTIFICATE**

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

*John R. Slough*  
 PROFESSIONAL LAND SURVEYOR  
 REGISTRATION NO. 6028691  
 STATE OF UTAH

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

**WELL PAD: NBU 922-36D**

**NBU 922-36E1BS**  
**WELL PLAT**

**1572' FNL, 825' FWL (Bottom Hole)**  
**SW ¼ NW ¼ OF SECTION 36, T9S, R22E,**  
**S.L.B.&M., UTAH COUNTY, UTAH.**



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

**TIMBERLINE**

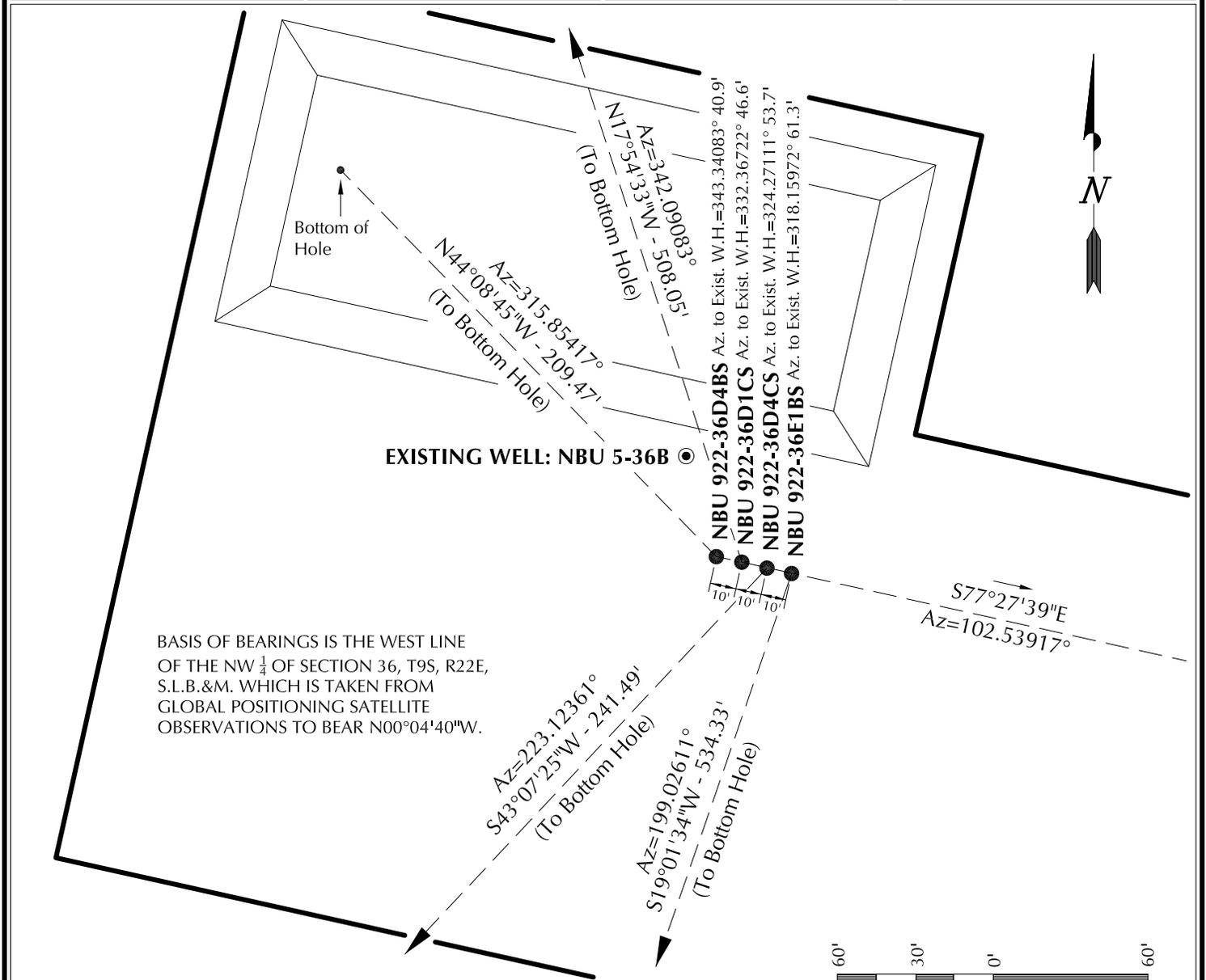
ENGINEERING & LAND SURVEYING, INC.  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 9-1-10	SURVEYED BY: M.S.B.	SHEET NO: <b>4</b>
DATE DRAWN: 11-15-10	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'		4 OF 16

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 922-36D4BS	39°59'48.746"	109°23'39.360"	39°59'48.871"	109°23'36.907"	1060' FNL 971' FWL	39°59'50.233"	109°23'41.232"	39°59'50.357"	109°23'38.779"	910' FNL 825' FWL
NBU 922-36D1CS	39°59'48.725"	109°23'39.233"	39°59'48.850"	109°23'36.780"	1062' FNL 981' FWL	39°59'53.503"	109°23'41.235"	39°59'53.627"	109°23'38.782"	579' FNL 825' FWL
NBU 922-36D4CS	39°59'48.702"	109°23'39.108"	39°59'48.827"	109°23'36.655"	1064' FNL 990' FWL	39°59'46.962"	109°23'41.230"	39°59'47.087"	109°23'38.777"	1241' FNL 825' FWL
NBU 922-36E1BS	39°59'48.681"	109°23'38.985"	39°59'48.806"	109°23'36.532"	1067' FNL 1000' FWL	39°59'43.692"	109°23'41.227"	39°59'43.816"	109°23'38.775"	1572' FNL 825' FWL
NBU 5-36B	39°59'49.133"	109°23'39.510"	39°59'49.257"	109°23'37.057"	1021' FNL 959' FWL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 922-36D4BS	150.3'	-145.9'	NBU 922-36D1CS	483.4'	-156.2'	NBU 922-36D4CS	-176.3'	-165.1'	NBU 922-36E1BS	-505.1'	-174.2'



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

**WELL PAD - NBU 922-36D**

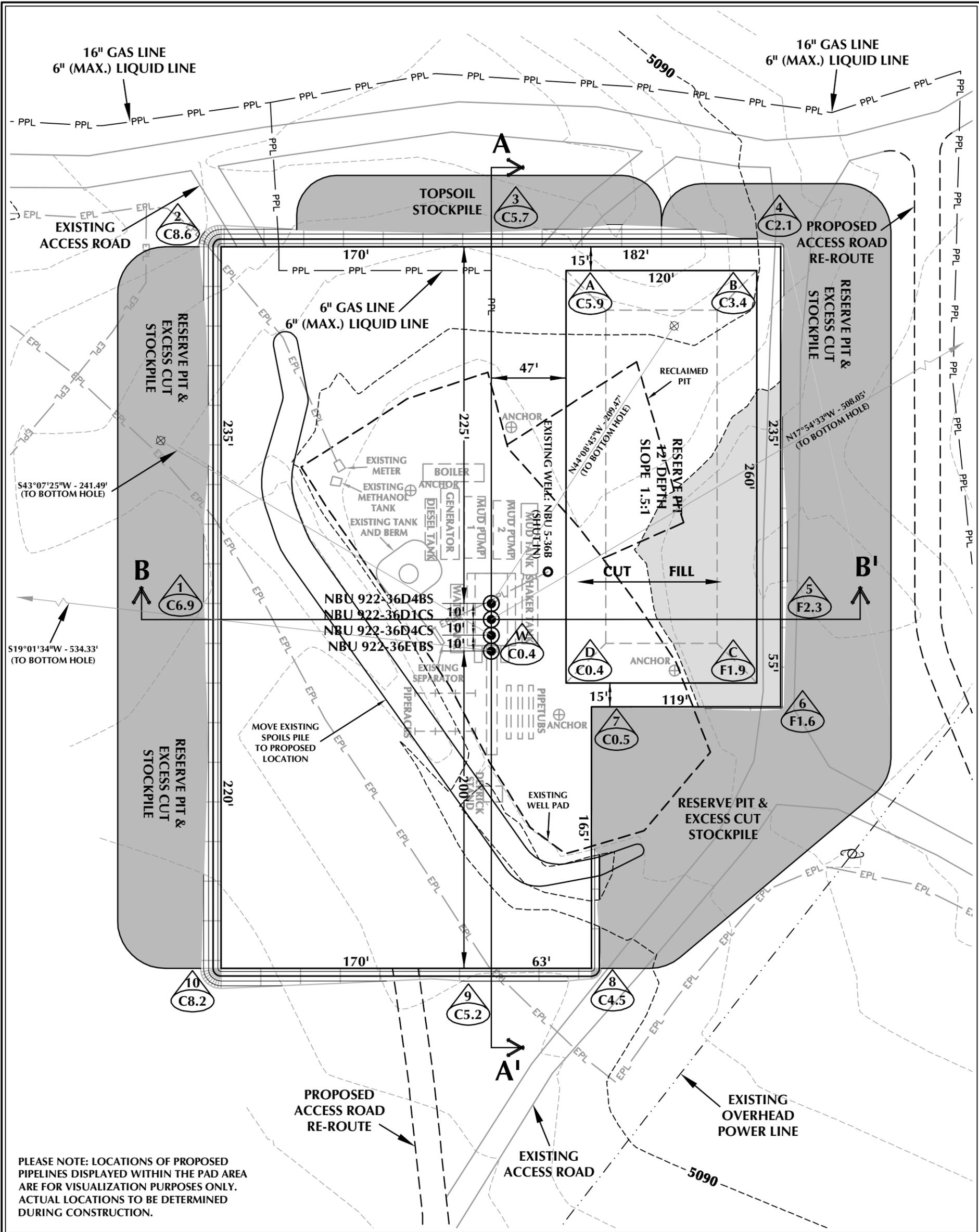
**WELL PAD INTERFERENCE PLAT**  
 WELLS - NBU 922-36D4BS, NBU 922-36D1CS, NBU 922-36D4CS & NBU 922-36E1BS LOCATED IN SECTION 36, T9S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.



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

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

DATE SURVEYED: 9-1-10	SURVEYED BY: M.S.B.	SHEET NO: <b>5</b>
DATE DRAWN: 11-15-10	DRAWN BY: M.W.W.	
SCALE: 1" = 60'	Date Last Revised:	5 OF 16



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

**WELL PAD - NBU 922-36D DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 5087.1'  
 FINISHED GRADE ELEVATION = 5086.7'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.50 ACRES  
 TOTAL DAMAGE AREA = 6.28 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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

**WELL PAD - NBU 922-36D**

**WELL PAD - LOCATION LAYOUT**  
 NBU 922-36D4BS, NBU 922-36D1CS,  
 NBU 922-36D4CS & NBU 922-36E1BS  
 LOCATED IN SECTION 36, T9S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**WELL PAD QUANTITIES**  
 TOTAL CUT FOR WELL PAD = 16,085 C.Y.  
 TOTAL FILL FOR WELL PAD = 1,029 C.Y.  
 TOPSOIL @ 6" DEPTH = 2,225 C.Y.  
 EXCESS MATERIAL = 15,056 C.Y.

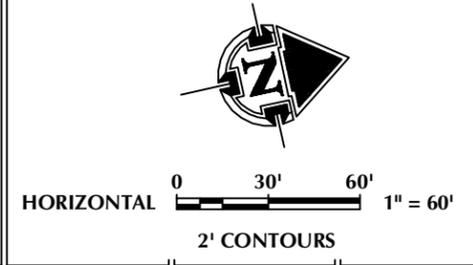
**RESERVE PIT QUANTITIES**  
 TOTAL CUT FOR RESERVE PIT  
 +/- 11,020 C.Y.  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 42,290 BARRELS



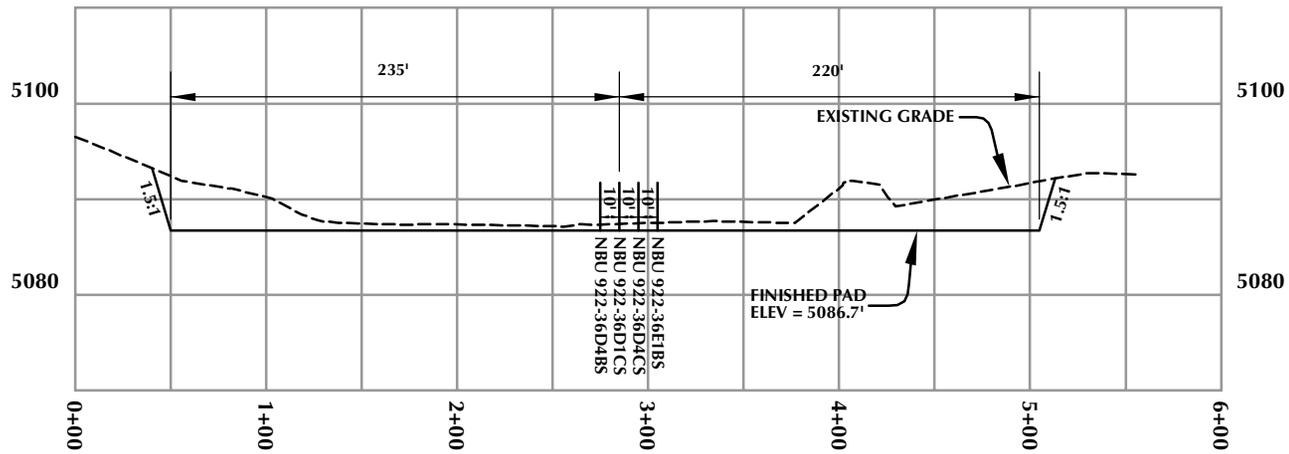
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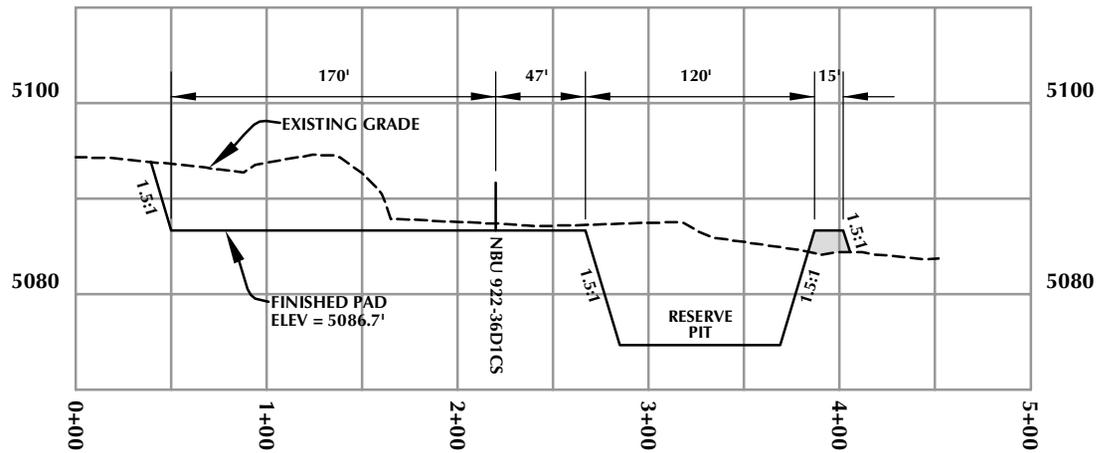
- WELL PAD LEGEND**
- EXISTING WELL LOCATION
  - PROPOSED WELL LOCATION
  - PROPOSED BOTTOM HOLE LOCATION
  - EXISTING CONTOURS (2' INTERVAL)
  - PROPOSED CONTOURS (2' INTERVAL)
  - PROPOSED PIPELINE
  - EXISTING PIPELINE



HORIZONTAL SCALE: 1"=60' DATE: 12/3/10 SHEET NO: 6 OF 16



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

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

WELL PAD - NBU 922-36D

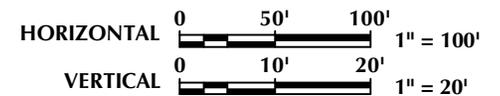
WELL PAD - CROSS SECTIONS  
NBU 922-36D4BS, NBU 922-36D1CS,  
NBU 922-36D4CS & NBU 922-36E1BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., Uintah County, Utah



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

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

(435) 789-1365



Scale: 1"=100'

Date: 12/3/10

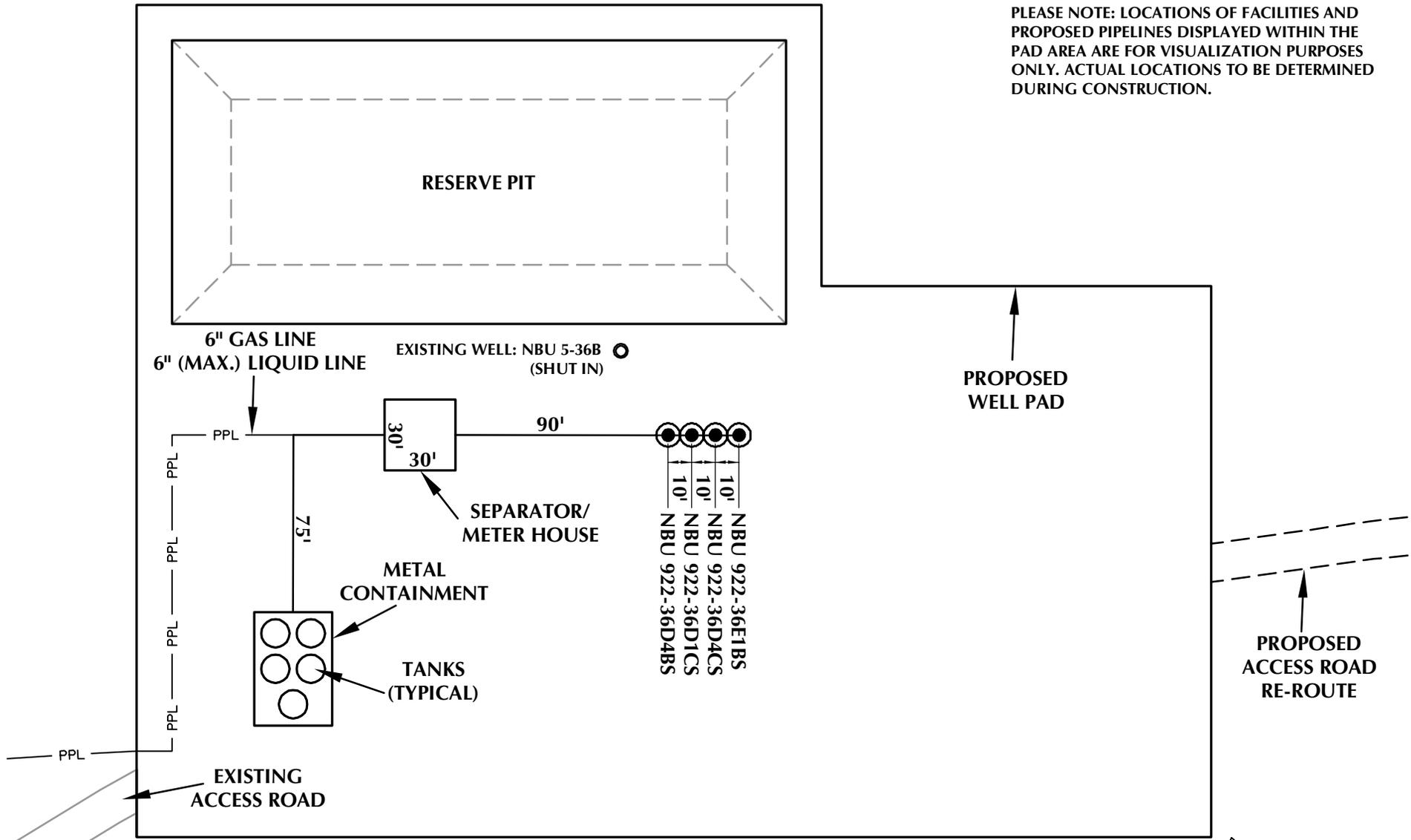
SHEET NO:

REVISED:

**7**

7 OF 16

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



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

WELL PAD - NBU 922-36D

WELL PAD - FACILITIES DIAGRAM  
NBU 922-36D4BS, NBU 922-36D1CS,  
NBU 922-36D4CS & NBU 922-36E1BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., Uintah County, Utah



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

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



HORIZONTAL 0 30' 60' 1" = 60'

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

(435) 789-1365

Scale: 1"=60'

Date: 12/3/10

SHEET NO:

REVISED:

**8**

8 OF 16

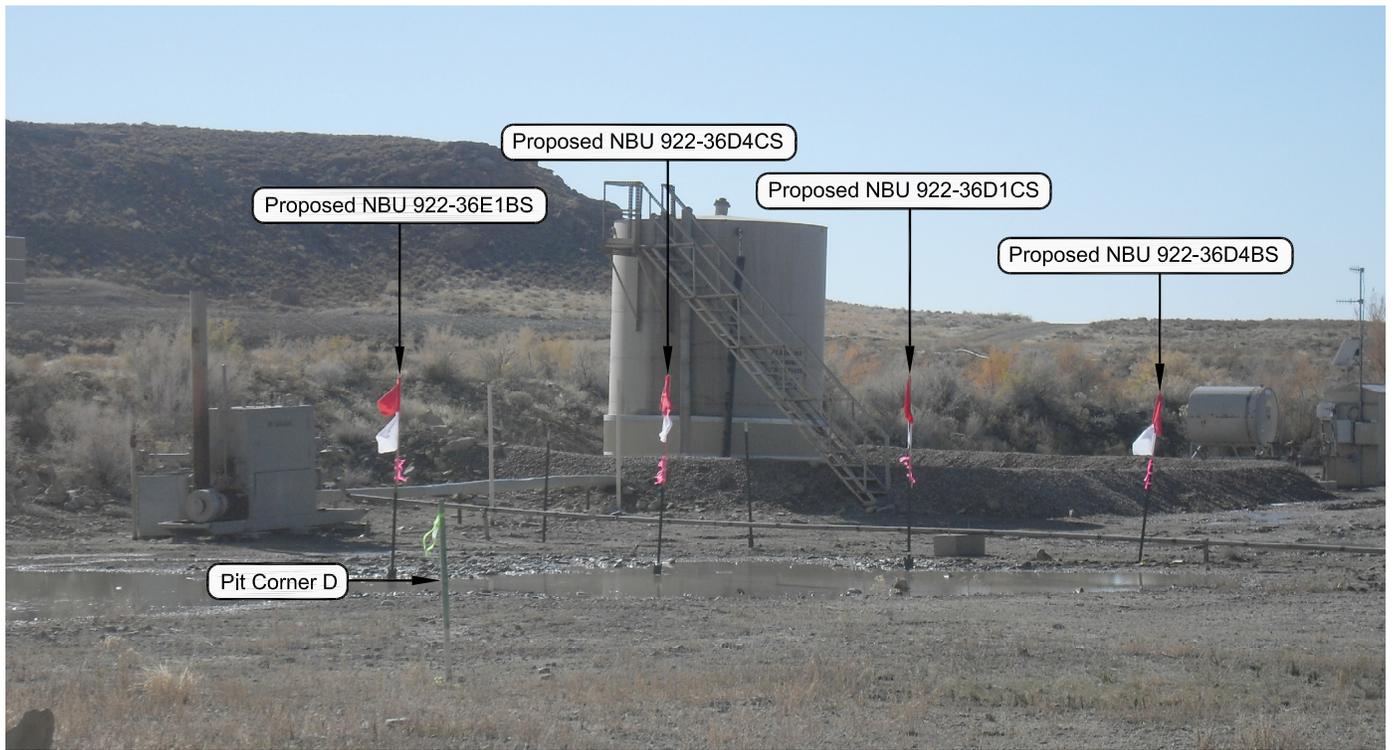


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: SOUTHWESTERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: NORTHEASTERLY

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

**WELL PAD - NBU 922-36D**

**LOCATION PHOTOS**

**NBU 922-36D4BS, NBU 922-36D1CS,  
 NBU 922-36D4CS & NBU 922-36E1BS  
 LOCATED IN SECTION 36, T9S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH.**



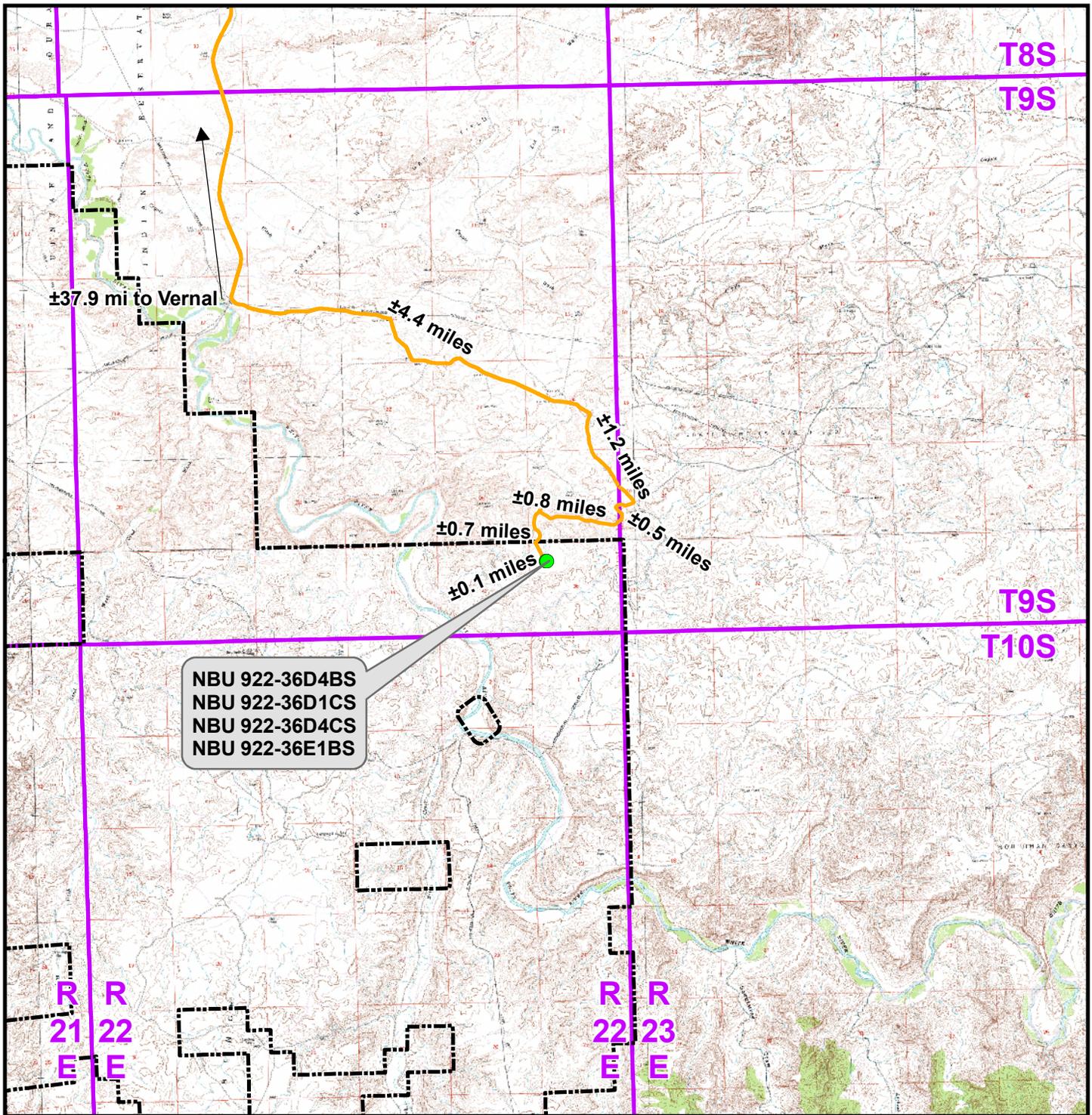
**CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

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

DATE PHOTOS TAKEN: 9-1-10	PHOTOS TAKEN BY: M.S.B.	<b>9</b> 9 OF 16
DATE DRAWN: 11-15-10	DRAWN BY: M.W.W.	
Date Last Revised:		



**Legend**

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

Distance From Well Pad - NBU 922-36D To Unit Boundary: ±1,060ft

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

**WELL PAD - NBU 922-36D**

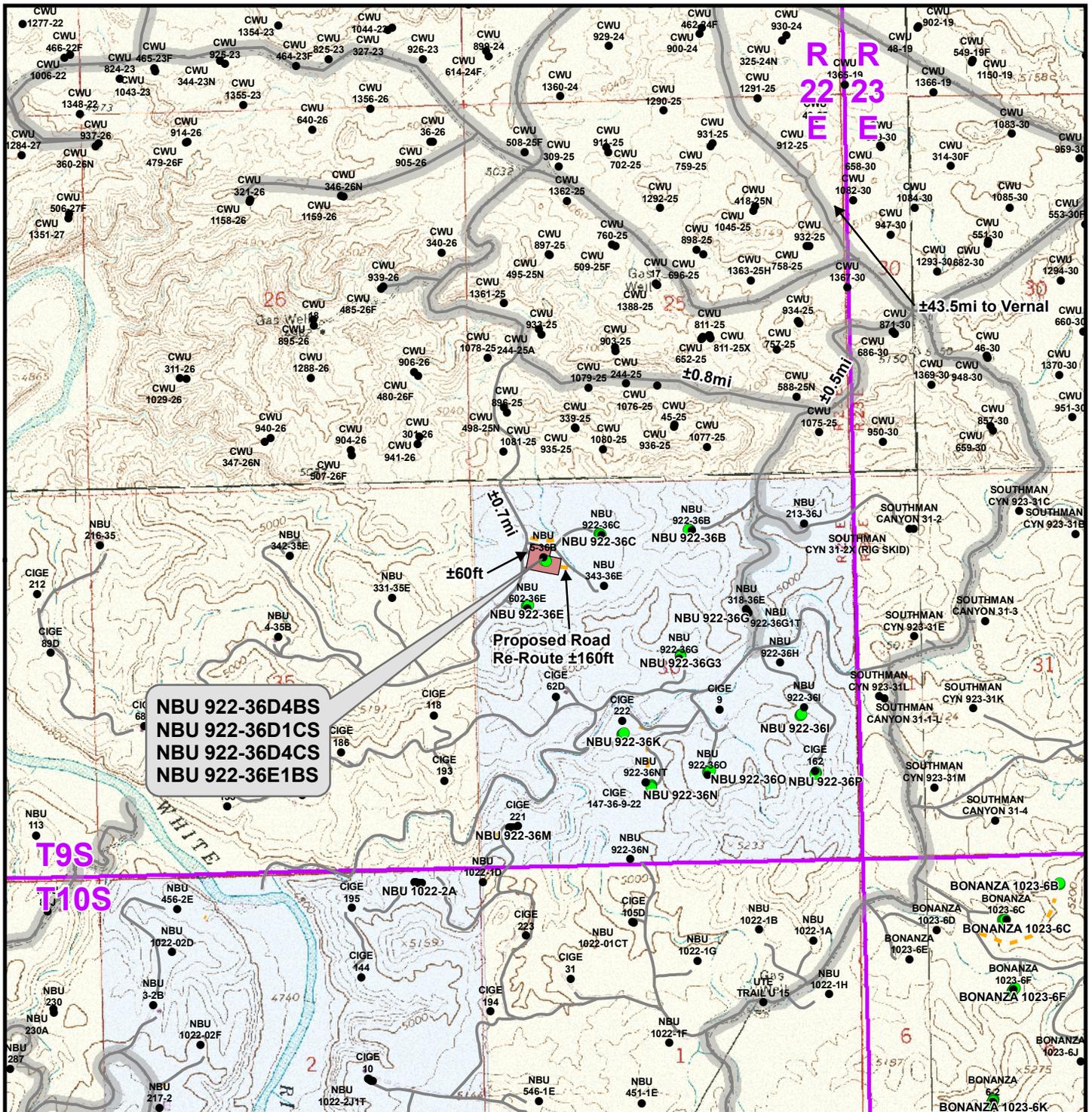
**TOPO A**  
 NBU 922-36D4BS, NBU 922-36D1CS,  
 NBU 922-36D4CS & NBU 922-36E1BS  
 LOCATED IN SECTION 36, T9S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH



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



Scale: 1:100,000	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	<b>10</b>
Revised:	Date:	



**Legend**

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

Total Proposed Road Re-Route Length: ±160ft

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

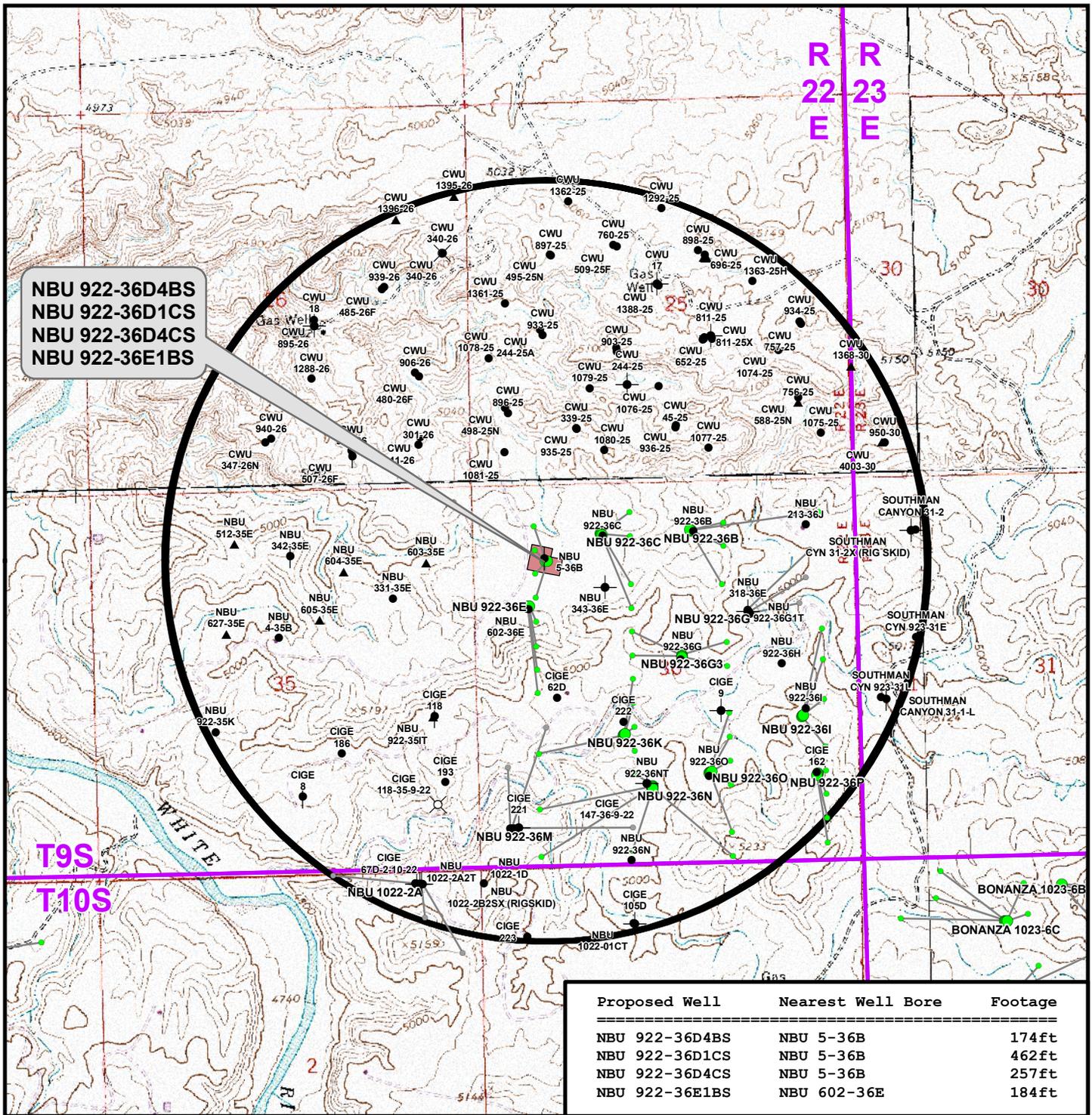
**WELL PAD - NBU 922-36D**

**TOPO B**  
NBU 922-36D4BS, NBU 922-36D1CS,  
NBU 922-36D4CS & NBU 922-36E1BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., UINTAH COUNTY, UTAH

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



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: <b>11</b>
Drawn: TL	Date: 3 Dec 2010	<b>11</b> of 16
Revised:	Date:	



**NBU 922-36D4BS  
NBU 922-36D1CS  
NBU 922-36D4CS  
NBU 922-36E1BS**

Proposed Well	Nearest Well Bore	Footage
NBU 922-36D4BS	NBU 5-36B	174ft
NBU 922-36D1CS	NBU 5-36B	462ft
NBU 922-36D4CS	NBU 5-36B	257ft
NBU 922-36E1BS	NBU 602-36E	184ft

**Legend**

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

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

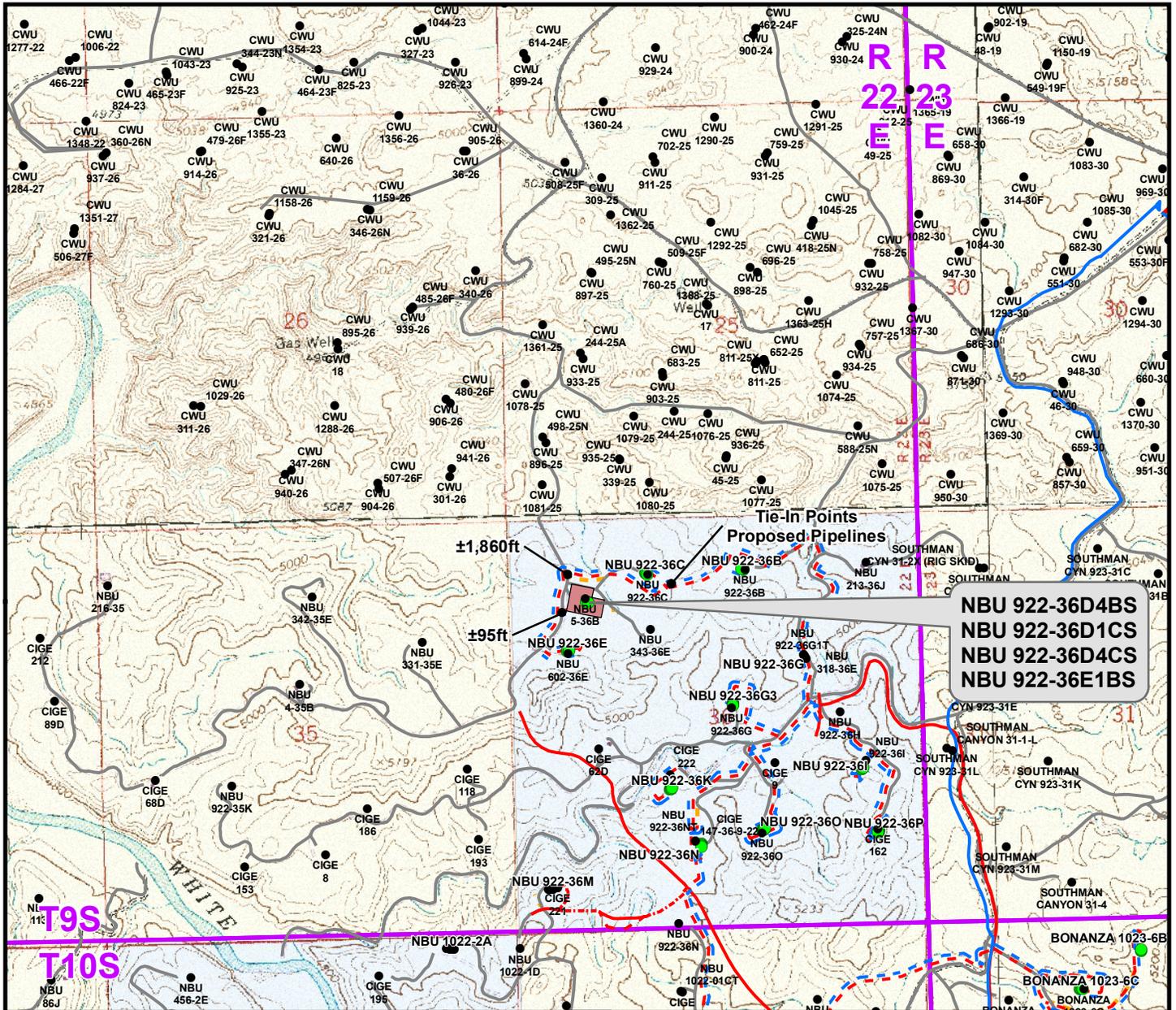
**WELL PAD - NBU 922-36D**

**TOPO C**  
NBU 922-36D4BS, NBU 922-36D1CS,  
NBU 922-36D4CS & NBU 922-36E1BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., UINTAH COUNTY, UTAH

**609**  
CONSULTING, LLC  
2155 North Main Street  
Sheridan, WY 82801  
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Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	12
Revised:	Date:	



**NBU 922-36D4BS  
NBU 922-36D1CS  
NBU 922-36D4CS  
NBU 922-36E1BS**

Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±255ft
Proposed 6" (Max.) (Edge of Pad to 36E Intersection)	±95ft
Proposed 6" (Max.) (36E Intersection to 36C Intersection)	±1,860ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>	<b>±2,210ft</b>

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±255ft
Proposed 6" (Edge of Pad to 36E Intersection)	±95ft
Proposed 16" (36E Intersection to 36C Intersection)	±1,860ft
<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±2,210ft</b>

**Legend**

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

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

**WELL PAD - NBU 922-36D**

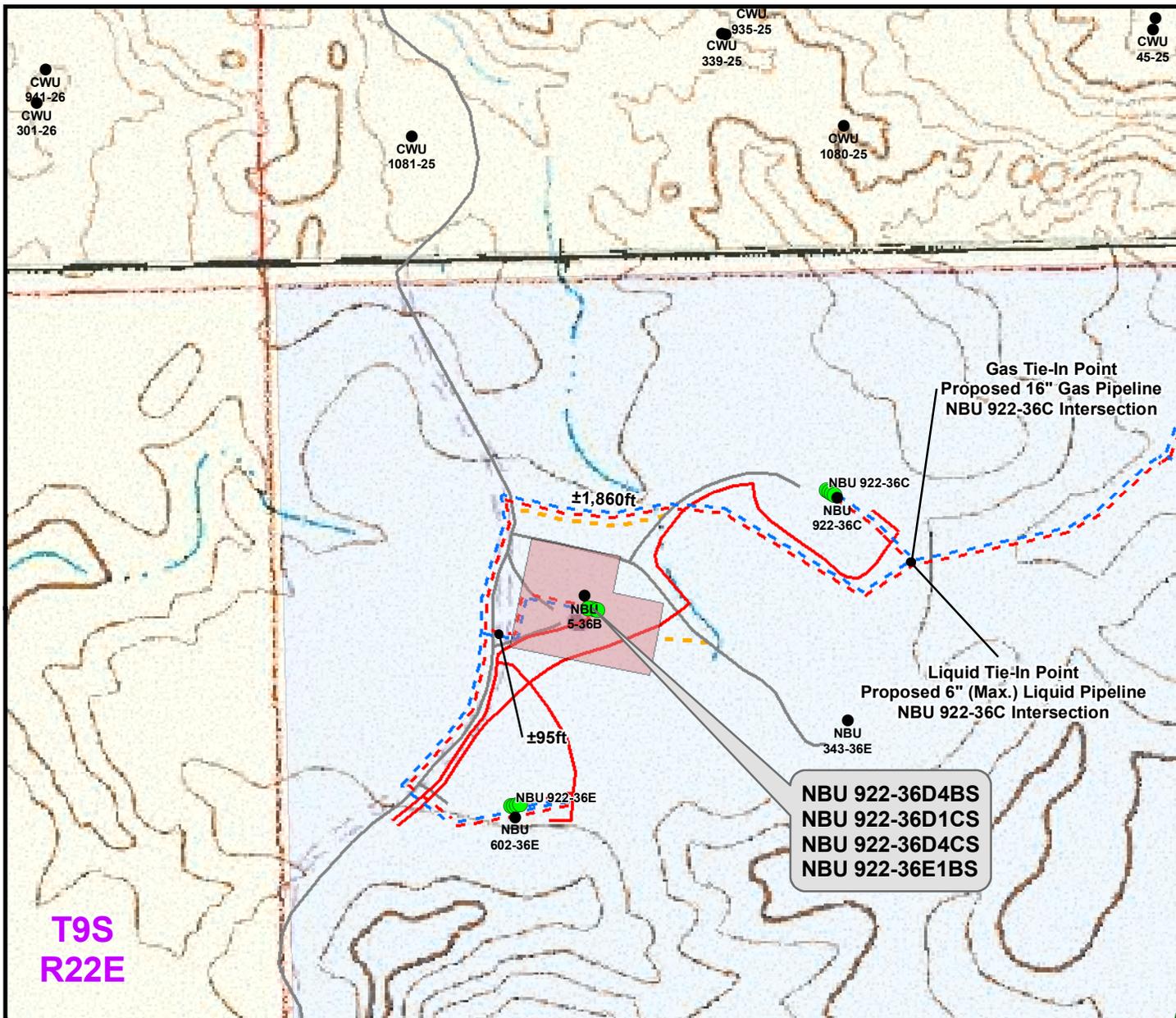
**TOPO D**  
**NBU 922-36D4BS, NBU 922-36D1CS,**  
**NBU 922-36D4CS & NBU 922-36E1BS**  
**LOCATED IN SECTION 36, T9S, R22E,**  
**S.L.B.&M., UINTAH COUNTY, UTAH**

**609**

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



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	<b>13</b>
Revised:	Date:	



Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±255ft	Proposed 6" (Meter House to Edge of Pad)	±255ft
Proposed 6" (Max.) (Edge of Pad to 36E Intersection)	±95ft	Proposed 6" (Edge of Pad to 36E Intersection)	±95ft
Proposed 6" (Max.) (36E Intersection to 36C Intersection)	±1,860ft	Proposed 16" (36E Intersection to 36C Intersection)	±1,860ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>	<b>±2,210ft</b>	<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±2,210ft</b>

**Legend**

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

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

**WELL PAD - NBU 922-36D**

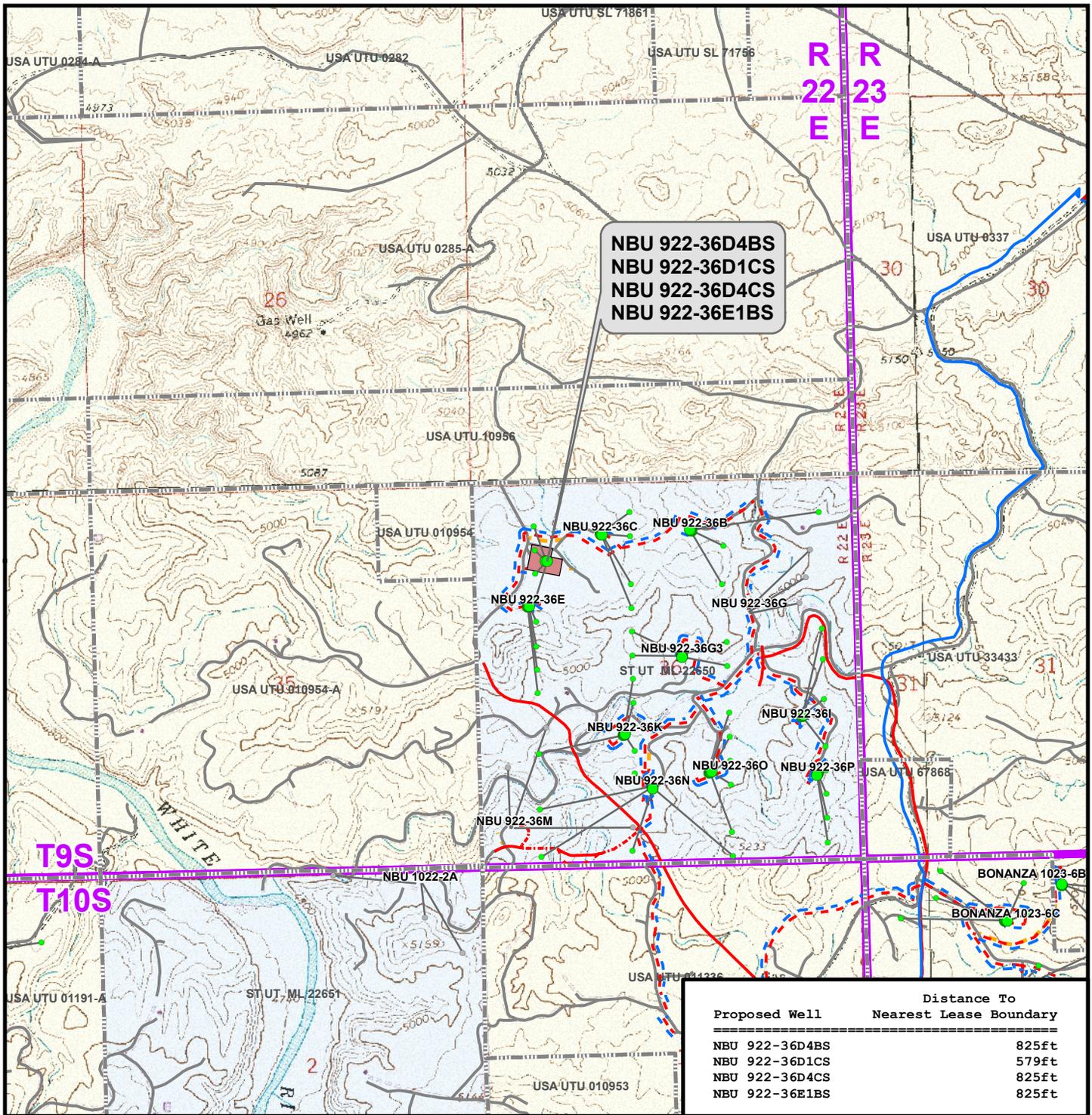
**TOPO D2 (PAD & PIPELINE DETAIL)**  
 NBU 922-36D4BS, NBU 922-36D1CS,  
 NBU 922-36D4CS & NBU 922-36E1BS  
 LOCATED IN SECTION 36, T9S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

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



Scale: 1" = 500ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	<b>14</b>
Revised:	Date:	

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**NBU 922-36D4BS  
NBU 922-36D1CS  
NBU 922-36D4CS  
NBU 922-36E1BS**

Proposed Well	Distance To Nearest Lease Boundary
NBU 922-36D4BS	825ft
NBU 922-36D1CS	579ft
NBU 922-36D4CS	825ft
NBU 922-36E1BS	825ft

**Legend**

- Well - Proposed
- Well Pad
- - - Gas Pipeline - Proposed
- - - Liquid Pipeline - Proposed
- - - Road - Proposed
- Bureau of Land Management
- Bottom Hole - Proposed
- ▭ Lease Boundary
- - - Gas Pipeline - To Be Upgraded
- - - Liquid Pipeline - Existing
- - - Road - Existing
- Indian Reservation
- Bottom Hole - Existing
- - - Gas Pipeline - Existing
- State
- Private
- Well Path

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

**WELL PAD - NBU 922-36D**

**TOPO E**  
NBU 922-36D4BS, NBU 922-36D1CS,  
NBU 922-36D4CS & NBU 922-36E1BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., UINTAH COUNTY, UTAH

**609**  
CONSULTING, LLC  
2155 North Main Street  
Sheridan, WY 82801  
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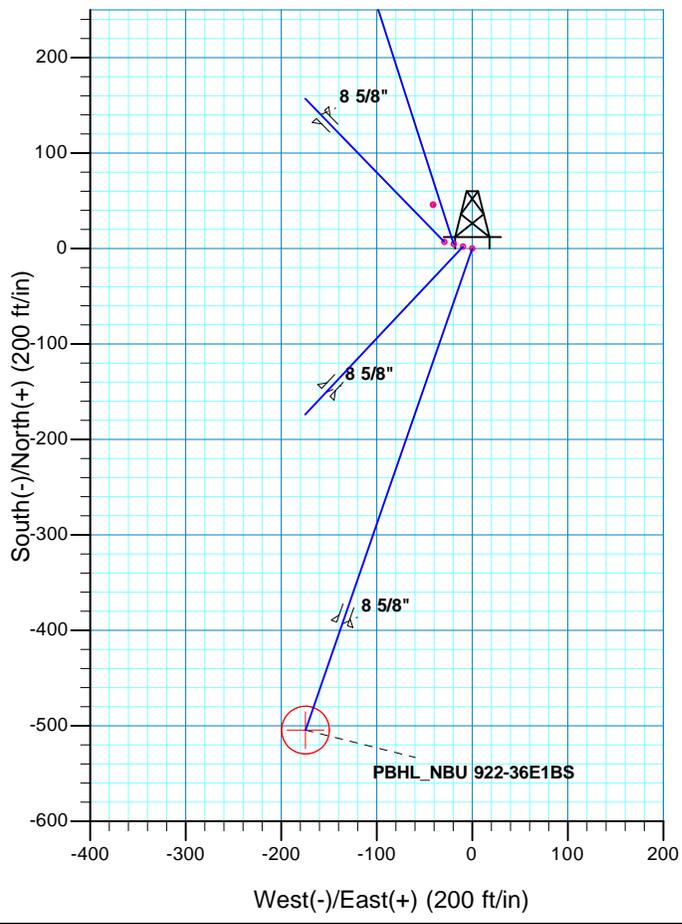
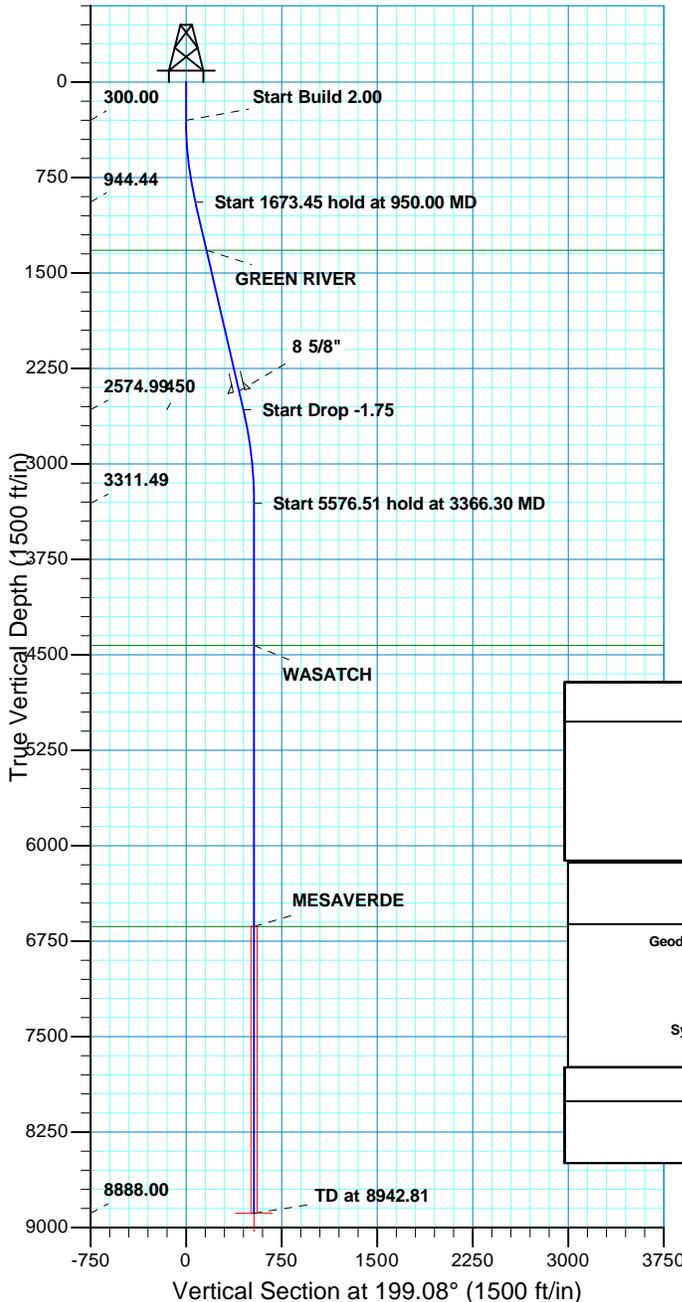
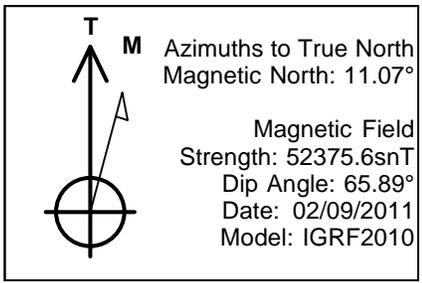
Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	<b>15</b> 15 of 16
Revised:	Date:	

**Kerr-McGee Oil & Gas Onshore, LP**  
**WELL PAD – NBU 922-36D**  
**WELLS – NBU 922-36D4BS, NBU 922-36D1CS,**  
**NBU 922-36D4CS & NBU 922-36E1BS**  
**Section 36, T9S, R22E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 14.4 miles to the intersection of the Fidlar Road (County B Road 3410) which road intersection is approximately 400 feet northeast of the Mountain Fuel Bridge at the White River. Exit left and proceed in a southeasterly direction along the Fidlar Road approximately 4.4 miles to the intersection of the Seven Sisters Road (County B Road 3420). Exit right and proceed in a southerly, then southeasterly direction along the Seven Sisters Road approximately 1.2 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly, then southerly direction along the Class D County Road approximately 0.5 miles to a second Class D County Road to the west. Exit right and proceed in a westerly, then northwesterly direction along the second Class D County Road approximately 0.8 miles to a service road to the south. Exit left and proceed in a southerly direction along the service road approximately 0.7 miles to an access road to the southeast. Exit left and proceed in a southeasterly direction along the access road approximately 60 feet to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 45.5 miles in a southerly direction.

WELL DETAILS: NBU 922-36E1BS									
GL 5087' & 4' @ 5091.00ft (ASSUMED)									
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude				
0.00	0.00	14528966.99	2090366.44	39° 59' 48.804 N	109° 23' 36.532 W				
DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
PBHL	8888.00	-504.44	-174.53	14528459.49	2090201.03	39° 59' 43.818 N	109° 23' 38.774 W	Circle (Radius: 25.00)	
- plan hits target center									



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
950.00	13.00	199.08	944.44	-69.39	-24.01	2.00	199.08	73.42	
2623.45	13.00	199.08	2574.99	-425.14	-147.09	0.00	0.00	449.87	
3366.30	0.00	0.00	3311.49	-504.44	-174.53	1.75	180.00	533.78	
8942.81	0.00	0.00	8888.00	-504.44	-174.53	0.00	0.00	533.78	PBHL_NBU 922-36E1BS

PROJECT DETAILS: Uintah County, UT UTM12		FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet) Datum: NAD 1927 - Western US Ellipsoid: Clarke 1866 Zone: Zone 12N (114 W to 108 W) Location: SECTION 36 T9S R22E System Datum: Mean Sea Level		TVDPath	MDPath	Formation
		1322.00	1337.49	GREEN RIVER
		4427.00	4481.81	WASATCH
		6635.00	6689.81	MESAVERDE

CASING DETAILS				
TVD	MD	Name	Size	
2429.00	2473.61	8 5/8"	8.625	



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

**Uintah County, UT UTM12  
NBU 922-36D PAD  
NBU 922-36E1BS**

**OH**

**Plan: PLAN #1 2-9-11 RHS**

## **Standard Planning Report**

**09 February, 2011**



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36E1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36D PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36E1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-9-11 RHS		

<b>Project</b>	Uintah County, UT UTM12		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 922-36D PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,528,971.38 usft	<b>Latitude:</b>	39° 59' 48.851 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,090,347.02 usft	<b>Longitude:</b>	109° 23' 36.780 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.03 °

<b>Well</b>	NBU 922-36E1BS, 1067 FNL 1000 FWL					
<b>Well Position</b>	<b>+N/-S</b>	-4.73 ft	<b>Northing:</b>	14,528,967.00 usft	<b>Latitude:</b>	39° 59' 48.804 N
	<b>+E/-W</b>	19.33 ft	<b>Easting:</b>	2,090,366.44 usft	<b>Longitude:</b>	109° 23' 36.532 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,087.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	02/09/2011	11.07	65.89	52,376

<b>Design</b>	PLAN #1 2-9-11 RHS			
<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	199.08

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
950.00	13.00	199.08	944.44	-69.39	-24.01	2.00	2.00	0.00	199.08	
2,623.45	13.00	199.08	2,574.99	-425.14	-147.09	0.00	0.00	0.00	0.00	
3,366.30	0.00	0.00	3,311.49	-504.44	-174.53	1.75	-1.75	0.00	180.00	
8,942.81	0.00	0.00	8,888.00	-504.44	-174.53	0.00	0.00	0.00	0.00	PBHL_NBU 922-36E'



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36E1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36D PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36E1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-9-11 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
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	
<b>Start Build 2.00</b>										
400.00	2.00	199.08	399.98	-1.65	-0.57	1.75	2.00	2.00	0.00	
500.00	4.00	199.08	499.84	-6.59	-2.28	6.98	2.00	2.00	0.00	
600.00	6.00	199.08	599.45	-14.83	-5.13	15.69	2.00	2.00	0.00	
700.00	8.00	199.08	698.70	-26.35	-9.12	27.88	2.00	2.00	0.00	
800.00	10.00	199.08	797.47	-41.13	-14.23	43.52	2.00	2.00	0.00	
900.00	12.00	199.08	895.62	-59.16	-20.47	62.60	2.00	2.00	0.00	
950.00	13.00	199.08	944.44	-69.39	-24.01	73.42	2.00	2.00	0.00	
<b>Start 1673.45 hold at 950.00 MD</b>										
1,000.00	13.00	199.08	993.16	-80.02	-27.68	84.67	0.00	0.00	0.00	
1,100.00	13.00	199.08	1,090.59	-101.28	-35.04	107.17	0.00	0.00	0.00	
1,200.00	13.00	199.08	1,188.03	-122.54	-42.40	129.66	0.00	0.00	0.00	
1,300.00	13.00	199.08	1,285.47	-143.79	-49.75	152.16	0.00	0.00	0.00	
1,337.49	13.00	199.08	1,322.00	-151.76	-52.51	160.59	0.00	0.00	0.00	
<b>GREEN RIVER</b>										
1,400.00	13.00	199.08	1,382.90	-165.05	-57.11	174.65	0.00	0.00	0.00	
1,500.00	13.00	199.08	1,480.34	-186.31	-64.46	197.15	0.00	0.00	0.00	
1,600.00	13.00	199.08	1,577.78	-207.57	-71.82	219.64	0.00	0.00	0.00	
1,700.00	13.00	199.08	1,675.21	-228.83	-79.17	242.14	0.00	0.00	0.00	
1,800.00	13.00	199.08	1,772.65	-250.09	-86.53	264.63	0.00	0.00	0.00	
1,900.00	13.00	199.08	1,870.09	-271.35	-93.88	287.13	0.00	0.00	0.00	
2,000.00	13.00	199.08	1,967.53	-292.60	-101.24	309.62	0.00	0.00	0.00	
2,100.00	13.00	199.08	2,064.96	-313.86	-108.59	332.12	0.00	0.00	0.00	
2,200.00	13.00	199.08	2,162.40	-335.12	-115.95	354.61	0.00	0.00	0.00	
2,300.00	13.00	199.08	2,259.84	-356.38	-123.30	377.11	0.00	0.00	0.00	
2,400.00	13.00	199.08	2,357.27	-377.64	-130.66	399.60	0.00	0.00	0.00	
2,473.61	13.00	199.08	2,429.00	-393.29	-136.07	416.16	0.00	0.00	0.00	
<b>8 5/8"</b>										
2,500.00	13.00	199.08	2,454.71	-398.90	-138.01	422.10	0.00	0.00	0.00	
2,600.00	13.00	199.08	2,552.15	-420.16	-145.37	444.59	0.00	0.00	0.00	
2,623.45	13.00	199.08	2,574.99	-425.14	-147.09	449.87	0.00	0.00	0.00	
<b>Start Drop -1.75</b>										
2,700.00	11.66	199.08	2,649.78	-440.59	-152.44	466.22	1.75	-1.75	0.00	
2,800.00	9.91	199.08	2,748.01	-458.27	-158.56	484.93	1.75	-1.75	0.00	
2,900.00	8.16	199.08	2,846.76	-473.11	-163.69	500.63	1.75	-1.75	0.00	
3,000.00	6.41	199.08	2,945.95	-485.10	-167.84	513.31	1.75	-1.75	0.00	
3,100.00	4.66	199.08	3,045.48	-494.21	-170.99	522.96	1.75	-1.75	0.00	
3,200.00	2.91	199.08	3,145.26	-500.45	-173.15	529.56	1.75	-1.75	0.00	
3,300.00	1.16	199.08	3,245.19	-503.81	-174.31	533.11	1.75	-1.75	0.00	
3,366.30	0.00	0.00	3,311.49	-504.44	-174.53	533.78	1.75	-1.75	0.00	
<b>Start 5576.51 hold at 3366.30 MD</b>										
3,400.00	0.00	0.00	3,345.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,445.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,545.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,645.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,745.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,845.19	-504.44	-174.53	533.78	0.00	0.00	0.00	



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36E1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36D PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36E1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-9-11 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,000.00	0.00	0.00	3,945.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
4,100.00	0.00	0.00	4,045.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,145.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,245.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,345.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
4,481.81	0.00	0.00	4,427.00	-504.44	-174.53	533.78	0.00	0.00	0.00	
<b>WASATCH</b>										
4,500.00	0.00	0.00	4,445.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,545.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,645.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,745.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,845.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,945.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,045.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,145.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,245.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,345.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,445.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,545.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,645.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,745.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,845.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,945.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,045.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,145.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,245.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,345.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,445.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,545.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
6,689.81	0.00	0.00	6,635.00	-504.44	-174.53	533.78	0.00	0.00	0.00	
<b>MESAVERDE</b>										
6,700.00	0.00	0.00	6,645.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,745.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,845.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,945.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,045.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,145.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,245.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,345.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,445.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,545.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,645.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,745.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,845.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,945.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,045.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,145.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,245.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,345.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,445.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,545.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,645.19	-504.44	-174.53	533.78	0.00	0.00	0.00	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36E1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36D PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36E1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-9-11 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,800.00	0.00	0.00	8,745.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,845.19	-504.44	-174.53	533.78	0.00	0.00	0.00	
8,942.81	0.00	0.00	8,888.00	-504.44	-174.53	533.78	0.00	0.00	0.00	
TD at 8942.81 - PBHL_NBU 922-36E1BS										

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PBHL_NBU 922-36E1BS - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,888.00	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,473.61	2,429.00	8 5/8"	8.625	11.000		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,337.49	1,322.00	GREEN RIVER				
4,481.81	4,427.00	WASATCH				
6,689.81	6,635.00	MESAVERDE				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
950.00	944.44	-69.39	-24.01	Start 1673.45 hold at 950.00 MD	
2,623.45	2,574.99	-425.14	-147.09	Start Drop -1.75	
3,366.30	3,311.49	-504.44	-174.53	Start 5576.51 hold at 3366.30 MD	
8,942.81	8,888.00	-504.44	-174.53	TD at 8942.81	



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

**Uintah County, UT UTM12**

**NBU 922-36D PAD**

**NBU 922-36E1BS**

**OH**

**Plan: PLAN #1 2-9-11 RHS**

## **Standard Planning Report - Geographic**

**09 February, 2011**





<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36E1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36D PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36E1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-9-11 RHS		

<b>Project</b>	Uintah County, UT UTM12		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 922-36D PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,528,971.38 usft	<b>Latitude:</b>	39° 59' 48.851 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,090,347.02 usft	<b>Longitude:</b>	109° 23' 36.780 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.03 °

<b>Well</b>	NBU 922-36E1BS, 1067 FNL 1000 FWL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,528,967.00 usft	<b>Latitude:</b>	39° 59' 48.804 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,090,366.44 usft	<b>Longitude:</b>	109° 23' 36.532 W
<b>Position Uncertainty</b>	0.00 ft		<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,087.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	02/09/2011	11.07	65.89	52,376

<b>Design</b>	PLAN #1 2-9-11 RHS			
<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	199.08

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
950.00	13.00	199.08	944.44	-69.39	-24.01	2.00	2.00	0.00	199.08	
2,623.45	13.00	199.08	2,574.99	-425.14	-147.09	0.00	0.00	0.00	0.00	
3,366.30	0.00	0.00	3,311.49	-504.44	-174.53	1.75	-1.75	0.00	180.00	
8,942.81	0.00	0.00	8,888.00	-504.44	-174.53	0.00	0.00	0.00	0.00	PBHL_NBU 922-36E'

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36E1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36D PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36E1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-9-11 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,528,967.00	2,090,366.44	39° 59' 48.804 N	109° 23' 36.532 W	
100.00	0.00	0.00	100.00	0.00	0.00	14,528,967.00	2,090,366.44	39° 59' 48.804 N	109° 23' 36.532 W	
200.00	0.00	0.00	200.00	0.00	0.00	14,528,967.00	2,090,366.44	39° 59' 48.804 N	109° 23' 36.532 W	
300.00	0.00	0.00	300.00	0.00	0.00	14,528,967.00	2,090,366.44	39° 59' 48.804 N	109° 23' 36.532 W	
<b>Start Build 2.00</b>										
400.00	2.00	199.08	399.98	-1.65	-0.57	14,528,965.34	2,090,365.89	39° 59' 48.788 N	109° 23' 36.539 W	
500.00	4.00	199.08	499.84	-6.59	-2.28	14,528,960.36	2,090,364.27	39° 59' 48.739 N	109° 23' 36.561 W	
600.00	6.00	199.08	599.45	-14.83	-5.13	14,528,952.08	2,090,361.57	39° 59' 48.657 N	109° 23' 36.598 W	
700.00	8.00	199.08	698.70	-26.35	-9.12	14,528,940.49	2,090,357.80	39° 59' 48.544 N	109° 23' 36.649 W	
800.00	10.00	199.08	797.47	-41.13	-14.23	14,528,925.62	2,090,352.95	39° 59' 48.397 N	109° 23' 36.714 W	
900.00	12.00	199.08	895.62	-59.16	-20.47	14,528,907.48	2,090,347.04	39° 59' 48.219 N	109° 23' 36.795 W	
950.00	13.00	199.08	944.44	-69.39	-24.01	14,528,897.19	2,090,343.68	39° 59' 48.118 N	109° 23' 36.840 W	
<b>Start 1673.45 hold at 950.00 MD</b>										
1,000.00	13.00	199.08	993.16	-80.02	-27.68	14,528,886.49	2,090,340.20	39° 59' 48.013 N	109° 23' 36.887 W	
1,100.00	13.00	199.08	1,090.59	-101.28	-35.04	14,528,865.11	2,090,333.23	39° 59' 47.803 N	109° 23' 36.982 W	
1,200.00	13.00	199.08	1,188.03	-122.54	-42.40	14,528,843.72	2,090,326.26	39° 59' 47.593 N	109° 23' 37.076 W	
1,300.00	13.00	199.08	1,285.47	-143.79	-49.75	14,528,822.33	2,090,319.29	39° 59' 47.383 N	109° 23' 37.171 W	
1,337.49	13.00	199.08	1,322.00	-151.76	-52.51	14,528,814.31	2,090,316.67	39° 59' 47.304 N	109° 23' 37.206 W	
<b>GREEN RIVER</b>										
1,400.00	13.00	199.08	1,382.90	-165.05	-57.11	14,528,800.94	2,090,312.31	39° 59' 47.173 N	109° 23' 37.265 W	
1,500.00	13.00	199.08	1,480.34	-186.31	-64.46	14,528,779.56	2,090,305.34	39° 59' 46.962 N	109° 23' 37.360 W	
1,600.00	13.00	199.08	1,577.78	-207.57	-71.82	14,528,758.17	2,090,298.37	39° 59' 46.752 N	109° 23' 37.454 W	
1,700.00	13.00	199.08	1,675.21	-228.83	-79.17	14,528,736.78	2,090,291.40	39° 59' 46.542 N	109° 23' 37.549 W	
1,800.00	13.00	199.08	1,772.65	-250.09	-86.53	14,528,715.39	2,090,284.43	39° 59' 46.332 N	109° 23' 37.644 W	
1,900.00	13.00	199.08	1,870.09	-271.35	-93.88	14,528,694.01	2,090,277.46	39° 59' 46.122 N	109° 23' 37.738 W	
2,000.00	13.00	199.08	1,967.53	-292.60	-101.24	14,528,672.62	2,090,270.49	39° 59' 45.912 N	109° 23' 37.833 W	
2,100.00	13.00	199.08	2,064.96	-313.86	-108.59	14,528,651.23	2,090,263.52	39° 59' 45.702 N	109° 23' 37.927 W	
2,200.00	13.00	199.08	2,162.40	-335.12	-115.95	14,528,629.84	2,090,256.55	39° 59' 45.492 N	109° 23' 38.022 W	
2,300.00	13.00	199.08	2,259.84	-356.38	-123.30	14,528,608.45	2,090,249.58	39° 59' 45.281 N	109° 23' 38.116 W	
2,400.00	13.00	199.08	2,357.27	-377.64	-130.66	14,528,587.07	2,090,242.61	39° 59' 45.071 N	109° 23' 38.211 W	
2,473.61	13.00	199.08	2,429.00	-393.29	-136.07	14,528,571.32	2,090,237.48	39° 59' 44.917 N	109° 23' 38.280 W	
<b>8 5/8"</b>										
2,500.00	13.00	199.08	2,454.71	-398.90	-138.01	14,528,565.68	2,090,235.64	39° 59' 44.861 N	109° 23' 38.305 W	
2,600.00	13.00	199.08	2,552.15	-420.16	-145.37	14,528,544.29	2,090,228.67	39° 59' 44.651 N	109° 23' 38.400 W	
2,623.45	13.00	199.08	2,574.99	-425.14	-147.09	14,528,539.28	2,090,227.03	39° 59' 44.602 N	109° 23' 38.422 W	
<b>Start Drop -1.75</b>										
2,700.00	11.66	199.08	2,649.78	-440.59	-152.44	14,528,523.73	2,090,221.97	39° 59' 44.449 N	109° 23' 38.491 W	
2,800.00	9.91	199.08	2,748.01	-458.27	-158.56	14,528,505.94	2,090,216.17	39° 59' 44.274 N	109° 23' 38.569 W	
2,900.00	8.16	199.08	2,846.76	-473.11	-163.69	14,528,491.01	2,090,211.30	39° 59' 44.128 N	109° 23' 38.635 W	
3,000.00	6.41	199.08	2,945.95	-485.10	-167.84	14,528,478.96	2,090,207.37	39° 59' 44.009 N	109° 23' 38.688 W	
3,100.00	4.66	199.08	3,045.48	-494.21	-170.99	14,528,469.79	2,090,204.38	39° 59' 43.919 N	109° 23' 38.729 W	
3,200.00	2.91	199.08	3,145.26	-500.45	-173.15	14,528,463.51	2,090,202.34	39° 59' 43.857 N	109° 23' 38.757 W	
3,300.00	1.16	199.08	3,245.19	-503.81	-174.31	14,528,460.13	2,090,201.24	39° 59' 43.824 N	109° 23' 38.772 W	
3,366.30	0.00	0.00	3,311.49	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
<b>Start 5576.51 hold at 3366.30 MD</b>										
3,400.00	0.00	0.00	3,345.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
3,500.00	0.00	0.00	3,445.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
3,600.00	0.00	0.00	3,545.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
3,700.00	0.00	0.00	3,645.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
3,800.00	0.00	0.00	3,745.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
3,900.00	0.00	0.00	3,845.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
4,000.00	0.00	0.00	3,945.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	



SDI  
Planning Report - Geographic



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36E1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36D PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36E1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-9-11 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
4,100.00	0.00	0.00	4,045.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
4,200.00	0.00	0.00	4,145.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
4,300.00	0.00	0.00	4,245.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
4,400.00	0.00	0.00	4,345.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
4,481.81	0.00	0.00	4,427.00	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
<b>WASATCH</b>										
4,500.00	0.00	0.00	4,445.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
4,600.00	0.00	0.00	4,545.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
4,700.00	0.00	0.00	4,645.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
4,800.00	0.00	0.00	4,745.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
4,900.00	0.00	0.00	4,845.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
5,000.00	0.00	0.00	4,945.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
5,100.00	0.00	0.00	5,045.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
5,200.00	0.00	0.00	5,145.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
5,300.00	0.00	0.00	5,245.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
5,400.00	0.00	0.00	5,345.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
5,500.00	0.00	0.00	5,445.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
5,600.00	0.00	0.00	5,545.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
5,700.00	0.00	0.00	5,645.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
5,800.00	0.00	0.00	5,745.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
5,900.00	0.00	0.00	5,845.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
6,000.00	0.00	0.00	5,945.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
6,100.00	0.00	0.00	6,045.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
6,200.00	0.00	0.00	6,145.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
6,300.00	0.00	0.00	6,245.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
6,400.00	0.00	0.00	6,345.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
6,500.00	0.00	0.00	6,445.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
6,600.00	0.00	0.00	6,545.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
6,689.81	0.00	0.00	6,635.00	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
<b>MESAVERDE</b>										
6,700.00	0.00	0.00	6,645.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
6,800.00	0.00	0.00	6,745.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
6,900.00	0.00	0.00	6,845.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
7,000.00	0.00	0.00	6,945.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
7,100.00	0.00	0.00	7,045.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
7,200.00	0.00	0.00	7,145.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
7,300.00	0.00	0.00	7,245.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
7,400.00	0.00	0.00	7,345.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
7,500.00	0.00	0.00	7,445.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
7,600.00	0.00	0.00	7,545.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
7,700.00	0.00	0.00	7,645.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
7,800.00	0.00	0.00	7,745.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
7,900.00	0.00	0.00	7,845.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
8,000.00	0.00	0.00	7,945.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
8,100.00	0.00	0.00	8,045.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
8,200.00	0.00	0.00	8,145.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
8,300.00	0.00	0.00	8,245.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
8,400.00	0.00	0.00	8,345.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
8,500.00	0.00	0.00	8,445.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
8,600.00	0.00	0.00	8,545.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
8,700.00	0.00	0.00	8,645.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	
8,800.00	0.00	0.00	8,745.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36E1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5087' & 4' @ 5091.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36D PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36E1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-9-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,900.00	0.00	0.00	8,845.19	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W
8,942.81	0.00	0.00	8,888.00	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W
TD at 8942.81 - PBHL_NBU 922-36E1BS									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 922-36E1BS - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,888.00	-504.44	-174.53	14,528,459.49	2,090,201.03	39° 59' 43.818 N	109° 23' 38.774 W

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,473.61	2,429.00	8 5/8"	8.625	11.000		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,337.49	1,322.00	GREEN RIVER			
4,481.81	4,427.00	WASATCH			
6,689.81	6,635.00	MESAVERDE			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
950.00	944.44	-69.39	-24.01	Start 1673.45 hold at 950.00 MD	
2,623.45	2,574.99	-425.14	-147.09	Start Drop -1.75	
3,366.30	3,311.49	-504.44	-174.53	Start 5576.51 hold at 3366.30 MD	
8,942.81	8,888.00	-504.44	-174.53	TD at 8942.81	

**NBU 922-36D1CS**

Surface: 1062' FNL 981' FWL (NW/4NW/4)  
BHL: 579' FNL 825' FWL (NW/4NW/4)

**NBU 922-36D4BS**

Surface: 1060' FNL 971' FWL (NW/4NW/4)  
BHL: 910' FNL 825' FWL (NW/4NW/4)

**NBU 922-36D4CS**

Surface: 1064' FNL 990' FWL (NW/4NW/4)  
BHL: 1241' FNL 825' FWL (NW/4NW/4)

**NBU 922-36E1BS**

Surface: 1067' FNL 1000' FWL (NW/4NW/4)  
BHL: 1572' FNL 825' FWL (SW/4NW/4)

Pad: NBU 922-36D Pad  
Section 36 T09S R22E  
Mineral Lease: ML-22650

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

***MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)***

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

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

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

**A. Existing Roads:**

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

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

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

**B. Planned Access Roads:**

One new access road is proposed (see Topo Map B). The  $\pm 160'$  road re-route will connect the East side of the pad to an existing road. Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

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

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

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

This pad will expand the existing pad for the NBU 5-36B. The NBU 5-36B well location is a vertical well that is shut-in according to Utah Division of Oil, Gas and Mining (UDOGM) records as of April 13, 2011.

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

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

Production tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks are not to be used for disposal of liquids from additional sources without prior approval of UDOGM.

**Gathering facilities:**

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

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 2,210'$  and the individual segments are broken up as follows:

- $\pm 255'$  (0.05 miles) –New 6” buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2.
- $\pm 95'$  (0.02 miles) –New 6” buried gas pipeline from the edge of pad to the proposed tie-in at the proposed 36E intersection. Please refer to Topo D.
- $\pm 1,860'$  (0.4 miles) –New 16” buried gas pipeline from the 36E intersection to the tie-in point at the 36C intersection. Please refer to Topo D.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 2,210'$  and the individual segments are broken up as follows:

- $\pm 255'$  (0.05 miles) –New 6” buried liquid pipeline from the separator to the edge of the pad. Please refer to Topo D2.
- $\pm 95'$  (0.02 miles) –New 6” buried liquid pipeline from the edge of pad to the proposed tie-in at the proposed 36E intersection. Please refer to Topo D.
- $\pm 1,860'$  (0.4 miles) –New 6” buried liquid pipeline from the 36E intersection to the proposed tie-in point at the 36C intersection. Please refer to Topo D.

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

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

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

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

NBU 922-36D1CS / 36D4BS/  
36D4CS/ 36E1BS

Surface Use Plan of Operations  
Page 4

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

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

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

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

No water well is to be drilled on this lease.

**E. Source of Construction Materials:**

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

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

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

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

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon

closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

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

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

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

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

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

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

of human and solid waste will be observed.

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

### **Materials Management**

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

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

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

None are anticipated.

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

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

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

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

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

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

### **Interim Reclamation**

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

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

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

### **Final Reclamation**

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

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

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final

reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

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

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

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

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

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

**J. Surface/Mineral Ownership:**

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

**K. Other Information:**

None

NBU 922-36D1CS / 36D4BS/  
36D4CS/ 36E1BSSurface Use Plan of Operations  
Page 9**M. Lessee's or Operators' Representative & Certification:**

Gina T. Becker  
Regulatory Analyst II  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6086

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

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

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

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

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

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

  
Gina T. Becker

May 12, 2011  
Date



JOE JOHNSON  
LANDMAN

KERR-MCGEE ONSHORE OIL & GAS, L.P.  
1099 18TH STREET, SUITE 1800, DENVER,  
CO 80202  
720-929-6708 • FAX 720-929-7708  
E-MAIL: JOE.JOHNSON@ANADARKO.COM

April 13, 2011

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

Re: Directional Drilling R649-3-11  
NBU 922-36E1BS  
T9S-R22E  
Section 36: NWNW/SWNW  
Surface: 1067' FNL, 1000' FWL  
Bottom Hole: 1572' FNL, 825' FWL  
Uintah County, Utah

Dear Ms. Mason:

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

- Kerr-McGee's NBU 922-36E1BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

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

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink, appearing to read 'Joe D. Johnson', with a horizontal line underneath.

Joseph D. Johnson  
Landman



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

May 20, 2011

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

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

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

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

**NBU 922-36I PAD**

43-047-51586	NBU 922-36H4BS	Sec 36 T09S R22E 2006 FSL 0799 FEL
	BHL	Sec 36 T09S R22E 2071 FNL 0494 FEL

43-047-51587	NBU 922-36H4CS	Sec 36 T09S R22E 2014 FSL 0792 FEL
	BHL	Sec 36 T09S R22E 2508 FNL 0495 FEL

43-047-51588	NBU 922-36I1CS	Sec 36 T09S R22E 2021 FSL 0785 FEL
	BHL	Sec 36 T09S R22E 2237 FSL 0494 FEL

43-047-51589	NBU 922-36I4CS	Sec 36 T09S R22E 1999 FSL 0805 FEL
	BHL	Sec 36 T09S R22E 1574 FSL 0493 FEL

**NBU 922-36K PAD**

43-047-51590	NBU 922-36K1BS	Sec 36 T09S R22E 1798 FSL 1998 FWL
	BHL	Sec 36 T09S R22E 2567 FSL 2148 FWL

43-047-51591	NBU 922-36K1CS	Sec 36 T09S R22E 1809 FSL 2015 FWL
	BHL	Sec 36 T09S R22E 2236 FSL 2147 FWL

43-047-51592	NBU 922-36K4BS	Sec 36 T09S R22E 1815 FSL 2023 FWL
	BHL	Sec 36 T09S R22E 1904 FSL 2147 FWL

43-047-51593	NBU 922-36K4CS	Sec 36 T09S R22E 1804 FSL 2006 FWL
	BHL	Sec 36 T09S R22E 1573 FSL 2146 FWL

43-047-51594	NBU 922-36L4CS	Sec 36 T09S R22E 1793 FSL 1990 FWL
	BHL	Sec 36 T09S R22E 1565 FSL 0821 FWL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
<b>NBU 922-36N PAD</b>		
43-047-51595	NBU 922-36M1CS	Sec 36 T09S R22E 1078 FSL 2379 FWL BHL Sec 36 T09S R22E 0792 FSL 0816 FWL
43-047-51596	NBU 922-36M4CS	Sec 36 T09S R22E 1068 FSL 2379 FWL BHL Sec 36 T09S R22E 0132 FSL 0819 FWL
43-047-51597	NBU 922-36N1BS	Sec 36 T09S R22E 1088 FSL 2379 FWL BHL Sec 36 T09S R22E 1253 FSL 2140 FWL
43-047-51598	NBU 922-36N4CS	Sec 36 T09S R22E 1048 FSL 2379 FWL BHL Sec 36 T09S R22E 0190 FSL 2081 FWL
43-047-51599	NBU 922-36O4CS	Sec 36 T09S R22E 1058 FSL 2379 FWL BHL Sec 36 T09S R22E 0085 FSL 1814 FEL
<b>NBU 922-36O PAD</b>		
43-047-51600	NBU 922-36J1CS	Sec 36 T09S R22E 1247 FSL 2113 FEL BHL Sec 36 T09S R22E 2071 FSL 1809 FEL
43-047-51601	NBU 922-36J4BS	Sec 36 T09S R22E 1254 FSL 2094 FEL BHL Sec 36 T09S R22E 1740 FSL 1816 FEL
43-047-51602	NBU 922-36J4CS	Sec 36 T09S R22E 1261 FSL 2075 FEL BHL Sec 36 T09S R22E 1409 FSL 1816 FEL
43-047-51603	NBU 922-36O1BS	Sec 36 T09S R22E 1257 FSL 2085 FEL BHL Sec 36 T09S R22E 1078 FSL 1815 FEL
43-047-51604	NBU 922-36O4BS	Sec 36 T09S R22E 1250 FSL 2103 FEL BHL Sec 36 T09S R22E 0415 FSL 1814 FEL
<b>NBU 922-36P PAD</b>		
43-047-51605	NBU 922-36P1BS	Sec 36 T09S R22E 1207 FSL 0606 FEL BHL Sec 36 T09S R22E 1243 FSL 0493 FEL
43-047-51606	NBU 922-36P1CS	Sec 36 T09S R22E 1198 FSL 0611 FEL BHL Sec 36 T09S R22E 0911 FSL 0493 FEL
43-047-51607	NBU 922-36P4BS	Sec 36 T09S R22E 1189 FSL 0616 FEL BHL Sec 36 T09S R22E 0580 FSL 0493 FEL
43-047-51608	NBU 922-36P4CS	Sec 36 T09S R22E 1181 FSL 0621 FEL BHL Sec 36 T09S R22E 0243 FSL 0492 FEL
<b>NBU 922-36B PAD</b>		
43-047-51609	NBU 922-36A1CS	Sec 36 T09S R22E 0678 FNL 2273 FEL BHL Sec 36 T09S R22E 0485 FNL 0494 FEL
43-047-51610	NBU 922-36B1CS	Sec 36 T09S R22E 0674 FNL 2282 FEL BHL Sec 36 T09S R22E 0579 FNL 1821 FEL
43-047-51611	NBU 922-36B4BS	Sec 36 T09S R22E 0682 FNL 2264 FEL BHL Sec 36 T09S R22E 0905 FNL 1828 FEL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51612	NBU 922-36G1BS	Sec 36 T09S R22E 0671 FNL 2291 FEL BHL Sec 36 T09S R22E 1439 FNL 1861 FEL
<b>NBU 922-36C PAD</b>		
43-047-51613	NBU 922-36C1CS	Sec 36 T09S R22E 0700 FNL 1741 FWL BHL Sec 36 T09S R22E 0485 FNL 2152 FWL
43-047-51614	NBU 922-36C4BS	Sec 36 T09S R22E 0706 FNL 1749 FWL BHL Sec 36 T09S R22E 0746 FNL 2153 FWL
43-047-51615	NBU 922-36F1BS	Sec 36 T09S R22E 0718 FNL 1765 FWL BHL Sec 36 T09S R22E 1407 FNL 2151 FWL
43-047-51616	NBU 922-36F1CS	Sec 36 T09S R22E 0712 FNL 1757 FWL BHL Sec 36 T09S R22E 1738 FNL 2150 FWL
<b>NBU 922-36D PAD</b>		
43-047-51617	NBU 922-36D1CS	Sec 36 T09S R22E 1062 FNL 0981 FWL BHL Sec 36 T09S R22E 0579 FNL 0825 FWL
43-047-51618	NBU 922-36D4BS	Sec 36 T09S R22E 1060 FNL 0971 FWL BHL Sec 36 T09S R22E 0910 FNL 0825 FWL
43-047-51619	NBU 922-36D4CS	Sec 36 T09S R22E 1064 FNL 0990 FWL BHL Sec 36 T09S R22E 1241 FNL 0825 FWL
43-047-51620	NBU 922-36E1BS	Sec 36 T09S R22E 1067 FNL 1000 FWL BHL Sec 36 T09S R22E 1572 FNL 0825 FWL
<b>NBU 922-36E PAD</b>		
43-047-51621	NBU 922-36E1CS	Sec 36 T09S R22E 1682 FNL 0739 FWL BHL Sec 36 T09S R22E 1903 FNL 0824 FWL
43-047-51622	NBU 922-36E4BS	Sec 36 T09S R22E 1684 FNL 0729 FWL BHL Sec 36 T09S R22E 2245 FNL 0818 FWL
43-047-51623	NBU 922-36E4CS	Sec 36 T09S R22E 1686 FNL 0719 FWL BHL Sec 36 T09S R22E 2565 FNL 0824 FWL
43-047-51624	NBU 922-36L1BS	Sec 36 T09S R22E 1688 FNL 0709 FWL BHL Sec 36 T09S R22E 2401 FSL 0824 FWL
<b>NBU 922-36G3 PAD</b>		
43-047-51625	NBU 922-36F4BS	Sec 36 T09S R22E 2414 FNL 2443 FEL BHL Sec 36 T09S R22E 2070 FNL 2149 FWL
43-047-51626	NBU 922-36F4CS	Sec 36 T09S R22E 2424 FNL 2445 FEL BHL Sec 36 T09S R22E 2401 FNL 2149 FWL
43-047-51627	NBU 922-36G4BS	Sec 36 T09S R22E 2405 FNL 2441 FEL BHL Sec 36 T09S R22E 2235 FNL 1818 FEL
43-047-51628	NBU 922-36G4CS	Sec 36 T09S R22E 2434 FNL 2447 FEL BHL Sec 36 T09S R22E 2566 FNL 1818 FEL

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

Michael L. Coulthard

Digitally signed by Michael L. Coulthard  
DN: cn=Michael L. Coulthard, o=Bureau of Land  
Management, ou=Branch of Minerals,  
email=Michael\_Coulthard@blm.gov, c=US  
Date: 2011.05.23 07:16:05 -06'00'

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

MCoulthard:mc:5-20-11

**From:** Jim Davis  
**To:** Bonner, Ed; Garrison, LaVonne; Hill, Brad; Mason, Diana  
**CC:** Gina Becker; Lytle, Andy  
**Date:** 6/8/2011 3:00 PM  
**Subject:** Kerr McGee APD approvals.

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

4304751586 NBU 922-36H4BS  
4304751587 NBU 922-36H4CS  
4304751588 NBU 922-36I1CS  
4304751589 NBU 922-36I4CS  
4304751590 NBU 922-36K1BS  
4304751591 NBU 922-36K1CS  
4304751592 NBU 922-36K4BS  
4304751593 NBU 922-36K4CS  
4304751594 NBU 922-36L4CS  
4304751595 NBU 922-36M1CS  
4304751596 NBU 922-36M4CS  
4304751597 NBU 922-36N1BS  
4304751598 NBU 922-36N4CS  
4304751599 NBU 922-36O4CS  
4304751600 NBU 922-36J1CS  
4304751601 NBU 922-36J4BS  
4304751602 NBU 922-36J4CS  
4304751603 NBU 922-36O1BS  
4304751604 NBU 922-36O4BS  
4304751605 NBU 922-36P1BS  
4304751606 NBU 922-36P1CS  
4304751607 NBU 922-36P4BS  
4304751608 NBU 922-36P4CS  
4304751613 NBU 922-36C1CS  
4304751614 NBU 922-36C4BS  
4304751615 NBU 922-36F1BS  
4304751616 NBU 922-36F1CS  
4304751617 NBU 922-36D1CS  
4304751618 NBU 922-36D4BS  
4304751619 NBU 922-36D4CS  
4304751620 NBU 922-36E1BS  
4304751621 NBU 922-36E1CS  
4304751622 NBU 922-36E4BS  
4304751623 NBU 922-36E4CS  
4304751624 NBU 922-36L1BS  
4304751625 NBU 922-36F4BS  
4304751626 NBU 922-36F4CS  
4304751627 NBU 922-36G4BS  
4304751628 NBU 922-36G4CS

Full paleo monitoring is a required condition for the approval of these APDs- as recommended in the paleo report.

4304751609 NBU 922-36A1CS  
4304751610 NBU 922-36B1CS  
4304751611 NBU 922-36B4BS  
4304751612 NBU 922-36G1BS

Thanks.  
-Jim

API Well Number: 43047516200000

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

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 922-36E1BS			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2387	8888		
Previous Shoe Setting Depth (TVD)	40	2387		
Max Mud Weight (ppg)	8.4	12.5		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5688	12.3		

Calculations	Surf String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	1043	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	757	NO <input type="text" value="air drill"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	518	NO <input type="text" value="OK"/>
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	527	NO <input type="text" value="Reasonable for area"/>
Required Casing/BOPE Test Pressure=		2373	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient

Calculations	Prod String	4.500	"
Max BHP (psi)	.052*Setting Depth*MW=	5777	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4710	YES <input type="text"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3822	YES <input type="text" value="OK"/>
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4347	NO <input type="text" value="Reasonable"/>
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2387	psi *Assumes 1psi/ft frac gradient

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

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

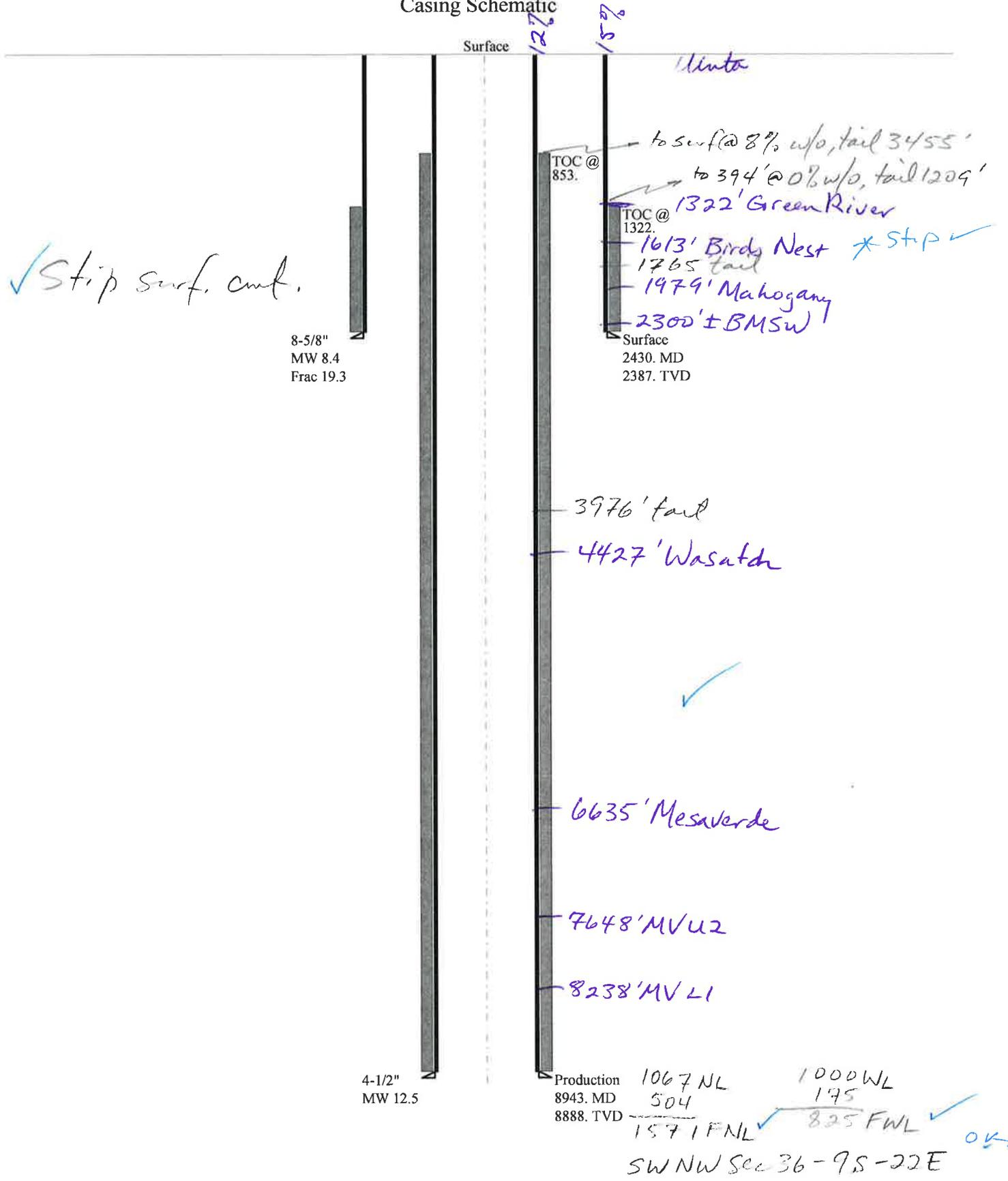
API Well Number: 43047516200000

\*Max Pressure Allowed @ Previous Casing Shoe=

psi \*Assumes 1psi/ft frac gradient

# 43047516200000 NBU 922-36E1BS

## Casing Schematic



Well name:	<b>43047516200000 NBU 922-36E1BS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Surface	Project ID:	43-047-51620
Location:	UINTAH	COUNTY	

**Design parameters:**

**Collapse**

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

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

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

Cement top: 1,322 ft

**Burst**

Max anticipated surface pressure: 2,138 psi  
 Internal gradient: 0.120 psi/ft  
 Calculated BHP 2,425 psi

No backup mud specified.

**Tension:**

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

Tension is based on air weight.  
 Neutral point: 2,127 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
 Departure at shoe: 406 ft  
 Maximum dogleg: 2 °/100ft  
 Inclination at shoe: 13 °

**Re subsequent strings:**

Next setting depth: 8,943 ft  
 Next mud weight: 12.500 ppg  
 Next setting BHP: 5,807 psi  
 Fracture mud wt: 19.250 ppg  
 Fracture depth: 2,430 ft  
 Injection pressure: 2,430 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2430	8.625	28.00	I-55	LT&C	2387	2430	7.892	96228
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	1041	1880	1.805	2425	3390	1.40	66.8	348	5.21 J

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

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

Date: July 20, 2011  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2387 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.

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

Well name:	<b>43047516200000 NBU 922-36E1BS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Production	Project ID:	43-047-51620
Location:	UINTAH COUNTY		

**Design parameters:**

**Collapse**

Mud weight: 12.500 ppg  
 Internal fluid density: 1.000 ppg

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

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

Cement top: 853 ft

**Burst**

Max anticipated surface pressure: 3,816 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 5,772 psi

No backup mud specified.

**Tension:**

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

**Directional Info - Build & Drop**

Kick-off point 300 ft  
 Departure at shoe: 534 ft  
 Maximum dogleg: 2 °/100ft  
 Inclination at shoe: 0 °

Tension is based on air weight.  
 Neutral point: 7,282 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)	Est. Cost (\$)
1	8943	4.5	11.60	I-80	LT&C	8888	8943	3.875	118048
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	5310	6360	1.198	5772	7780	1.35	103.1	212	2.06 J

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

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

Date: July 20, 2011  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 8888 ft, a mud weight of 12.5 ppg. An internal gradient of .052 psi/ft was used for collapse from TD. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

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

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.  
**Well Name** NBU 922-36E1BS  
**API Number** 43047516200000      **APD No** 3794      **Field/Unit** NATURAL BUTTES  
**Location: 1/4,1/4** NWNW      **Sec** 36      **Tw** 9.0S      **Rng** 22.0E      1067 FNL 1000 FWL  
**GPS Coord (UTM)** 637141 4428440      **Surface Owner**

### Participants

Floyd Bartlett (DOGM), Sheila Wopsock, Lovell Young, Gina Becker, Mark Koehn, Griz Oleen (Kerr McGee), Ben Williams (UDWR) and Mitch Batty, John Slaugh (Timberline Engineering and Land Surveying).

### Regional/Local Setting & Topography

The general area is in the southeast portion of the Natural Buttes Unit, which contains the White River and rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from ¾ mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 42 air miles to the northwest. Access from Vernal is approximately 45.5 road miles following Utah State, Uintah County and oilfield development roads to the location.

Four additional gas wells will be added to and directionally drilled from the NBU 922-36D pad. They are the NBU 922-36D4BS, NBU 922-36D1CS, NBU 922-36D4CS and NBU 922-36E1BS. The pad contains the existing NBU 5-3B gas well which is currently shut-in. The existing pad will be significantly enlarged in all directions with most of the extension to the west and south onto undulating topography. A diversion around the reserve pit area will be formed by the excess spoils. A small pond currently exists outside corner 2. It will be moved to the south and re-established by the excess spoils stockpile in that area. A road and pipeline exist to the north of the proposed expansion. Maximum cut is 8.2 feet at Corner 2 and maximum fill is 1.9 feet at Pit Corner C. The White River is approximately 1 mile to the west. The existing pad shows no stability problems and the site has no apparent concerns for constructing an enlarged pad and drilling and operating the planned wells. It is the only suitable location in the immediate area.

Both the surface and minerals are owned by SITLA.

### Surface Use Plan

#### **Current Surface Use**

Grazing  
Wildlfe Habitat  
Existing Well Pad

<b>New Road Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0	<b>Width</b> 353 <b>Length</b> 455	Onsite	UNTA

**Ancillary Facilities** N

### Waste Management Plan Adequate?

### Environmental Parameters

**Affected Floodplains and/or Wetlands**

**Flora / Fauna****Soil Type and Characteristics****Erosion Issues****Sedimentation Issues****Site Stability Issues****Drainage Diversion Required?****Berm Required?****Erosion Sedimentation Control Required?****Paleo Survey Run?****Paleo Potential Observed?****Cultural Survey Run?****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>	100 to 200	15	
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0	
<b>Distance to Other Wells (feet)</b>		20	
<b>Native Soil Type</b>	Mod permeability	10	
<b>Fluid Type</b>	Fresh Water	5	
<b>Drill Cuttings</b>	Normal Rock	0	
<b>Annual Precipitation (inches)</b>		0	
<b>Affected Populations</b>			
<b>Presence Nearby Utility Conduits</b>	Not Present	0	
	<b>Final Score</b>	55	1 Sensitivity Level

**Characteristics / Requirements**

The reserve pit is planned mostly in an area of cut in the northwest side of the location. Dimensions are 120' x 260' x 12' deep with 2' of freeboard. Corner C is in 1.9 feet of cut. With the outside 15 foot bench, the spoils pile beyond the pit, the planned 30 mil. liner and the freeboard, it should be stable. Because the length of time the reserve pit will be used and the roughness of the terrain, Kerr McGee committed to line it with a 30-mil.liner and an appropriate thickness of felt sub-liner to cushion the rock.

**Closed Loop Mud Required? N Liner Required? Y Liner Thickness 30 Pit Underlayment Required? Y****Other Observations / Comments**

Floyd Bartlett  
**Evaluator**

5/24/2011  
**Date / Time**

# Application for Permit to Drill

## Statement of Basis

8/3/2011

Utah Division of Oil, Gas and Mining

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<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
3794	43047516200000	SITLA	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 922-36E1BS	<b>Unit</b>		NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES	<b>Type of Work</b>		DRILL	
<b>Location</b>	NWNW 36 9S 22E S 1067 FNL 1000 FWL GPS Coord (UTM) 637144E 4428438N				

### Geologic Statement of Basis

Kerr McGee proposes to set 2,430' 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 2,300'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the proposed location. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement should adequately protect any usable ground water.

Brad Hill  
**APD Evaluator**

6/20/2011  
**Date / Time**

### Surface Statement of Basis

The general area is in the southeast portion of the Natural Buttes Unit, which contains the White River and rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from  $\frac{3}{4}$  mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 42 air miles to the northwest. Access from Vernal is approximately 45.5 road miles following Utah State, Uintah County and oilfield development roads to the location.

Four additional gas wells will be added to and directionally drilled from the NBU 922-36D pad. They are the NBU 922-36D4BS, NBU 922-36D1CS, NBU 922-36D4CS and NBU 922-36E1BS. The pad contains the existing NBU 5-3B gas well which is currently shut-in. The existing pad will be significantly enlarged in all directions with most of the extension to the west and south onto undulating topography. A diversion around the reserve pit area will be formed by the excess spoils. A small pond currently exists outside corner 2. It will be moved to the south and re-established by the excess spoils stockpile in that area. A road and pipeline exist to the north of the proposed expansion. Maximum cut is 8.2 feet at Corner 2 and maximum fill is 1.9 feet at Pit Corner C. The White River is approximately 1 mile to the west. The existing pad shows no stability problems and the site has no apparent concerns for constructing an enlarged pad and drilling and operating the planned wells. It is the only suitable location in the immediate area.

Both the surface and minerals are owned by SITLA. Ed Bonner and Jim Davis of SITLA were invited to attend the pre-site evaluation. Neither attended. SITLA is to be contacted for reclamation standards including a seed mix to be used.

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

Floyd Bartlett  
**Onsite Evaluator**

5/24/2011  
**Date / Time**

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# Application for Permit to Drill Statement of Basis

8/3/2011

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

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

<b>Category</b>	<b>Condition</b>
Pits	A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 5/13/2011**API NO. ASSIGNED:** 43047516200000**WELL NAME:** NBU 922-36E1BS**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)**PHONE NUMBER:** 720 929-6086**CONTACT:** Gina Becker**PROPOSED LOCATION:** NWNW 36 090S 220E**Permit Tech Review:** **SURFACE:** 1067 FNL 1000 FWL**Engineering Review:** **BOTTOM:** 1572 FNL 0825 FWL**Geology Review:** **COUNTY:** UINTAH**LATITUDE:** 39.99689**LONGITUDE:** -109.39350**UTM SURF EASTINGS:** 637144.00**NORTHINGS:** 4428438.00**FIELD NAME:** NATURAL BUTTES**LEASE TYPE:** 3 - State**LEASE NUMBER:** ML-22650**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE**SURFACE OWNER:** 3 - State**COALBED METHANE:** NO**RECEIVED AND/OR REVIEWED:**

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

**Commingling Approved****LOCATION AND SITING:**

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

**Comments:** Presite Completed

**Stipulations:**

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



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 922-36E1BS  
**API Well Number:** 43047516200000  
**Lease Number:** ML-22650  
**Surface Owner:** STATE  
**Approval Date:** 8/3/2011

**Issued to:**

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

**Authority:**

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

**Duration:**

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

**Commingling:**

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

**General:**

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

**Conditions of Approval:**

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

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

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

Surface casing shall be cemented to the surface.

**Additional Approvals:**

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

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

**Notification Requirements:**

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

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

**Contact Information:**

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

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

**Reporting Requirements:**

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

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

**Approved By:**



For John Rogers  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5.LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650
<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 922-36E1BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047516200000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511  <b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1067 FNL 1000 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 36 Township: 09.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> Uintah  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 2/20/2012	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

MIRU TRIPPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.  
 RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD  
 WELL ON 02/20/2012 AT 1900 HRS.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 February 28, 2012

<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/22/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650	
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>1. TYPE OF WELL</b> Gas Well		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>8. WELL NAME and NUMBER:</b> NBU 922-36E1BS	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047516200000	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1067 FNL 1000 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 36 Township: 09.0S 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 type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/1/2012	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input style="width: 100px;" type="text"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.			
MIRU AIR RIG ON FEBRUARY 28, 2012. DRILLED SURFACE HOLE TO 2,596'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.			
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY March 06, 2012</b>			
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 3/2/2012	

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
 Submitted By SHEILA WOPSOCK Phone Number 435.781.7024  
 Well Name/Number NBU 922-36E1BS  
 Qtr/Qtr NWNW Section 36 Township 9S Range 22E  
 Lease Serial Number ML-22650  
 API Number 4304751620

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

Date/Time 02/20/2012 1300 HRS AM  PM

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

- Surface Casing
- Intermediate Casing
- Production Casing
- Liner
- Other

**RECEIVED**  
**FEB 19 2012**  
 DIV. OF OIL, GAS & MINING

Date/Time 03/01/2012 0800 HRS AM  PM

BOPE

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

Date/Time \_\_\_\_\_ AM  PM

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT  
LORIEL YOUNG AT 435.781.7051 FOR MORE

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

FORM 6

**ENTITY ACTION FORM**

Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: 1368 SOUTH 1200 EAST  
city VERNAL  
state UT zip 84078 Phone Number: (435) 781-7024

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751620	NBU 922-36E1BS		NWNW	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	2/20/2012			2/29/2012	
<b>Comments:</b> MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 02/20/2012 AT 1900 HRS. BHL: SWNW							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751619	NBU 922-36D4CS		NWNW	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	2/20/2012			2/29/2012	
<b>Comments:</b> MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 02/20/2012 AT 1500 HRS. BHL: NWNW							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751617	NBU 922-36D1CS		NWNW	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	2/20/2012			2/29/2012	
<b>Comments:</b> MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 02/20/2012 AT 1100 HRS. BHL: NWNW							

**ACTION CODES:**

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

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

2/22/2012

Date

RECEIVED

FEB 27 2012

Div. of Oil, Gas & Mining

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>1. TYPE OF WELL</b> Gas Well	<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>PHONE NUMBER:</b> 720 929-6511	<b>8. WELL NAME and NUMBER:</b> NBU 922-36E1BS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1067 FNL 1000 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 36 Township: 09.0S Range: 22.0E Meridian: S	<b>9. API NUMBER:</b> 43047516200000
	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
	<b>COUNTY:</b> UINTAH
	<b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 3/12/2012	<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 checked="" 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 type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

The operator requests approval for changes in the drilling plan. Specifically, the Operator requests approval for a FIT waiver, closed loop drilling option, and a production casing change. All other aspects of the previously approved drilling plan will not change. These proposals do not deviate from previously submitted and approved plans. Please see attachments. Thank you.

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

**Date:** March 20, 2012

**By:** 

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/12/2012	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 922-36E1BS**

Surface: 1067 FNL / 1000 FWL      NWNW  
 BHL: 1572 FNL / 825 FWL      SWNW

Section 36 T9S R22E

Uintah County, Utah  
 Mineral Lease: ML-22650

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

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

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,329'	
Birds Nest	1,636'	Water
Mahogany	2,096'	Water
Wasatch	4,426'	Gas
Mesaverde	6,639'	Gas
Sego	8,888'	Gas
TVD	8,888'	
TD	8,943'	

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

Please refer to the attached Drilling Program

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

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 8888' TVD, approximately equals  
5,688 psi 0.64 psi/ft = actual bottomhole gradient

---

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

Maximum anticipated surface pressure equals approximately 3,720 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

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

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

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

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

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

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

**Background**

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

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

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

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

#### **Variance for BOPE Requirements**

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

#### **Variance for Mud Material Requirements**

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

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

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

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

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

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

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

**Variance for FIT Requirements**

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

**Conclusion**

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

10. **Other Information:**

Please refer to the attached Drilling Program.





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	LTC		DQX
							COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'							
SURFACE	8-5/8"	0 to 2,550	28.00	IJ-55	LTC	3,390	1,880	348,000	N/A
						7,780	6,350	223,000	267,035
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	1.11	1.10		3.18
						1.11	1.10	6.03	

**Surface Casing:**

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe  
 Fracture at surface shoe with 0.1 psi/ft gas gradient above  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
NOTE: If well will circulate water to surface, option 2 will be utilized							
SURFACE	LEAD	2,050'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	190	35%	11.00	3.82
Option 2	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,923'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	310	35%	12.00	3.38
	TAIL	5,020'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,190	35%	14.30	1.31

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained  
 \*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

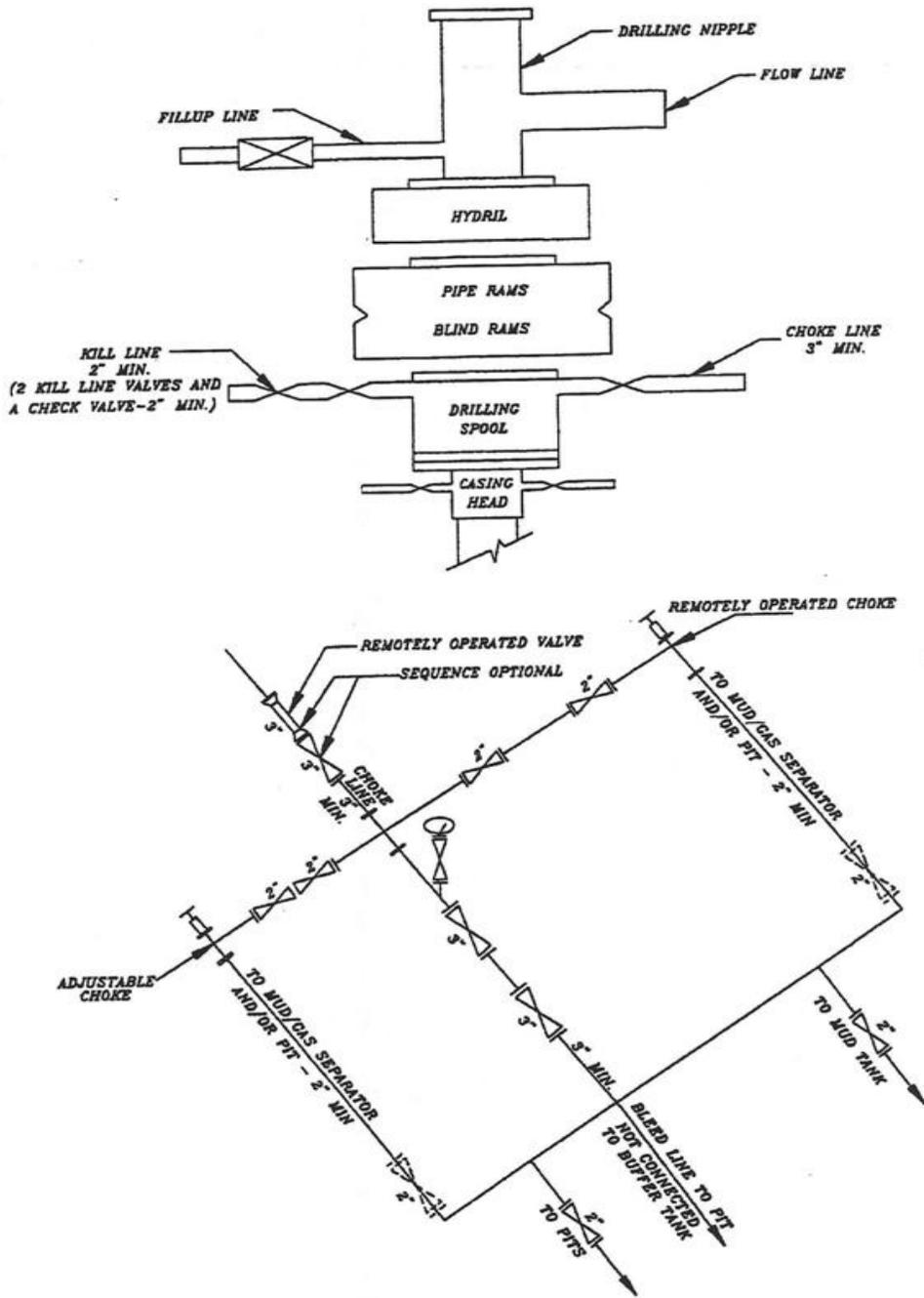
SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**ADDITIONAL INFORMATION**

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

**DRILLING ENGINEER:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 Nick Spence / Danny Showers / Chad Loesel  
**DRILLING SUPERINTENDENT:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
 Kenny Gathings / Lovel Young

### EXHIBIT A NBU 922-36E1BS



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

Requested Drilling Options:

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

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

### State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 138  
 Submitted By DALTON KING Phone Number 435- 828-0982  
 Well Name/Number NBU 922-36E1BS  
 Qtr/Qtr NW/NW Section 36 Township 9S Range 22E  
 Lease Serial Number ML-22650  
 API Number 43-047-51620

Casing – Time casing run starts, not cementing times.

- Production Casing
- Other

Date/Time AM  PM

**RECEIVED**  
**APR 17 2012**

BOPE

DIV. OF OIL, GAS & MINING

- Initial BOPE test at surface casing point
- Other

Date/Time 4/16/2012 13:00 AM  PM

Rig Move

Location To: NBU 922-36E1BS

Date/Time 4/16/2012 06:00 AM  PM

Remarks TIME IS ESTIMATED

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### State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 138  
 Submitted By DALTON KING Phone Number 435- 828-0982  
 Well Name/Number NBU 922-36E1BS  
 Qtr/Qtr NW/NW Section 36 Township 9S Range 22E  
 Lease Serial Number ML-22650  
 API Number 43-047-51620

Casing – Time casing run starts, not cementing times.

- Production Casing
- Other

Date/Time 4/21/2012 02:00 AM  PM

BOPE

- Initial BOPE test at surface casing point
- Other

Date/Time AM  PM

**RECEIVED**

**APR 19 2012**

DIV. OF OIL, GAS & MINING

Rig Move

Location To: NBU 922-36E1CS

Date/Time 4/22/2012 07:00 AM  PM

Remarks TIME IS ESTIMATED

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<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>1. TYPE OF WELL</b> Gas Well	<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1067 FNL 1000 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 36 Township: 09.0S Range: 22.0E Meridian: S	<b>8. WELL NAME and NUMBER:</b> NBU 922-36E1BS
<b>PHONE NUMBER:</b> 720 929-6511	<b>9. API NUMBER:</b> 43047516200000
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	<b>COUNTY:</b> UINTAH
	<b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 4/23/2012	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> OTHER	OTHER: ACTS PIT - RIG REL.

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

MIRU ROTARY RIG. FINISHED DRILLING FROM 2596' TO 8970' ON APRIL 20, 2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED ENSIGN RIG 138 ON APRIL 23, 2012 @ 12:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES. THE PIT ON THIS LOCATION WILL BE REFURBISHED AND UTILIZED AS PART OF THE ACTS SYSTEM.

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

Date: May 04, 2012

By: 

<b>NAME (PLEASE PRINT)</b> Gina Becker	<b>PHONE NUMBER</b> 720 929-6086	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 4/24/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</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>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 922-36E1BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047516200000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1067 FNL 1000 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 36 Township: 09.0S Range: 22.0E Meridian: S		<b>COUNTY:</b> UINTAH
		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 5/25/2012	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input checked="" type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION  <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	
	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 05/25/2012 AT 1345 HRS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY May 29, 2012</b>		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 5/29/2012

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</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>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 922-36E1BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047516200000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6514	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1067 FNL 1000 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 36 Township: 09.0S Range: 22.0E Meridian: S		<b>COUNTY:</b> UINTAH
		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 7/6/2012	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION  <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	
	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
Well was completed, finishing well completion report.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY July 11, 2012</b>		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 7/6/2012

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

AMENDED REPORT  FORM 8  
(highlight changes)

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**ML-22650**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  OTHER \_\_\_\_\_

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

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

8. WELL NAME and NUMBER:  
**NBU 922-36E1BS**

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

9. API NUMBER:  
**4304751620**

3. ADDRESS OF OPERATOR: **P.O. BOX 173779** CITY **DENVER** STATE **CO** ZIP **80217** PHONE NUMBER: **(720) 929-6000**

10. FIELD AND POOL, OR WLD/CAT  
**NATURAL BUTTES**

4. LOCATION OF WELL (FOOTAGES)  
AT SURFACE: **NWNW 1067 FNL 1000 FWL S36,T9S,R22E**  
AT TOP PRODUCING INTERVAL REPORTED BELOW: **SWNW 1557 FNL 822 FWL S36,T9S,R22E**  
AT TOTAL DEPTH: **SWNW 1572 FNL 838 FWL S36,T9S,R22E** *BHL by HOM*

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  
**NWNW 36 9S 22E S**

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

14. DATE SPUDDED: **2/20/2012** 15. DATE T.D. REACHED: **4/20/2012** 16. DATE COMPLETED: **5/25/2012** ABANDONED  READY TO PRODUCE  17. ELEVATIONS (DF, RKB, RT, GL): **5087 GL**

18. TOTAL DEPTH: MD **8,970** TVD **8,923** 19. PLUG BACK T.D.: MD **8,905** TVD **8,858** 20. IF MULTIPLE COMPLETIONS, HOW MANY? \* 21. DEPTH BRIDGE MD PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)  
**HDIL/CN/GR-CBL/GR/CCL**

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

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

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#	0	40		28			
11"	8 5/8" IJ-55	28#	0	2,577		675		0	
7 7/8"	4 1/2" I-80	11.6#	0	8,952		1,475		1214	

**25. TUBING RECORD**

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,151							

26. PRODUCING INTERVALS					27. PERFORATION RECORD				
FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS	
(A) MESAVERDE	7,082	8,567			7,082 8,567	0.36	144	Open <input checked="" type="checkbox"/>	Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
7082-8567	PUMP 6,053 BBLs SLICK H2O & 137,364 LBS 30/50 OTTAWA SAND 6 STAGES

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

30. WELL STATUS:  
**PROD**

31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 5/25/2012		TEST DATE: 6/4/2012		HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 3,187	WATER – BBL: 0	PROD. METHOD:
CHOKE SIZE: 20/64	TBG. PRESS. 6,743	CSG. PRESS. 2,160	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 3,187	WATER – BBL: 0	INTERVAL STATUS: PROD

INTERVAL B (As shown in item #26)

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

INTERVAL C (As shown in item #26)

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

INTERVAL D (As shown in item #26)

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

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

33. SUMMARY OF POROUS ZONES (Include Aquifers):

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

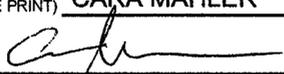
34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER	1,322
				BIRD'S NEST	1,651
				MAHOGANY	2,023
				WASATCH	4,473
				MESAVERDE	6,642

35. ADDITIONAL REMARKS (Include plugging procedure)

The first 210' of the surface hole was drilled with a 12 1/4" bit. The remainder of surface hole was drilled with an 11" bit. DQX csg was run from surface to 5012'; LTC csg was run from 5012' to 8952'. Attached is the chronological well history, perforation report & final survey.

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

NAME (PLEASE PRINT) CARA MAHLER TITLE REGULATORY ANALYST  
 SIGNATURE  DATE 7/12/2012

This report must be submitted within 30 days of

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

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

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

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

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

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NW/NW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/28/2012	7:30 - 12:00	4.50	MIRU	01	B	P		RIG MOVE TO NBU 922-36E1CS ( WELL 4 OF 4 ) INSTALL DIVERTOR HEAD AND BLUEY LINE. BUILD DITCH. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PIT PUMP. RIG UP PUMP. PRIME PUMP. INSPECT RIG. HELD PRE-SPUD SAFETY MEETING.
	12:00 - 12:30	0.50	DRLSUR	02	D	P		PICK UP #1 BHA, TRIP IN HOLE, SPUD 12.25 HOLE
	12:30 - 13:30	1.00	DRLSUR	06	A	P		DRILL 12.25" 44' - 170', PRO PETRO RIG FAILURE ( HYDRAULICS )
	13:30 - 16:30	3.00	DRLSUR	08	A	Z		HYDRAULIC UNION FAILURE
	16:30 - 20:30	4.00	DRLSUR	02	D	P		DRILL 12.25" 170' - 210' TRIP OUT OF HOLE, PICK UP 11" BIT AND DIRECTIONAL TOOLS, TRIP IN HOLE T/ 210'
	20:30 - 0:00	3.50	DRLSUR	02	D	P		DRILL F/210' - T/640' ( 430' @ 122.9' ROP) WOB 20K RPM 45 PSI ON/OFF 1200/1000 UP/DWN/ROT 45/35/40 M.W. 8.4# 2.48' HIGH .65' LEFT OF TARGET
2/29/2012	0:00 - 12:00	12.00	DRLSUR	02	D	P		DRL F/ 640' T/1990' (1350'@ 112.5' PER HR)  WOB, 18RPM, 45  UP/DWN/ROT WEIGHTS 82/58/70  PSI ON BTTM, 1790 OFF BTTM/1480  M.W. 8.34, VIS 27  2' LOW 6' RIGHT OF TARGET
	12:00 - 14:00	2.00	DRLSUR	02	D	P		DRL F/ 1990' T/2140' (150'@ 75' PER HR)  WOB, 18RPM, 45  UP/DWN/ROT WEIGHTS 85/60/72 K  PSI ON BTTM, 1860 OFF BTTM/ 1560  M.W. 8.34, VIS 27  3.4' LOW 8.58' RIGHT OF TARGET
	14:00 - 14:30	0.50	DRLSUR	06	H	Z		POOH 300' T/CHECK 3 PRIOR SURVEYS  SURVEYS WERE INCORRECT.  WEATERFORD BLAMED RIG FOR NOT HAVING A VALVE IN THE RIGHT POSITION  (NO SEVERE DOGLEGS)  TIH & RESUME DRILLING

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NW/NW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	14:30 - 19:30	5.00	DRLSUR	02	D	P		DRL F/ 2140' T/2596' (456'@ 91.2' PER HR)  WOB, 18RPM, 45  UP/DWN/ROT WEIGHTS 90/65/75 K  PSI ON BTM, 2000 OFF BTM/1815  M.W. 8.34, VIS 27  5.6' LOW .84' RIGHT OF TARGET CIRC. F/CSNG
3/1/2012	19:30 - 21:30	2.00	DRLSUR	05	D	P		LD DS
	21:30 - 0:00	2.50	DRLSUR	06	D	P		LD BHA & DIR TOOLS
	0:00 - 2:30	2.50	DRLSUR	06	D	P		MOVE PIPE RACKS AND CATWALK.  PULL DIVERTER HEAD.  RIG UP TO RUN CSG.
	2:30 - 3:30	1.00	DRLSUR	12	A	P		MOVE CSG INTO POSITION TO P/U. RUN CSNG
	3:30 - 4:30	1.00	DRLSUR	12	C	P		PLUG BROKEN HYDRAULIC LINE
	4:30 - 5:00	0.50	DRLSUR	08	A	Z		RUN 58 JTS 8 5/8" 28# J55 CSNG
	5:00 - 7:00	2.00	DRLSUR	12	C	P		SHOE SET @ 2567.44'  BAFFLE SET @ 2521.53'  LAND CSNG @ 07:00 HOLD SAFETY MEETING,  RUN 200' OF 1".  RIG DOWN RIG MOVE OFF WELL,  REBUILD DITCH.  RIG UP CEMENT TRUCK, 2" HARD LINES.,  SCARRED THREADS ON CMT HEAD WAIT ON PRO PETRO CEMENTERS TO BRING CMT HEAD FROM TOWN
	7:00 - 8:00	1.00	DRLSUR	12	B	P		
	8:00 - 9:30	1.50	DRLSUR	21	D	Z		

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NW/NW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	9:30 - 10:30	1.00	DRLSUR	12	E	P		<p>PRO PETRO MAKE UP CMT HEAD &amp; LOAD PLUG</p> <p>PRESSURE TEST LINES TO 2000 PSI.</p> <p>PUMP 140 BBLS OF WATER AHEAD.</p> <p>PUMP 20 BBLS OF 8.3# GEL WATER AHEAD.</p> <p>PUMP (300 SX) 61.35 BBLS OF TAIL 15.8# 1.15 YD 5 GAL/SK PREMIUM CEMENT W/ 2% CALC. CMT TOP 1266'</p> <p>DROP PLUG ON FLY.</p> <p>DISPLACE W/ 148.3 BBLS OF H2O.</p> <p>NO CIRC THROUGH OUT.</p> <p>FINAL LIFT OF 200 PSI AT 4 BBL/MIN.</p> <p>BUMP PLUG W/600 PSI HELD FOR 5 MIN. FLOAT HELD.</p> <p>PUMP (150 SX) 30.64 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACK SIDE. SHUT DOWN AND CLEAN TRUCK. NO CEMENT TO SURFACE.</p>
	10:30 - 12:00	1.50	DRLSUR	13	A	P		<p>WOC, 2 HOURS PUMP 125 SKS (25.6 BBLS)</p> <p>WOC, 2 HOURS PUMP 100 SKS (20.4 BBLS)</p> <p>NO CMT TO SURFACE</p> <p>RELEASE RIG @ 12:00 03/01/2010</p>
4/16/2012	10:30 - 11:30	1.00	MIRU	01	C	P		<p>TOP OFF CEMENT W/TRIPPLE A 03/02/2012</p> <p>SKID THE RIG TO THE NEW HOLE AND CENTER IT OVER THE HOLE.</p>
	11:30 - 12:00	0.50	MIRU	14	A	P		<p>NIPPLE UP THE BOP</p>
	12:00 - 16:00	4.00	PRPSPD	15	A	P		<p>SAFETY MEETING W/ A-1 TESTING, RIG UP &amp; TEST FLOOR VALVES, TOP DRIVE VALVE, INSIDE &amp; OUTSIDE KILL LINE VALVES, INSIDE CHOKE LINE VALVE , HCR VALVE, CHOKE MANIFOLD, PIPE &amp; BLIND RAMS 250 PSI F/ 5 MIN , 5000 PSI F/ 10 MIN, ANNULAR 250 PSI F/ 5 MIN, 2500 PSI F/ 10 MIN, CASING TO 1500 PSI F/ 30 MIN, RIG DOWN TESTER</p>
	16:00 - 16:30	0.50	PRPSPD	14	B	P		<p>INSTALLED THE WEAR BUSHING</p>
	16:30 - 19:00	2.50	DRLPRC	06	A	P		<p>PU A MUD MOTOR AND BIT / MADE UP AND SCRIBED THE BHA / TRIPPED IN THE HOLE. TAGGED CEMENT @ 2470'</p>
	19:00 - 19:30	0.50	DRLPRC	02	F	P		<p>DRILLING THE SHOE TRACK</p>

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NWNW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	19:30 - 0:00	4.50	DRLPRC	02	D	P		DRILL F/ 2606'- 3210', 604' @ 134.2'/HR WOB 18-20, SPM 120, GPM 540 RPM 50/151, WATER 8.5 TRQ ON/OFF 10/8 PSI ON/OFF 1820/1300 PU/SO/ROT 110/98/101 SLIDE: 62', .92 HOURS @ 67.6'/HR ROTATE: 512', 3.58 HRS. @ 143'/HR. NOV RUNNING: CONVENTIONAL @ 100% DEWATERING AS NEEDED BIT POSITION: 4.4' LEFT & 12.2' BELOW THE LINE
4/17/2012	0:00 - 10:30	10.50	DRLPRC	02	D	P		DRILL F/ 3210'- 4811', 1601' @ 152.5'/HR WOB 18-20, SPM 120, GPM 540 RPM 50/151, WATER 8.5 27 VIS TRQ ON/OFF 11/8 PSI ON/OFF 2150/1650 PU/SO/ROT 135/120/126 SLIDE: 108', 1.9 HOURS @ 56.8'/HR ROTATE: 1493', 8.6 HRS. @ 173.6'/HR. NOV DEWATERING BIT POSITION: 12.76'N, 13.52'W OF CENTER
	10:30 - 11:00	0.50	SUSPEN	08	A	Z		THE MUD PUMP WENT DOWN AND WE HAD TO REPLACE AN ETHERNET CABLE. THE OTHER PUMP WAS ALREADY DOWN TO REPLACE A CAP GASKET.
	11:00 - 11:30	0.50	MAINT	07	A	P		RIG SERVICE
	11:30 - 0:00	12.50	DRLPRC	02	D	P		DRILL F/ 4811'- 6331', 1520' @ 121.6'/HR WOB 18-20, SPM 120, GPM 540 RPM 50/151, DIRTY WATER: 8.7 28VIS TRQ ON/OFF 12/8 PSI ON/OFF 2300 / 1850 PU/SO/ROT 165/142/151 SLIDE: 68', 1.42 HOURS @ 47.9'/HR ROTATE: 1452', 11.08 HRS. @ 131'/HR. NOV: RUNNING CONVENTIONAL BIT POSITION: 7.89' N & 15.47' W OF CENTER MIXING LCM PILLS TO CONTROL SEEPING APPROXIMATE LOSSES: 200 BBL. WATER

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NWNW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
4/18/2012	0:00 - 11:30	11.50	DRLPRC	02	D	P		<p>DRILL F/ 6331'- 7272', 941' @ 81.8'/HR                      WOB 18-20,                      SPM 120, GPM 540                      RPM 50/151,                      DIRTY WATER: 8.9 30VIS                      TRQ ON/OFF 13/10                      PSI ON/OFF 2400/1900                      PU/SO/ROT 195/145/160                      SLIDE: 75', 2.25 HOURS @ 33.3'/HR                      ROTATE: 866', 9.25 HRS. @ 93.6'/HR.                      NOV: RUNNING CONVENTIONAL                      BIT POSITION: 17.49N, 4.09W OF CENTER                      MIXING LCM PILLS TO CONTROL SEEPING                      APPROXIMATE LOSSES: 150 BBL. WATER                      NO FLARE                      RIG SERVICE</p>
	11:30 - 12:00	0.50	MAINT	07	A	P		
	12:00 - 23:00	11.00	DRLPRC					<p>DRILL F/ 7272'- 8026', 771' @ 70.1'/HR                      WOB 18-20,                      SPM 110, GPM 496                      RPM 50/139,                      TRQ ON/OFF 13/10                      PSI ON/OFF 2360/2100                      PU/SO/ROT                      SLIDE: 18',.84 HOURS @ 21.4'/HR                      ROTATE: 672', 10.16 HRS. @ 66.1'/HR.                      NOV: RUNNING CONVENTIONAL                      BIT POSITION: 16'N &amp; 1.6 E OF CENTER                      MUD: 10.9/MW 36/VIS                      MIXING LCM PILLS TO CONTROL SEEPING                      APP. LOSSES: 100 BBL. WATER/MUD                      INTERMITTENT CONNECTION FLARES 7743'-6'                      7873-10'</p> <p>STARTED TRANSFERING MUD FROM THE UPRIGHTS TO THE SHAKER END OF THE PITS TO BLEND @ 7460'. WE SLOWLY BROUGHT THE MUD UP TO 9.6# AND RAISED IT TO 9.9# 36 VIS. WHEN WE GOT THE MUD ALL THE WAY AROUND THE SYSTEM BETWEEN THE FOAMING AND THE FINE SANDS FROM DRILLING IT WAS BLINDING OFF OUR 200 AND 170 SCREENS. I TALKED TO LEVEL AND GOT PERMISSION TO CHANGE OUT TO LARGER MESH SCREENS SO WE WOULD NOT LOOSE OUR MUD OVER THE SHAKERS. I CALLED LEVEL AROUND 7300' TO LET HIM KNOW THAT BIT POSITION WAS CLOSE TO 20' FROM CENTER, THE DIRECTIONAL DRILLER SAID IT WAS TURNING AND DROPPING ANGLE AND HE WAS SURE WE WOULD BE OK. AFTER A COUPLE OF SURVEYS I DID NOT LIKE THE BIT POSITION AND TOLD SDI TO SLIDE AWAY FROM THE LINE . I ALSO NOTIFIED LEVEL AGAIN. WE CAME WITHIN 3' OF THE TARGET EDGE TO THE NORTH.</p>

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NW/NW/0/9/S/22/E/38/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	23:00 - 0:00	1.00	SUSPEN	22	H	X		DRILL F/ 8026'- 8043' WE MADE A CONNECTION @ 8026' AND ATTEMPTED TO SLIDE. THE DRILL STRING WAS PRESSURED UP, 850# EXCESS OFF BOTTOM PRESSURE. WE WORKED IT AND ATTEMPTED TO SLIDE AGAIN. THE DRILLER WORKED PIPE TO GET IT FREE THE PRESSURE FELL OFF TO NORMAL. I CALLED KENNY AND LET HIM KNOW THE WELL WAS SLOUGHING. HE AGREED WE PROBABLY NEEDED TO BRING THE MUD WEIGHT TO 10.6-10.8# RANGE. WE HAD NO FLARE AT THIS TIME.
4/19/2012	0:00 - 12:30	12.50	DRLPRC	02	D	P		DRILL F/ 8043'- 8406' , 363 @ 29.04 '/HR WOB 18-20, SPM 10, GPM 450 RPM 50 / 1126, TRQ ON/OFF 15 / 11 PSI ON/OFF 2500 / 1950 PU/SO/ROT 200 / 165 / 178 SLIDE: 33 ',.3 HOURS @ 11 '/HR ROTATE: 330 ', 9.5 HRS. @ 34.7'/HR. NOV: RUNNING CONVENTIONAL BIT POSITION: 12.12'N & 3.11'W OF CENTER MUD: 10.8/MW 36/MS MIXING LCM TO CONTROL SEEPING APP. LOSSES: 80 BBL. WATER/MUD INTERMITTENT 6' CONNECTION FLARES / THIS SECTION IS VERY FRACTURED AS SEEN IN THE DIFFERENTIAL PRESSURES AND MOTOR STALLING
	12:30 - 13:00	0.50	MAINT	07	A	P		WE ARE MAINTAINING 10.7- 10.8 MW NOV IS RUNNING 1 CENTRIFUGE FULL TIME AS PER THE DRILLING PROG. WE ARE GETTING SOME LIGHT SLOUGHING AND OVERPRESSURED SHALE OVER THE SHAKER. I TALKED TO LOVEL THIS MORNING AND ASK IF WE COULD SHUT DOWN THE CENTRIFUGE AT LEAST PART TIME WHILE TRYING TO HOLD THE MUD WEIGHT UP. HE SAID TO KEEP IT GOING AS PER THE PROG AND GET A GOOD ESTIMATE ON THE BAR USAGE. IN THE AFTERNOON I GOT BACK WITH HIM ON IT AS THE USAGE WAS RIGHT AT 20 TONS OF BAR IN ROUGHLY 7 HOURS TO MAINTAIN A 10.8 MUD WEIGHT WITH LIGHT SEEPING AND RUNNING 1 CENTRIFUGE FULL TIME TO TD. LOVEL SAID TO SHUT IT DOWN AS WE HAD ABOUT 500' (10-12 HOURS) LEFT TO DRILL. OUR HOPPER IS DOWN BECAUSE OF A WASHED FLEX JOINT SO WE CANNOT MIX PAC AT THIS TIME. WE WILL HAVE TO GET IN THE SYSTEM WHEN THE HOPPER PARTS ARE HERE AND INSTALLED. RIG SERVICE

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NW/NW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	13:00 - 0:00	11.00	DRLPRC	02	D	P		<p>DRILL F/ 8406' - 8690' , 284 @ 25.6 '/HR  WOB 18-20,  SPM 110, GPM 496  RPM 50 / 139,  TRQ ON/OFF 14 / 11  PSI ON/OFF 2400 / 2120  PU/SO/ROT 210 / 165 / 183  SLIDE: 0  ROTATE: 284' , 11 HRS. @ 25.6'/HR.  NOV: RUNNING 1 CENTRIFUGE CONVENTIONAL  SHUT DOWN NOV @ 8420' APPROVED BY LOVEL  YOUNG  BIT POSITION: 6.2' N &amp; 6.1E OF CENTER  MUD: 10.9/MW 36/MIS  MIXING LCM TO CONTROL SEEPING  APP. LOSSES: 20 BBL. MUD</p> <p>6' CONNECTION FLARES /  THIS SECTION IS VERY FRACTURED AS SEEN IN  THE DIFFERENTIAL PRESSURES AND MOTOR  STALLING  AT 8475' WE PICKED UP A CONSTANT 5' FLARE /  THE HOPPER WAS REPAIRED AND WE MIXED THE  PAC TO GET THE WATER LOSS BACK DOWN. I  TALKED TO LOVEL ABOUT RUNNING LOGS AND  ASK IF WE WANTED THE MUD WEIGHT RAISED FOR  STABILIZING THE WELL AT TD, HE SAID THIS  WEIGHT WOULD BE SUFFICIENT IF WE GOT TO TD  WITH IT FOR THE WIPER TRIP.</p>

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NW/NW/0/9/S/22/E/36/0/0/26/PM/N/1087/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
4/20/2012	0:00 - 1:30	1.50	DRLPRC	02	D	P		<p>DRILL F/ 8690' - 8725', 35' @ 23.3 '/HR            WOB 18-20,            SPM 110, GPM 496            RPM 50 / 139,            TRQ ON/OFF 14 / 11            PSI ON/OFF 2400 / 2120            PU/SO/ROT 210 / 165 / 183            SLIDE: 0            ROTATE:35',, 1.5 HR @ 23.3 '/HR            NOV: SHUT DOWN            BIT POSITION: 6.2' N &amp; 6.1E OF CENTER            MUD: 10.9/MW 36/MIS            MIXING LCM TO CONTROL SEEPING            APP. LOSSES: 5 BBL. MUD            5-8' FLARE            THE FLARE WAS DEAD AT THE TIME WE STARTED TRIPPING            I CALLED LOVEL ABOUT 1:00 AM TO LET HIM KNOW THE THE DIFFERENTIAL PRESSURE SPIKING WAS GETTING WORSE AND THE BIT WAS SLOWING DOWN TO APP 20'/HR. RANGE AND WE PROBABLY WOULD NOT MAKE IT TO TD AND IF WE DID IT WAS GOING TO TAKE AWHILE. HE ADVISED ME TO CALL CHAD AND LET HIM KNOW. I CALLED CHAD AND HE AGREED TO TRIP OUT OF THE HOLE AND CHANGE OUT THE BIT AND MUD MOTOR. WE DRILLED LONG ENOUGH TO BUILD A DRY PILL AND GET READY TO TRIP.</p>
	1:30 - 10:30	9.00	DRLPRC	06	A	P		<p>WE HAD TO PUMP 3 STANDS OFF BOTTOM. PUMPEDA 35 BBL. 13.2# PILL. TRIPPED OUT OF THE HOLE FOR BIT #2.            WE HAD TO BACKREAM THROUGH BRIDGES FROM 4406' - 4200'. PUMPED A 15 BBL. DRY PILL AND CONTINUED TO TRIP OUT OF THE HOLE. WE CHANGED OUT THE BIT AND MUD MOTOR. SDI DOWNLOADED THE VIBRATION DATA TO SEND IN FOR A REPORT. STARTED BACK IN THE HOLE CHANGED OUT THE GRABBER DIES</p>
	10:30 - 11:00	0.50	DRLPRC	07	C	P		
	11:00 - 17:00	6.00	DRLPRC	06	A	P		<p>TRIPPED IN THE HOLE BREAKING CIRCULATION @ THE CASING SHOE AND 5000'. WE HAD AN 8' FLARE WHILE CIRCULATING @ 5000'. WE CIRCULATED THE GAS OUT AND CONTINUED TO BOTTOM.WASHED THE LAST 2 STANDS IN TO BOTTOM. WE HAD SMALL BRIDGES ON THE WAY IN @ 5250'. 5334', 5401', 6194', 6229', 6856', 7000', 8150'.             WE HAD A 8-15' FLARE WITHIN 15 MINUTES OF GETTING CIRCULATION AROUND.            I TALKED TO LOVEL AND CHAD ON THE PHONE AND THEY BOTH AGREED WE NEEDED TO RAISE THE MUD WEIGHT. LOVEL SAID 11.4# AND CHAD SAID PROBABLY 11.8#. WE STARTED RAISING THE MUD WEIGHT TO 11.3 - 11.4 AND ADDING LCM TO TRY TO DETER LOSSES</p>

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

Well: NBU 922-36E1BS GREEN		Spud Date: 2/28/2012	
Project: UTAH-UINTAH		Site: NBU 922-36D PAD	Rig Name No: PROPETRO 11/11, ENSIGN 138/138
Event: DRILLING		Start Date: 11/22/2011	End Date: 4/23/2012
Active Datum: RKB @5,101.00usft (above Mean Sea Level)		UWI: NWNW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:00 - 19:00	2.00	DRLPRC	02	D	P		<p>DRILL F/ 8725'- 8842' ,117' @ 58.5 '/HR WOB 18-20, SPM 100, GPM 496 RPM 50 / 69, TRQ ON/OFF 14 / 12 PSI ON/OFF 2300 / 2050 PU/SO/ROT 210 / 165 / 183 SLIDE: 0 ROTATE: 117', 2 HR @ 58.5 '/HR NOV: SHUT DOWN BIT POSITION: 6.2' N &amp; 6.1E OF CENTER MUD: 11.3/MW 369/VIS MIXING LCM TO CONTROL SEEPING APP. LOSSES: 5 BBL. MUD 5-8' FLARE</p> <p>THE FLARE HAD DIED DOWN COMPLETELY THEN WE HAD A 15-18' FLARE @ 8935' WITH 10.7 GAS CUT OUT AND 11.3# MW IN . AS WE BROUGHT THE WEIGHT UP. WE LOST TOTAL RETURNS @ 8842.</p>
	19:00 - 20:00	1.00	SUSPEN	22		X		<p>WE SLOWED THE PUMP RATE , INCREASED THE LCM MIXING TO REGAIN CIRCULATION AND CIRCULATED @ 60 STROKES TO BUILD VOLUME AND CONDITION THE MUD. MW 11.0 - 11.5 VIS 40-44</p>
	20:00 - 22:30	2.50	DRLPRC	02	D	P		<p>DRILL F/ 8842'-8970' ,128' @ 51.2 '/HR WOB 18-20, SPM 100, GPM 496 RPM 50 / 69, TRQ ON/OFF 14 / 12 PSI ON/OFF 2300 / 2050 PU/SO/ROT 210 / 165 / 183 SLIDE: 0 ROTATE: 128' @ 51.2 '/HR NOV: SHUT DOWN BIT POSITION: 1.14' N &amp; 10.83' E OF CENTER MUD: 11.3/MW 40/VIS MIXING LCM TO CONTROL SEEPING</p>
	22:30 - 0:00	1.50	DRLPRC	05	C	P		<p>WE WERE CIRCULATING AND TRYING TO BUILD MUD WEIGHT AND VOLUME. WE USED UP 350 BBL. OF MUD IN STORAGE. WE HAD TO GO TO 60 STROKES ON THE PUMPS TO KEEP FROM RUNNING OUT OF MUD AND I HAD CALLED IN TO LOVEL TO GET THE OK TO BYPASS THE SHAKERS AS WE WERE TD AND TRYING TO BUILD OUR LCM PERCENTAGE UP. I ALSO NOTIFIED CHAD AND BOTH APPROVED IT. THEY ALSO BOTH AGREED WE NEEDED TO GET THE MUD WEIGHT TO 11.8. WE HAD INTERMITTANT 5-12' FLARES WHILE TRYING TO GET THE WEIGHT UP AND MAINTAIN CIRCULATION. THE MUD WAS SPOTTY BECAUSE OF THE PILLS PUMPED ON THE PREVIOUS TRIP AND DEALING WITH PARTIAL TO FULL LOSSES AT TIMES.</p>

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NWNW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
4/21/2012	0:00 - 5:00	5.00	DRLPRC	05	C	P		WE WERE CIRCULATING AND TRYING TO BUILD MUD WEIGHT AND VOLUME. WE LOST APP 200 MORE BBL OF MUD. WE HAD TO PUMP AT 60 STROKES ON THE PUMPS TO KEEP FROM RUNNING OUT OF MUD WE WERE STILL BYPASSING THE SHAKERS AS WE WERE TD AND TRYING TO BUILD OUR LCM PERCENTAGE UP. I ALSO NOTIFIED CHAD AND BOTH APPROVED IT. THEY ALSO BOTH AGREED WE NEEDED TO GET THE MUD WEIGHT TO 11.8. WE HAD INTERMITTENT 5-12' FLARES WHILE TRYING TO GET THE WEIGHT UP AND MAINTAIN CIRCULATION. THE MUD WAS SPOTTY BECAUSE OF THE PILLS PUMPED ON THE PREVIOUS TRIP AND DEALING WITH PARTIAL TO FULL LOSSES AT TIMES. WE STARTED TO BRING THE PUMP STROKES UP TO 80 AROUND 1:00 AM WE WOULD IMMEDIATELY SHOW MORE LOSSES. WE DROPPED THE STROKES BACK DOWN AND CONTINUED TO RAISE THE LCM CONTENT. AROUND 02:30 AM WE HAD ENOUGH LCM IN THE SYSTEM TO STROKE THE PUMPS AT 80 SPM. OVER THE NEXT 1.5 HOUR WE GOT THE LAST OF THE LIGHT SPOTS OUT OF THE MUD SYSTEM. THEN BUILT A DRY PILL TO TRIP OUT OF THE HOLE FOR A WIPER TRIP. WHEN SHUTTING DOWN THE PUMPS THE HOLE FLOWS FOR ABOUT 15 - 20 MINUTES TO GIVE BACK ABOUT 10 BBL. OF MUD.
	5:00 - 19:00	14.00	SUSPEN	08	A	Z		THE DRILLER PUMPED OUT THE 1ST STAND OF PIPE SET ON THE SLIPS TO BACK OUT THE TOP DRIVE AND BACKED OUT OF THE QUILL. HE DID NOT SEE IT AND TRIED TO PICK UP ON THE TOP DRIVE, TEARING THE GRABBER BOX ASSEMBLY FROM THE TOP DRIVE. WE GOT THE TOP JOINT OFF OF THE STRING WITH THE ASSEMBLY ATTACHED TO THE PIPE AND LAID IT DOWN. WE THEN PUT A CIRCULATING SWEDGE IN THE PIPE AND WORKED THE PIPE FREE, CIRCULATED IT FOR A 3.5 HOURS ( 8' FLARE FOR 5 MINUTES ON BOTTOMS UP). THEN LAID DOWN 12 JOINTS TO GET OFF BOTTOM FOR THE TOP DRIVE REPAIR ( NO FLARE ON BOTTOMS UP). WE CONTINUED TO CIRCULATE AND MONITOR THE MUD PROPERTIES. ENSIGN REPLACED THE GARBBER BOX , GRABBER BLOCKS, SCOPING CYLINDER, SAVER SUB AND MISC. HOSES AND FITTINGS.
	19:00 - 0:00	5.00	DRLPRC	06	E	P		WIPER TRIP TO 5000' AS PER CHAD LOESEL AND CONFIRMED BY LOVEL YOUNG. ON THE TRIP OUT THERE WAS LIGHT DRAG @ 5671' AND 5814'. WE FILLED THE PIPE AND STARTED BACK IN THE HOLE, TAGGED A LIGHT BRIDGE @ 5930'. FILLED THE PIPE @ 6500' AND CONTINUED TO BOTTOM.
4/22/2012	0:00 - 0:30	0.50	DRLPRC	06	E			FINISHED THE WIPER TRIP BACK TO BOTTOM, WASHED THE LAST 2 STANDS IN TO BOTTOM AND HAD 2 SMALL BRIDGES 2 @ 8900' AND 8940'

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NWNW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	0:30 - 2:30	2.00	DRLPRC	05	C	P		CIRCULATED AND CONDITIONED FOR THE LOGGING AND CASING RUN.
	2:30 - 13:30	11.00	DRLPRC	06	A	P		WE HAD A 20' FLARE ON BOTTOMS UP 11.8 MW 42 VIS 12% LCM
	13:30 - 14:00	0.50	DRLPRC	14	B	P		PUMPED 2 STANDS OUT OF THE HOLE, LAYED DOWN DRILL PIPE. WE HAD TO BACKREAM OUT OF ONE SPOT 4594' - 4550'. CONTINUED LAYING DOWN DRILL PIPE AND THE BHA.
	14:00 - 17:00	3.00	VALPR	11	D	P		PULLED THE WEAR BUSHING
	17:00 - 0:00	7.00	CSGPRO	12	C	P		RIGGED UP BAKER ATLAS AND ATTEMPTED TO RUN WIRELINE LOGS. I CALLED LOVEL AND RECIEVED THE OK TO GO IN SLICK WITH THE WIRELINE SINCE WE HAD A TIGHT SPOT ON THE WAY OUT LAYING DOWN DRILL PIPE. THE LOGS WENT TO 4980' AND BRIDGED OUT. I CALLED LOVEL AND HE SAID RUN PIPE. RACHAEL TOLD THE LOGGERS SHE WANTED THE LOG BUT WAS OK WITH NOT GETTING IT SINCE THE PIPE WAS ALREADY LAID DOWN. CALLED CHAD
	0:00 - 2:30	2.50	CSGPRO	12	C	P		HELD A SAFETY MEETING, RIGGED UP FRANKS WESTATE TO RUN 210 TOTAL JOINTS, (92 JTS. OF 4.5"/I-80 / 11.6# / LTC), (118 JTS. OF 4.5" / 11.6# / I-80 / DQX). LANDED AT 8952.42, FLOAT COLLAR @ 8905.25, MV MARKER @ 6711.03, DQX CROSS OVER @ 4991.31'. DEPTH @ MIDNIGHT WITH CASING 6250'
4/23/2012	0:00 - 2:30	2.50	CSGPRO	12	C	P		FILLED THE PIPE AT SURFACE ( CHECK FLT EQUIP), 890', 2582', 4540' & 6250'
	2:30 - 4:00	1.50	CSGPRO	05	D	P		CONTINUED TO RUN 210 TOTAL JOINTS, (92 JTS. OF 4.5"/I-80 / 11.6# / LTC), (118 JTS. OF 4.5" / 11.6# / I-80 / DQX). LANDED AT 8952.42, FLOAT COLLAR @ 8905.25, MV MARKER @ 6711.03, DQX CROSS OVER @ 4991.31'. CASING DEPTH @ 02:30 8952.42'
								FILLED THE PIPE AT SURFACE ( CHECK FLT EQUIP), 890', 2582', 4540' & 6250'
								CIRCULATED THE CASING @ 360 GPM, 850 PSI. WE HAD A 15' BOTTOMS UP FLARE WITH A 12.1# MW, 43 VIS, 12% LCM. THE MUD WEIGHT WAS A LITTLE HIGHER FROM THE WEIGHTED PILLS THAT WERE PUMPED ON THE TRIPS.
								HELD A SAFETY MEETING WITH BJ SERVICES.

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: PROPETRO 11/11, ENSIGN 138/138

Event: DRILLING

Start Date: 11/22/2011

End Date: 4/23/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NWNW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	4:00 - 7:00	3.00	CSGPRO	12	E	P		RIG UP CEMENTERS, PRESSURE TEST LINES TO 5065 PSI, DROPPED BOTTOM PLUG, PUMPED 5 BBL 8.4 WATER SPACER, 40 BBL. OF SEAL BOND SPACER ,475 SX PREMIUM LITE II CEMENT + 0.5 LBS/SX STATIC FREE + 0.4% BWOC R-3 + 0.25 LBS/SX CELLO FLAKE + 5 LBS/SX KOL SEAL + 0.2% BWOC SODIUM METASILICATE + 8% BWOC BENTONITE II +.4 BWOC FL-52A + 101.8% FRESH WATER 12.5#, 2.02 YIELD LEAD CEMENT , 1000 SX 50:50 POZ ( ASH FLY ) CLASS G + 10% BWOW SODIUM CHLORIDE + 0.2% BWOC R-3 + .5% BWOC EC-1 + 0.002 GPS FP-6L+ .005 LB/SX STATIC FREE + 2% BENTONITE II + 58.9% FRESH WATER, DROPPED THE TOP PLUG, DISPLACE W/ 138 BBLS CLAYCARE + 1 GAL MAGNACIDE @ 8.34 PPG WATER , FINAL LIFT 2549 PSI, BUMPED BLUG @ 3176 PSI , FLOATS HELD, , TOP OF TAIL EST @ 3926 ' ,TOP OF LEAD 14' , 23 BBL. OF CEMENT BACK TO SURFACE. FLUSH STACK, R/D CEMENTERS
	7:00 - 7:30	0.50	CSGPRO	14	B	P		SET THE 100K WEIGHT ON THE C-22 SLIPS THROUGH THE STACK. NIPPLE DOWN AND CUT OFF THE CASING.
	7:30 - 12:00	4.50	RDMO	01	E	P		CLEANED THE RIG PITS / WALKED THE RIG BACK 30' / RIGGING DOWN THE FLOOR / TRANSFERED MUD TO THE 36E PAD / MOVED THE CAMPS TO THE NEW PAD /

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 922-36E1BS GREEN	Wellbore No.	OH
Well Name	NBU 922-36E1BS	Wellbore Name	NBU 922-36E1BS
Report No.	1	Report Date	5/11/2012
Project	UTAH-UINTAH	Site	NBU 922-36D PAD
Rig Name/No.		Event	COMPLETION
Start Date	5/11/2012	End Date	5/25/2012
Spud Date	2/28/2012	Active Datum	RKB @5,101.00usft (above Mean Sea Level)
UWI	NW1NW10/B16/22/E136/O10/28/PM/N1067/N10/100Q/Q0		

1.3 General

Contractor		Job Method		Supervisor	
Perforated Assembly		Conveyed Method			

1.4 Initial Conditions

Fluid Type		Fluid Density	
Surface Press		Estimate Res Press	
TVD Fluid Top		Fluid Head	
Hydrostatic Press		Press Difference	
Balance Cond	NEUTRAL		

1.5 Summary

Gross Interval	7,082.0 (usft)-8,567.0 (usft)	Start Date/Time	5/15/2012 12:00AM
No. of Intervals	40	End Date/Time	5/22/2012 12:00AM
Total Shots	144	Net Perforation Interval	46.00 (usft)
Avg Shot Density	3.13 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/Add Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/15/2012 12:00AM	MESAVERDE/			7,082.0	7,083.0	3.00		0.360	EXP/	3.375	120.00			23.00 PRODUCTION	N

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/15/2012 12:00AM	MESAVERDE/			7,102.0	7,103.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,115.0	7,116.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,145.0	7,146.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,208.0	7,210.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,266.0	7,268.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,317.0	7,318.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,331.0	7,332.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,355.0	7,356.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,376.0	7,376.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,390.0	7,391.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,455.0	7,456.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,493.0	7,494.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,537.0	7,538.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,649.0	7,650.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,676.0	7,677.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,753.0	7,754.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,775.0	7,776.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,793.0	7,794.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,824.0	7,826.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,850.0	7,851.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			7,985.0	7,986.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/15/2012 12:00AM	MESAVERDE/			8,019.0	8,021.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			8,050.0	8,051.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			8,097.0	8,099.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			8,138.0	8,140.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			8,184.0	8,185.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			8,251.0	8,252.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			8,283.0	8,284.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			8,293.0	8,294.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			8,308.0	8,309.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			8,333.0	8,334.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/15/2012 12:00AM	MESAVERDE/			8,373.0	8,374.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/16/2012 12:00AM	MESAVERDE/			8,386.0	8,387.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/17/2012 12:00AM	MESAVERDE/			8,400.0	8,401.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/18/2012 12:00AM	MESAVERDE/			8,415.0	8,416.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/19/2012 12:00AM	MESAVERDE/			8,429.0	8,430.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/20/2012 12:00AM	MESAVERDE/			8,478.0	8,479.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/21/2012 12:00AM	MESAVERDE/			8,517.0	8,518.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/22/2012 12:00AM	MESAVERDE/			8,566.0	8,567.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 3 Plots

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36E1BS GREEN		Spud Date: 2/28/2012	
Project: UTAH-UINTAH		Site: NBU 922-36D PAD	Rig Name No: MILES-GRAY 1/1, MILES-GRAY 1/1
Event: COMPLETION		Start Date: 5/11/2012	End Date: 5/25/2012
Active Datum: RKB @5,101.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/11/2012	7:00 - 8:00	1.00	COMP	33		P		RU HOT OILER, SURFACE CSG HAD A POP OFF INSTALLED, & 130 PSI ON CSG  PRESSURED TO 1500 PSI, LOST 550 PSI IN 5 MIN, HELD 950 PSI DID TEST 2 TIMES WITH SAME RESULTS. RD HOT OILER MOVED TO NBU 1022-8B PAD
5/12/2012	-							
5/18/2012	7:00 - 7:15	0.25	COMP	48		P		HSM & JSA W/B & C QUICK TEST.
	7:15 - 8:37	1.37	COMP	33	C	P		SURFACE CSG 150 PSI. WHP 0 PSI. FILL PRODUCTION CSG. MIRU B & C QUICK TEST. PSI TEST T/ 1037 PSI. HELD FOR 15 MIN - LOST 6 PSI. PSI TEST T/ 3512 PSI. HELD FOR 15 MIN - LOST 31 PSI. 1ST PSI TEST T/ 7068 PSI. HELD FOR 30 MIN - LOST 62 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SWIFN SURFACE CSG 165 PSI.
	10:37 - 11:37	1.00	COMP	37	B	P		MIRU CASED HOLE SOLUTIONS PERF STG 1) P/U 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 120 DEG PHSG. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. SWI - SDFWE.
5/21/2012	6:45 - 7:00	0.25	COMP	48		P		HSM & JSA W/SUPERIOR WELL SERVICE & CASED HOLE SOLUTIONS
	8:39 - 9:02	0.38	COMP	36	E	P		MIRU SUPERIOR WELL SERVICES. PT SURFACE EQUIPMENT TO 8039 PSI & HOLD 8 MIN. LOST 100 PSI. FRAC STG 1) WHP 2005 PSI. BRK DWN PERF 4.1 BPM @ 3492 PSI. ISIP 2593 PSI. FG. 0.74. EST INJ RATE 52.9 BPM @ 4745 PSI. 240/24 PERFS OPEN - 100%. MP 5931 PSI, MR 53.2 BPM, AP 4974 PSI, AR 52.8 BPM. ISIP 2403 PSI, FG. 0.72, NPI (-190) PSI. PMP'D 928 BBL SLK WTR, 18,701 LBS 30/50 SND. X-OVER FOR WL.
	9:02 - 10:02	1.00	COMP	37	B	P		PERF STG 2) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 90 DEG PHSG. RIH SET CBP @ 8363'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: MILES-GRAY 1/1, MILES-GRAY 1/1

Event: COMPLETION

Start Date: 5/11/2012

End Date: 5/25/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NW/NW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	10:07 - 10:36	0.48	COMP	36	E	P		FRAC STG 2) WHP 411 PSI. BRK DWN PERF 7.5 BPM @ 6915 PSI. ISIP 2810 PSI. FG. 0.75. EST INJ RATE 52.8 BPM @ 4919 PSI. 24/24 PERFS OPEN - 100%. MP 6915 PSI, MR 53.1 BPM, AP 4554 PSI, AR 51.9 BPM. ISIP 2534 PSI, FG. 0.75, NPI (-76) PSI. PMP'D 778 BBLS SLK WTR, 16,652 LBS 30/50 SND. X-OVER FOR WL
	10:36 - 11:36	1.00	COMP	37	B	P		PERF STG 3) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 120 DEG PHSG. RIH SET CBP @ 8363'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC
	12:57 - 13:28	0.52	COMP	36	E	P		FRAC STG 3) WHP 2106 PSI. BRK DWN PERF 4.2 BPM @ 3263 PSI. ISIP 2454 PSI. FG. 0.74. EST INJ RATE 53 BPM @ 4460 PSI. 24/24 PERFS OPEN - 100%. MP 6987 PSI, MR 54 BPM, AP 3995 PSI, AR 49.8 BPM. ISIP 2454 PSI, FG. 0.74, NPI 0 PSI. PMP'D 1301 BBLS SLK WTR, 00000 LBS 30/50 SND. X-OVER FOR WL
	14:03 - 15:03	1.00	COMP	37	B	P		PERF STG 4) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 120 DEG PHSG. RIH SET CBP @ 7881'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC
	15:05 - 15:36	0.52	COMP	36	E	P		FRAC STG 4) WHP 1264 PSI. BRK DWN PERF 9.8 BPM @ 6915 PSI. ISIP 1864 PSI. FG. 0.68. EST INJ RATE 50.9 BPM @ 4143 PSI. 24/24 PERFS OPEN - 100%. MP 6898 PSI, MR 51.6 BPM, AP 4380 PSI, AR 50.9 BPM. ISIP 2008 PSI, FG. 0.70, NPI 144 PSI. PMP'D 1259 BBLS SLK WTR, 30,605 LBS 30/50 SND. X-OVER FOR WL
	15:41 - 16:41	1.00	COMP	37	B	P		PERF STG 5) P/U HALCO 8K CBP & 3 1/8" EXP GNS, 23 GRM, 0.36 HOLE, 120 DEG PHSG. RIH SET CBP @ 7568'. PERF MESA VERDE AS PER PERF DESIGN. POOH & HANG BACK LUB. X-OVER FOR FRAC. SWI - SDFN.

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: MILES-GRAY 1/1, MILES-GRAY 1/1

Event: COMPLETION

Start Date: 5/11/2012

End Date: 5/25/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NW/NW/0/9/S/22/E/36/0/0/26/PM/N/1067/VW/0/1000/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/22/2012	7:00 - 18:00	11.00	COMP	36	B	P		<p>054 BBLSFrac STG 5)WHP 1626 PSI, BRK 3792 PSI @ 4.2 BPM. ISIP 1811 PSI, FG .68.            CALC HOLES OPEN @ 51.3 BPM @ 4567 PSI = 90% HOLES OPEN. (22/24 HOLES OPEN)            ISIP 2256 PSI, FG .74 NPI 445 PSI.            MP 5566 PSI, MR 52.3 BPM, AP 4348 PSI, AR 51.5 BPM            PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 6)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7298' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 6)WHP 1603 PSI, BRK 2511 PSI @ 4.2 BPM. ISIP 1698 PSI, FG .68            CALC HOLES OPEN @ 53.6 BPM @ 4601 PSI = 90% HOLES OPEN. (22/24 HOLES OPEN)            ISIP 2195 PSI, FG .74 NPI 497 PSI.            MP 4725 PSI, MR 54.2 BPM, AP 4202 PSI, AR 53.7 BPM            PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PU 4 1/2 8K HAL CBP RIH SET CBP @ 7032'. POOH. RD FRAC WL CREWS SWIFN</p> <p>TOTAL SAND= 137,364 #            TOTAL CLFL= 6,053 BBLs</p>
5/24/2012	7:00 - 7:15	0.25	COMP	48		P		JSA-SAFETY MEETING
	7:15 - 9:00	1.75	COMP	30	A	P		ROAD RIG FROM NBU 922-25DICS TO LOC, MIRU SERVICE UNIT
	9:00 - 11:00	2.00	COMP	30	F	P		N/D WH, N/U BOPS AND TBG EQUIP,
	11:00 - 15:30	4.50	COMP	31	I	P		P/U 3 7/8" BIT RIH W/ 2 3/8" L-80 TBG W/ TALLY AND BROACH TBG IN, TAG KILL PLUG @ 7037', P/O 2 JTS, R/U DRILL EQUIP, PREPARE TO DRILL OUT IN AM, SDFN
5/25/2012	7:00 - 7:15	0.25	COMP	48		P		JSA-SAFETY MEETING
	7:15 - 8:00	0.75	COMP	30	D	P		PRESSURE TEST CSG AND BOPS TO 3000#, OK, R/U SWIVEL, ESTB CIRC,

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

Well: NBU 922-36E1BS GREEN

Spud Date: 2/28/2012

Project: UTAH-UINTAH

Site: NBU 922-36D PAD

Rig Name No: MILES-GRAY 1/1, MILES-GRAY 1/1

Event: COMPLETION

Start Date: 5/11/2012

End Date: 5/25/2012

Active Datum: RKB @5,101.00usft (above Mean Sea Level)

UWI: NW/NW/0/9/S/22/E/36/0/0/26/PM/N/1067/W/0/1000/0/0

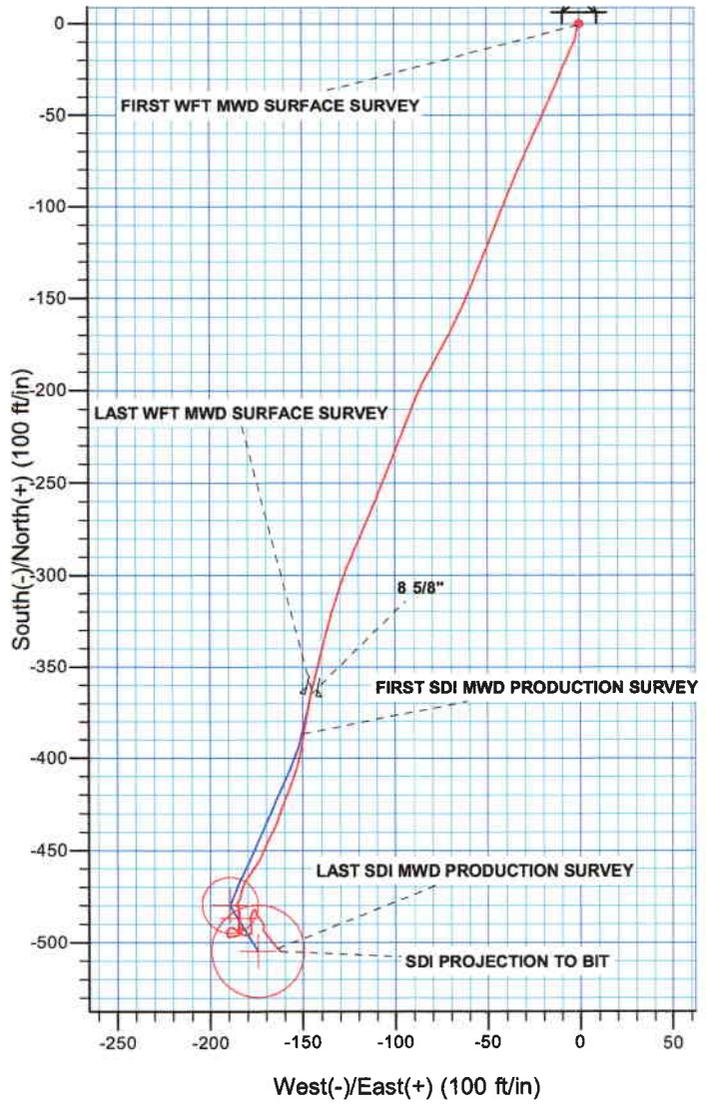
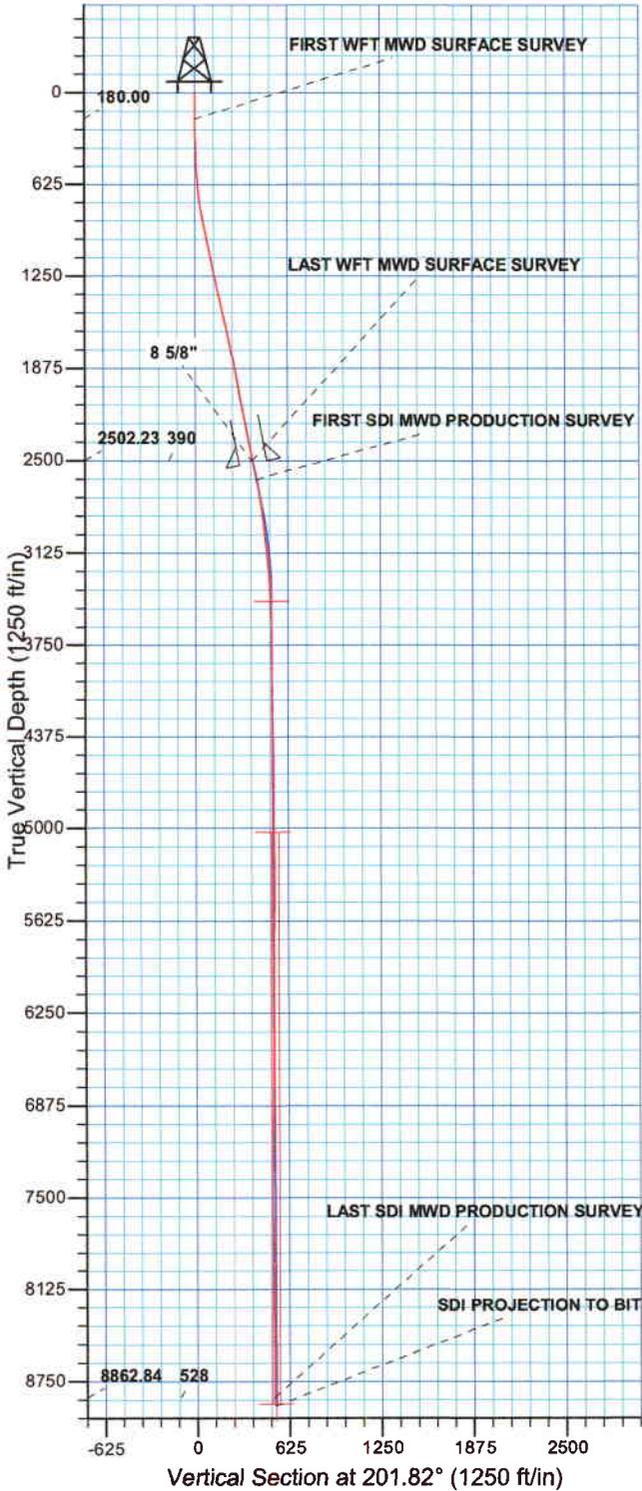
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 15:00	7.00	COMP	44	D	P		<p>( DRLG CBP #1 ) 7032 ' , DRILL OUT HALLIBURTON 8K CBP IN 8 MIN, 500 # DIFF, RIH TAG @ 7268 ' , C/O 30 ' SAND, FCP = 150# ,</p> <p>( DRLG CBP #2 ) 7298 ' , DRILL OUT HALLIBURTON 8K CBP IN 8 MIN, 300# DIFF, RIH TAG @ 7538 ' , C/O 30 ' SAND, FCP = 200 # ,</p> <p>( DRLG CBP #3 ) 7568 ' , DRILL OUT HALLIBURTON 8K CBP IN 8 MIN, 300 # DIFF, RIH TAG @ 7851 ' , C/O 30' SAND, FCP = 400 # ,</p> <p>( DRLG CBP #4 ) 7881 ' , DRILL OUT HALLIBURTON 8K CBP IN 8 MIN, 300 # DIFF, RIH TAG @ 8140 ' , C/O 30 ' SAND, FCP = 450 # ,</p> <p>( DRLG CBP #5 ) 8170 ' , DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 400 # DIFF, RIH TAG @ 8335 ' , C/O 28 ' SAND, FCP = 450 # ,</p> <p>( DRLG CBP #6 ) 8363 ' , DRILL OUT HALLIBURTON 8K CBP IN 10 MIN, 200 # DIFF, RIH TAG @ 8809 ' , C/O 0 ' SAND TO PBSD @ 8809 ' , FCP = 450 # ,</p> <p>CIRC WELL CLEAN,R/D SWMVEL, POOH LAY DN 17 JTS ON TRAILER, LAND TBG W/ TBG HANGER, W/ 257 JTS 2 3/8" L-80 TBG, @ 8134.34 ' , EOT @ 8151.37 ' , R/D BOPS, DROP BALL DN TBG, N/U BOPS, PRESSURE TEST FLOW LINES TO 3000# , PUMP BALL OFF AT 2100 # , TURN WELL OVER TO FLOW BACK CREW, FTP = 1850 # , SICP = 2150# , WITH 4637 BBLS WTR LEFT TO RECOVER,</p> <p>KB = 14.00' HANGER = .83' 257 JTS 2 3/8" L-80 TBG = 8134.34' XN-NIPPLE 1.875" = 2.20'</p> <p>EOT = 8151.37'</p> <p>290 JTS 2 3/8" L-80 TBG DELIVERD 257 JTS 2 3/8" L-80 TBG USED 33 JTS 2 3/8" L-80 TBG RETURNED</p>
	13:45 - 14:15	0.50	COMP	50				<p>WELL TURNED TO SALES @ 13:45 HR ON 5/25/2012, 1380 MCFD, 1680 BWPD, FCP 2150#, FTP 2150#, 20/64" CK.</p>
6/4/2012	7:00 -			50				<p>WELL IP'D ON 6/4/12 - 3187 MCFD, 0 BOPD, 0 BWPD, CP 2160#, FTP 6743#, CK 20/64, LP 138#, 24 HRS</p>

WELL DETAILS: NBU 922-36E1BS					
GL 9087' & 14' @ 5101.00ft (ENSIGN 138)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14528966.99	2090386.44	39.996890	-108.393481



Azimuths to True North  
 Magnetic North: 11.07°

Magnetic Field  
 Strength: 52375.5snT  
 Dip Angle: 65.89°  
 Date: 02/09/2011  
 Model: IGRF2010



PROJECT DETAILS: Uintah County, UT UTM12
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 - Western US
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 36 T9S R22E
System Datum: Mean Sea Level

Design: OH (NBU 922-36E1BS/OH)
Created By: Gabe Kendall Date: 11:18, April 24 2012



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

**Uintah County, UT UTM12**

**NBU 922-36D PAD**

**NBU 922-36E1BS**

**OH**

**Design: OH**

## **Standard Survey Report**

**24 April, 2012**



<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>Local Coordinate Reference:</b>	Well NBU 922-36E1BS
<b>Project:</b>	Uintah County, UT UTM12	<b>TVD Reference:</b>	GL 5087' & 14' @ 5101.00ft (ENSIGN 138)
<b>Site:</b>	NBU 922-36D PAD	<b>MD Reference:</b>	GL 5087' & 14' @ 5101.00ft (ENSIGN 138)
<b>Well:</b>	NBU 922-36E1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Uintah County, UT UTM12		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 922-36D PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,528,971.38 usft	<b>Latitude:</b>	39.996903
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,090,347.02 usft	<b>Longitude:</b>	-109.393550
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.03 °

<b>Well</b>	NBU 922-36E1BS, 1067 FNL 1000 FWL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,528,967.00 usft	<b>Latitude:</b>	39.996890
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,090,366.44 usft	<b>Longitude:</b>	-109.393481
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,087.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	02/09/11	11.07	65.89	52,376

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	201.82	

<b>Survey Program</b>	<b>Date</b>	04/24/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
10.00	2,540.00	Survey #1 WFT MWD SURFACE (OH)	MWD	MWD - Standard	
2,671.00	8,970.00	Survey #2 SDI MWD PRODUCTION (OH)	MWD SDI	MWD - Standard ver 1.0.1	

<b>Survey</b>	<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
	180.00	0.68	223.24	180.00	-0.73	-0.69	0.94	0.40	0.40	0.00
	<b>FIRST WFT MWD SURFACE SURVEY</b>									
	260.00	1.03	190.02	259.99	-1.79	-1.14	2.08	0.74	0.44	-41.53
	350.00	2.02	183.14	349.95	-4.17	-1.37	4.38	1.12	1.10	-7.64
	440.00	2.56	196.60	439.88	-7.68	-2.03	7.88	0.84	0.60	14.96
	530.00	3.56	205.61	529.75	-12.13	-3.81	12.67	1.23	1.11	10.01
	620.00	4.88	204.10	619.51	-18.14	-6.58	19.29	1.47	1.47	-1.68
	710.00	6.50	201.98	709.06	-26.36	-10.05	28.21	1.81	1.80	-2.36

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36D PAD  
**Well:** NBU 922-36E1BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36E1BS  
**TVD Reference:** GL 5087' & 14' @ 5101.00ft (ENSIGN 138)  
**MD Reference:** GL 5087' & 14' @ 5101.00ft (ENSIGN 138)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
800.00	8.19	203.11	798.32	-36.98	-14.48	39.71	1.88	1.88	1.26	
890.00	9.94	204.48	887.19	-49.95	-20.21	53.88	1.96	1.94	1.52	
980.00	11.63	203.36	975.60	-65.34	-27.03	70.71	1.89	1.88	-1.24	
1,070.00	12.31	202.98	1,063.64	-82.51	-34.37	89.37	0.76	0.76	-0.42	
1,160.00	12.88	202.36	1,151.48	-100.61	-41.93	108.99	0.65	0.63	-0.69	
1,250.00	12.88	200.98	1,239.21	-119.26	-49.34	129.05	0.34	0.00	-1.53	
1,340.00	11.44	200.48	1,327.19	-136.99	-56.05	148.01	1.60	-1.60	-0.56	
1,430.00	11.63	206.11	1,415.38	-153.49	-63.17	165.98	1.27	0.21	6.26	
1,520.00	12.25	205.73	1,503.43	-170.24	-71.31	184.55	0.69	0.69	-0.42	
1,610.00	13.25	210.23	1,591.21	-187.75	-80.65	204.28	1.57	1.11	5.00	
1,700.00	12.69	202.23	1,678.92	-205.82	-89.58	224.37	2.09	-0.62	-8.89	
1,790.00	12.94	200.73	1,766.68	-224.39	-96.89	244.33	0.46	0.28	-1.67	
1,880.00	11.69	201.23	1,854.61	-242.32	-103.75	263.52	1.39	-1.39	0.56	
1,970.00	10.06	202.48	1,942.99	-258.08	-110.06	280.50	1.83	-1.81	1.39	
2,060.00	9.94	204.11	2,031.62	-272.43	-116.24	296.12	0.34	-0.13	1.81	
2,150.00	10.63	202.98	2,120.17	-287.17	-122.66	312.18	0.80	0.77	-1.26	
2,240.00	11.50	199.11	2,208.50	-303.29	-128.83	329.44	1.27	0.97	-4.30	
2,330.00	11.69	196.86	2,296.66	-320.49	-134.41	347.49	0.54	0.21	-2.50	
2,420.00	12.13	194.11	2,384.73	-338.39	-139.36	365.94	0.80	0.49	-3.06	
2,510.00	11.44	192.86	2,472.83	-356.26	-143.66	384.13	0.82	-0.77	-1.39	
2,540.00	11.52	192.47	2,502.23	-362.08	-144.97	390.03	0.37	0.27	-1.30	
<b>LAST WFT MWD SURFACE SURVEY</b>										
2,671.00	10.30	187.92	2,630.86	-386.46	-149.40	414.30	1.14	-0.93	-3.47	
<b>FIRST SDI MWD PRODUCTION SURVEY</b>										
2,766.00	9.23	194.88	2,724.49	-402.23	-152.53	430.11	1.68	-1.13	7.33	
2,861.00	8.79	202.26	2,818.32	-416.32	-157.24	444.93	1.30	-0.46	7.77	
2,955.00	8.16	198.17	2,911.29	-429.30	-162.04	458.77	0.93	-0.67	-4.35	
3,050.00	6.95	208.59	3,005.47	-440.76	-166.89	471.21	1.92	-1.27	10.97	
3,144.00	6.30	202.17	3,098.84	-450.53	-171.56	482.02	1.05	-0.69	-6.83	
3,239.00	5.45	213.69	3,193.35	-459.11	-176.03	491.64	1.53	-0.89	12.13	
3,334.00	4.05	213.46	3,288.02	-465.66	-180.38	499.34	1.47	-1.47	-0.24	
3,428.00	2.46	197.46	3,381.87	-470.35	-182.82	504.61	1.93	-1.69	-17.02	
3,523.00	2.66	188.52	3,476.77	-474.48	-183.76	508.79	0.47	0.21	-9.41	
3,617.00	1.14	223.27	3,570.72	-477.32	-184.72	511.78	1.96	-1.62	36.97	
3,712.00	1.45	197.04	3,665.70	-479.15	-185.72	513.86	0.70	0.33	-27.61	
3,806.00	0.35	75.00	3,759.69	-480.22	-185.79	514.87	1.77	-1.17	-129.83	
3,901.00	0.56	145.43	3,854.68	-480.52	-185.25	514.95	0.58	0.22	74.14	
3,995.00	0.79	156.38	3,948.68	-481.50	-184.73	515.66	0.28	0.24	11.65	
4,090.00	1.01	173.33	4,043.67	-482.93	-184.37	516.86	0.36	0.23	17.84	
4,184.00	1.12	179.15	4,137.65	-484.67	-184.26	518.43	0.16	0.12	6.19	
4,279.00	1.32	182.14	4,232.63	-486.69	-184.28	520.32	0.22	0.21	3.15	
4,374.00	1.26	184.97	4,327.60	-488.83	-184.42	522.35	0.09	-0.06	2.98	
4,468.00	1.32	186.00	4,421.58	-490.93	-184.62	524.38	0.07	0.06	1.10	

**Company:** Kerr McGee Oil and Gas Onshore LP  
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**Site:** NBU 922-36D PAD  
**Well:** NBU 922-36E1BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36E1BS  
**TVD Reference:** GL 5087' & 14' @ 5101.00ft (ENSIGN 138)  
**MD Reference:** GL 5087' & 14' @ 5101.00ft (ENSIGN 138)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,563.00	1.25	185.66	4,516.56	-493.05	-184.84	526.43	0.07	-0.07	-0.36
4,657.00	1.32	316.43	4,610.55	-493.29	-185.68	526.96	2.49	0.07	139.12
4,752.00	0.79	300.53	4,705.53	-492.16	-187.00	526.41	0.63	-0.56	-16.74
4,846.00	0.62	286.99	4,799.52	-491.68	-188.05	526.35	0.25	-0.18	-14.40
4,941.00	0.62	264.51	4,894.52	-491.58	-189.05	526.63	0.25	0.00	-23.66
5,036.00	0.71	227.65	4,989.51	-492.03	-190.00	527.40	0.45	0.09	-38.80
5,130.00	0.62	217.45	5,083.50	-492.82	-190.73	528.41	0.16	-0.10	-10.85
5,224.00	0.81	176.91	5,177.50	-493.89	-191.01	529.50	0.56	0.20	-43.13
5,319.00	1.06	181.79	5,272.48	-495.44	-191.00	530.94	0.28	0.26	5.14
5,414.00	0.41	103.37	5,367.48	-496.40	-190.70	531.71	1.11	-0.68	-82.55
5,508.00	0.46	101.29	5,461.48	-496.55	-190.00	531.60	0.06	0.05	-2.21
5,603.00	1.64	76.55	5,556.46	-496.31	-188.30	530.74	1.30	1.24	-26.04
5,697.00	1.41	80.10	5,650.42	-495.80	-185.86	529.36	0.26	-0.24	3.78
5,792.00	1.23	30.79	5,745.40	-494.72	-184.18	527.73	1.17	-0.19	-51.91
5,887.00	0.92	40.25	5,840.39	-493.26	-183.17	526.00	0.37	-0.33	9.96
5,981.00	0.77	56.05	5,934.38	-492.33	-182.16	524.77	0.29	-0.16	16.81
6,076.00	0.60	283.97	6,029.37	-491.86	-182.11	524.31	1.32	-0.18	-139.03
6,170.00	0.52	271.18	6,123.37	-491.73	-183.01	524.52	0.16	-0.09	-13.61
6,265.00	0.53	235.13	6,218.36	-491.97	-183.80	525.04	0.34	0.01	-37.95
6,360.00	0.99	229.36	6,313.36	-492.76	-184.79	526.14	0.49	0.48	-6.07
6,454.00	0.53	101.45	6,407.35	-493.37	-184.98	526.78	1.47	-0.49	-136.07
6,549.00	0.70	133.71	6,502.35	-493.86	-184.13	526.92	0.40	0.18	33.96
6,643.00	0.77	154.44	6,596.34	-494.83	-183.44	527.56	0.29	0.07	22.05
6,738.00	1.45	91.50	6,691.32	-495.43	-181.96	527.57	1.36	0.72	-66.25
6,832.00	1.42	91.06	6,785.29	-495.49	-179.61	526.75	0.03	-0.03	-0.47
6,927.00	1.23	8.47	6,880.28	-494.50	-178.28	525.34	1.85	-0.20	-86.94
7,021.00	1.38	4.88	6,974.25	-492.37	-178.04	523.27	0.18	0.16	-3.82
7,116.00	1.85	348.87	7,069.21	-489.73	-178.24	520.89	0.68	0.49	-16.85
7,210.00	1.58	356.16	7,163.17	-486.95	-178.62	518.45	0.37	-0.29	7.76
7,305.00	1.20	19.92	7,258.14	-484.71	-178.36	516.28	0.72	-0.40	25.01
7,400.00	0.96	29.35	7,353.13	-483.08	-177.64	514.49	0.31	-0.25	9.93
7,494.00	0.91	34.83	7,447.11	-481.78	-176.82	512.98	0.11	-0.05	5.83
7,589.00	0.84	160.91	7,542.11	-481.82	-176.16	512.78	1.64	-0.07	132.72
7,684.00	1.18	161.89	7,637.09	-483.40	-175.63	514.05	0.36	0.36	1.03
7,778.00	0.97	148.47	7,731.08	-485.00	-174.92	515.27	0.35	-0.22	-14.28
7,873.00	1.06	142.41	7,826.06	-486.38	-173.96	516.20	0.15	0.09	-6.38
7,967.00	1.23	138.02	7,920.04	-487.82	-172.75	517.08	0.20	0.18	-4.67
8,062.00	1.41	143.29	8,015.02	-489.52	-171.37	518.15	0.23	0.19	5.55
8,156.00	0.97	207.90	8,109.00	-491.15	-171.05	519.54	1.41	-0.47	68.73
8,251.00	0.59	199.36	8,203.99	-492.32	-171.59	520.83	0.42	-0.40	-8.99
8,345.00	0.78	148.56	8,297.99	-493.32	-171.42	521.69	0.65	0.20	-54.04
8,440.00	1.05	140.34	8,392.98	-494.54	-170.53	522.50	0.32	0.28	-8.65
8,534.00	1.11	146.03	8,486.96	-495.96	-169.47	523.42	0.13	0.06	6.05
8,629.00	1.19	142.05	8,581.94	-497.50	-168.35	524.43	0.12	0.08	-4.19

**Company:** Kerr McGee Oil and Gas Onshore LP  
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**MD Reference:** GL 5087' & 14' @ 5101.00ft (ENSIGN 138)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
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**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,726.00	1.26	141.99	8,678.92	-499.14	-167.07	525.48	0.07	0.07	-0.06	
8,821.00	1.76	143.55	8,773.88	-501.13	-165.56	526.77	0.53	0.53	1.64	
8,910.00	1.93	135.47	8,862.84	-503.30	-163.70	528.09	0.35	0.19	-9.08	
<b>LAST SDI MWD PRODUCTION SURVEY</b>										
8,970.00	1.93	135.47	8,922.80	-504.74	-162.28	528.90	0.00	0.00	0.00	
<b>SDI PROJECTION TO BIT</b>										

**Casing Points**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,557.00	2,518.89	8 5/8"	8.625	11.000

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
180.00	180.00	-0.73	-0.69	FIRST WFT MWD SURFACE SURVEY
2,540.00	2,502.23	-362.08	-144.97	LAST WFT MWD SURFACE SURVEY
2,671.00	2,630.86	-386.46	-149.40	FIRST SDI MWD PRODUCTION SURVEY
8,910.00	8,862.84	-503.30	-163.70	LAST SDI MWD PRODUCTION SURVEY
8,970.00	8,922.80	-504.74	-162.28	SDI PROJECTION TO BIT

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



**Scientific Drilling**

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

**Uintah County, UT UTM12  
NBU 922-36D PAD  
NBU 922-36E1BS**

**OH**

**Design: OH**

## **Survey Report - Geographic**

**24 April, 2012**

**Anadarko**   
Petroleum Corporation

<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>Local Coordinate Reference:</b>	Well NBU 922-36E1BS
<b>Project:</b>	Uintah County, UT UTM12	<b>TVD Reference:</b>	GL 5087' & 14' @ 5101.00ft (ENSIGN 138)
<b>Site:</b>	NBU 922-36D PAD	<b>MD Reference:</b>	GL 5087' & 14' @ 5101.00ft (ENSIGN 138)
<b>Well:</b>	NBU 922-36E1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Uintah County, UT UTM12		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 922-36D PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,528,971.38 usft	<b>Latitude:</b>	39.996903
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,090,347.02 usft	<b>Longitude:</b>	-109.393550
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.03 °

<b>Well</b>	NBU 922-36E1BS, 1067 FNL 1000 FWL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,528,967.00 usft	<b>Latitude:</b>	39.996890
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,090,366.44 usft	<b>Longitude:</b>	-109.393481
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,087.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	02/09/11	11.07	65.89	52,376

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	201.82	

<b>Survey Program</b>	<b>Date</b>	04/24/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
10.00	2,540.00	Survey #1 WFT MWD SURFACE (OH)	MWD	MWD - Standard	
2,671.00	8,970.00	Survey #2 SDI MWD PRODUCTION (OH)	MWD SDI	MWD - Standard ver 1.0.1	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,528,967.00	2,090,366.44	39.996890	-109.393481
10.00	0.00	0.00	10.00	0.00	0.00	14,528,967.00	2,090,366.44	39.996890	-109.393481
180.00	0.68	223.24	180.00	-0.73	-0.69	14,528,966.25	2,090,365.76	39.996888	-109.393484
<b>FIRST WFT MWD SURFACE SURVEY</b>									
260.00	1.03	190.02	259.99	-1.79	-1.14	14,528,965.19	2,090,365.33	39.996885	-109.393485
350.00	2.02	183.14	349.95	-4.17	-1.37	14,528,962.81	2,090,365.14	39.996879	-109.393486
440.00	2.56	196.60	439.88	-7.68	-2.03	14,528,959.28	2,090,364.54	39.996869	-109.393489
530.00	3.56	205.61	529.75	-12.13	-3.81	14,528,954.81	2,090,362.84	39.996857	-109.393495
620.00	4.88	204.10	619.51	-18.14	-6.58	14,528,948.74	2,090,360.18	39.996840	-109.393505
710.00	6.50	201.98	709.06	-26.36	-10.05	14,528,940.46	2,090,356.86	39.996818	-109.393517
800.00	8.19	203.11	798.32	-36.98	-14.48	14,528,929.76	2,090,352.63	39.996789	-109.393533

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36D PAD  
**Well:** NBU 922-36E1BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36E1BS  
**TVD Reference:** GL 5087' & 14' @ 5101.00ft (ENSGN 138)  
**MD Reference:** GL 5087' & 14' @ 5101.00ft (ENSGN 138)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
890.00	9.94	204.48	887.19	-49.95	-20.21	14,528,916.70	2,090,347.13	39.996753	-109.393553
980.00	11.63	203.36	975.60	-65.34	-27.03	14,528,901.18	2,090,340.59	39.996711	-109.393578
1,070.00	12.31	202.98	1,063.64	-82.51	-34.37	14,528,883.89	2,090,333.56	39.996664	-109.393604
1,160.00	12.88	202.36	1,151.48	-100.61	-41.93	14,528,865.64	2,090,326.32	39.996614	-109.393631
1,250.00	12.88	200.98	1,239.21	-119.26	-49.34	14,528,846.87	2,090,319.25	39.996563	-109.393657
1,340.00	11.44	200.48	1,327.19	-136.99	-56.05	14,528,829.03	2,090,312.86	39.996514	-109.393681
1,430.00	11.63	206.11	1,415.38	-153.49	-63.17	14,528,812.39	2,090,306.04	39.996469	-109.393707
1,520.00	12.25	205.73	1,503.43	-170.24	-71.31	14,528,795.50	2,090,298.21	39.996423	-109.393736
1,610.00	13.25	210.23	1,591.21	-187.75	-80.65	14,528,777.82	2,090,289.19	39.996375	-109.393769
1,700.00	12.69	202.23	1,678.92	-205.82	-89.58	14,528,759.60	2,090,280.58	39.996325	-109.393801
1,790.00	12.94	200.73	1,766.68	-224.39	-96.89	14,528,740.90	2,090,273.61	39.996274	-109.393827
1,880.00	11.69	201.23	1,854.61	-242.32	-103.75	14,528,722.85	2,090,267.07	39.996225	-109.393852
1,970.00	10.06	202.48	1,942.99	-258.08	-110.06	14,528,706.98	2,090,261.04	39.996182	-109.393874
2,060.00	9.94	204.11	2,031.62	-272.43	-116.24	14,528,692.51	2,090,255.12	39.996142	-109.393896
2,150.00	10.63	202.98	2,120.17	-287.17	-122.66	14,528,677.67	2,090,248.98	39.996102	-109.393919
2,240.00	11.50	199.11	2,208.50	-303.29	-128.83	14,528,661.44	2,090,243.09	39.996057	-109.393941
2,330.00	11.69	196.86	2,296.66	-320.49	-134.41	14,528,644.14	2,090,237.82	39.996010	-109.393961
2,420.00	12.13	194.11	2,384.73	-338.39	-139.36	14,528,626.16	2,090,233.19	39.995961	-109.393979
2,510.00	11.44	192.86	2,472.83	-356.26	-143.66	14,528,608.21	2,090,229.22	39.995912	-109.393994
2,540.00	11.52	192.47	2,502.23	-362.08	-144.97	14,528,602.36	2,090,228.02	39.995896	-109.393999
<b>LAST WFT MWD SURFACE SURVEY</b>									
2,671.00	10.30	187.92	2,630.86	-386.46	-149.40	14,528,577.91	2,090,224.02	39.995829	-109.394015
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
2,766.00	9.23	194.88	2,724.49	-402.23	-152.53	14,528,562.08	2,090,221.18	39.995786	-109.394026
2,861.00	8.79	202.26	2,818.32	-416.32	-157.24	14,528,547.92	2,090,216.73	39.995747	-109.394043
2,955.00	8.16	198.17	2,911.29	-429.30	-162.04	14,528,534.85	2,090,212.16	39.995711	-109.394060
3,050.00	6.95	208.59	3,005.47	-440.76	-166.89	14,528,523.31	2,090,207.52	39.995680	-109.394077
3,144.00	6.30	202.17	3,098.84	-450.53	-171.56	14,528,513.46	2,090,203.03	39.995653	-109.394094
3,239.00	5.45	213.69	3,193.35	-459.11	-176.03	14,528,504.79	2,090,198.71	39.995630	-109.394110
3,334.00	4.05	213.46	3,288.02	-465.66	-180.38	14,528,498.16	2,090,194.48	39.995612	-109.394125
3,428.00	2.46	197.46	3,381.87	-470.35	-182.82	14,528,493.43	2,090,192.13	39.995599	-109.394134
3,523.00	2.66	188.52	3,476.77	-474.48	-183.76	14,528,489.29	2,090,191.26	39.995587	-109.394137
3,617.00	1.14	223.27	3,570.72	-477.32	-184.72	14,528,486.43	2,090,190.35	39.995580	-109.394141
3,712.00	1.45	197.04	3,665.70	-479.15	-185.72	14,528,484.58	2,090,189.38	39.995575	-109.394144
3,806.00	0.35	75.00	3,759.69	-480.22	-185.79	14,528,483.51	2,090,189.33	39.995572	-109.394144
3,901.00	0.56	145.43	3,854.68	-480.52	-185.25	14,528,483.21	2,090,189.88	39.995571	-109.394143
3,995.00	0.79	156.38	3,948.68	-481.50	-184.73	14,528,482.25	2,090,190.42	39.995568	-109.394141
4,090.00	1.01	173.33	4,043.67	-482.93	-184.37	14,528,480.83	2,090,190.80	39.995564	-109.394139
4,184.00	1.12	179.15	4,137.65	-484.67	-184.26	14,528,479.09	2,090,190.94	39.995559	-109.394139
4,279.00	1.32	182.14	4,232.63	-486.69	-184.28	14,528,477.07	2,090,190.95	39.995554	-109.394139
4,374.00	1.26	184.97	4,327.60	-488.83	-184.42	14,528,474.93	2,090,190.86	39.995548	-109.394140
4,468.00	1.32	186.00	4,421.58	-490.93	-184.62	14,528,472.82	2,090,190.70	39.995542	-109.394140
4,563.00	1.25	185.66	4,516.56	-493.05	-184.84	14,528,470.70	2,090,190.52	39.995536	-109.394141
4,657.00	1.32	316.43	4,610.55	-493.29	-185.68	14,528,470.45	2,090,189.68	39.995536	-109.394144
4,752.00	0.79	300.53	4,705.53	-492.16	-187.00	14,528,471.55	2,090,188.34	39.995539	-109.394149
4,846.00	0.62	286.99	4,799.52	-491.68	-188.05	14,528,472.01	2,090,187.28	39.995540	-109.394153
4,941.00	0.62	284.51	4,894.52	-491.58	-189.05	14,528,472.09	2,090,186.28	39.995540	-109.394156
5,036.00	0.71	227.65	4,989.51	-492.03	-190.00	14,528,471.63	2,090,185.34	39.995539	-109.394159
5,130.00	0.62	217.45	5,083.50	-492.82	-190.73	14,528,470.82	2,090,184.62	39.995537	-109.394162
5,224.00	0.81	176.91	5,177.50	-493.89	-191.01	14,528,469.75	2,090,184.36	39.995534	-109.394163
5,319.00	1.06	181.79	5,272.48	-495.44	-191.00	14,528,468.20	2,090,184.40	39.995530	-109.394163
5,414.00	0.41	103.37	5,367.48	-496.40	-190.70	14,528,467.25	2,090,184.72	39.995527	-109.394162
5,508.00	0.46	101.29	5,461.48	-496.55	-190.00	14,528,467.11	2,090,185.42	39.995527	-109.394159
5,603.00	1.64	76.55	5,556.46	-496.31	-188.30	14,528,467.11	2,090,187.11	39.995527	-109.394153
5,697.00	1.41	80.10	5,650.42	-495.80	-185.86	14,528,467.93	2,090,189.55	39.995529	-109.394145

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36D PAD  
**Well:** NBU 922-36E1BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36E1BS  
**TVD Reference:** GL 5087' & 14' @ 5101.00ft (ENSIGN 138)  
**MD Reference:** GL 5087' & 14' @ 5101.00ft (ENSIGN 138)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,792.00	1.23	30.79	5,745.40	-494.72	-184.18	14,528,469.04	2,090,191.20	39.995532	-109.394139
5,887.00	0.92	40.25	5,840.39	-493.26	-183.17	14,528,470.52	2,090,192.19	39.995536	-109.394135
5,981.00	0.77	56.05	5,934.38	-492.33	-182.16	14,528,471.46	2,090,193.18	39.995538	-109.394132
6,076.00	0.60	283.97	6,029.37	-491.86	-182.11	14,528,471.94	2,090,193.22	39.995540	-109.394131
6,170.00	0.52	271.18	6,123.37	-491.73	-183.01	14,528,472.05	2,090,192.32	39.995540	-109.394135
6,265.00	0.53	235.13	6,218.36	-491.97	-183.80	14,528,471.80	2,090,191.53	39.995539	-109.394137
6,360.00	0.99	229.36	6,313.36	-492.76	-184.79	14,528,470.99	2,090,190.56	39.995537	-109.394141
6,454.00	0.53	101.45	6,407.35	-493.37	-184.98	14,528,470.37	2,090,190.38	39.995535	-109.394142
6,549.00	0.70	133.71	6,502.35	-493.86	-184.13	14,528,469.90	2,090,191.24	39.995534	-109.394139
6,643.00	0.77	154.44	6,596.34	-494.83	-183.44	14,528,468.95	2,090,191.94	39.995532	-109.394136
6,738.00	1.45	91.50	6,691.32	-495.43	-181.96	14,528,468.37	2,090,193.43	39.995530	-109.394131
6,832.00	1.42	91.06	6,785.29	-495.49	-179.61	14,528,468.36	2,090,195.79	39.995530	-109.394122
6,927.00	1.23	8.47	6,880.28	-494.50	-178.28	14,528,469.37	2,090,197.10	39.995532	-109.394118
7,021.00	1.38	4.88	6,974.25	-492.37	-178.04	14,528,471.50	2,090,197.30	39.995538	-109.394117
7,116.00	1.85	348.87	7,069.21	-489.73	-178.24	14,528,474.14	2,090,197.06	39.995545	-109.394118
7,210.00	1.58	356.16	7,163.17	-486.95	-178.62	14,528,476.91	2,090,196.63	39.995553	-109.394119
7,305.00	1.20	19.92	7,258.14	-484.71	-178.36	14,528,479.16	2,090,196.84	39.995559	-109.394118
7,400.00	0.96	29.35	7,353.13	-483.08	-177.64	14,528,480.80	2,090,197.54	39.995564	-109.394115
7,494.00	0.91	34.83	7,447.11	-481.78	-176.82	14,528,482.11	2,090,198.33	39.995567	-109.394112
7,589.00	0.84	160.91	7,542.11	-481.82	-176.16	14,528,482.09	2,090,198.98	39.995567	-109.394110
7,684.00	1.18	161.89	7,637.09	-483.40	-175.63	14,528,480.51	2,090,199.54	39.995563	-109.394108
7,778.00	0.97	148.47	7,731.08	-485.00	-174.92	14,528,478.92	2,090,200.29	39.995558	-109.394106
7,873.00	1.06	142.41	7,826.06	-486.38	-173.96	14,528,477.56	2,090,201.27	39.995555	-109.394102
7,967.00	1.23	138.02	7,920.04	-487.82	-172.75	14,528,476.14	2,090,202.50	39.995551	-109.394098
8,062.00	1.41	143.29	8,015.02	-489.52	-171.37	14,528,474.47	2,090,203.91	39.995546	-109.394093
8,156.00	0.97	207.90	8,109.00	-491.15	-171.05	14,528,472.85	2,090,204.26	39.995542	-109.394092
8,251.00	0.59	199.36	8,203.99	-492.32	-171.59	14,528,471.67	2,090,203.74	39.995538	-109.394094
8,345.00	0.78	148.56	8,297.99	-493.32	-171.42	14,528,470.67	2,090,203.94	39.995536	-109.394093
8,440.00	1.05	140.34	8,392.98	-494.54	-170.53	14,528,469.46	2,090,204.85	39.995532	-109.394090
8,534.00	1.11	146.03	8,486.96	-495.96	-169.47	14,528,468.06	2,090,205.93	39.995528	-109.394086
8,629.00	1.19	142.05	8,581.94	-497.50	-168.35	14,528,466.54	2,090,207.08	39.995524	-109.394082
8,726.00	1.26	141.99	8,678.92	-499.14	-167.07	14,528,464.93	2,090,208.39	39.995520	-109.394078
8,821.00	1.76	143.55	8,773.88	-501.13	-165.56	14,528,462.96	2,090,209.93	39.995514	-109.394072
8,910.00	1.93	135.47	8,862.84	-503.30	-163.70	14,528,460.83	2,090,211.84	39.995508	-109.394066
<b>LAST SDI MWD PRODUCTION SURVEY</b>									
8,970.00	1.93	135.47	8,922.80	-504.74	-162.28	14,528,459.41	2,090,213.28	39.995504	-109.394061
<b>SDI PROJECTION TO BIT</b>									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,557.00	2,518.89	8 5/8"	8.625	11.000

<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>Local Coordinate Reference:</b>	Well NBU 922-36E1BS
<b>Project:</b>	Uintah County, UT UTM12	<b>TVD Reference:</b>	GL 5087' & 14' @ 5101.00ft (ENSIGN 138)
<b>Site:</b>	NBU 922-36D PAD	<b>MD Reference:</b>	GL 5087' & 14' @ 5101.00ft (ENSIGN 138)
<b>Well:</b>	NBU 922-36E1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
180.00	180.00	-0.73	-0.69	FIRST WFT MWD SURFACE SURVEY
2,540.00	2,502.23	-362.08	-144.97	LAST WFT MWD SURFACE SURVEY
2,671.00	2,630.86	-386.46	-149.40	FIRST SDI MWD PRODUCTION SURVEY
8,910.00	8,862.84	-503.30	-163.70	LAST SDI MWD PRODUCTION SURVEY
8,970.00	8,922.80	-504.74	-162.28	SDI PROJECTION TO BIT

Checked By: _____	Approved By: _____	Date: _____
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