

**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 921-21A2DS				
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES				
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO						<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES				
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.						<b>7. OPERATOR PHONE</b> 720 929-6587				
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217						<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com				
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU 0576			<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>			<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input 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> Ute Tribe			<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>			<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>				
<b>20. LOCATION OF WELL</b>		<b>FOOTAGES</b>		<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>		
LOCATION AT SURFACE		1009 FNL 852 FEL		NENE	21	9.0 S	21.0 E	S		
Top of Uppermost Producing Zone		474 FNL 670 FEL		NENE	21	9.0 S	21.0 E	S		
At Total Depth		474 FNL 670 FEL		NENE	21	9.0 S	21.0 E	S		
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 474			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 1480				
			<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 370			<b>26. PROPOSED DEPTH</b> MD: 10271 TVD: 10200				
<b>27. ELEVATION - GROUND LEVEL</b> 4829			<b>28. BOND NUMBER</b> WYB000291			<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496				
<b>Hole, Casing, and Cement Information</b>										
<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Length</b>	<b>Weight</b>	<b>Grade &amp; Thread</b>	<b>Max Mud Wt.</b>	<b>Cement</b>	<b>Sacks</b>	<b>Yield</b>	<b>Weight</b>
<b>Surf</b>	12.25	9.625	0 - 2640	36.0	J-55 LT&C	0.2	Class G	215	1.18	15.6
							Class G	380	1.18	15.6
<b>Prod</b>	7.875	4.5	0 - 9721	11.6	I-80 LT&C	11.6	Premium Lite High Strength	430	3.38	11.0
			9721 - 10271	11.6	HCP-110 LT&C	11.6	50/50 Poz	1420	1.31	14.3
<b>ATTACHMENTS</b>										
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>										
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER					<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN					
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)					<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER					
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)					<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP					
<b>NAME</b> Danielle Piernot			<b>TITLE</b> Regulatory Analyst			<b>PHONE</b> 720 929-6156				
<b>SIGNATURE</b>			<b>DATE</b> 07/30/2009			<b>EMAIL</b> danielle.piernot@anadarko.com				
<b>API NUMBER ASSIGNED</b> 43047506090000						<b>APPROVAL</b>				



JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-21A2DS  
**API Well Number:** 43047506090000  
**Lease Number:** UTU 0576  
**Surface Owner:** INDIAN  
**Approval Date:** 8/17/2009

**Issued to:**

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

**Authority:**

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

**Duration:**

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

**Commingle:**

In accordance with Cause No. 173-14 commingling 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:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

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.

**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 at 801-538-5284 (please leave a voicemail message if not available)

OR

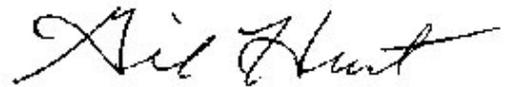
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>

**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:**



Gil Hunt  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0576
<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> Ute Tr
<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 921-21A2DS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>9. API NUMBER:</b> 43047506090000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
	<b>COUNTY:</b> UINTAH
	<b>STATE:</b> UTAH

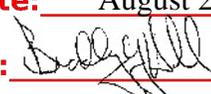
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/12/2010	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

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

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

Date: August 23, 2010  
 By: 

<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/12/2010	



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

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047506090000**

**API:** 43047506090000

**Well Name:** NBU 921-21A2DS

**Location:** 1009 FNL 0852 FEL QTR NENE SEC 21 TWP 090S RNG 210E MER S

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

**Date Original Permit Issued:** 8/11/2009

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

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

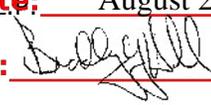
**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Signature:** Danielle Piernot

**Date:** 8/12/2010

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

**Date:** August 23, 2010

**By:** 

**RECEIVED** August 12, 2010

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

AUG 07 2009  
me

FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER **BLM**

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0576
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERRMCGEE OIL&GAS ONSHORE LP Contact: DANIELLE E PIERNOT Email: Danielle.Piernot@anadarko.com		7. If Unit or CA Agreement, Name and No. 891008900A
3a. Address PO BOX 173779 DENVER, CO 80202-3779	3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156	8. Lease Name and Well No. NBU 921-21A2DS
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NENE 1009FNL 852FEL 40.02608 N Lat, 109.55034 W Lon At proposed prod. zone NENE 474FNL 670FEL 40.02755 N Lat, 109.54970 W Lon		9. API Well No. 43-047-50609
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 28 MILES SOUTHEAST OF OURAY, UTAH		10. Field and Pool, or Exploratory NATURAL BUTTES
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 474 FEET	16. No. of Acres in Lease 1480.00	11. Sec., T., R., M., or Blk. and Survey or Area Sec 21 T9S R21E Mer SLB
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 370 FEET	19. Proposed Depth 10271 MD 10200 TVD	12. County or Parish UINTAH
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4829 GL	22. Approximate date work will start 08/17/2009	13. State UT
		17. Spacing Unit dedicated to this well
		20. BLM/BIA Bond No. on file WYB000291
		23. Estimated duration 60-90 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE E PIERNOT Ph: 720-929-6156	Date 07/30/2009
Title REGULATORY ANALYST		
Approved by (Signature)	Name (Printed/Typed) Jerry Kenczka	Date MAY 24 2011
Title Assistant Field Manager Lands & Mineral Resources		
Office VERNAL FIELD OFFICE		

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)



Electronic Submission #72657 verified by the BLM Well Information System  
For KERRMCGEE OIL&GAS ONSHORE LP, sent to the Vernal  
Committed to AFMSS for processing by GAIL JENKINS on 08/03/2009 ()

RECEIVED

JUN 08 2011

DIV. OF OIL, GAS & MINING  
NOS AND POSTED 81009

NOTICE OF APPROVAL

AFMSS# 09GXJ5642AE

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

CONDITIONS OF APPROVAL ATTACHED

55642 AE

NO NOS



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company: Kerr McGee Oil & Gas Onshore LP  
Well No: NBU 921-21A2DS  
API No: 43-047-50609

Location: NENE, Sec 21, T9S R21E  
Lease No: UTU-0576  
Agreement: Natural Buttes Unit

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.
Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.
Spud Notice (Notify BLM Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> .
BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify BLM Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

**SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC CONDITIONS OF APPROVAL**

- Paint old and new facilities "Shadow Gray."
- Move the existing pipeline off the damage area of the well pad.
- Construct diversion ditches around the well pad.
- In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix D), a raptor survey would take place during raptor nesting season (January 1 through September 30) and conduct its operations according to specifications in the guidelines.
- If project construction operation are not initiated before June 17, 2010. KMG should conduct additional biological surveys in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measurements for Uinta Basin Hookless cactus (See Appendix D) and conduct its operations according to its specifications.

**BIA Standard Conditions of Approval:**

- Soil erosion will be mitigated by reseeding all disturbed areas.
- The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.
- An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.
- The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.
- A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- Major low water crossings will be armored with pit run material to protect them from erosion.
- All personnel should refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.

- If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
- Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
- If project construction operations are scheduled to occur after December 31, 2009, KMG should conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002. If active raptor nest are indentified during a new survey, KMG should conduct its operations according to the seasonal restrictions detailed in the Uinta basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Gui9ldlines (See Appendix D).
- USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix D).
- All personnel should refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

**DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC DOWNHOLE CONDITIONS OF APPROVAL**

- A Gamma Ray Log shall be run from TD to surface.

Variations Granted:

Air Drilling:

- Properly lubricated and maintained rotating head, variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore, variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for two truck/trailer mounted air compressors located within 40 feet from the well bore and 60' from the blooie line.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for kill fluid.
- Automatic igniter. Variance granted for igniter due to there being no productive formations while drilling with air.
- FIT test. Variance granted due to well known geology and problems that can occur with FIT test.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be

performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.

- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- In accordance with 43 CFR 3162.4-3, this well shall be reported on the "Monthly Report of Operations" (Oil and Gas Operations Report ((OGOR)) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report shall be filed in duplicate, directly with the Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217-0110, or call 1-800-525-7922 (303) 231-3650 for reporting information.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or

data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0576
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
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 921-21A2DS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047506090000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S		<b>COUNTY:</b> UINTAH
		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 7/11/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input 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 checked="" 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.		
Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.		
		<b>Approved by the Utah Division of Oil, Gas and Mining</b>
		<b>Date:</b> <u>07/11/2011</u>
		<b>By:</b> <u></u>
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 7/11/2011



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

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047506090000**

**API:** 43047506090000

**Well Name:** NBU 921-21A2DS

**Location:** 1009 FNL 0852 FEL QTR NENE SEC 21 TWP 090S RNG 210E MER S

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

**Date Original Permit Issued:** 8/11/2009

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

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

**Signature:** Andy Lytle

**Date:** 7/11/2011

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

<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> UTU 0576
<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> UTE  <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 921-21A2DS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506090000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 10/19/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 50px;" type="text"/>

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

The Operator requests approval for changes in the drilling operations for this well. Changes include a FIT waiver, casing changes, deepening to the Blackhawk formation (resides in Mesaverde formation) and closed loop drilling options. Please see the attachment for details. Thank you.

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

Date: 11/10/2011

By: *Derek Quist*

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 10/19/2011	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-21A2DS**

Surface: 1009 FNL / 852 FEL NENE  
 BHL: 474 FNL / 670 FEL NENE

Section 21 T9S R21E

Unitah County, Utah  
 Mineral Lease: UTU-0576

**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	1608	
Birds Nest	1962	Water
Mahogany	2304	Water
Wasatch	4993	Gas
Mesaverde	7969	Gas
MVU2	8927	Gas
MVL1	9434	Gas
Sego	10210	Gas
Castlegate	10296	Gas
MN5	10650	Gas
TVD	11250	
TD	11321	

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 11250' TVD, approximately equals  
7,425 psi (0.66 psi/ft = actual bottomhole gradient)

---

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

Maximum anticipated surface pressure equals approximately 5,001 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.

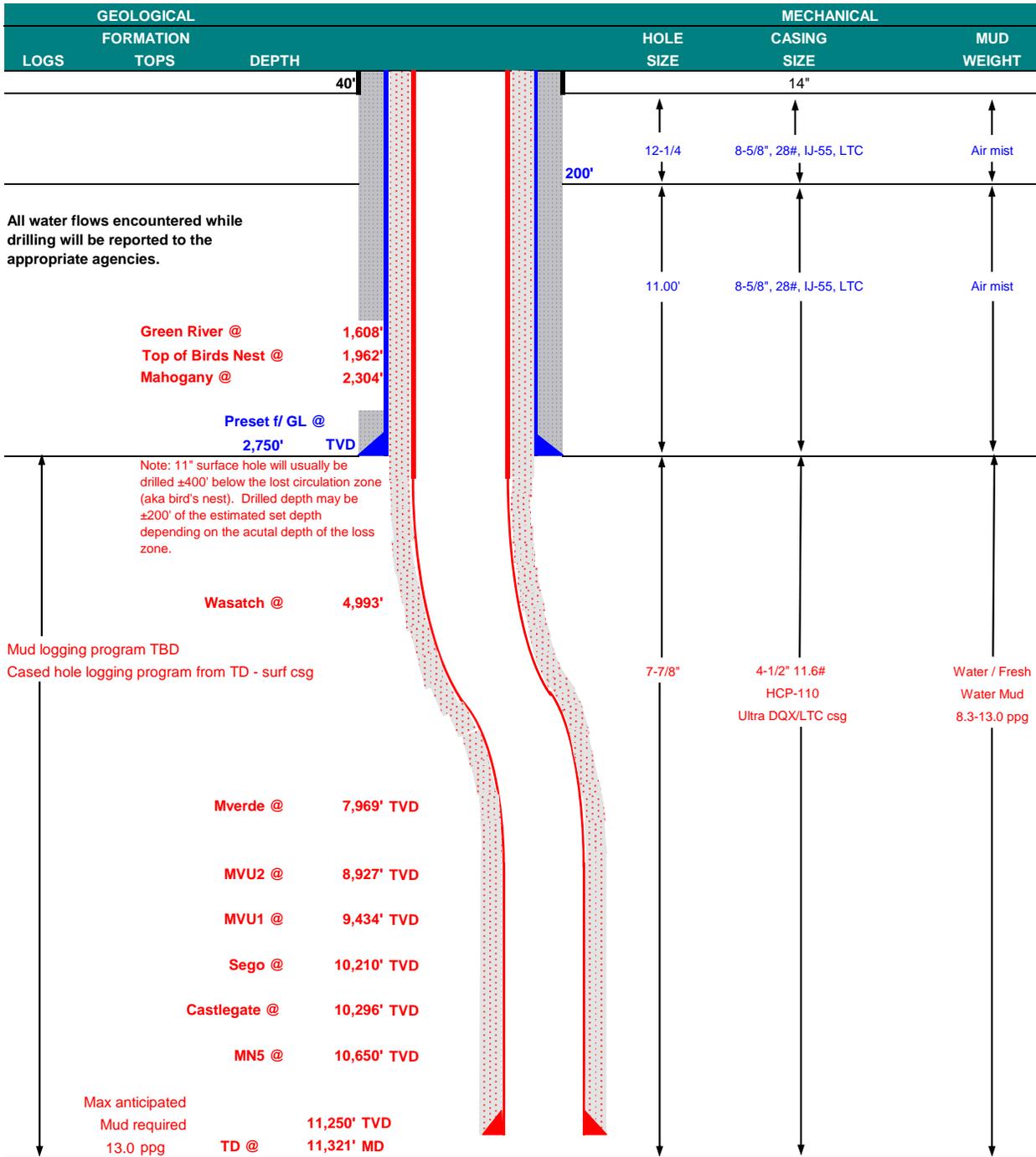
10. **Other Information:**

Please refer to the attached Drilling Program.



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP			DATE	October 19, 2011		
WELL NAME	NBU 921-21A2DS			TD	11,250' TVD	11,321' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	4829
SURFACE LOCATION	NENE	1009 FNL	852 FEL	Sec 21	T 9S	R 21E	
	Latitude: 40.026084		Longitude: -109.550344				NAD 83
BTM HOLE LOCATION	NENE	474 FNL	670 FEL	Sec 21	T 9S	R 21E	
	Latitude: 40.027552		Longitude: -109.549695				NAD 83
OBJECTIVE ZONE(S)	BLACKHAWK						
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), TRIBAL (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	DQX
								TENSION	
CONDUCTOR	14"	0-40'							
SURFACE	8-5/8"	0 to 2,750	28.00	IJ-55	LTC	3,390	1,880	348,000	N/A
						1.96	1.46	5.16	N/A
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	10,690	8,650	279,000	367,174
						1.19	1.14	4.75	3.49
	4-1/2"	5,000 to 11,321'	11.60	HCP-110	LTC	1.19	1.14	4.75	

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

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

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 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	180	60%	15.80	1.15
			+ 0.25 pps flocele				
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE	LEAD	2,250'	65/35 Poz + 6% Gel + 10 pps gilsonite	210	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
		TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,491'	Premium Lite II +0.25 pps	340	20%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,830'	50/50 Poz/G + 10% salt + 2% gel	1,610	35%	14.30	1.31
			+ 0.1% R-3				

\*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 / Danny Showers / Chad Loesel

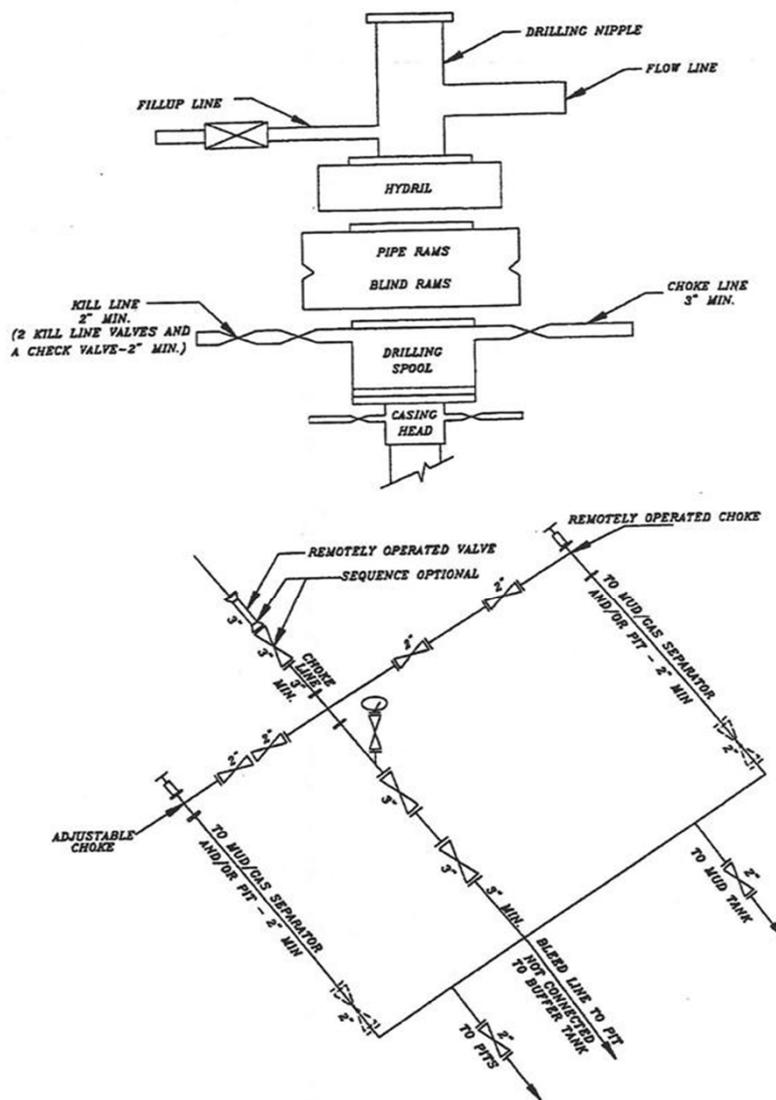
DATE: \_\_\_\_\_

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

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

**EXHIBIT A**  
**NBU 921-21A2DS**



**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.

<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> UTU 0576
<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> UTE  <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 921-21A2DS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506090000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 10/19/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 50px;" type="text"/>

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

The Operator requests approval for changes in the drilling operations for this well. Changes include a FIT waiver, casing changes, deepening to the Blackhawk formation (resides in Mesaverde formation) and closed loop drilling options. Please see the attachment for details. Thank you.

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

Date: 11/10/2011

By: *Derek Quist*

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 10/19/2011	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-21A2DS**

Surface: 1009 FNL / 852 FEL NENE  
 BHL: 474 FNL / 670 FEL NENE

Section 21 T9S R21E

Unitah County, Utah  
 Mineral Lease: UTU-0576

**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	1608	
Birds Nest	1962	Water
Mahogany	2304	Water
Wasatch	4993	Gas
Mesaverde	7969	Gas
MVU2	8927	Gas
MVL1	9434	Gas
Sego	10210	Gas
Castlegate	10296	Gas
MN5	10650	Gas
TVD	11250	
TD	11321	

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 11250' TVD, approximately equals  
7,425 psi (0.66 psi/ft = actual bottomhole gradient)

---

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

Maximum anticipated surface pressure equals approximately 5,001 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.

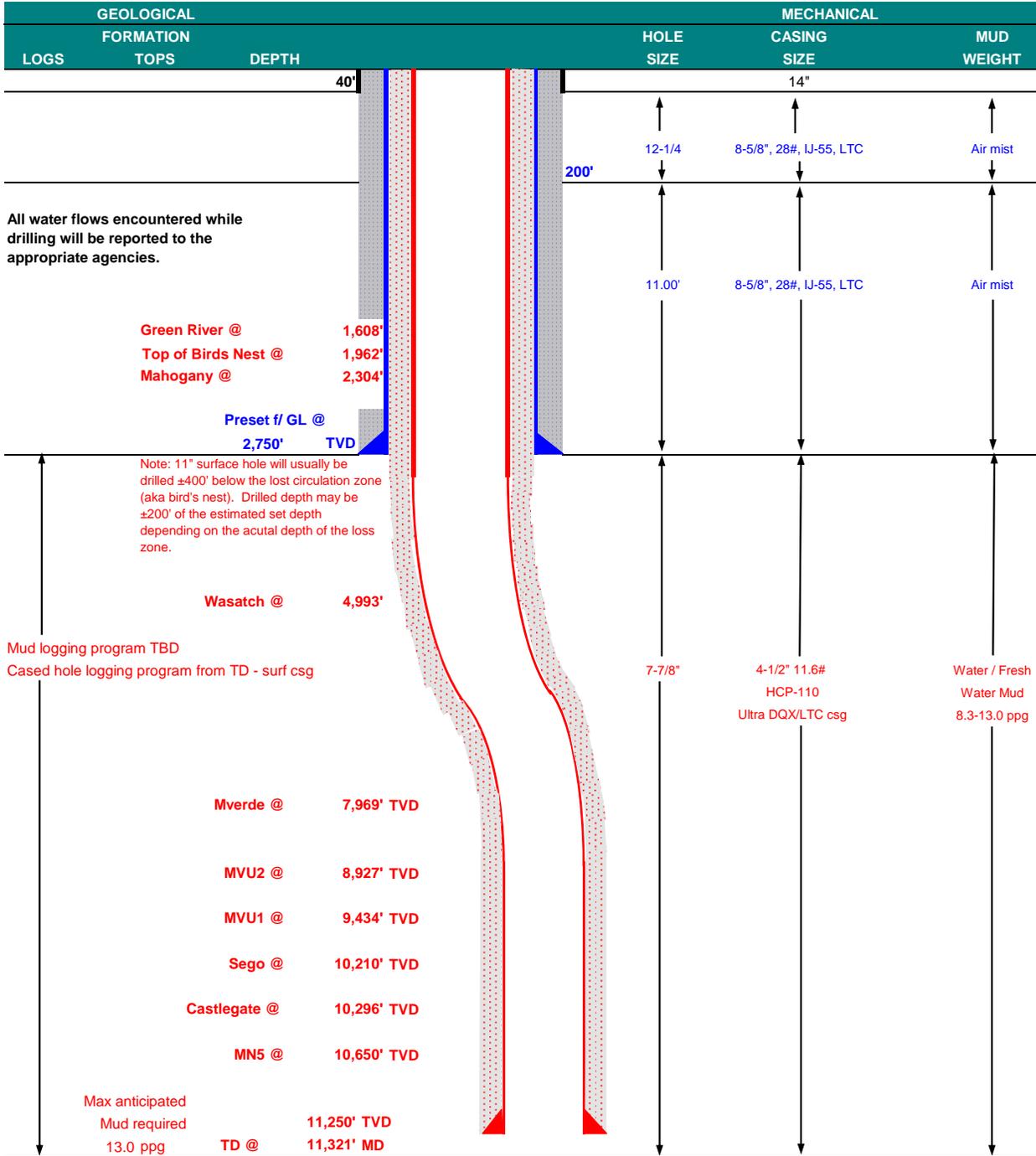
10. **Other Information:**

Please refer to the attached Drilling Program.



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP			DATE	October 19, 2011	
WELL NAME	NBU 921-21A2DS			TD	11,250' TVD	11,321' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION 4829
SURFACE LOCATION	NENE	1009 FNL	852 FEL	Sec 21	T 9S	R 21E
	Latitude: 40.026084		Longitude: -109.550344		NAD 83	
BTM HOLE LOCATION	NENE	474 FNL	670 FEL	Sec 21	T 9S	R 21E
	Latitude: 40.027552		Longitude: -109.549695		NAD 83	
OBJECTIVE ZONE(S)	BLACKHAWK					
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), TRIBAL (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	DQX
								TENSION	
CONDUCTOR	14"	0-40'							
SURFACE	8-5/8"	0 to 2,750	28.00	IJ-55	LTC	3,390	1,880	348,000	N/A
						1.96	1.46	5.16	N/A
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	10,690	8,650	279,000	367,174
						1.19	1.14	4.75	3.49
	4-1/2"	5,000 to 11,321'	11.60	HCP-110	LTC	1.19	1.14	4.75	

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

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

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

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

**CEMENT PROGRAM**

	LEAD	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE Option 1		500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE Option 2	LEAD	2,250'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	210	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	4,491'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	340	20%	11.00	3.38
	TAIL	6,830'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,610	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 / Danny Showers / Chad Loesel

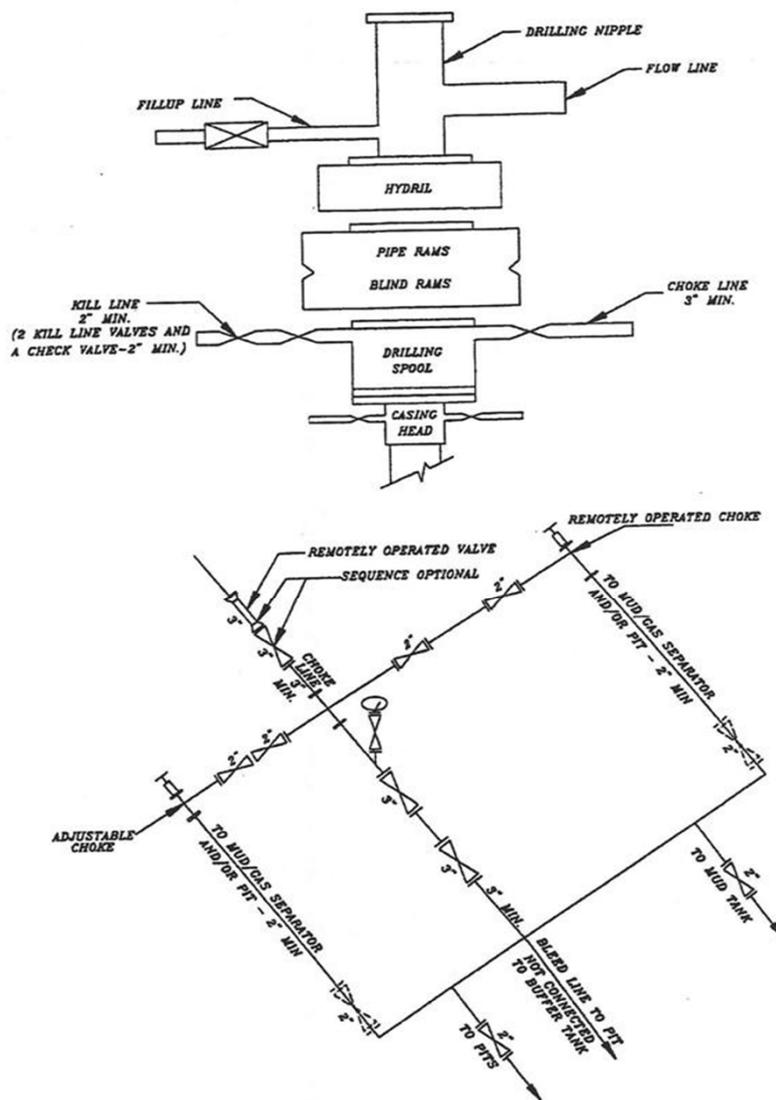
DATE: \_\_\_\_\_

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

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

**EXHIBIT A**  
**NBU 921-21A2DS**



**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.

<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> UTU 0576			
<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> UTE  <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 921-21A2DS				
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506090000				
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH				
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 11/17/2011  <input type="checkbox"/> DRILLING REPORT Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <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           </td> <td style="width: 33%; vertical-align: top;"> <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           </td> <td style="width: 33%; vertical-align: top;"> <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"/> </td> </tr> </table>		<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"/>
<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 PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 11/17/2011 AT 1330 HRS.					
<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> 11/21/2011				

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 921-21A2DS  
Qtr/Qtr NE/NE Section 21 Township 9S Range 21E  
Lease Serial Number UTU-0576  
API Number 4304750609

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

Date/Time 11/17/2011 1100 HRS AM  PM

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

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

Date/Time 12/12/2011 0800 HRS AM  PM

BOPE

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

RECEIVED

NOV 16 2011

DIV OF OIL, GAS & MINING

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

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT  
LOVEL 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
4304750704	NBU 921-19E		SWNW	19	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	2900	11/21/2011		11/30/11		
Comments: MIRU PETE MARTIN BUCKET RIG. <i>BLKHK = MVRD = WSTMVD</i> SPUD WELL ON 11/21/2011 AT 0800 HRS.							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750612	NBU 921-21B1CS		NENE	21	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	2900	11/17/2011		11/30/11		
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSTMVD</i> SPUD WELL ON 11/17/2011 AT 0930 HRS. <i>BNL = N WNE</i>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750609	NBU 921-21A2DS		NENE	21	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	2900	11/17/2011		11/30/11		
Comments: MIRU PETE MARTIN BUCKET RIG. <i>BLKHK = MVRD = WSTMVD</i> SPUD WELL ON 11/17/2011 AT 1330 HRS. <i>BNL = NENE</i>							

**ACTION CODES:**

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

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

11/21/2011

Date

(5/2000)

**RECEIVED**

NOV 21 2011

DIV. OF OIL, GAS & MINING

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0576	
<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> UTE	<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 921-21A2DS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506090000
<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>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
	<b>COUNTY:</b> Uintah
	<b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 1/9/2012	<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 AIR RIG ON JAN. 6, 2012. DRILLED SURFACE HOLE TO 2787'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 January 10, 2012

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regularatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 1/10/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0576
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
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 921-21A2DS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047506090000
<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> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S		<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<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: 2/25/2012	<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 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.		
MIRU ROTARY RIG. FINISHED DRILLING FROM 2,787' TO 11,330' ON FEBRUARY 23, 2012. RAN 4-1/2" 11.6# HCP-110 PRODUCING CASING . CEMENTED PRODUCTION CASING. RELEASED H&P 298 RIG ON FEBRUARY 25, 2012 @ 24:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.		<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY</b> March 01, 2012
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regularatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 2/27/2012

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0576	
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE	
<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 921-21A2DS	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047506090000	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
		<b>COUNTY:</b> UINTAH	
		<b>STATE:</b> UTAH	
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> 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: 5/10/2012	<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 style="width: 100px;" type="text"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.			
<p>THE SUBJECT WELL WAS PLACED ON PRODUCTION ON MAY 10, 2012 AT 12:00 HOURS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.</p>			
<p><b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY May 15, 2012</b></p>			
<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> 5/14/2012	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No.  
UTU0576

1a. Type of Well  Oil Well  Gas Well  Dry  Other  
 b. Type of Completion  New Well  Work Over  Deepen  Plug Back  Diff. Resvr.  
 Other \_\_\_\_\_

2. Name of Operator **KERR MCGEE OIL & GAS ONSHORE** Contact: CARA MAHLER  
 Mail: cara.mahler@anadarko.com

3. Address **1099 18TH STREET, SUITE 1800 DENVER, CO 80202** 3a. Phone No. (include area code)  
 Ph: 720-929-6029

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*  
 At surface **NENE 1009FNL 852FEL 40.026084 N Lat, 109.550345 W Lon**  
 At top prod interval reported below **NENE 499FNL 664FEL**  
 At total depth **NENE 521FNL 653FEL BHL by HSM**

6. If Indian, Allottee or Tribe Name  
 7. Unit or CA Agreement Name and No. **UTU63047A**  
 8. Lease Name and Well No. **NBU 921-21A2DS** ✓  
 9. API Well No. **43-047-50609**  
 10. Field and Pool, or Exploratory **NATURAL BUTTES**  
 11. Sec., T., R., M., or Block and Survey or Area **Sec 21 T9S R21E Mer SLB**  
 12. County or Parish **UINTAH** 13. State **UT**  
 14. Date Spudded **11/17/2011** 15. Date T.D. Reached **02/23/2012** 16. Date Completed  D & A  Ready to Prod. **05/10/2012**  
 17. Elevations (DF, KB, RT, GL)\* **4829 GL**

18. Total Depth: MD **11330** TVD **11270** 19. Plug Back T.D.: MD **11274** TVD **11214** 20. Depth Bridge Plug Set: MD **MD** TVD **TVD**

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)  
**CBL/CM/GR/CCL-USBHV-US/SD/DSN/ACTR**

22. Was well cored?  No  Yes (Submit analysis)  
 Was DST run?  No  Yes (Submit analysis)  
 Directional Survey?  No  Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 IJ-55	28.0	0	2767		665		0	
7.875	4.500 P-110	11.6	0	11318		1957		1050	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	10842							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	10790	11190	10790 TO 11190	0.360	72	OPEN
B)						
C)						
D)						

26. Perforation Record

Depth Interval	Amount and Type of Material
10790 TO 11190	PUMP 7,863 BBLs SLICK H2O & 183,690 LBS 30/50 OTTAWA SAND

**RECEIVED**  
**JUL 03 2012**

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

DIV. OF OIL, GAS & MINING

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
05/10/2012	05/11/2012	24	▶	0.0	1558.0	672.0			FLows FROM WELL

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
20/64	SI	1505.0	▶	0	1558	672		PGW

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			▶						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
	SI		▶					

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(Sold, used for fuel, vented, etc.)  
SOLD

30. 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.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER	1724
				BIRD'S NEST	2034
				MAHOGANY	2353
				WASATCH	5077
				MESAVERDE	8151

32. Additional remarks (include plugging procedure):

The first 210' of the surface hole was drilled with a 12 ?? bit. The remainder of surface hole was drilled with an 11? bit. P-110 DQX csg was run from surface to 5024?; LTC csg was run from 5024? to 11,318?. Attached is the chronological well history, perforation report & final survey.

33. Circle enclosed attachments:

- 1. Electrical/Mechanical Logs (1 full set req'd.)
- 2. Geologic Report
- 3. DST Report
- 4. Directional Survey
- 5. Sundry Notice for plugging and cement verification
- 6. Core Analysis
- 7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #141906 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal**

Name (please print) CARA MAHLER Title AUTHORIZED REPRESENTATIVE

Signature \_\_\_\_\_ (Electronic Submission) Date 06/29/2012

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

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

Well: NBU 921-21A2DS BLUE		Spud Date: 1/7/2012	
Project: UTAH-UINTAH		Site: NBU 921-21A PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING		Start Date: 11/10/2011	End Date: 2/25/2012
Active Datum: RKB @4,855.00usft (above Mean Sea Level)		UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/6/2012	6:00 - 19:30	13.50	MIRU	01	A	P		MOVE RIG F/NBU 1022-11F2DS T/NBU 921-21A2DS
	19:30 - 0:00	4.50	MIRU	01	B	P		MOVE RIG OVER HOLE, (WELL2 OF4). INSTALL DIVERTOR HEAD AND BLUEY LINE. BUILD DITCH. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PIT PUMP. HAD JD BRING EXTENDED BOOM FORKLIFT TO BREAK HOLE IN THE ICE. RIG UP PUMP. PRIME PUMP. INSPECT RIG. HELD PRE-SPUD SAFETY MEETING.
1/7/2012	0:00 - 10:30	10.50	MIRU	08	A	Z		REPAIR RIG
	10:30 - 12:30	2.00	MIRU	01	B	P		RU
	12:30 - 14:00	1.50	DRLSUR	02	D	P		DRILL 12.25" HOLE 44'- 210'. (166', 83'/HR) RPM=45, WOB 5-15K. PSI ON/OFF 600/400. UP/DOWN/ ROT 20/20/20 K. DRAG 0 K. CIRC RESERVE W. 8.3# WATER. DRILL DOWN TO 210' W/ 6" COLLARS.
	14:00 - 16:00	2.00	DRLSUR	06	A	P		POOH, PU, 11" BIT AND DIRECTIONAL TOOLS, TIH T/ 210'
	16:00 - 0:00	8.00	DRLSUR	02	D	P		DRILL F/210 T/1360 (1150' @ 143.75' PER HR) WOB 20K, PSI ON/OFF 1350/1100, RPM 45 UP/DWN/ROT 72/46/60
1/8/2012	0:00 - 12:00	12.00	DRLSUR	02	D	P		DRILL F/1360-2380' (1020' @ 85' PER HR) WOB 20K, PSI ON/OFF 1500/1200, RPM 45 UP/DWN/ROT 85/69/72
	12:00 - 18:00	6.00	DRLSUR	02	D	P		DRILL F/2380-2787' (407' @ 67.83' PER HR) WOB 20K, PSI ON/OFF 1350/1100, RPM 45 UP/DWN/ROT 98/78/82
	18:00 - 20:00	2.00	DRLSUR	05	D	P		TD @ 18:00
	20:00 - 0:00	4.00	DRLSUR	06	D	P		CIRC F/CSNG
1/9/2012	0:00 - 0:30	0.50	DRLSUR	06	D	P		LD DS BHA & DIR TOOLS, BREAKING ALL CONNECTIONS T/INSPECT BHA.
	0:30 - 1:30	1.00	DRLSUR	12	A	P		LD DIR TOOLS & BIT
	1:30 - 5:30	4.00	DRLSUR	12	C	P		MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. AND MOVE CSG INTO POSITION TO P/U.
	5:30 - 6:30	1.00	DRLSUR	12	B	P		RUN 62 JTS 8 5/8, 28# CSNG. SHOE SET @ 2743", BAFFLE SET @ 2697.48"
								HOLD SAFETY MEETING, RUN 200' OF 1". RIG DOWN RIG MOVE OFF WELL, REBUILD DITCH. RIG UP CEMENT TRUCK, 2" HARD LINES,. CEMENT HEAD, LOAD PLUG.
								LAND CSNG @ 05:30

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-21A2DS BLUE

Spud Date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig Name No: PROPETRO 11/11, H&P 298/298

Event: DRILLING

Start Date: 11/10/2011

End Date: 2/25/2012

Active Datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:30 - 8:30	2.00	DRLSUR	08				PRESSURE TEST LINES TO 2000 PSI. PUMP 171 BBLs OF WATER AHEAD. PUMP 20 BBLs OF 8.3# GEL WATER AHEAD. PUMP (220 SX) 149.6 BBLs OF 11.0# 3.82 YD 23 GAL/SK PREMIUM CEMENT. PUMP 170 SX TAIL, 15.8#, 1.15 YIELD. DROP PLUG ON FLY. DISPLACE WITH 168.3 BBLs OF H2O. FULL CIRC THROUGHOUT. FINAL LIFT 540 PSI AT 4 BBLs MIN. BUMP PLUG WITH 760 PSI HELD FOR 5 MIN. FLOAT HELD. PUMP 125 SX (25.6 BBLs) OF SAME TAIL CEMENT WITH 2% CACL DOWN 1". SHUT DOWN AND CLEAN TRUCK. CEMENT TO SURFACE.. FELL BACK WOC
	8:30 - 10:30	2.00	DRLSUR	13	A	P		
	10:30 - 11:00	0.50	DRLSUR	12	E	P		
2/15/2012	6:00 - 10:00	4.00	MIRU	01	C	P		PUMP 150 SKS (30.7BBLs) DOWN BACKSIDE. CMT TO SURFACE. STAYED RELEASE RIG 11:00 PREPARE & SKID RIG 20 FT TO NBU 921-21A2DS, ALIGN OVER WELL NIPPLE UP BOPE, FLOWLINE NIPPLE UP STRATA EQUIP
	10:00 - 11:00	1.00	PRPSPD	14	A	P		
	11:00 - 11:30	0.50	PRPSPD	14	A	P		
	11:30 - 16:00	4.50	PRPSPD	14	A	P		PRESSURE TEST PIPE RAMS, BLIND RAMS, IBOP, FLOOR VALVE, KILL LINES & KILL LINE VALVES, BOP WING VALVES, HCR VALVE + CHOKE LINE; INNER AND OUTER CHOKE VALVES & MANIFOLD TO 250 PSI LOW @ 5 MINUTES + 5000 PSI HIGH @ 10 MINUTES / TEST ANNULAR TO 250 PSI LOW @ 5 MINUTES + 2500 PSI HIGH @ 10 MINUTES/ TEST SUPER CHOKE + SURFACE CASING TO 1500
	16:00 - 17:00	1.00	PRPSPD	15	A	P		TEST STRATA EQUIP TO 3000 PSI, ORBIT VALVE FAILED TO TEST
	17:00 - 0:00	7.00	PRPSPD	22	L	Z		REMOVE STRATA ORBIT VALVE, REPLACE WITH GATE VALVE, TRY TO TEST, TIGHTEN BOLTS, TEST TO 250 PSI LOW 3000 PSI HIGH, R/D TESTER
2/16/2012	6:00 - 6:30	0.50	PRPSPD	05	A	P		CHECK SURFACE TOOLS, SWIVEL PACKING LEAKING
	6:30 - 7:30	1.00	PRPSPD	07	C	P		CHANGE SWIVEL PACKING
	7:30 - 10:00	2.50	PRPSPD	06	A	P		TIH TAG @ 2647', LEVEL DERRICK, INSTALL STRATA ROT HEAD, FILL PIPE BREAK CIRC
	10:00 - 11:00	1.00	PRPSPD	09	A	P		CUT & SLIP 154' DRILL LINE
	11:00 - 12:30	1.50	DRLPRO	02	F	P		DRIL CEMENT F/2,647' BAFFLE @ 2,716' SHOE @ 2,764 NEW HOLE @ 2,809

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-21A2DS BLUE

Spud Date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig Name No: PROPETRO 11/11, H&P 298/298

Event: DRILLING

Start Date: 11/10/2011

End Date: 2/25/2012

Active Datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MB From (usft)	Operation
	12:30 - 0:00	11.50	DRLPRO	02	D	P		SPUD 77/8 PROD HOLE,DRILL/ SLIDE / SURVEY F/ 2,809 TO 4,140 =1331 '@115.7 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 89 PUMPS 124 SPM=558 GPM PUMP PRESSURE ON/OFF BTM 2,025/ 1,860 TORQUE ON/OFF BTM 9,000/ 5,000 PICK UP WT 131,000 SLACK OFF WT 103,000 ROT WT 115,000 SLIDE 89' IN 70 MIN 6.7% OF FOOTAGE DRILLED,10.3% OF HRS DRILLED MUD WT 8.4 VIS 27
2/17/2012	0:00 - 6:00	6.00	DRLPRO	02	D	P		.DRILL/ SLIDE / SURVEY F/ 4,140 TO 4,900 =760 '@126 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 89 PUMPS 124 SPM=558 GPM PUMP PRESSURE ON/OFF BTM 2,080/ 1,910 TORQUE ON/OFF BTM 9,000/ 5,000 PICK UP WT 146,000 SLACK OFF WT 111,000 ROT WT 127,000 SLIDE 47' IN 40 MIN 6.7% OF FOOTAGE DRILLED,11.1% OF HRS DRILLED MUD WT 8.4 VIS 27 PHPA @ 1+ PPG PRESSURE WASHING SCREENS @ SHAKER DUE TO SOME SCREEN BLINDING
	6:00 - 14:00	8.00	DRLPRO	02	D	P		.DRILL/ SLIDE / SURVEY F/ 4,900 TO 5,835 =935 '@116 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 89 PUMPS 124 SPM=558 GPM PUMP PRESSURE ON/OFF BTM 2,050/ 1,860 TORQUE ON/OFF BTM 9,000/ 6,000 PICK UP WT 160,000 SLACK OFF WT 120,000 ROT WT 135,000 SLIDE 35' IN 30 MIN 3.7% OF FOOTAGE DRILLED,6% OF HRS DRILLED MUD WT 8.4 VIS 27 PHPA @ 1+ PPG PRESSURE WASHING SCREENS @ SHAKERS
	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SERVICE

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-21A2DS BLUE

Spud Date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig Name No: PROPETRO 11/11, H&P 298/298

Event: DRILLING

Start Date: 11/10/2011

End Date: 2/25/2012

Active Datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	14:30 - 0:00	9.50	DRLPRO	02	D	P		,DRILL/ SLIDE / SURVEY F/ 5,835 TO 6,779 =944 '@99.3 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 89 PUMPS 100- 115 SPM=495 / 525 GPM PUMP PRESSURE ON/OFF BTM 1,630/ 1,420 TORQUE ON/OFF BTM 11,000/ 9,000 PICK UP WT 190,000 SLACK OFF WT 130,000 ROT WT 157,000 SLIDE 15' IN 20 MIN 1.6% OF FOOTAGE DRILLED,3.4% OF HRS DRILLED MUD WT 8.4 VIS 27 /@ 6, 117 LOST RETURNS 60 BBLS / FROM 6,117 TO 6,779 LOST 255 BBLS FLUID TO HOLE DRILLING REDUCED PUMP W/ 85-95% RETURNS,PUMPING LCM SWEEPS
2/18/2012	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/ SLIDE / SURVEY F/ 6,779 TO 7,200 =421 '@70.1 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 89 PUMPS 115-120 SPM=525-550 GPM PUMP PRESSURE ON/OFF BTM 1,700/ 1,510 TORQUE ON/OFF BTM 11,000/ 10,000 PICK UP WT 202,000 SLACK OFF WT 136,000 ROT WT 162,000 SLIDE 47' IN 50 MIN 11.1% OF FOOTAGE DRILLED,7.2% OF HRS DRILLED LAST SURVEY 7,097 INC .19 AZM 231.81 13'N 15' W OF CENTER MUD WT 8.4 VIS 27 PHPA @ 1+ PPG PRESSURE WASHING SCREENS @ SHAKER DUE TO SOME SCREEN BLINDING
	6:00 - 15:30	9.50	DRLPRO	02	D	P		DRILL/ SLIDE / SURVEY F/ 7,200TO 7,724 =524 '@55.1 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 82 PUMPS 100-110 SPM=450-495 GPM PUMP PRESSURE ON/OFF BTM 1,620/ 1,420 TORQUE ON/OFF BTM 11,000/ 10,000 PICK UP WT 208,000 SLACK OFF WT 148,000 ROT WT 174,000 SLIDE 20' IN 40 MIN 3.8% OF FOOTAGE DRILLED,7% OF HRS DRILLED MUD WT 8.5 VIS 27,LCM 12% FLUID LOSS 150 BBLS BEFORE MUD UP 150 BBLS WHILE MUDDING UP VIS 34 MW 8.9 15% LCM
	15:30 - 16:00	0.50	DRLPRO	07	A	P		RIG SERVICE

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

Well: NBU 921-21A2DS BLUE

Spud Date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig Name No: PROPETRO 11/11, H&P 298/298

Event: DRILLING

Start Date: 11/10/2011

End Date: 2/25/2012

Active Datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 18:30	2.50	DRLPRO	02	D	P		DRILL/ SLIDE / SURVEY F/ 7,724TO 7,861 =137' @55.1 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 82 PUMPS 90-100 SPM=405-450 GPM PUMP PRESSURE ON/OFF BTM 1,620/ 1,420 TORQUE ON/OFF BTM 11,000/ 10,000 PICK UP WT 208,000 SLACK OFF WT 148,000 ROT WT 174,000 SLIDE 12' IN 25 MIN 4.6% OF FOOTAGE DRILLED,5% OF HRS DRILLED LOST 60 BBLs MUD WT 8.9 VIS 35 LCM 10%
	18:30 - 20:30	2.00	DRLPRO	22	G	X		LOST RETURNS @ 7,861' PUMP 80 BBLs VIS 45 MW 8.9 LCM 20% BYPASS SHAKERS /CIRC W/ PARTICAL RETURNS BUILD VOL,IN PITS
	20:30 - 21:30	1.00	DRLPRO	22	L	Z		CHANGE OUT STRATA ROTATING HEAD BEARING ASSY DUE TO SEAL FAILURE LEAKING OIL
	21:30 - 0:00	2.50	DRLPRO	02	D	P		DRILL/ SURVEY F/ 7,861TO 7,981 =120'@48 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 82 PUMPS 100 SPM=450 GPM PUMP PRESSURE ON/OFF BTM 1,805/ 1,600 TORQUE ON/OFF BTM 12,000/ 9,000 PICK UP WT 210,000 SLACK OFF WT 149,000 ROT WT 179,000 LOST 30 BBLs SEEPAGE TO HOLE MUD WT 9.0 VIS 42 LCM 20%
2/19/2012	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/ SLIDE / SURVEY F/ 7,981 TO 8,230 =249' @41.5 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 79 PUMPS 100-110 SPM=450-495 GPM PUMP PRESSURE ON/OFF BTM 1,985/ 1,775 TORQUE ON/OFF BTM 11,000/ 9,000 PICK UP WT 210,000 SLACK OFF WT 152,000 ROT WT 182,000 SLIDE 56' IN 100 MIN 25% OF FOOTAGE DRILLED,27% OF HRS DRILLED MUD WT 9.2 VIS 40 LCM 20% NO MUD LOSS SINCE 00:00

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-21A2DS BLUE		Spud Date: 1/7/2012	
Project: UTAH-UINTAH		Site: NBU 921-21A PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING		Start Date: 11/10/2011	End Date: 2/25/2012
Active Datum: RKB @4,855.00usft (above Mean Sea Level)		UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 14:00	8.00	DRLPRO	02	D	P		DRILL / SLIDE / SURVEY F/ 8,230 TO 8,669 =439 '@54.8 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 79 PUMPS 110 SPM=495 GPM PUMP PRESSURE ON/OFF BTM 2,120/ 1,940 TORQUE ON/OFF BTM 12,000/ 11,000 PICK UP WT 220,000 SLACK OFF WT 163,000 ROT WT 186,000 MUD WT 9.2 VIS 38 LCM 5% RUN CENTRIFUGES CONVENTIONAL REDUCING MW TO 9.2,AND LCM CONTENT TO 5% HOLE STARTED TAKING FLUID,MAINTAINING 5-7% LCM PUMPING SWEEPS TO MAINTAIN VOL,CLEANING SAND TRAP OVER #3 SHAKER MUD LOSS 45 BBLS SLIDE 40' IN 115 MIN 11% OF FOOTAGE DRILLED,23.9% OF HRS DRILLED
	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRILL / SURVEY F/ 8,669 TO 9,171 =502 '@52.8 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 68-75 PUMPS 95-105 SPM=427-472 GPM PUMP PRESSURE ON/OFF BTM 1,965/ 1,855 TORQUE ON/OFF BTM 11,000/ 11,000 PICK UP WT 228,000 SLACK OFF WT 165,000 ROT WT 195,000 FROM 8,794 TO 9,171 LOST 270 BBLS MUD SEEPAGE TO HOLE,REDUCE PUMP,RAISE LCM CONTENT TO 15% STRATA ON LINE @ 9,000' W/ ANNULAR PRESS @ 225 / 15-25' FLARE MUD WT 9.3 VIS 38 LCM 15%
2/20/2012	0:00 - 6:00	6.00	DRLPRO	02	D	P		,DRILL / SURVEY F/ 9,171 TO 9,435 =264 '@44 FPH WOB 16,000-24,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 79 PUMPS 100-105 SPM=450-472 GPM PUMP PRESSURE ON/OFF BTM 2,155/ 1,915 TORQUE ON/OFF BTM 11,000/ 11,000 PICK UP WT 235,000 SLACK OFF WT 157,000 ROT WT 195,000 MUD WT 9.4 VIS 38 MUD LOSS 30 BBLS STRATA ON LINE ANN PRESS 190 15-25' FLARE NOV -BYPASSED

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-21A2DS BLUE

Spud Date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig Name No: PROPETRO 11/11, H&P 298/298

Event: DRILLING

Start Date: 11/10/2011

End Date: 2/25/2012

Active Datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/28/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 13:30	7.50	DRLPRO	02	D	P		,DRILL/ SURVEY F/ 9,435 TO 9,707 =272 '@36.2 FPH WOB 16,000-24,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 79 PUMPS -105-110 SPM=472-495 GPM PUMP PRESSURE ON/OFF BTM 2,310/ 2,148 TORQUE ON/OFF BTM 11,000/ 12,000 PICK UP WT 243,000 SLACK OFF WT 170,000 ROT WT 203,000 MUD WT 9.7 VIS 37 18% LCM MUD LOSS 30 BBLs STRATA ON LINE ANN PRESS 180 15-25' FLARE NOV -BYPASSED
	13:30 - 14:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	14:00 - 0:00	10.00	DRLPRO	02	D	P		,DRILL/ SURVEY F/ 9,707 TO 10,100 =393 '@39.3 FPH WOB 16,000-24,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 79 PUMPS -105-110 SPM=472-495 GPM PUMP PRESSURE ON/OFF BTM 2,275/ 2,120 TORQUE ON/OFF BTM 11,000/ 12,000 PICK UP WT 255,000 SLACK OFF WT 174,000 ROT WT 206,000 MUD WT 9.9 VIS 38 LCM 16% MUD LOSS 60 BBLs,SEEPAGE STRATA ON LINE ANN PRESS 160 15-25' FLARE NOV -BYPASSED
2/21/2012	0:00 - 6:00	6.00	DRLPRO	02	D	P		,DRILL/ SURVEY F/ 10,100 TO 10,340 =240 '@40 FPH WOB 16,000-25,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 73 PUMPS -105-110 SPM=472-495 GPM PUMP PRESSURE ON/OFF BTM 2,275/ 2,120 TORQUE ON/OFF BTM 11,000/ 12,000 PICK UP WT 255,000 SLACK OFF WT 158,000 ROT WT 87,000 MUD WT 9.9 VIS 38 LCM 20% MUD LOSS 60 BBLs,SEEPAGE STRATA ON LINE ANN PRESS 160 15-25' FLARE NOV -BYPASSED MUD LOSS 120 BBLs FROM 10,190 / 10,265 SEEPAGE LAST 6 HRS

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-21A2DS BLUE

Spud Date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig Name No: PROPETRO 11/11, H&P 298/298

Event: DRILLING

Start Date: 11/10/2011

End Date: 2/25/2012

Active Datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 13:00	7.00	DRLPRO	02	D	P		,DRILL/ SURVEY F/ 10,340 TO 10,461 =121 '@17.2 FPH WOB 16,000-26,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 73 PUMPS -100-105 SPM=450-472 GPM PUMP PRESSURE ON/OFF BTM 2,150/ 2,030 TORQUE ON/OFF BTM 11,000/ 13,000 PICK UP WT 256,000 SLACK OFF WT 178,000 ROT WT 210,000 MUD WT 9.9 VIS 38 LCM 20% MUD LOSS 10 BBLs,SEEPAGE STRATA ON LINE ANN PRESS 160 15-25' FLARE NOV -BYPASSED RIG SERVICE
	13:00 - 13:30	0.50	DRLPRO	07	A	P		
	13:30 - 0:00	10.50	DRLPRO	02	D	P		,DRILL/ SURVEY F/ 10,461 TO 10,633 =172 '@16.3 FPH WOB 16,000-26,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 73 PUMPS -100-105 SPM=450-472 GPM PUMP PRESSURE ON/OFF BTM 2,175/ 2,060 TORQUE ON/OFF BTM 12,000/ 10,000 PICK UP WT 260,000 SLACK OFF WT 187,000 ROT WT 213,000 MUD WT 10.0 VIS 40 LCM 20% NO MUD LOSS STRATA ON LINE ANN PRESS 140 15-20' FLARE / PREP FLOOR FOR BIT TRIP
2/22/2012	0:00 - 1:30	1.50	DRLPRO	05	A	P		CCH FOR BIT TRIP,MIX AND PUMP 100 BBLs 12.8# SPOT ON BTM,
	1:30 - 6:30	5.00	DRLPRO	06	A	P		TOH / HOLE GOOD,@ 5,400,TOH TO 3,550 HOLE NOT TAKING PROPER FLUID,WELL FLOWING, TIH TO 5,500',STRATA ON LINE 55 BBL PIT GAIN
	6:30 - 7:30	1.00	DRLPRO	06	K	X		CIRC OUT GAS, FLOW CHECK, WELL FLOWING
	7:30 - 8:30	1.00	DRLPRO	05	J	X		TRIP IN HOLE TO 9,100, STRATA ON LINE 65 BBL PIT GAIN
	8:30 - 9:30	1.00	DRLPRO	06	K	X		CIRC OUT GAS, MUD WT TO 10.4#,SPOT 100 BBLs 12.8# ON BTM,
	9:30 - 12:00	2.50	DRLPRO	06	K	X		PULL 15 STDS,PUMP SLUG TOH,FLOW CHECK @ CSG SHOE, HOLE TOOK PROPER FLUID
	12:00 - 16:30	4.50	DRLPRO	06	A	P		PULL MWD TOOL,BREAK BIT,LAY DOWN MUD MOTOR
	16:30 - 17:30	1.00	DRLPRO	06	A	P		PICK UP HUNTING 16 RPG MUD MOTOR,MAKE UP BIT,SCRIBE DIR TOOLS & SURFACE TEST / TIH
	17:30 - 19:30	2.00	DRLPRO	06	A	P		,INSTALL ROT HEAD,BREAK, CIRC @ CSG SHOE RIG SERVICE
	19:30 - 20:00	0.50	DRLPRO	07	A	P		
	20:00 - 23:00	3.00	DRLPRO	06	A	P		,TIH BREAK CIRC @ 5,500', 8,500,CONTINUE IN HOLE BRIDGE @ 9,930
	23:00 - 0:00	1.00	DRLPRO	03	D	P		WASH & REAM F/ 9,930-10,460
2/23/2012	0:00 - 0:30	0.50	DRLPRO	03	D	P		WASH & REAM F/10,460 TO 10,633 BTM 15' FILL

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-21A2DS BLUE

Spud Date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig Name No: PROPETRO 11/11, H&P 298/298

Event: DRILLING

Start Date: 11/10/2011

End Date: 2/25/2012

Active Datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	0:30 - 6:00	5.50	DRLPRO	02	D	P		DRILL/ SURVEY F/ 10,633 TO 10,840 =207 '@37.6 FPH WOB 16,000-23,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 73 PUMPS -100-105 SPM=450-472 GPM PUMP PRESSURE ON/OFF BTM 2,150/ 2,030 TORQUE ON/OFF BTM 11,000/ 13,000 PICK UP WT 256,000 SLACK OFF WT 178,000 ROT WT 210,000 MUD WT 10.9 VIS 40 LCM 20% STRATA ON LINE 5-10' FLARE MUD LOSS 170 BBLs,SEEPAGE NOV -BYPASSED
	6:00 - 18:30	12.50	DRLPRO	02	D	P		DRILL/ SURVEY F/ 10,840 TO 11,330 TD=490 '@39.2 FPH WOB 16,000-24,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 73 PUMPS -90-105 SPM=405-472 GPM PUMP PRESSURE ON/OFF BTM 1,950/ 1,750 TORQUE ON/OFF BTM 11,000/ 13,000 PICK UP WT 268,000 SLACK OFF WT 203,000 ROT WT 226,000 MUD WT 11.3 VIS 40 LCM 25% MUD LOSS 250 BBLs BBLs,SEEPAGE STRATA OFF LINE NOV -BYPASSED
	18:30 - 20:00	1.50	DRLPRO	05	C	P		CIRC AND COND MUD FOR WIPER TRIP
	20:00 - 22:30	2.50	DRLPRO	06	E	P		WIPER TRIP TO 6,500' / NO PROBLEMS
	22:30 - 0:00	1.50	DRLPRO	06	E	P		TRIP BACK TO BOTTOM / HOLE GOOD/
2/24/2012	0:00 - 0:30	0.50	DRLPRO	06	E	P		FINISH WIPER TRIP, WASH 80' TO BTM / NO FILL
	0:30 - 2:30	2.00	DRLPRO	05	B	P		CCH F/ LOGS, CIRC OUT, 3 TENTHS MUD CUT 10-15' FLARE, PUMP SLUG
	2:30 - 10:00	7.50	EVALPR	06	B	P		TOH TO 9,100' SPOT 80 BBLs 12.2#, TOH FLOW CHECK @ SHOE / TOH PULL MWD TOOL, BREAK BIT, L/D MUD MOTOR
	10:00 - 11:00	1.00	EVALPR	06	B	P		TIH TO CASING SHOE
	11:00 - 12:30	1.50	EVALPR	09	A	P		CTJSA SLIP & CUT DRILL LINE
	12:30 - 13:00	0.50	EVALPR	07	A	P		RIG SERVICE
	13:00 - 14:30	1.50	EVALPR	06	B	P		TRIP IN HOLE OPEN ENDED TO 6800' DISPLACE 25% LCM MUD IN DP W/ CLEAN MUD
	14:30 - 22:30	8.00	EVALPR	11	E	P		HSM W/ HALLIBURTON RU & RUN TRIPLE COMBO ( SLIM HOLE TOOLS) THRU DRILL PIPE / BRIDGED OUT @ 8,209', LOG OUT TO 6,700 TRIPLE COMBO, FROM 6700 TO CSG SHOE NEUTRON, FROM CSG SHOE TO SURFACE GAMMA RAY
	22:30 - 0:00	1.50	EVALPR	06	B	P		TOH W/ DRILL PIPE FROM 6,700 FT
2/25/2012	0:00 - 0:30	0.50	EVALPR	06	B	P		FINISH TOH F/ CASING
	0:30 - 1:00	0.50	CSG	14	B	P		PULL WEAR BUSHING
	1:00 - 1:30	0.50	CSG	12	A	P		CHANGE OUT DRILLING BAILS TO 18' CASING BAILS

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-21A2DS BLUE

Spud Date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig Name No: PROPETRO 11/11, H&P 298/298

Event: DRILLING

Start Date: 11/10/2011

End Date: 2/25/2012

Active Datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PW/N1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	1:30 - 3:00	1.50	CSG	12	A	P		HELD CT JSA,W/ CREWS,RIG UP KIMZEY CASERS
	3:00 - 14:30	11.50	CSG	12	C	P		RUN 151' JTS(6,291') 4 1/2" 11.6# LTC CSG, ' 117 JTS(5,024) P-110,11.6# DQX 4.5 CASING + BREAKING CIRCULATION @ SELECTED INTERVALS,WASH THRU BRIDGE @ 8,270 WASH DOWN LAST 2 JTS CASING SHOE @ 11,318' FC @ 11,275 BH MKR 10,722, MV MKR 7,998 X/O DQX 5,024
	14:30 - 16:30	2.00	CSG	05	D	P		CIRC CASING,RIG DOWN CASING EQUIP,CTJSA W/ BJ
	16:30 - 20:00	3.50	CSG	12	E	P		INSTALL BJ CMT HEAD , TEST PUMP & LINES TO 5,000 PSI, ,DROP BOTTOM PLUG PUMP 5 BBLs FW 40 BBLs SEAL BOND SPACER @11.5# PUMP 476 SKS LEAD CEMENT @ 12.0 PPG, (PREM LITE II + .025 pps CELLO FLAKE + 10 pps KOL SEAL + .05 lb/sx STATIC FREE + 6% bwoc BENTONITE + .4% bwoc SODIUM META SILICATE + .3 % R-3 + 118% FRESH WATER / (12.48 gal/sx, 2.26 yield) + 1,481 SX TAIL @ 14.3 ppg (CLS G 50/50 POZ + 10% SALT + .05lbs/sx STATIC FREE + .2% R3 + .002 GPS FP-6L + 2% BENTONITE + 58.6% FW / (5.91 gal/sx, 1.31 yield) / DROP TOP PLUG & DISPLACE W/ 174.8 BBLs H2O + ADDITIVES / PLUG DOWN @ 19:27 HOURS / FLOATS HELD W/ 2 BBLs H2O RETURNED TO INVENTORY/ GOOD CIRC THROUGH OUT 10 BBLs LEAD CMT TO SURFACE / LIFT PRESSURE @3,200 PSI / BUMP PRESSURE TO 3,700 PSI / TOP OF TAIL CEMENT CALCULATED @ 4400 / RIG DOWN CMT EQUIP'
	20:00 - 21:30	1.50	CSG	12	E	P		FLUSH OUT & PICK UP BOP STACK,SET C-22 CSG SLIPS W/ 105,000,CUT OFF CASING,X/O BAILS
	21:30 - 0:00	2.50	RDMO	01	E	P		CLEAN PITS /PREP TO SKID / RIG RELEASED TO NBU 921-21A3AS @24:00 HRS 02/25/2012

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 921-21A2DS BLUE	Wellbore No.	OH
Well Name	NBU 921-21A2DS	Wellbore Name	NBU 921-21A2DS
Report No.	1	Report Date	4/16/2012
Project	UTAH-UINTAH	Site	NBU 921-21A PAD
Rig Name/No.		Event	COMPLETION
Start Date	4/16/2012	End Date	5/10/2012
Spud Date	1/7/2012	Active Datum	RKB @4,855.00usft (above Mean Sea Level)
UWI	NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0		

1.3 General

Contractor	CASED HOLE SOLUTIONS	Job Method	PERFORATE	Supervisor	DAVE DANIELS
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

1.4 Initial Conditions

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

1.5 Summary

Gross Interval	10,790.0 (usft)-11,190.0 (u	Start Date/Time	5/1/2012 12:00AM
No. of Intervals	10	End Date/Time	5/3/2012 12:00AM
Total Shots	72	Net Perforation Interval	20.00 (usft)
Avg Shot Density	3.60 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

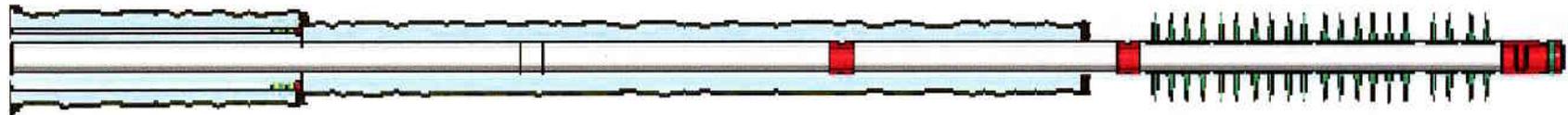
Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
5/3/2012 12:00AM	MESA VERDE/			10,790.0	10,791.0	4.00		0.360	EXP/	3.375	90.00		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
5/2/2012 12:00AM	MESA VERDE/			10,801.0	10,804.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/1/2012 12:00AM	MESA VERDE/			10,834.0	10,836.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/1/2012 12:00AM	MESA VERDE/			10,874.0	10,876.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/1/2012 12:00AM	MESA VERDE/			10,902.0	10,904.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/1/2012 12:00AM	MESA VERDE/			10,963.0	10,964.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/1/2012 12:00AM	MESA VERDE/			10,979.0	10,980.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/1/2012 12:00AM	MESA VERDE/			10,990.0	10,992.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
5/1/2012 12:00AM	MESA VERDE/			11,119.0	11,122.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
5/1/2012 12:00AM	MESA VERDE/			11,187.0	11,190.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

3 Plots

3.1 Wellbore Schematic



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

Well: NBU 921-21A2DS BLUE

Spud Date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig Name No: MILES 3/3

Event: COMPLETION

Start Date: 4/16/2012

End Date: 5/10/2012

Active Datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/7/2012	-							
1/8/2012	-							
1/9/2012	-							
4/24/2012	9:30 - 11:00	1.50	COMP	33		P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 13 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 38 PSI. 1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 88 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. SWIFN
4/27/2012	7:00 - 11:00	4.00		37		P		PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. SWIFW
4/30/2012	6:00 - 17:00	11.00	FRAC	36	E	P		6AM [DAY 3] MIRU SUPERIOR & CHS. HLD SUPERIOR JSA. P.T. SURFACE LINES TO 9446#. LOST 368# IN 15 MINUTES. POP OFFS SET AND KICK OUTS SETON PUMPS.  [STG#1] PERF & FRAC AS PER DESIGN.  [STG#2] PERF AND FRAC BY DESIGN.  [STG#3] PERF BY DESIGN  SDFN 7AM [DAY 4] HLD SUPERIOR JSA.  [STG#3] FRAC AS PER DESIGN. TOTAL SAND FOR BLUE WELL 921- 21A2DS=183,690# SAND AND TOTAL FLUID PUMPED IN 921-21A2DS=7863 BBLs.  [KILL PLUG] SET CBP @ 10,740'. GRAND TOTAL 30/50 TLC SAND FOR PAD=736,439#, AND TOTAL FLUID FOR PAD=31,275 BBLs.  RDMO CHS & SUPERIOR.
5/1/2012	7:00 -		FRAC	36	E	P		
5/8/2012	11:00 - 12:00	1.00	COMP	30	A	P		MOVE OVER FROM 921-21B1CS. RUSU. ND WH. NU BOP. RU FLOOR AND TBG EQUIP. SPOT TBG.
	12:00 - 17:30	5.50	COMP	31	I	P		MU 3-7/8" BIT, POBS, AND 1.87" XN. RIH AS MEAS AND PU 2-3/8" P-110 TBG. HAVE 244-JTS IN, EOT AT 7740'. FILL TBG AND PRES TEST 4-1/2" CSG TO 4200#. LOST 180 IN 20 MIN, NO COMMUNICATION. PRES TEST 8-5/8" SURFACE CSG TO 900. LOST TO 750 IN 2 MIN. BUMP TO 900, LOST TO 600 IN 5 MIN. BLEED OFF SURFACE. SHUT WELL IN.
5/10/2012	7:00 - 7:15	0.25	COMP	48		P		JSA- D/O PLUGS. LD TBG.

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

Well: NBU 921-21A2DS BLUE

Spud Date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig Name No: MILES 3/3

Event: COMPLETION

Start Date: 4/16/2012

End Date: 5/10/2012

Active Datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 11:30	4.25	COMP	44	C	P		<p>CONT RIH AS MEAS AND PU 2-3/8" P-110. TAG AT 10,709" W/ 338-JTS IN. RU DRLG EQUIP. EST CIRC AND D/O PLUGS.</p> <p>#1- C/O 10' SAND TO CBP AT 10,740'. D/O IN 5 MIN. 1000# INC. 0-1200# FCP. RIH.</p> <p>#2- C/O 25' SAND TO CBP AT 10,856'. D/O IN 9 MIN. 1100# INC. 700-1500# FCP. RIH.</p> <p>#3- C/O 35' SAND TO CBP AT 11,022'. D/O IN 11 MIN. 400# INC. 800-600# FCP. RIH.</p> <p>PBTD AT 11,273'. BTM PERF AT 11,190'. C/O 30' TO 11,273' W/ 356-JTS IN (83' RATHOLE). CIRC CLEAN.</p> <p>RD PWR SWIVEL. POOH AS LD 15-JTS. PU 4" 10K HANGER. LUB IN AND LAND 341-JTS 2-3/8" P-110 W/ EOT AT 10,841.70'. RD FLOOR. ND BOP. NU WH. HOOK UP FLOW LINES. POBS AT 1000#. PRES TEST LINES TO 4000#. SITP 500#. SICP 2900#. TURN OVER TO FBC AND SALES. RDSU.</p> <p>TBG DETAIL KB 26.00 4"10K HANGER .83 341-JTS 2-3/8" P-110 10,812.67 1.87" XN POBS 2.20 EOT 10,841.70</p> <p>364-JTS DELIVERED 8-JTS TRANSFERED FROM 21B1CS 31-JTS TRANSFERED TO 21A3AS</p>
	12:00 - 12:30	0.50	COMP	50				<p>TLTR 7863, TLR 800, LLTR 7063.</p> <p>WELL TURNED TO SALESE @ 12:00 HR ON 5/10/2012- 1700 MCFD, 1920 BWPDP, FCP 2800#, FTP 2362#, 20/64"</p>
5/11/2012	7:00 -			50				<p>WELL IP'D ON 5/11/12 - 1558 MCFD, 0 BOPD, 672 BWPDP, CP 1505#, FTP 837#, CK 20/64, LP 66#, 24 HRS</p>

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well Information

Well	NBU 921-21A2DS BLUE	Wellbore No.	OH
Well Name	NBU 921-21A2DS	Common Name	NBU 921-21A2DS
Project	UTAH-UINTAH	Site	NBU 921-21A PAD
Vertical Section	18.76 (°)	North Reference	True
Azimuth		Origin E/W	
Origin N/S		UWI	NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0
Spud Date	1/7/2012		
Active Datum	RKB @4,855.00usft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	WEATHERFORD
Started	1/6/2012	Ended	
Tool Name	MWD	Engineer	Anadarko Employee

2.1.1 Tie On Point

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)
22.00	0.00	0.00	22.00	0.00	0.00

2.1.2 Survey Stations

Date	Type	MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLag (°/100usft)	Build (°/100usft)	Turn (°/100usft)	TFace (°)
1/6/2012	Tie On	22.00	0.00	0.00	22.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/7/2012	NORMAL	192.00	0.71	107.99	192.00	-0.33	1.00	0.01	0.42	0.42	0.00	107.99
	NORMAL	277.00	1.36	55.33	276.98	0.09	2.33	0.83	1.28	0.76	-61.95	-83.93
	NORMAL	362.00	2.69	33.00	361.93	2.33	4.25	3.57	1.79	1.56	-26.27	-42.16
	NORMAL	452.00	4.44	33.08	451.75	7.02	7.30	9.00	1.94	1.94	0.09	0.20
	NORMAL	542.00	5.63	27.58	541.40	13.86	11.25	16.74	1.43	1.32	-8.11	-24.83
	NORMAL	632.00	6.88	19.33	630.87	22.86	15.07	26.49	1.71	1.39	-9.17	-39.87
	NORMAL	722.00	8.44	16.21	720.06	34.29	18.70	38.48	1.79	1.73	-3.47	-16.48
	NORMAL	812.00	10.00	18.33	808.90	48.05	23.00	52.89	1.77	1.73	2.36	13.33
	NORMAL	902.00	12.38	18.08	897.18	64.64	28.46	70.36	2.64	2.64	-0.28	-1.29
	NORMAL	992.00	13.31	13.08	984.93	83.90	33.80	90.31	1.61	1.03	-5.56	-52.54
	NORMAL	1,082.00	14.00	14.33	1,072.38	104.54	38.83	111.48	0.83	0.77	1.39	23.76
	NORMAL	1,172.00	14.56	15.33	1,159.60	126.00	44.52	133.62	0.68	0.62	1.11	24.26
	NORMAL	1,262.00	14.56	16.08	1,246.71	147.78	50.64	156.22	0.21	0.00	0.83	90.36
	NORMAL	1,352.00	13.75	17.21	1,333.98	168.87	56.94	178.21	0.95	-0.90	1.26	161.71
	NORMAL	1,442.00	13.75	16.46	1,421.40	189.34	63.14	199.59	0.20	0.00	-0.83	-90.36
	NORMAL	1,532.00	13.88	15.08	1,508.80	210.02	68.98	221.05	0.39	0.14	-1.53	-69.14
	NORMAL	1,622.00	13.81	16.21	1,596.18	230.76	74.78	242.55	0.31	-0.08	1.26	105.06

2.1.2 Survey Stations (Continued)

Date	Type	MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	TFace (°)
1/7/2012	NORMAL	1,712.00	13.63	13.58	1,683.62	251.38	80.27	263.84	0.72	-0.20	-2.92	-107.37
1/8/2012	NORMAL	1,802.00	13.56	16.46	1,771.10	271.81	85.75	284.95	0.76	-0.08	3.20	97.30
	NORMAL	1,892.00	13.56	15.96	1,858.59	292.07	91.64	306.03	0.13	0.00	-0.56	-90.24
	NORMAL	1,982.00	13.25	14.96	1,946.13	312.18	97.21	326.86	0.43	-0.34	-1.11	-143.69
	NORMAL	2,072.00	12.19	16.71	2,033.92	331.25	102.60	346.65	1.25	-1.18	1.94	160.87
	NORMAL	2,162.00	12.69	15.96	2,121.81	349.85	108.05	366.01	0.58	0.56	-0.83	-18.27
	NORMAL	2,252.00	11.88	16.21	2,209.75	368.25	113.36	385.14	0.90	-0.90	0.28	176.36
	NORMAL	2,342.00	11.25	13.08	2,297.92	385.70	117.93	403.13	0.99	-0.70	-3.48	-136.64
	NORMAL	2,432.00	11.06	13.71	2,386.22	402.64	121.96	420.47	0.25	-0.21	0.70	147.63
	NORMAL	2,522.00	11.06	14.96	2,474.55	419.36	126.24	437.68	0.27	0.00	1.39	90.61
	NORMAL	2,612.00	10.25	19.83	2,563.00	435.24	131.18	454.30	1.34	-0.90	5.41	134.35
	NORMAL	2,702.00	11.25	19.21	2,651.42	451.06	136.79	471.09	1.12	1.11	-0.69	-6.90
	NORMAL	2,749.00	10.95	17.84	2,697.54	459.64	139.66	480.14	0.85	-0.64	-2.91	-139.35

2.2 Survey Name: Survey #2

Survey Name	Survey #2	Company	WEATHERFORD
Started	2/15/2012	Ended	
Tool Name	MWD	Engineer	Anadarko Employee

2.2.1 Tie On Point

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)
2,749.00	10.95	17.84	2,697.54	459.64	139.66

2.2.2 Survey Stations

Date	Type	MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	TFace (°)
2/15/2012	Tie On	2,749.00	10.95	17.84	2,697.54	459.64	139.66	480.14	0.00	0.00	0.00	0.00
2/16/2012	NORMAL	2,846.00	10.25	16.69	2,792.89	476.68	144.96	497.97	0.75	-0.72	-1.19	-163.75
	NORMAL	2,941.00	9.25	16.44	2,886.51	492.09	149.55	514.05	1.05	-1.05	-0.26	-177.70
	NORMAL	3,035.00	8.50	15.06	2,979.39	506.05	153.49	528.53	0.83	-0.80	-1.47	-164.83
	NORMAL	3,130.00	7.19	16.56	3,073.49	518.53	157.01	541.48	1.40	-1.38	1.58	171.86
	NORMAL	3,224.00	5.81	16.31	3,166.89	528.73	160.03	552.11	1.47	-1.47	-0.27	-178.95
	NORMAL	3,318.00	4.88	18.06	3,260.48	537.10	162.60	560.86	1.00	-0.99	1.86	170.93
	NORMAL	3,413.00	4.56	17.31	3,355.16	544.55	164.98	568.68	0.34	-0.34	-0.79	-169.46
	NORMAL	3,507.00	3.88	29.56	3,448.90	550.88	167.66	575.54	1.20	-0.72	13.03	133.03
	NORMAL	3,602.00	2.56	35.56	3,543.75	555.40	170.48	580.73	1.43	-1.39	6.32	168.66
	NORMAL	3,696.00	1.81	54.06	3,637.68	557.98	172.90	583.95	1.09	-0.80	19.68	145.75
	NORMAL	3,791.00	0.63	158.31	3,732.67	558.38	174.31	584.77	2.17	-1.24	109.74	162.73
	NORMAL	3,885.00	0.81	174.94	3,826.66	557.24	174.56	583.77	0.29	0.19	17.69	57.77
	NORMAL	3,980.00	1.00	174.56	3,921.65	555.74	174.70	582.40	0.20	0.20	-0.40	-2.00
	NORMAL	4,074.00	1.13	174.06	4,015.63	554.00	174.87	580.81	0.14	0.14	-0.53	-4.34
2/17/2012	NORMAL	4,169.00	0.25	355.19	4,110.63	553.28	174.95	580.15	1.45	-0.93	-188.28	-179.80
	NORMAL	4,263.00	0.63	334.94	4,204.62	553.95	174.71	580.71	0.43	0.40	-21.54	-32.59
	NORMAL	4,357.00	1.50	21.69	4,298.61	555.56	174.95	582.31	1.24	0.93	49.73	69.99
	NORMAL	4,452.00	1.00	20.81	4,393.58	557.49	175.70	584.38	0.53	-0.53	-0.93	-178.24
	NORMAL	4,547.00	0.69	34.56	4,488.57	558.74	176.32	585.76	0.39	-0.33	14.47	153.56
	NORMAL	4,641.00	0.44	59.94	4,582.57	559.39	176.96	586.58	0.37	-0.27	27.00	147.18
	NORMAL	4,735.00	0.44	86.06	4,676.57	559.59	177.63	586.99	0.21	0.00	27.79	103.06
	NORMAL	4,830.00	0.56	106.06	4,771.56	559.49	178.44	587.15	0.22	0.13	21.05	65.76
	NORMAL	4,925.00	0.75	130.56	4,866.56	558.96	179.36	586.94	0.35	0.20	25.79	68.51

## 2.2.2 Survey Stations (Continued)

Date	Type	MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (%/100usft)	Build (%/100usft)	Turn (%/100usft)	TFace (°)
2/17/2012	NORMAL	5,019.00	1.06	141.31	4,960.55	557.88	180.37	586.25	0.37	0.33	11.44	34.16
	NORMAL	5,114.00	0.56	260.56	5,055.54	557.12	180.46	585.55	1.50	-0.53	125.53	159.88
	NORMAL	5,208.00	0.56	242.06	5,149.54	556.82	179.60	585.00	0.19	0.00	-19.68	-99.25
	NORMAL	5,302.00	0.56	221.31	5,243.53	556.26	178.89	584.24	0.21	0.00	-22.07	-100.37
	NORMAL	5,397.00	0.63	201.31	5,338.53	555.43	178.40	583.29	0.23	0.07	-21.05	-81.55
	NORMAL	5,491.00	0.63	339.81	5,432.52	555.43	178.03	583.18	1.25	0.00	147.34	159.25
	NORMAL	5,586.00	0.44	333.31	5,527.52	556.25	177.69	583.84	0.21	-0.20	-6.84	-165.52
	NORMAL	5,680.00	0.19	298.56	5,621.52	556.65	177.39	584.12	0.32	-0.27	-36.97	-159.12
	NORMAL	5,775.00	0.13	230.69	5,716.52	556.65	177.16	584.06	0.20	-0.06	-71.44	-139.51
	NORMAL	5,869.00	0.44	178.56	5,810.52	556.22	177.09	583.63	0.40	0.33	-55.46	-68.03
	NORMAL	5,964.00	0.81	296.19	5,905.51	556.16	176.50	583.37	1.14	0.39	123.82	138.66
	NORMAL	6,058.00	0.69	289.06	5,999.51	556.63	175.37	583.46	0.16	-0.13	-7.59	-145.66
	NORMAL	6,153.00	0.88	277.06	6,094.50	556.91	174.10	583.32	0.26	0.20	-12.63	-46.97
	NORMAL	6,247.00	0.88	270.94	6,188.49	557.01	172.66	582.95	0.10	0.00	-6.51	-93.06
	NORMAL	6,341.00	0.81	262.19	6,282.48	556.93	171.28	582.43	0.16	-0.07	-9.31	-122.81
	NORMAL	6,436.00	0.69	241.19	6,377.47	556.57	170.12	581.71	0.31	-0.13	-22.11	-123.85
	NORMAL	6,530.00	0.69	227.69	6,471.46	555.91	169.20	580.80	0.17	0.00	-14.36	-96.75
	NORMAL	6,625.00	0.81	211.56	6,566.45	554.95	168.43	579.64	0.25	0.13	-16.98	-68.62
	NORMAL	6,719.00	0.94	199.94	6,660.44	553.66	167.82	578.22	0.23	0.14	-12.36	-59.68
2/18/2012	NORMAL	6,813.00	1.13	192.44	6,754.43	552.03	167.36	576.53	0.25	0.20	-7.98	-39.28
	NORMAL	6,908.00	1.06	189.44	6,849.41	550.25	167.01	574.73	0.10	-0.07	-3.16	-142.18
	NORMAL	7,002.00	1.13	187.31	6,943.39	548.48	166.75	572.96	0.09	0.07	-2.27	-31.25
	NORMAL	7,097.00	0.19	231.81	7,038.38	547.45	166.51	571.91	1.06	-0.99	46.84	172.37
	NORMAL	7,191.00	0.38	113.56	7,132.38	547.23	166.67	571.76	0.53	0.20	-125.80	-137.85
	NORMAL	7,286.00	1.38	32.31	7,227.37	548.07	167.57	572.84	1.45	1.05	-85.53	-97.10
	NORMAL	7,380.00	1.31	41.81	7,321.35	549.83	168.89	574.93	0.25	-0.07	10.11	112.14
	NORMAL	7,475.00	1.13	46.81	7,416.33	551.28	170.30	576.76	0.22	-0.19	5.26	151.88
	NORMAL	7,569.00	1.00	55.19	7,510.31	552.38	171.65	578.24	0.22	-0.14	8.91	133.99
	NORMAL	7,664.00	0.88	66.56	7,605.30	553.14	173.00	579.39	0.23	-0.13	11.97	128.35
	NORMAL	7,758.00	0.88	67.06	7,699.29	553.71	174.32	580.36	0.01	0.00	0.53	90.25
	NORMAL	7,853.00	0.75	77.69	7,794.28	554.13	175.60	581.16	0.21	-0.14	11.19	135.92
	NORMAL	7,947.00	1.00	97.31	7,888.27	554.15	177.02	581.64	0.41	0.27	20.87	60.24
2/19/2012	NORMAL	8,042.00	1.44	106.19	7,983.24	553.72	178.99	581.86	0.50	0.46	9.35	27.73
	NORMAL	8,136.00	1.03	109.94	8,077.22	553.10	180.91	581.90	0.44	-0.44	3.99	170.72
	NORMAL	8,230.00	0.75	126.81	8,171.21	552.44	182.20	581.69	0.40	-0.30	17.95	145.12
	NORMAL	8,325.00	0.38	101.56	8,266.21	552.01	183.01	581.54	0.46	-0.39	-26.58	-158.25
	NORMAL	8,419.00	1.13	321.31	8,360.20	552.67	182.73	582.07	1.53	0.80	-149.20	-149.94
	NORMAL	8,514.00	0.88	333.31	8,455.19	554.05	181.82	583.09	0.34	-0.26	12.63	145.80
	NORMAL	8,608.00	0.63	315.06	8,549.18	555.06	181.13	583.83	0.37	-0.27	-19.41	-144.99
	NORMAL	8,703.00	0.50	301.31	8,644.17	555.65	180.41	584.15	0.20	-0.14	-14.47	-140.53
	NORMAL	8,797.00	0.44	283.81	8,738.17	555.95	179.71	584.21	0.16	-0.06	-18.62	-121.27
	NORMAL	8,892.00	0.38	244.31	8,833.17	555.90	179.07	583.95	0.30	-0.06	-41.58	-121.27
	NORMAL	8,986.00	0.25	219.31	8,927.17	555.60	178.66	583.54	0.20	-0.14	-26.60	-145.45
	NORMAL	9,080.00	0.19	180.81	9,021.17	555.29	178.53	583.20	0.17	-0.06	-40.96	-130.58
	NORMAL	9,174.00	0.44	178.19	9,115.17	554.77	178.54	582.72	0.27	0.27	-2.79	-4.61
2/20/2012	NORMAL	9,269.00	0.81	184.19	9,210.16	553.74	178.50	581.73	0.39	0.39	6.32	13.04
	NORMAL	9,364.00	0.94	186.94	9,305.15	552.29	178.35	580.31	0.14	0.14	2.89	19.28
	NORMAL	9,458.00	1.13	198.06	9,399.13	550.65	177.97	578.63	0.29	0.20	11.83	52.24
	NORMAL	9,553.00	1.19	192.56	9,494.11	548.79	177.47	576.71	0.13	0.06	-5.79	-64.45
	NORMAL	9,647.00	1.19	186.19	9,588.09	546.87	177.15	574.79	0.14	0.00	-6.78	-93.18
	NORMAL	9,741.00	1.56	178.44	9,682.07	544.62	177.08	572.64	0.44	0.39	-8.24	-30.59
	NORMAL	9,836.00	1.81	178.69	9,777.03	541.83	177.15	570.02	0.26	0.26	0.26	1.81
	NORMAL	9,930.00	1.64	176.39	9,870.98	539.00	177.27	567.38	0.20	-0.18	-2.45	-158.99
	NORMAL	10,025.00	1.69	173.69	9,965.94	536.25	177.51	564.85	0.10	0.05	-2.84	-58.84
2/21/2012	NORMAL	10,119.00	1.75	175.49	10,059.90	533.44	177.77	562.28	0.09	0.06	1.91	42.90

## 2.2.2 Survey Stations (Continued)

Date	Type	MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)	Build (%/100usft)	Turn (%/100usft)	TFace (°)
2/21/2012	NORMAL	10,214.00	1.94	165.19	10,154.85	530.44	178.30	559.61	0.40	0.20	-10.84	-65.40
	NORMAL	10,308.00	2.06	156.44	10,248.79	527.36	179.38	557.03	0.35	0.13	-9.31	-72.96
	NORMAL	10,403.00	2.25	153.69	10,343.73	524.12	180.89	554.45	0.23	0.20	-2.89	-29.94
	NORMAL	10,497.00	2.25	154.94	10,437.65	520.79	182.49	551.82	0.05	0.00	1.33	90.62
2/22/2012	NORMAL	10,594.00	2.31	153.06	10,534.58	517.33	184.18	549.08	0.10	0.06	-1.94	-52.20
2/23/2012	NORMAL	10,688.00	2.38	152.06	10,628.50	513.91	185.95	546.42	0.09	0.07	-1.06	-30.81
	NORMAL	10,782.00	2.63	152.31	10,722.41	510.28	187.87	543.59	0.27	0.27	0.27	2.63
	NORMAL	10,877.00	2.56	152.56	10,817.31	506.47	189.86	540.62	0.07	-0.07	0.26	170.94
	NORMAL	10,971.00	2.56	155.31	10,911.22	502.70	191.71	537.64	0.13	0.00	2.93	91.37
	NORMAL	11,066.00	2.63	155.44	11,006.12	498.79	193.50	534.52	0.07	0.07	0.14	4.87
	NORMAL	11,160.00	2.50	152.31	11,100.03	495.01	195.35	531.54	0.20	-0.14	-3.33	-134.42
	NORMAL	11,255.00	2.69	154.81	11,194.93	491.16	197.26	528.50	0.23	0.20	2.63	32.04
	NORMAL	11,330.00	2.69	154.81	11,269.85	487.97	198.76	525.97	0.00	0.00	0.00	0.00

<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> UTU 0576
<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> UTE  <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 921-21A2DS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506090000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6100  <b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>9/28/2015</b>  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input checked="" 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.

KERR-MCGEE OIL & GAS ONSHORE, L.P. is requesting to do a recomplate on the NBU 921-21A2DS, see the attached recomplate procedures.

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

Date: ~~September 28, 2015~~

By:

<b>NAME (PLEASE PRINT)</b> Doreen Green	<b>PHONE NUMBER</b> 435 781-9758	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/25/2015	



# Greater Natural Buttes Unit

**NBU 921-21A2DS  
RE-COMPLETIONS PROCEDURE  
NBU 921-21A PAD  
FIELD ID: BLUE WELL**

**DATE:9/22/2015  
AFE#:2028691  
API#:4304750609  
USER ID:GBN569 (Frac Invoices Only)**

**COMPLETIONS ENGINEER: Jose Moreno  
201-424-8022 (Cell)**

**REMEMBER SAFETY FIRST!**

**Name:** NBU 921-21A2DS  
**Location:** SE NW NE NE Sec 21 T9S R21E  
**LAT:** 40.026084 **LONG:** -109.550344 **COORDINATE:** NAD83 (*Surface Location*)  
**Uintah County, UT**  
**Date:** 4/13/2012

**ELEVATIONS:** 4829' GL 4855' KB *Frac Registry TVD: 11270'*

**TOTAL DEPTH:** 11330' **PBTD:** 11273'  
**SURFACE CASING:** 8 5/8", 28# J-55 LT&C @ 2767'  
**PRODUCTION CASING:** 4 1/2", 11.6#, P-110 DQX LTC @ 5024'  
 4 1/2", 11.6#, P-110 LTC @ 5024-11318'  
 Marker Joint **5001-5022, 7983-7997, and 10707-10722'**

**TUBULAR PROPERTIES:**

	BURST (psi)	COLLAPSE (psi)	DRIFT DIA. (in.)	CAPACITIES	
				(bbl/ft)	(gal/ft)
2 3/8" 4.7# P-110 tbg	7,700	8,100	1.901"	0.00387	0.1624
4 1/2" 11.6# I-80 (See above)	7780	6350	3.875"	0.0155	0.6528
4 1/2" 11.6# P-110	10691	7580	3.875"	0.0155	0.6528
2 3/8" by 4 1/2" Annulus				0.0101	0.4227

**TOPS:**

1724' Green River Top  
 2034' Bird's Nest Top  
 2353' Mahogany Top  
 5077' Wasatch Top  
 8151' Mesaverde Top

**BOTTOMS:**

8151' Wasatch Bottom  
 11330' Mesaverde Bottom (TD)

**T.O.C. @ 1050' SLB CBL Dated 3/24/2012**  
**Hydraulic Isolation @ 2670'**

**GENERAL NOTES:**

- **Please note that:**
  - All stages on this procedure may or may not be completed due to low frac gradients, timing, or other possible reasons. Total stages completed can be found in the post-job-report.
  - CBP depth on this procedure is only to be used as a reference. This depth is subject to change as per field operations and the discretion of the wireline supervisor and field foreman.
- A minimum of 7 tanks (cleaned lined 500 bbl) of recycled water will be required. Note: Use biocide in tanks and the water needs to be at least 45°F at pump time.
- All perforation depths are from Halliburton's Induction-Density-Neutron log dated 2/24/2012
  - LOG bridged out at 8209. Tied in SLB CBL dated 3/24/2012
- 1 fracturing stages required for coverage.

- Procedure calls for 2 CBP's (8000 psi) .
- Calculate open perforations after each breakdown. If less than 60% of the perforations appear to be open, ball out with 15% HCl.
- **Pump scale inhibitor at 0.5 gpt. Remember to pre-load the casing with scale inhibitor.**
- FR will be pumped at 0.3 gpt for this well. This concentration will be raised or lowered on the job at the discretion of the APC foreman per the well's treating pressure.
- 30/50 mesh Ottawa sand, **Slickwater frac.**
- Maximum surface pressure 7000 **psi.**
- **If casing pressure test fails. Contact Denver Engineer.**
- Flush volumes are the sum of slick water and acid used during displacement (include scale inhibitor as mentioned above). Stage acid and scale inhibitor if necessary to cover the next perforated interval.
- Call flush at 0 PPG @ inline densimeters. Slow to 5 bbl/min over last 10-20 bbls of flush. Flush to top perf.
- Max Sand Concentration: Mesaverde 1 ppg;
- If distance between plug and top perf of previous stage is less than 50', it is considered to be tight spacing – design will over flush stage by 5 bbls (from top perf)
- **TIGHT SPACING ON STAGE**
- **If using any chemicals for pickling tubing or H2S Scavenging, have MSDS for all chemicals prior to starting work**

**Existing Perforations:**

Please insert perforations from OpenWells. Make sure you QC perfs.

<b>PERFORATIONS</b>						
<b>Formation</b>	<b>Zone</b>	<b>Top</b>	<b>Btm</b>	<b>Date</b>	<b>Reason</b>	<b>Comments</b>
MESA VERDE	BLACKHAWK	10790	10791	05/03/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10801	10804	05/03/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10834	10836	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10874	10876	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10902	10904	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10963	10964	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10979	10980	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10990	10992	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	11119	11122	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	11187	11190	05/01/2012	PRODUCTION	

**Relevant History:**

5/1/2012: Originally completed in Mesaverde formation (1 stages) with ~ 336,059 gallons of Slickwater, 183,479 lbs of 30/50 Ottawa Sand sand

11/20/2014: Last slickline report:

From	To	Duration (hr)	Phase	Code	Code description	Sub Code	Sub description	PIU	Operation
07.00	10.00	3.00	MAINT	35	SLICKLINE			P	DRIVE TO LOCATION, RIG UP, TUBING PRESSURE 131, CASING PRESSURE 182, RIH WITH JDC TO 10778' AND FISH PAD PLUNGER, PLUNGER GOOD, RIH WITH JDC TO 10778' AND FISH SPRING, RIH WITH 1.90 BROACH TO SN, DROP SPRING, RIH AND CHASE SPRING TO SN, DROP PAD PLUNGER, RIG DOWN AND MOVE LOCATIONS.

5/10/2012: Tubing Currently Landed @~10,842' ( 341 JTS)\_

### H2S History:

Insert recent/available H<sub>2</sub>S data from Amulet (??)

### **PROCEDURE: (If using any chemicals for pickling tubing or H<sub>2</sub>S Scavenging, have MSDS for all chemicals prior to starting work.)**

- MIRU. Control well with recycled water and biocide as required. ND WH, NU BOP's and test.
- The tubing is below the proposed CBP depth. TOO H with 2-3/8", 4.7#, P-110 tubing. Visually inspect for scale and consider replacing if needed. **The tubing is above the proposed CBP depth, RIH with 2-3/8", 4.7#, P-110 tubing and tag for fill before TOO H. Visually inspect for scale and consider replacing if needed**
- If tbg looks ok consider running a gauge ring to 10,362 (50' below proposed CBP). Otherwise P/U a mill and C/O to 10,362 (50' below proposed CBP).
- Set 8000 psi CBP at ~ 10312'. ND BOPs and NU frac valves Test frac valves and casing to to **7,000 psi** for 15 minutes; if pressure test fails contact Denver engineer and see notes above. **Lock OPEN the Braden head valve.** Flow from annulus will be visually monitored throughout stimulation. If release occurs, stimulation will be shut down. Well conditions will be assessed and actions taken as necessary to secure the well. UDOGM will be notified if a release to the annulus occurs.
- Pressure test frac lines to max surface pressure + 1000 psi for 15 minutes. Pressure loss should be less than 10% to be considered acceptable. Check and correct for existing leaks.
- Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	10248	10250	3	6
MESAVERDE	10260	10262	3	6
MESAVERDE	10268	10270	3	6
MESAVERDE	10280	10282	3	6
- Breakdown perfs and establish injection rate (include scale inhibitor in fluid). Spot 250 gals of 15% HCL and let soak 5-10 min. Fracture as outlined in Stage 1 on attached listing. Under-displace to ~10248' and flush only with recycled water .

- Set 8000 psi CBP at~ 10,161'.

9. ND Frac Valves, NU and Test BOPs.
10. TIH with 3 7/8" bit, pump open sub, SN and tubing.
11. Drill 1 plugs and clean out to a depth of 10,302' (~ 20' below bottom perms).
12. Shift pump open bit sub and land tubing at 10,218'. Flow back completion load. RDMO.
13. Clean out well with foam and/or swabbing unit until steady flow has been established from completion.
14. **Leave surface casing valve open.** Monitor and report any flow from surface casing. RDMO

Key Contact information

**For design questions, please call** Completion Engineer  
Jose Moreno: 201/424-8022, 720/929-4380

**For field implementation questions, please call**  
Completion Supervisor Foreman

Jeff Samuels: 435/828-6515, 435/781-7046

Brad Burman: 435/828-8006, 435/781-7042

Production Engineer

Robert Miller: 435/781-7041, 435/828-6510

Mickey Doherty: 435/781-9740, 406/491-7294

Ronald Trigo: 435/781-7037, 352/213-6630

Ryckur Schuttler: 435/781-7055, 954/675-1037

Boone Bajgier: 435/781-7096, 713/416-4816

Jake Roberts: 435/781-7015, 716/499-6569

Completion Manager

Jeff Dufresne: 720/929-6281, 303/241-8428

Vernal Main Office

435/789-3342

Vernal IOC

435/781-9751

Emergency Contact Information—Call 911

Vernal Regional Hospital Emergency: 435/789-3342

Police: 435/789-5835

Fire: 435/789-4222

|

Service Company Supplied Chemicals - Job Totals

Friction Reducer	37	gals @	0.3	GPT
Surfactant	92	gals @	0.75	GPT
Clay Stabilizer	61	gals @	0.5	GPT
15% Hcl	250	gals @	250	gal/stg
Iron Control for acid	1	gals @	5.0	GPT of acid
Surfactant for acid	1	gals @	2.0	GPT of acid
Corrosion Inhibitor for acid	2	gals @	6.0	GPT of acid

Third Party Supplied Chemicals Job Totals - Include Pumping Charge if Applicable

Scale Inhibitor	61	gals pumped	0.5	GPT (see schedule)
Biocide	37	gals @	0.3	GPT

Stage	Zone	Perfs		Holes	Rate BPM	Fluid Type	Initial ppg	Final ppg	Fluid	Volume gals	Cum Vol gals	Volume BBLs	Cum Vol BBLs	Fluid % of frac	Sand % of frac	Sand lbs	Cum. Sand lbs	Footage from CBP to Flush	Scale Inhib., gal.
		Top, ft.	Bot, ft																
1	MESAVERDE	10248	10250	3	6	Pre-Pad & Pump-in test			Slickwater	6,690	6,690	159	159						3
	MESAVERDE	10260	10262	3	6	0 ISIP and 5 min ISIP			Slickwater	90,338	97,027	2,151	2,310	82.5%	0.0%	0	0		45
	MESAVERDE	10268	10270	3	6	50 Slickwater Pad	0.25	0.625	Slickwater	6,387	103,415	152	2,462	5.8%	21.9%	2,795	2,795		3
	MESAVERDE	10280	10282	3	6	50 Slickwater Ramp	0	0	Slickwater	6,387	103,415	0	2,462	5.8%	0.0%	0	2,795		0
	MESAVERDE			3	6	50 ISW Sweep	0.63	0.75	Slickwater	6,387	109,802	152	2,614	5.8%	34.4%	4,391	7,186		3
	MESAVERDE			3	6	50 Slickwater Ramp	0	0	Slickwater	0	109,802	0	2,614	0.0%	0.0%	0	7,186		0
	MESAVERDE					50 ISW Sweep	0.25	0.75	Slickwater	0	109,802	0	2,614	0.0%	0.0%	0	7,186		0
	MESAVERDE					50 Slickwater Ramp	0.75	1	Slickwater	6,387	116,190	152	2,766	5.8%	43.8%	5,589	12,775		3
	MESAVERDE					50 Flush (4-1/2			Slickwater	6,690	122,880	159	2,926				12,775		0
	MESAVERDE					ISDP and 5 min ISDP			Sand laden Volume	109,500						3,000	350 lbs sand/ft	87	58
	MESAVERDE					<< Above pump time (min)	58.5												
					24									Flush depth	gal/H	CBP depth	10,161		

Name NBU 921-21A2DS  
 Perforation and CBP Summary

Stage	Zones	Perforations		SPF	Holes	Fracture Coverage		
		Top, ft	Bottom, ft					
1	MESAVERDE	10248	10250	3	6	10245.5	to	10286
	MESAVERDE	10260	10262	3	6			
	MESAVERDE	10268	10270	3	6			
	MESAVERDE	10280	10282	3	6			
	MESAVERDE			3				
	MESAVERDE			3				
	MESAVERDE							
	MESAVERDE							
	# of Perfs/stage				24	CBP DEPTH	10,161	

MD	TVD	INC		MD	TVD	INC
22.01	22.01	0		5680	5621.52	0.19
192.01	192.01	0.71		5775	5716.52	0.13
277.01	276.99	1.36		5869	5810.52	0.44
362.01	361.94	2.69		5964	5905.51	0.81
452.01	451.76	4.44		6058	5999.51	0.69
542.01	541.41	5.63		6153	6094.5	0.88
632.01	630.88	6.88		6247	6188.49	0.88
722.01	720.07	8.44		6341	6282.48	0.81
812.01	808.91	10		6436	6377.47	0.69
902.01	897.19	12.38		6530	6471.46	0.69
992.01	984.94	13.31		6625	6566.45	0.81
1082.01	1072.39	14		6719	6660.44	0.94
1172.01	1159.61	14.56		6813	6754.43	1.13
1262.01	1246.72	14.56		6908	6849.41	1.06
1352.01	1333.99	13.75		7002	6943.39	1.13
1442.01	1421.41	13.75		7097	7038.38	0.19
1532.01	1508.81	13.88		7191	7132.38	0.38
1622.01	1596.19	13.81		7286	7227.37	1.38
1712.01	1683.63	13.63		7380	7321.35	1.31
1802.01	1771.1	13.56		7475	7416.33	1.13
1892.01	1858.6	13.56		7569	7510.31	1
1982.01	1946.14	13.25		7664	7605.3	0.88
2072.01	2033.93	12.19		7758	7699.29	0.88
2162.01	2121.82	12.69		7853	7794.28	0.75
2252.01	2209.76	11.88		7947	7888.27	1
2342.01	2297.93	11.25		8042	7983.24	1.44
2432.01	2386.23	11.06		8136	8077.22	1.03
2522.01	2474.56	11.06		8230	8171.21	0.75
2612.01	2563.01	10.25		8325	8266.21	0.38
2702.01	2651.43	11.25		8419	8360.2	1.13
2749.01	2697.55	10.95		8514	8455.19	0.88
2846	2792.89	10.25		8608	8549.18	0.63
2941	2886.51	9.25		8703	8644.17	0.5
3035	2979.39	8.5		8797	8738.17	0.44
3130	3073.49	7.19		8892	8833.17	0.38
3224	3166.89	5.81		8986	8927.17	0.25
3318	3260.48	4.88		9080	9021.17	0.19
3413	3355.16	4.56		9175	9116.17	0.44
3507	3448.9	3.88		9269	9210.16	0.81
3602	3543.75	2.56		9364	9305.15	0.94
3696	3637.68	1.81		9458	9399.13	1.13
3791	3732.67	0.63		9553	9494.11	1.19
3885	3826.66	0.81		9647	9588.09	1.19
3980	3921.65	1		9741	9682.07	1.56
4074	4015.63	1.13		9836	9777.03	1.81
4169	4110.63	0.25		9930	9870.98	1.64
4263	4204.62	0.63		10025	9965.94	1.69
4357	4298.61	1.5		10119	10059.9	1.75
4452	4393.58	1		10214	10154.85	1.94
4547	4488.57	0.69		10308	10248.79	2.06
4641	4582.57	0.44		10403	10343.73	2.25
4736	4677.57	0.44		10497	10437.65	2.25
4830	4771.56	0.56		10594	10534.58	2.31
4925	4866.56	0.75		10688	10628.5	2.38
5019	4960.55	1.06		10782	10722.41	2.63
5114	5055.54	0.56		10877	10817.31	2.56
5208	5149.54	0.56		10971	10911.22	2.56
5302	5243.53	0.56		11066	11006.12	2.63
5397	5338.53	0.63		11160	11100.03	2.5
5491	5432.52	0.63		11255	11194.93	2.69
5586	5527.52	0.44		11330	11269.85	2.69

Acid Pickling and H2S Procedures (If Required)

**\*\*PROCEDURE FOR PUMPING ACID DOWN TBG**

WHEN FINDING SCALE IN TUBING THAT IS ACID SOLUBLE, ENSURE THAT PLUNGER EQUIPMENT IS REMOVED AND ABLE TO PUMP DOWN TBG. INSTALL A 'T' IN PUMP LINE W/2" VALVE THAT NALCO CAN TIE INTO. HAVE 60 BBL 2% KCL MIXED W/ 10-15 GAL H2S SCAVENGER IN RIG FLAT TANK. (WE USED THE RIG FLAT TANK FOR MIXING CHEMICAL SO WE DIDN'T HAVE THE CHEMICAL IN ALL FLUIDS ON LOCATION, ONLY WHAT WE NEEDED TO PUMP DOWN HOLE)

1. PUMP 5-10 BBL 2% KCL DOWN TBG (NALCO CANNOT PUMP AGAINST PRESSURE)
2. NALCO WILL PUMP 3 DRUMS HCL (31%) INTO PUMP LINE.
3. FLUSH BEHIND ACID WITH 10-15 BBL 2% KCL
4. PUMP 2—30 BBL 2% W/ H2S SCAVENGER DOWN TBG.
5. PUMP REMAINDER OF 2% W/ H2S SCAVENGER DOWN CASING AND SHUT WELL IN FOR MINIMUM OF 2 HRS.
6. OVER DISPLACE DOWN TBG AND CSG TO FLUSH ACID AND SCAVENGER INTO FORMATION
7. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

**\*\* PROCEDURE FOR PUMPING H2S SCAVENGER WITHOUT ACID**

PRIOR TO RIG MOVING ON OR AS RIG PULLS ONTO LOCATION. TEST CASING, TUBING AND SEPARATOR FOR H2S. IF FOUND MAKE SURE THAT PLUNGER SYSTEM IS REMOVED (IT IS POSSIBLE TO PUMP AROUND PLUNGERS BUT SOME WILL HAVE A STANDING VALVE IN SEATING NIPPLE).

1. MIX 10-15 GAL H2S SCAVENGER WITH 60-100 BBL 2% KCL IN RIG FLAT TANK.
2. PUMP 25 BBL MIXTURE DOWN TUBING AND REST DOWN CASING. SHUT WELL IN FOR 2 HOURS.
3. IF WELL HAS PRESSURE AFTER 2 HOURS – RETEST CASING AND TUBING FOR H2S.
4. FLUSH TUBING AND CASING PUSHING H2S SCAVENGER INTO FORMATION.
5. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

\*\* As per APC standard operating procedure, APC foreman will verify ALL volumes pumped and record on APC Volume Report Form

<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> UTU 0576
<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> UTE  <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 921-21A2DS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047506090000
<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> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>10/28/2015</b>  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input 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 checked="" 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.

Kerr-McGee Oil & Gas Onshore, LP respectfully requests to recomplete a second formation in the NBU 921-21A2DS well. Please see the attached procedure for details. Thank you.

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

Date: October 28, 2015  
 By: *Derek Duff*

<b>NAME (PLEASE PRINT)</b> Kristina Geno	<b>PHONE NUMBER</b> 720 929-6824	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 10/27/2015	



# Greater Natural Buttes Unit

**NBU 921-21A2DS  
RE-COMPLETIONS PROCEDURE  
NBU 921-21A PAD  
FIELD ID: BLUE WELL**

**DATE:10/26/2015  
AFE#:  
API#:4304750609  
USER ID:GBN569 (Frac Invoices Only)**

**COMPLETIONS ENGINEER: Jose Moreno  
201-424-8022 (Cell)**

**REMEMBER SAFETY FIRST!**

**Name:** NBU 921-21A2DS  
**Location:** NE NE Sec 21 T9S R21E  
**LAT:** 40.026084 **LONG:** -109.550344 **COORDINATE:** NAD83 (*Surface Location*)  
**Uintah County, UT**  
**Date:** 4/13/2012

**ELEVATIONS:** 4829' GL 4855' KB *Frac Registry TVD: 11270'*

**TOTAL DEPTH:** 11330' **PBTD:** 11273'  
**SURFACE CASING:** 8 5/8", 28# J-55 LT&C @ 2767'  
**PRODUCTION CASING:** 4 1/2", 11.6#, P-110 DQX LTC @ 5024'  
 4 1/2", 11.6#, P-110 LTC @ 5024-11318'  
 Marker Joint **5001-5022, 7983-7997, and 10707-10722'**

**TUBULAR PROPERTIES:**

	BURST (psi)	COLLAPSE (psi)	DRIFT DIA. (in.)	CAPACITIES	
				(bbl/ft)	(gal/ft)
2 3/8" 4.7# P-110 tbg	7,700	8,100	1.901"	0.00387	0.1624
4 1/2" 11.6# I-80 (See above)	7780	6350	3.875"	0.0155	0.6528
4 1/2" 11.6# P-110	10691	7580	3.875"	0.0155	0.6528
2 3/8" by 4 1/2" Annulus				0.0101	0.4227

**TOPS:**

1724' Green River Top  
 2034' Bird's Nest Top  
 2353' Mahogany Top  
 5077' Wasatch Top  
 8151' Mesaverde Top

**BOTTOMS:**

8151' Wasatch Bottom  
 11330' Mesaverde Bottom (TD)

**T.O.C. @ 1050' SLB CBL Dated 3/24/2012**  
**Hydraulic Isolation @ 2670'**

**GENERAL NOTES:**

- **Please note that:**
  - All stages on this procedure may or may not be completed due to low frac gradients, timing, or other possible reasons. Total stages completed can be found in the post-job-report.
  - CBP depth on this procedure is only to be used as a reference. This depth is subject to change as per field operations and the discretion of the wireline supervisor and field foreman.
- A minimum of **34** tanks (cleaned lined 500 bbl) of recycled water will be required. Note: Use biocide in tanks and the water needs to be at least 45°F at pump time.
- All perforation depths are from Halliburton's Induction-Density-Neutron log dated 2/24/2012
  - LOG bridged out at 8209. Tied in SLB CBL dated 3/24/2012
- **2** fracturing stages required for coverage.

- Procedure calls for 3 CBP's (8000 psi) .
- Calculate open perforations after each breakdown. If less than 60% of the perforations appear to be open, ball out with 15% HCl.
- **Pump scale inhibitor at 0.5 gpt. Remember to pre-load the casing with scale inhibitor.**
- FR will be pumped at 0.3 gpt for this well. This concentration will be raised or lowered on the job at the discretion of the APC foreman per the well's treating pressure.
- 30/50 mesh Ottawa sand, **Slickwater frac.**
- Maximum surface pressure 7000 **psi.**
- **If casing pressure test fails. Contact Denver Engineer.**
- Flush volumes are the sum of slick water and acid used during displacement (include scale inhibitor as mentioned above). Stage acid and scale inhibitor if necessary to cover the next perforated interval.
- Call flush at 0 PPG @ inline densimeters. Slow to 5 bbl/min over last 10-20 bbls of flush. Flush to top perf.
- Max Sand Concentration: Mesaverde 1 ppg;
- If distance between plug and top perf of previous stage is less than 50', it is considered to be tight spacing – design will over flush stage by 5 bbls (from top perf)
- **TIGHT SPACING ON STAGE 1**
- **If using any chemicals for pickling tubing or H2S Scavenging, have MSDS for all chemicals prior to starting work**

### Existing Perforations:

Please insert perforations from OpenWells. Make sure you QC perfs.

<u>PERFORATIONS</u>						
<u>Formation</u>	<u>Zone</u>	<u>Top</u>	<u>Btm</u>	<u>Date</u>	<u>Reason</u>	<u>Comments</u>
MESA VERDE	BLACKHAWK	10790	10791	05/03/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10801	10804	05/03/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10834	10836	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10874	10876	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10902	10904	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10963	10964	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10979	10980	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	10990	10992	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	11119	11122	05/01/2012	PRODUCTION	
MESA VERDE	BLACKHAWK	11187	11190	05/01/2012	PRODUCTION	

### Relevant History:

5/1/2012: Originally completed in Mesaverde formation (1 stages) with ~ 336,059 gallons of Slickwater, 183,479 lbs of 30/50 Ottawa Sand sand

11/20/2014: Last slickline report:

From	To	Duration (hr)	Phase	Code	Code description	Sub Code	Sub description	PIU	Operation
07.00	10.00	3.00	MAINT	35	SLICKLINE			P	DRIVE TO LOCATION, RIG UP, TUBING PRESSURE 131, CASING PRESSURE 182, RIH WITH JDC TO 10775' AND FISH PAD PLUNGER, PLUNGER GOOD, RIH WITH JDC TO 10778' AND FISH SPRING, RIH WITH 1.90 BROACH TO SN, DROP SPRING, RIH AND CHASE SPRING TO SN, DROP PAD PLUNGER, RIG DOWN AND MOVE LOCATIONS.

5/10/2012: Tubing Currently Landed @~10,842' ( 341 JTS)\_

10/7/2015: Recompleted 1 stage. Lowest part of the Neslen. 24 holes total.

10/13/2015 Tubing landed @ 10,215 ft. 322 JTS

**H2S History:**

Insert recent/available H<sub>2</sub>S data from Amulet (??)

**PROCEDURE: (If using any chemicals for pickling tubing or H2S Scavenging, have MSDS for all chemicals prior to starting work.)**

- MIRU. Control well with recycled water and biocide as required. ND WH, NU BOP's and test.
- The tubing is below the proposed CBP depth. TOO H with 2-3/8", 4.7#, P-110 tubing. Visually inspect for scale and consider replacing if needed. The tubing is above the proposed CBP depth, RIH with 2-3/8", 4.7#, P-110 tubing and tag for fill before TOO H. Visually inspect for scale and consider replacing if needed
- Set 8000 psi CBP at ~ 9871'. ND BOPs and NU frac valves Test frac valves and casing to to **7,000 psi** for 15 minutes; if pressure test fails contact Denver engineer and see notes above. **Lock OPEN the Braden head valve.** Flow from annulus will be visually monitored throughout stimulation. If release occurs, stimulation will be shut down. Well conditions will be assessed and actions taken as necessary to secure the well. UDOGM will be notified if a release to the annulus occurs.
- Pressure test frac lines to max surface pressure + 1000 psi for 15 minutes. Pressure loss should be less than 10% to be considered acceptable. Check and correct for existing leaks.
- Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:
 

Zone	From	To	spf	# of shots
MESAVERDE	9692	9693	3	3
MESAVERDE	9754	9755	3	3
MESAVERDE	9765	9766	3	3
MESAVERDE	9782	9783	3	3
MESAVERDE	9793	9795	3	6
MESAVERDE	9839	9841	3	6

6. Breakdown perfs and establish injection rate (include scale inhibitor in fluid). Spot 250 gals of 15% HCL and let soak 5-10 min. Fracture as outlined in Stage 1 on attached listing. Under-displace to ~9692' and trickle 250gal 15%HCL w/ scale inhibitor in flush .  
**NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs**
7. Set 8000 psi CBP at~ 9670'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	9430	9431	3	3
MESAVERDE	9454	9455	3	3
MESAVERDE	9475	9476	3	3
MESAVERDE	9590	9591	3	3
MESAVERDE	9533	9534	3	3
MESAVERDE	9565	9566	3	3
MESAVERDE	9598	9599	3	3
MESAVERDE	9649	9650	3	3
8. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 2 on attached listing. Under-displace to ~9430' and flush only with recycled water .
9. Set 8000 psi CBP at~ 9380'.
10. ND Frac Valves, NU and Test BOPs.
11. TIH with 3 7/8" bit, pump open sub, SN and tubing.
12. Drill 2 plugs and clean out to a depth of 9861' (~ 20' below bottom perfs).
13. Shift pump open bit sub and land tubing at 9,662' (~ 30' above bottom perfs). Flow back completion load. RDMO.
14. Clean out well with foam and/or swabbing unit until steady flow has been established from completion.
15. **Leave surface casing valve open.** Monitor and report any flow from surface casing. RDMO

Key Contact information

**For design questions, please call** Completion Engineer  
Jose Moreno: 201/424-8022, 720/929-4380

**For field implementation questions, please call**

Completion Supervisor Foreman

Jeff Samuels: 435/828-6515, 435/781-7046

Brad Burman: 435/828-8006, 435/781-7042

Production Engineer

Robert Miller: 435/781-7041, 435/828-6510

Mickey Doherty: 435/781-9740, 406/491-7294

Ronald Trigo: 435/781-7037, 352/213-6630

Ryckur Schuttler: 435/781-7055, 954/675-1037

Boone Bajgier: 435/781-7096, 713/416-4816

Jake Roberts: 435/781-7015, 716/499-6569

Completion Manager

Jeff Dufresne: 720/929-6281, 303/241-8428

Vernal Main Office

435/789-3342

Vernal IOC

435/781-9751

Emergency Contact Information—Call 911

Vernal Regional Hospital Emergency: 435/789-3342

Police: 435/789-5835

Fire: 435/789-4222

Service Company Supplied Chemicals - Job Totals

Friction Reducer	189	gals @	0.3	GPT
Surfactant	473	gals @	0.75	GPT
Clay Stabilizer	315	gals @	0.5	GPT
15% Hcl	500	gals @	250	gal/stg
Iron Control for acid	3	gals @	5.0	GPT of acid
Surfactant for acid	1	gals @	2.0	GPT of acid
Corrosion Inhibitor for acid	3	gals @	6.0	GPT of acid

Third Party Supplied Chemicals Job Totals - Include Pumping Charge if Applicable

Scale Inhibitor	315	gals pumped	0.5	GPT (see schedule)
Biocide	189	gals @	0.3	GPT

Zone	Perfs		SPF	Holes	Rate BPM	Fluid Type	Initial ppg	Final ppg	Fluid	Volume gals	Cum Vol gals	Volume BBLs	Cum Vol BBLs	Fluid % of frac	Sand % of frac	Sand lbs	Cum. Sand lbs	Footage from CBP to Flush	Scale Inhib., gal.
	Top. ft.	Bot. ft.																	
MESAVERDE	9692	9693	3	3	Varied	Pre-Pad & Pump-in test			Slickwater	6,327	6,327	151	151						3
MESAVERDE	9754	9755	3	3	0	ISIP and 5 min ISIP	0.25	0.625	Slickwater	129,938	136,264	3,094	3,244	82.5%	0.0%	0	0		65
MESAVERDE	9765	9766	3	3	50	Slickwater Pad	0	0	Slickwater	9,187	145,452	219	3,463	5.8%	21.9%	4,020	4,020		5
MESAVERDE	9782	9783	3	3	50	Slickwater Ramp	0	0	Slickwater	0	145,452	0	3,463	0.0%	0.0%	0	4,020		5
MESAVERDE	9793	9795	3	6	50	SW Sweep	0.63	0.75	Slickwater	9,187	154,639	219	3,682	5.8%	34.4%	6,316	10,336		5
MESAVERDE	9839	9841	3	6	50	Slickwater Ramp	0	0	Slickwater	0	154,639	0	3,682	0.0%	0.0%	0	10,336		0
MESAVERDE					50	SW Sweep	0.25	0.75	Slickwater	9,187	154,639	219	3,682	5.8%	0.0%	0	10,336		0
MESAVERDE					50	Slickwater Ramp	0.75	1	Slickwater	9,187	163,827	219	3,901	5.8%	43.8%	8,039	18,375		5
MESAVERDE					50	Flush (4-1/2)			Slickwater	6,537	170,364	156	4,056				18,375		3
MESAVERDE						ISDP and 5 min ISDP			Sand laden Volume	157,500									85
MESAVERDE				24															
MESAVERDE					81.1	<< Above pump time (min)													
MESAVERDE	9430	9431	3	3	Varied	Pump-in test			Slickwater	0	0	0	0						
MESAVERDE	9454	9455	3	3	0	ISIP and 5 min ISIP	0.25	0.625	Slickwater	379,913	379,913	9,046	9,046	82.5%	0.0%	0	0		190
MESAVERDE	9475	9476	3	3	50	Slickwater Pad	0	0	Slickwater	26,862	406,775	640	9,685	5.8%	21.9%	11,752	11,752		13
MESAVERDE	9590	9591	3	3	50	Slickwater Ramp	0	0	Slickwater	0	406,775	0	9,685	0.0%	0.0%	0	11,752		0
MESAVERDE	9633	9634	3	3	50	SW Sweep	0.63	0.75	Slickwater	26,862	433,638	640	10,325	5.8%	34.4%	18,468	30,220		13
MESAVERDE	9665	9666	3	3	50	Slickwater Ramp	0	0	Slickwater	0	433,638	0	10,325	0.0%	0.0%	0	30,220		0
MESAVERDE	9699	9699	3	3	50	SW Sweep	0.25	0.75	Slickwater	26,862	433,638	640	10,325	5.8%	0.0%	0	30,220		0
MESAVERDE	9649	9650	3	3	50	Slickwater Ramp	0.75	1	Slickwater	6,156	466,656	147	11,111	5.8%	43.8%	23,505	53,725		13
MESAVERDE					50	Flush (4-1/2)			Slickwater	466,656	466,656						53,725		0
MESAVERDE						ISDP and 5 min ISDP			Sand laden Volume	460,500									230
MESAVERDE																			
MESAVERDE				24															
MESAVERDE					222.2	<< Above pump time (min)													
<b>Totals</b>				48						<b>Total Fluid</b>	<b>637,020 gals</b>	<b>15,167 bbls</b>	<b>Flush depth 9,430</b>		<b>Total Sand</b>	<b>72,100</b>	<b>Flush depth 9,380</b>	<b>50</b>	<b>Total Scale Inhib. = 315</b>

Name NBU 921-21A2DS  
 Perforation and CBP Summary

Stage	Zones	Perforations		SPF	Holes	Fracture Coverage		
		Top, ft	Bottom, ft					
1	MESAVERDE	9692	9693	3	3	9687	to	9841
	MESAVERDE	9754	9755	3	3			
	MESAVERDE	9765	9766	3	3			
	MESAVERDE	9782	9783	3	3			
	MESAVERDE	9793	9795	3	6			
	MESAVERDE	9839	9841	3	6			
	MESAVERDE							
	MESAVERDE							
	# of Perfs/stage				24	CBP DEPTH	9,670	
2	MESAVERDE	9430	9431	3	3	9420	to	9657
	MESAVERDE	9454	9455	3	3			
	MESAVERDE	9475	9476	3	3			
	MESAVERDE	9590	9591	3	3			
	MESAVERDE	9533	9534	3	3			
	MESAVERDE	9565	9566	3	3			
	MESAVERDE	9598	9599	3	3			
	MESAVERDE	9649	9650	3	3			
	# of Perfs/stage				24	CBP DEPTH	9,380	

MD	TVD	INC		MD	TVD	INC
22.01	22.01	0		5680	5621.52	0.19
192.01	192.01	0.71		5775	5716.52	0.13
277.01	276.99	1.36		5869	5810.52	0.44
362.01	361.94	2.69		5964	5905.51	0.81
452.01	451.76	4.44		6058	5999.51	0.69
542.01	541.41	5.63		6153	6094.5	0.88
632.01	630.88	6.88		6247	6188.49	0.88
722.01	720.07	8.44		6341	6282.48	0.81
812.01	808.91	10		6436	6377.47	0.69
902.01	897.19	12.38		6530	6471.46	0.69
992.01	984.94	13.31		6625	6566.45	0.81
1082.01	1072.39	14		6719	6660.44	0.94
1172.01	1159.61	14.56		6813	6754.43	1.13
1262.01	1246.72	14.56		6908	6849.41	1.06
1352.01	1333.99	13.75		7002	6943.39	1.13
1442.01	1421.41	13.75		7097	7038.38	0.19
1532.01	1508.81	13.88		7191	7132.38	0.38
1622.01	1596.19	13.81		7286	7227.37	1.38
1712.01	1683.63	13.63		7380	7321.35	1.31
1802.01	1771.1	13.56		7475	7416.33	1.13
1892.01	1858.6	13.56		7569	7510.31	1
1982.01	1946.14	13.25		7664	7605.3	0.88
2072.01	2033.93	12.19		7758	7699.29	0.88
2162.01	2121.82	12.69		7853	7794.28	0.75
2252.01	2209.76	11.88		7947	7888.27	1
2342.01	2297.93	11.25		8042	7983.24	1.44
2432.01	2386.23	11.06		8136	8077.22	1.03
2522.01	2474.56	11.06		8230	8171.21	0.75
2612.01	2563.01	10.25		8325	8266.21	0.38
2702.01	2651.43	11.25		8419	8360.2	1.13
2749.01	2697.55	10.95		8514	8455.19	0.88
2846	2792.89	10.25		8608	8549.18	0.63
2941	2886.51	9.25		8703	8644.17	0.5
3035	2979.39	8.5		8797	8738.17	0.44
3130	3073.49	7.19		8892	8833.17	0.38
3224	3166.89	5.81		8986	8927.17	0.25
3318	3260.48	4.88		9080	9021.17	0.19
3413	3355.16	4.56		9175	9116.17	0.44
3507	3448.9	3.88		9269	9210.16	0.81
3602	3543.75	2.56		9364	9305.15	0.94
3696	3637.68	1.81		9458	9399.13	1.13
3791	3732.67	0.63		9553	9494.11	1.19
3885	3826.66	0.81		9647	9588.09	1.19
3980	3921.65	1		9741	9682.07	1.56
4074	4015.63	1.13		9836	9777.03	1.81
4169	4110.63	0.25		9930	9870.98	1.64
4263	4204.62	0.63		10025	9965.94	1.69
4357	4298.61	1.5		10119	10059.9	1.75
4452	4393.58	1		10214	10154.85	1.94
4547	4488.57	0.69		10308	10248.79	2.06
4641	4582.57	0.44		10403	10343.73	2.25
4736	4677.57	0.44		10497	10437.65	2.25
4830	4771.56	0.56		10594	10534.58	2.31
4925	4866.56	0.75		10688	10628.5	2.38
5019	4960.55	1.06		10782	10722.41	2.63
5114	5055.54	0.56		10877	10817.31	2.56
5208	5149.54	0.56		10971	10911.22	2.56
5302	5243.53	0.56		11066	11006.12	2.63
5397	5338.53	0.63		11160	11100.03	2.5
5491	5432.52	0.63		11255	11194.93	2.69
5586	5527.52	0.44		11330	11269.85	2.69

Acid Pickling and H2S Procedures (If Required)

**\*\*PROCEDURE FOR PUMPING ACID DOWN TBG**

WHEN FINDING SCALE IN TUBING THAT IS ACID SOLUBLE, ENSURE THAT PLUNGER EQUIPMENT IS REMOVED AND ABLE TO PUMP DOWN TBG. INSTALL A 'T' IN PUMP LINE W/2" VALVE THAT NALCO CAN TIE INTO. HAVE 60 BBL 2% KCL MIXED W/ 10-15 GAL H2S SCAVENGER IN RIG FLAT TANK. (WE USED THE RIG FLAT TANK FOR MIXING CHEMICAL SO WE DIDN'T HAVE THE CHEMICAL IN ALL FLUIDS ON LOCATION, ONLY WHAT WE NEEDED TO PUMP DOWN HOLE)

1. PUMP 5-10 BBL 2% KCL DOWN TBG (NALCO CANNOT PUMP AGAINST PRESSURE)
2. NALCO WILL PUMP 3 DRUMS HCL (31%) INTO PUMP LINE.
3. FLUSH BEHIND ACID WITH 10-15 BBL 2% KCL
4. PUMP 2—30 BBL 2% W/ H2S SCAVENGER DOWN TBG.
5. PUMP REMAINDER OF 2% W/ H2S SCAVENGER DOWN CASING AND SHUT WELL IN FOR MINIMUM OF 2 HRS.
6. OVER DISPLACE DOWN TBG AND CSG TO FLUSH ACID AND SCAVENGER INTO FORMATION
7. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

**\*\* PROCEDURE FOR PUMPING H2S SCAVENGER WITHOUT ACID**

PRIOR TO RIG MOVING ON OR AS RIG PULLS ONTO LOCATION. TEST CASING, TUBING AND SEPARATOR FOR H2S. IF FOUND MAKE SURE THAT PLUNGER SYSTEM IS REMOVED (IT IS POSSIBLE TO PUMP AROUND PLUNGERS BUT SOME WILL HAVE A STANDING VALVE IN SEATING NIPPLE).

1. MIX 10-15 GAL H2S SCAVENGER WITH 60-100 BBL 2% KCL IN RIG FLAT TANK.
2. PUMP 25 BBL MIXTURE DOWN TUBING AND REST DOWN CASING. SHUT WELL IN FOR 2 HOURS.
3. IF WELL HAS PRESSURE AFTER 2 HOURS – RETEST CASING AND TUBING FOR H2S.
4. FLUSH TUBING AND CASING PUSHING H2S SCAVENGER INTO FORMATION.
5. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

\*\* As per APC standard operating procedure, APC foreman will verify ALL volumes pumped and record on APC Volume Report Form

Form 3160-4  
(August 2007)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No.  
UTU0576

1a. Type of Well  Oil Well  Gas Well  Dry  Other  
 b. Type of Completion  New Well  Work Over  Deepen  Plug Back  Diff. Resvr.  
 Other \_\_\_\_\_

6. If Indian, Allottee or Tribe Name \_\_\_\_\_

7. Unit or CA Agreement Name and No.  
UTU63047A

2. Name of Operator  
KERR-MCGEE OIL AND GAS ONSHORE  
Contact: JENNIFER THOMAS  
Email: Jennifer.Thomas@anadarko.com

8. Lease Name and Well No.  
NBU 921-21A2DS

3. Address P.O. BOX 173779  
DENVER, CO 80217

3a. Phone No. (include area code)  
Ph: 720-929-6808

9. API Well No.  
43-047-50609

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*  
 At surface NENE 1009FNL 852FEL 40.026084 N Lat, 109.550344 W Lon  
 At top prod interval reported below  
 At total depth

10. Field and Pool, or Exploratory  
NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey  
or Area Sec 21 T9S R21E Mer SLB

12. County or Parish  
UINTAH

13. State  
UT

14. Date Spudded  
11/17/2011

15. Date T.D. Reached  
02/23/2012

16. Date Completed  
 D & A  Ready to Prod.  
10/13/2015

17. Elevations (DF, KB, RT, GL)\*  
4855 KB

18. Total Depth: MD 11330  
TVD 11270

19. Plug Back T.D.: MD 10312  
TVD

20. Depth Bridge Plug Set: MD 10314  
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)  
N/A

22. Was well cored?  No  Yes (Submit analysis)  
 Was DST run?  No  Yes (Submit analysis)  
 Directional Survey?  No  Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	10215							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESA VERDE	10248	10282	10248 TO 10282	0.410	24	OPEN
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
10248 TO 10282	PUMP 2867 BBLS SLICKWATER, 6 BBLS HCL ACID (12.5%-18%), 12543 LBS 30/50 MESH SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
10/13/2015	10/16/2015	24	→	0.0	132.0	906.0			FLOWS FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
64/64	SI	28	→	0	132	906		PGW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
	SI		→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #322414 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(Sold, used for fuel, vented, etc.)  
SOLD

30. 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.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER	1724
				BIRDS NEST	2034
				MAHOGANY MARKER	2353
				WASATCH	5077
				MESA VERDE	8151

32. Additional remarks (include plugging procedure):

Recomplete. A CIBP was set at 10,314 ft. and a CBP at 10,312 ft., isolating the Blackhawk perforations from 10,790 - 11,190 ft. The well produced for a very short time and we have been unable to produce it further. Currently, the well is shut-in. Thank you.

33. Circle enclosed attachments:

- 1. Electrical/Mechanical Logs (1 full set req'd)
- 2. Geologic Report
- 3. DST Report
- 4. Directional Survey
- 5. Sundry Notice for plugging and cement verification
- 6. Core Analysis
- 7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #322414 Verified by the BLM Well Information System.  
For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal**

Name (please print) JENNIFER THOMAS Title REGULATORY SPECIALIST III

Signature (Electronic Submission) Date 11/03/2015

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

US ROCKIES REGION  
**Operation Summary Report**

Well: NBU 921-21A2DS BLUE

Spud date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig name no.: MILES 3/3

Event: RECOMPL/RESEREVEADD

Start date: 9/25/2015

End date: 10/13/2015

Active datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
9/25/2015	7:00 - 17:00	10.00	MIRU	30	A	P		HSM, JSA. RDMO TO NBU 921-21A2DS, RU RIG & EQUIP. CNTRL WELL, NDWH, P/U ON TBG, TBG WAS STUCK. NUBOPE & TBG EQUIP. TRY AND WORK STUCK TBG FREE NO LUCK. SWIFN.
	7:00 - 10:00	3.00	MIRU	35	D	P		WO 3591 TB 57 CS 1269 FL GC Could not get Plunger up w/ Well. Ran w/Down Shear Fish to SN at 10778, latched, pulled By Pass Pad Plunger. Ran in w/Down Shear Fish Tool to SN, latched, sheared tool after several hits on Jars, pulled out. Fluid Level is gas cut. Stuck Spring. Turned Well over to Rig, went to next well. Left Plunger in Sep Bldg.  FLUID LEVEL gas cut SEAT NIPPLE DEPTH 10778 SN TYPE Drop Down Menu TD (Max Depth) SAFETY = JSA.
9/26/2015	7:00 - 7:15	0.25	SUBSPR	48		P		SICP= 250#. SITP= 0#. BLOW DOWN CSG TO F/B TANK. PUMP 30BBLS TMAC DOWN TBNG & CATCH PRESSURE (PRESSURE SLOWLY BLED OFF. PUMP 35BBLS TMAC W/ 3GAL F-R DOWN CSNG. PRESSURE UP TO 3000# (PRESSURE SLOWLY BLED OFF). CONT WORKING STUCK PIPE WHILE WAITING FOR WIRELINE ( NOT AVAILABLE UNTIL 10:00). TBNG WORKED FREE. CANCEL WIRELINE. CALL FOR TBNG SCAN COMPANY.  RAISE RIG FLOOR FOR SCANNERS. TIE BACK DRILL LINE DOUBLE FAST. ADJUST BRAKES ON MAIN DRUM. FINISH SPOTTING IN PIPE WRANGLER, PIPE RACKS & TBNG TRAILERS.  HSM W/ SCANNERS. MIRU SCANNERS. POOH WHILE SCANNING 341JTS 2-3/8" P-110 TBNG. L/D ALL TBNG AS SINGLES FOR DETAILED INSPECTION. TBNG SCAN RESULTS AS FOLLOWS:  Y-BND = 90JTS B-BND = 24JTS W/ MINOR INTERNAL PITTING & WALL LOSS. DBL B-BND = 5JTS W/ MODERATE INTERNAL PITTING & WALL LOSS. R-BND = 222JTS W/ MODERATE TO HEAVY INTERNAL PITTING AND WALL LOSS. NO HOLES WERE FOUND IN TBNG STRING. MOST WEAR FOUND FROM 3106' TO 9605'. VERY LIGHT EXTERNAL SCALE WAS FOUND ON LAST 7JTS OF TBNG. SPRING WAS NOT FOUND IN THE XN NIPPLE, FOUND PLUNGER STUCK IN THE XN NIPPLE.  RDMO SCANNERS. SWIFN. SDFN. LOCK RAMS. SAFETY = JSA.
	7:15 - 10:30	3.25	SUBSPR	31		P		
	10:30 - 12:30	2.00	SUBSPR	30		P		
	12:30 - 17:00	4.50	SUBSPR	31	I	P		
9/28/2015	7:00 - 7:15	0.25	SUBSPR	48		P		RDMO SCANNERS. SWIFN. SDFN. LOCK RAMS. SAFETY = JSA.

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-21A2DS BLUE

Spud date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig name no.: MILES 3/3

Event: RECOMPL/RESEREVEADD

Start date: 9/25/2015

End date: 10/13/2015

Active datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	7:15 - 10:15	3.00	SUBSPR	34	I	P		DSICP= 100#. BLOW DOWN CSG TO FLOWBACK TANK. MIRU WIRELINE. P/U & RIH W/ 3.60" GR-JB TO 10,350'. POOH, L/D GR-JB. P/U & RIH W/ OWEN 10K CIBP. SET CIBP @ 10,312'. POOH E-LINE. RDMO E-LINE.
	10:15 - 10:40	0.42	SUBSPR	52	F	P		R/D FLOOR & TBNG EQUIP. NDBOP. NUFV. LOAD 4-1/2" CSNG W/ 98BBLs TMAC. PRESSURE TEST CSNG & FRAC VALVE GOOD @ 3000#. LOST 10# IN 15MIN. GAS IN THE CSNG. BLEED OFF PRESSURE. WILL PERFORM FINAL PRESSURE TEST W/ TEST TRUCK AFTER ALL 3 WELLS ARE PREPPED.
	10:40 - 12:00	1.33	SUBSPR	30	C	P		RDMO BLUE WELL.
9/30/2015	15:40 - 16:17	0.62	SUBSPR	34	I	P		MIRU E-LINE. P/U & RIH W/ HAL 10K CBP. PRESSURE UP 4-1/2" PRODUCTION CSNG TO 3000#. SET CBP UNDER PRESSURE @ 10,310' W/ 3K PSI. POOH E-LINE. RDMO E-LINE. SWI.
	16:17 - 16:32	0.25	SUBSPR	52	A	P		MIRU P/T TRUCK. PRESSURE TEST 4-1/2" PRODUCTION CSNG & FRAC VALVE GOOD @ 7000#. LOST 55PSI IN 15MIN.
								PUMP 1/2BBL TMAC INTO SURFACE CSNG. P/T SURFACE CSNG @ 1000#. LOST 300# IN 10MIN. BLEED OFF PSI. SWI.
10/1/2015	7:00 - 8:00	1.00	FRAC	37	E	P		RU EL PERFED 1ST STG AS DESIGNED POOH SWIFW
10/6/2015	7:00 - 15:00	8.00	FRAC	36	E	P		HSM, MIRU FRAC CREW, P/T PUMPS & LINES TO 8000 PSI, HAVING TROUBLE GETTING P/T, GOING TO LET FRAC CREW REBIULD PUMPS & GET P/T, FRAC IN AM, SDFN
10/7/2015	5:45 - 6:00	0.25	FRAC	48	E	P		HSM, SLIPS, TRIPS & FALLS, RUSHING
	6:00 -	0.00	FRAC	36	E	P		P/T TO 8000 PSI, LOST 399 PSI IN 15 MIN,
								FRAC STG #1) WHP 790 PSI, BRK 4277 PSI @ 3.2 BPM. ISIP 3130 PSI, FG. 0.74 ISIP 3896 PSI, FG. 0.82, NPI 766 PSI.
								X/O TO W/L SET HAL 8K CBP AS PER DESIGN
								WATER: 2873 BBLs SAND: 12543 # SCALE: 76 GAL BIO: 46 GAL
								RDMO
10/12/2015	12:00 - 17:30	5.50	DRLOUT	31	I	P		RU RIG. OPEN WELL 0 PSI. ND WH, NU BOP. RU RIG FLOOR & TBG EQUIP. PREP & TALLY NEW 23/8 P-110 TBG. PU 37/8 BIT, X-DART, PUMP OPEN BIT SUB, 1.875 XN. RIH W/ 158 JTS TBG. EOT @ 5020'. SWIFN.
10/13/2015	6:45 - 7:00	0.25	DRLOUT	48		P		HSM.
	7:00 - 10:00	3.00	DRLOUT	31	I	P		OPEN WELL 0 PSI. CONT RIH W/ 23/8 P-110 TBG. TAG SAND W/ 319 JTS TBG @ 10,136' = 25' SAND.

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-21A2DS BLUE

Spud date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig name no.: MILES 3/3

Event: RECOMPL/RESEREVEADD

Start date: 9/25/2015

End date: 10/13/2015

Active datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	10:00 - 17:00	7.00	DRLOUT	44	C	P		RU DRL EQUIP. FILL TBG. P/T BOP T/ 3000 PSI. GOOD TEST. BLEED OFF PSI. BRK CONV CIRC. BEG DRL OUT. 1st CBP)TAG SAND @ 10,136' = 25' SAND. DRL OUT SAND & CBP @ 10,161' IN 8 MIN, 2200 PSI INCR. CONT RIH CO T/ 10,300'. CIRC WELL CLEAN. RD DRL EQUIP. LD 3 JTS. PU 41/16 TBG HNGR. LAND TBG W/ 322 JTS 23/8 P-110 TBG W/ 1.875 XN & PUMP OPEN BIT SUB. EOT @ 10,215'. RD TBG EQUIP & RIG FLOOR. ND BOP. NU WH. DROP BALL. PUMP BIT OPEN W/ 3700 PSI. OPEN TBG T/ FBT ON OPEN CHOKE. FTP = 50 PSI. SICP = 550 PSI & FALLING FAST. RD RIG & RACK OUT RIG EQUIP. ROAD RIG T/ NBU 922-30G1CS.
10/14/2015	12:00 - 14:00	2.00	DRLOUT	33	A	P		BLOW DOWN CSG T/ FBT. RU FOAM UNIT W/ N2 T/ CSG. PUMP FOR 2 HRS, NO RETURNS F/ TBG. SHUT DOWN PUMPING. SHUT IN CSG. OPEN TBG T/ FBT.
10/15/2015	7:00 - 13:00	6.00	PROD	42		P		SWABBING FL 3600

**1 General****1.1 Customer Information**

Company	US ROCKIES REGION
Representative	
Address	

**1.2 Well/Wellbore Information**

Well	NBU 921-21A2DS BLUE	Wellbore No.	00
Well Name	NBU 921-21A2DS	Wellbore Name	NBU 921-21A2DS
Report no.	1	Report date	10/2/2015
Project	UTAH-UINTAH	Site	NBU 921-21A PAD
Rig Name/No.	MILES 3/3	Event	RECOMPL/RESEREVEADD
Start date	9/25/2015	End date	10/13/2015
Spud date	1/7/2012	Active datum	RKB @4,855.00usft (above Mean Sea Level)
UWI	NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0		

**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	10,248.0 (usft)-10,282.0 (u	Start Date/Time	10/2/2015 12:00AM
No. of intervals	4	End Date/Time	10/2/2015 12:00AM
Total shots	24	Net perforation interval	8.00 (usft)
Avg. shot density	3.00 (shot/ft)	Final surface pressure	
		Final press. date	

**2 Intervals****2.1 Perforated Interval**

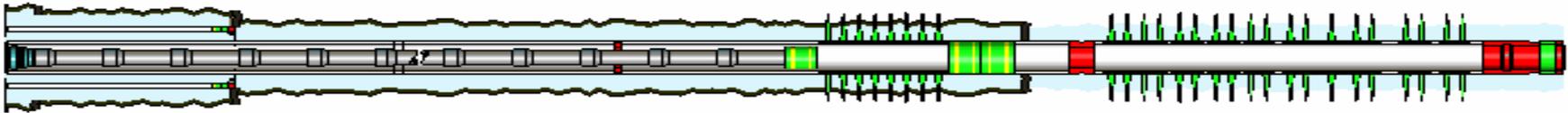
Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
10/2/2015 12:00AM	M E S A VERDE/			10,248.0	10,250.0	3.00		0.410 /1			120.00		19.00	PRODUCTION		

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (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	How Guns Conveyed
10/2/2015 12:00AM	M E S A VERDE/			10,260.0	10,262.0	3.00		0.410 /1			120.00		19.00	PRODUCTION		
10/2/2015 12:00AM	M E S A VERDE/			10,268.0	10,270.0	3.00		0.410 /1			120.00		19.00	PRODUCTION		
10/2/2015 12:00AM	M E S A VERDE/			10,280.0	10,282.0	3.00		0.410 /1			120.00		19.00	PRODUCTION		

3 Plots

3.1 Wellbore Schematic



STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0576
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
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 921-21A2DS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047506090000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6507	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1009 FNL 0852 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 21 Township: 09.0S Range: 21.0E Meridian: S		<b>COUNTY:</b> UINTAH
		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 11/26/2015  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <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.		
The NBU 921-21A2DS well was returned to production on 11/26/2015 following a recompleate. Thank you.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY December 02, 2015</b>		
<b>NAME (PLEASE PRINT)</b> Jennifer Thomas	<b>PHONE NUMBER</b> 720 929-6808	<b>TITLE</b> Regulatory Specialist
<b>SIGNATURE</b> N/A		<b>DATE</b> 12/2/2015

Form 3160-4  
(August 2007)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No.  
UTU0576

1a. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other			6. If Indian, Allottee or Tribe Name		
b. Type of Completion <input type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr. Other _____			7. Unit or CA Agreement Name and No. UTU63047A		
2. Name of Operator KERR-MCGEE OIL AND GAS ONSHORE			8. Lease Name and Well No. NBU 921-21A2DS		
3. Address P.O. BOX 173779 DENVER, CO 80217			9. API Well No. 43-047-50609		
4. Location of Well (Report location clearly and in accordance with Federal requirements)* Sec 21 T9S R21E Mer SLB At surface NENE 1009FNL 852FEL 40.026084 N Lat, 109.550344 W Lon Sec 21 T9S R21E Mer At top prod interval reported below Sec 21 T9S R21E Mer At total depth			10. Field and Pool, or Exploratory NATURAL BUTTES		
14. Date Spudded 11/17/2011			15. Date T.D. Reached 02/23/2012		
16. Date Completed <input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod. 11/26/2015			17. Elevations (DF, KB, RT, GL)* 4855 KB		
18. Total Depth: MD 11330 TVD 11270		19. Plug Back T.D.: MD 9871 TVD		20. Depth Bridge Plug Set: MD 9873 TVD	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) N/A			22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Directional Survey? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis)		

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	9655							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	8151	11330	9430 TO 9841	0.410	48	OPEN
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
9430 TO 9841	PUMP 15207 BBLS SLICKWATER, 12 BBLS 15% HCL ACID, 72219 LBS 30/50 MESH SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
11/26/2015	12/06/2015	24	→	0.0	991.0	269.0			FLOWS FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
24/64	SI	968.0	→	0	991	269		PGW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
	SI		→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #327110 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\***

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(Sold, used for fuel, vented, etc.)  
SOLD

30. 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.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER	1724
				BIRDS NEST	2034
				MAHOGANY MARKER	2353
				WASATCH	5077
				MESAVERDE	8151

32. Additional remarks (include plugging procedure):

Recomplete. A composite solid plug was set at 9871 ft, isolating the Mesaverde perforations from 10,248 - 10282 ft. Thank you.

33. Circle enclosed attachments:

- 1. Electrical/Mechanical Logs (1 full set req'd)
- 2. Geologic Report
- 3. DST Report
- 4. Directional Survey
- 5. Sundry Notice for plugging and cement verification
- 6. Core Analysis
- 7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #327110 Verified by the BLM Well Information System.  
For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal**

Name (please print) JENNIFER THOMAS Title REGULATORY SPECIALIST III

Signature (Electronic Submission) Date 12/22/2015

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

US ROCKIES REGION  
Operation Summary Report

Well: NBU 921-21A2DS BLUE

Spud date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig name no.:

Event: RECOMPL/RESEREVEADD

Start date: 11/6/2015

End date: 11/25/2015

Active datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
10/29/2015	15:00 - 17:00	2.00	SUBSPR	30	A	P		RU RIG. OPEN WELL T/ FBT. 0 PSI. ND WH, NU BOP. RU RIG FLOOR & TBG EQUIP. UNLAND TBG. LD 41/16 TBG HNGR. PU 3 JTS TAG SAND @ 10,293' ( PERF F/ 10,248' - 10,282' ) ALL PERF UNCOVERD. XO TBG EQUIP. LD 3 JTS, EOT @ 10,215'. SWIFN.
10/30/2015	6:45 - 7:00	0.25	SUBSPR	48		P		HSM.
	7:00 - 15:00	8.00	SUBSPR	31	I	P		FWP = 100 PSI. BLOW WELL DOWN T/ FBT. POOH LD 322 JTS 23/8 P-110 TBG & PUMP OPEN BIT SUB W/ 37/8 BIT. RD TBG EQUIP & RIG FLOOR. ND BOP, NU 10K FRAC VALVE. SWI.
	15:00 - 17:00	2.00	SUBSPR	30	A	P		RD RIG. SLIDE RIG T/ 21A3AS YELLOW WELL. RU RIG. SDFWE.
11/4/2015	17:00 - 22:00	5.00	SUBSPR	34	I	P		MIRU CUTTERS WIRELINE, RIH W/ HAL 10K CBP STICK PLUG @ 9235', MIRU BRAIDED LINE TRUCK RIH W/ CHISEL, WORK PLUG FOR 45 MIN BRK FREE RIH TO PBTD @ 10300', POOH TO 9600' GOT STUCK, WORK FOR 2 HRS UNABLE TO MOVE, SWI, SDFN.
11/5/2015	7:00 - 7:15	0.25	SUBSPR	48		P		HSM-JSA
	7:15 - 19:30	12.25	SUBSPR	34	I	P		SICP 375 PSI, OPEN WELL TO FBC WORK STUCK TOOLS FREE, POOH, RD BRAIDED LINE, RU WIRELINE RIH W/ 3.66" GR TO 9890', POOH, PU HAL 8K CBP RIH SET CBP @ 9871', POOH, FILL CSG W/ WTR, MIRU CAMERON TEST TRUCK, TEST CSG & FRAC VALVES TO 7000 PSI, LOST 69 PSI IN 15 MIN, SWI, SDFN.
11/6/2015	14:00 - 17:30	3.50	SUBSPR	37	E	P		RIH W/ GUN PERF STG #1 OF PHASE 2 AS DESIGNED, POOH, SWI, RDMO CUTTERS WIRELINE, SDFN.
11/23/2015	6:00 - 18:30	12.50	FRAC	36	H	P		HSM, PRESSURD TESTED LINES. TO 8555 PSI, LOST 830 PSI IN 15 MIN.  FRAC STAGE 1)WHP 1730 PSI, BRK 4982 PSI @ 3.5 BPM. ISIP 3300 PSI, FG. 0.77 ISIP 3427 PSI, FG. 0.78, NPI 127 PSI.  SET HAL 8K CBP & PERF STG #2 AS DESIGNED.  START PUMPING STG #2
	18:30 - 22:30	4.00	FRAC	46	F	Z		RAN OUT OF WATER WAIT FOR WATER TRANSFER CREW TO PUMP WATER TO LOC.
	22:30 - 0:00	1.50	FRAC	36	H	P		FRAC STG #2) WHP 3160 PSI, BRK 5340 PSI @ 2.7 BPM. ISIP 3402 PSI, FG. 0.79 ISIP 3430 PSI, FG. 0.79, NPI 28 PSI.

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

Well: NBU 921-21A2DS BLUE

Spud date: 1/7/2012

Project: UTAH-UINTAH

Site: NBU 921-21A PAD

Rig name no.:

Event: RECOMPL/RESEREVEADD

Start date: 11/6/2015

End date: 11/25/2015

Active datum: RKB @4,855.00usft (above Mean Sea Level)

UWI: NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
11/24/2015	0:00 -		FRAC	36	H	P		SET KILL PLUG  TOTAL FLUID-15219 BBLS TOTAL SAND- 72219 LBS
11/25/2015	7:00 - 7:15	0.25	DRLOUT	48		P		SAFETY = JSA.
	7:15 - 10:30	3.25	DRLOUT	30	A	P		0# ON WELL. MIRU. SPOT IN ALL EQUIP. NDFV. NUBOP. FUNCTION TEST BOP GOOD. R/U FLOOR & TBNG EQUIP. PREP & TALLY TBNG ON PIPE RACKS. SPOT IN PIPE WRANGLER.
	10:30 - 15:00	4.50	DRLOUT	31	I	P		P/U & RIH W/ 3-7/8" BIT, PUMP OPEN BIT SUB, 1.875" XN NIPPLE & 296JTS 2-3/8" P-110 TBNG. T/U ON KILL CBP @ 9380'. R/U POWER SWIVEL. BREAK CONV CIRC W/ TMAC. P/T CSNG & BOP GOOD @ 3000#. BLEED OFF PRESSURE.
	15:00 - 18:00	3.00	DRLOUT	44	C	P		D/O 2 CBP'S AND C/O TO PBTD AS FOLLOWS:  #1 CBP @9380'. D/O IN 8 MIN W/ 2000# DIFF PRESSURE. FCP= 1100#. CONT RIH W/ TBNG. C/O 25' SAND. T/U ON NEXT CBP.  #2 CBP @9670'. D/O IN 14 MIN W/ 1800# DIFF PRESSURE. FCP= 1400#. CONT RIH W/ TBNG. C/O 30' SAND. T/U IN ISOLATION PLUG @ 9870' W/ 311JTS TBNG + BHA. CIRC WELL CLEAN. R/D POWER SWIVEL. POOH WHILE L/D 7JTS TBNG NOT NEEDED FOR PRODUCTION. LUBE IN HANGER. LAND TBNG. R/D FLOOR & TBNG EQUIP. NDBOP. NUWH. PRESSURE TEST FLOWLINES GOOD @ 3000#. PUMP OPEN BIT SUB @ 3800# W/ 35BBLS TMAC. TURN WELL OVER TO FLOWBACK CREW.  PRODUCTION TBNG LANDED AS FOLLOWS:  K.B.= 26.00' HANGER= .83' 303JTS 2-3/8" P-110 Y-BND TBNG= 9592.53' 1.875" XN= 1.34' 1JT 2-3/8" P-110 Y-BND TBNG= 31.70' PUMP OPEN SUB=2.20' EOT @9654.60' XN @9619.36'
	18:00 - 18:00	0.00	DRLOUT	50				WELL TURNED TO SALES @ 9:20 HR ON 11/26/2015. 315 MCFD, 2880 BWPD, FCP 2100#< FTP 40#, 28/64" CK.

**1 General****1.1 Customer Information**

Company	US ROCKIES REGION
Representative	
Address	

**1.2 Well/Wellbore Information**

Well	NBU 921-21A2DS BLUE	Wellbore No.	00
Well Name	NBU 921-21A2DS	Wellbore Name	NBU 921-21A2DS
Report no.	1	Report date	11/23/2015
Project	UTAH-UINTAH	Site	NBU 921-21A PAD
Rig Name/No.		Event	RECOMPL/RESEREVEADD
Start date	11/6/2015	End date	11/25/2015
Spud date	1/7/2012	Active datum	RKB @4,855.00usft (above Mean Sea Level)
UWI	NE/NE/0/9/S/21/E/21/0/0/26/PM/N/1009/E/0/852/0/0		

**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	9,430.0 (usft)-9,841.0 (usft)	Start Date/Time	11/10/2015 10:37PM
No. of intervals	14	End Date/Time	11/23/2015 12:00AM
Total shots	48	Net perforation interval	16.00 (usft)
Avg. shot density	3.00 (shot/ft)	Final surface pressure	
		Final press. date	

**2 Intervals****2.1 Perforated Interval**

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (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	How Guns Conveyed
11/23/2015 12:00AM	M E S A V E RDE/			9,430.0	9,431.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (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	How Guns Conveyed
11/10/2015 10:37PM	M E S A V E R D E/			9,454.0	9,455.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,475.0	9,476.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,533.0	9,534.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,565.0	9,566.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,590.0	9,591.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,598.0	9,599.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,649.0	9,650.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,692.0	9,693.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,754.0	9,755.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,765.0	9,766.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,782.0	9,783.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,793.0	9,795.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/23/2015 12:00AM	M E S A V E R D E/			9,839.0	9,841.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0

## 3 Plots

3.1 Wellbore Schematic

