

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMNM105211
2. Name of Operator MURCHISON OIL & GAS, INC.		6. If Indian, Allottee or Tribe Name
Contact: CINDY COTTRELL E-Mail: ccottrell@jdmii.com		7. If Unit or CA/Agreement, Name and/or No.
3a. Address 1100 MIRA VISTA BLVD. PLANO, TX 75093-4698	3b. Phone No. (include area code) Ph: 972-931-0700 Ext: 109 Fx: 972-931-0701	8. Well Name and No. PEQUENO MIKE BLU FED COM 3H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 2 T16S R29E SWNW 3700FSL 180FWL		9. API Well No. 30-015-36985
		10. Field and Pool, or Exploratory COUNTY LINE TANK; ABO
		11. County or Parish, and State EDDY COUNTY, NM

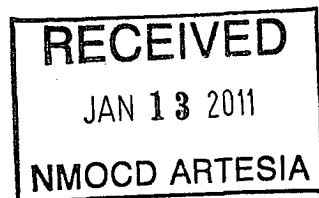
12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original PD
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Murchison Oil & Gas, Inc. respectfully requests permission to change the previously approved surface casing and cementing program as described on the attached.

Expected spud date of this well is February 1, 2011.



SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct. Electronic Submission #97698 verified by the BLM Well Information System For MURCHISON OIL & GAS, INC., sent to the Carlsbad	
Name (Printed/Typed) ARNOLD NALL	Title VICE PRESIDENT OPERATIONS
Signature (Electronic Submission)	Date 11/18/2010
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved By	Title
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	
Office	Date
WESLEY W. INGRAM PETROLEUM ENGINEER	
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.	

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

Murchison Oil & Gas, Inc.
Pequeno Mike BLU Federal #3H (30-015-36985)
Sec. 26, T16S, R27E
Eddy Co., NM

PROPOSED REVISED CASING AND CEMENTING PROGRAM

Hole Size	Casing Size	Wt./Ft.	Grade	Thread	Interval	Length	Condition
17-1/2"	13-3/8"	48.0#	H-40	ST&C	0'-400'	400'	New
12-1/4"	9-5/8"	36.0#	J-55	ST&C	0'-2,600'	2,600'	New
8-3/4"	7"	26.0#	HC P-110	LT&C	0'-6,550'	6,550'	New
6-1/8"	4-1/2"	11.6#	HC P-110	BT&C	6,450'-12,158'	5,708'	New

MINIMUM CASING DESIGN FACTORS:

Burst = 1.0; Tensile Strength = 1.8; Collapse = 1.125

An 8-3/4" vertical pilot hole is planned to 7,500' MD/TVD. Upon running CNL/LDT/CAL/GR/MSFL/HALS/GR open hole logs, we plan to run a combination 2-7/8" fiberglass tubing x 7" intermediate casing with bottom of the 7" steel casing to be landed at 6,550'+/- to isolate with cement and plugback the vertical hole for drilling the horizontal.

CEMENTING PROGRAM:

13.375" Surface Casing – Cementing Program

Cement with 470 sacks of HalCem Class C + additives with yield = 1.35 cu.ft./sack; sufficient volume of cement will be pumped to ensure cement is circulated to surface.

9.625" Intermediate Casing - Cementing Program

Cement lead with 990 sacks of EconoCem Class C + additives with yield = 1.87 cu.ft./sack, tail with 220 sacks HalCem Class C + additives with yield = 1.35 cu.ft./sack; sufficient volume of cement will be pumped to ensure cement is circulated to surface.

7" Production Casing and 2-7/8" Fiberglass Tubing - Cementing Program

Cement lead with 1050 sacks of EconoCem Class C+ additives with yield = 1.85 cu.ft./sack, tail with 550 sacks HalCem Class H + additives with yield = 1.00 cu.ft./sack; sufficient volume of cement will be pumped to ensure cement is circulated to surface. Will cement below 7" casing via 2-7/8" fiberglass tubing stinger to adequately plug back vertical pilot hole after logging and prior to drilling curve/horizontal section of well.

4.5" Production Liner - Cementing Program

Plan to utilize 4-1/2" 11.6# HCP-110 BTC Peak completion liner system from RSB packer @ 6,450' to TD of 12,158' MD. No cement required.

PRESSURE CONTROL EQUIPMENT:

400' – 2600'

13-5/8" 3000# ram type preventers with one set blind rams and one set pipe rams and a 3000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system.

A Kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

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After setting the 13-3/8" casing, the blowout preventers and related control equipment shall be pressure tested to 3000 psi and 1500 psi respectively. Any equipment failing to test satisfactorily shall be repaired or replaced. Results of the BOP test will be recorded in the Driller's Log.

2600' – 12158' 11" 3000# ram type preventers with one set blind rams and one set pipe rams and a 3000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 6500'.

A Kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

After setting the 9 5/8" casing, the blowout preventers and related control equipment shall be pressure tested to 3000 psi and 1500 psi respectively. Any equipment failing to test satisfactorily shall be repaired or replaced. Results of the BOP test will be recorded in the Driller's Log.

The BOP's will be maintained ready for use until drilling operations are completed. Pipe and blind rams shall be activated each trip. Annular preventer shall be functionally operated at least weekly.

BOP drills will be conducted as necessary to assure that equipment is operational and each crew is properly trained to carry out emergency duties.

Accumulator shall maintain a pressure capacity reserve at all times to provide for the close-open-close sequence of the blind and pipe rams of the hydraulic preventers.

MUD PROGRAM

0' – 400'	Fresh water / native mud. Wt. 8.4 to 9.2 ppg, 4-6 PV, 8-12 YP, Lime for pH control. Mixture bulky fibrous materials for mild losses. Lost circulation may be encountered.
400' – 2600'	Cut brine. Wt. 9.0 to 9.3 ppg, vis 28-34 sec, Lime for pH control. Bulky fibrous materials for mild losses. Lost circulation may be encountered.
2600' - 7125'	Cut brine. Wt. 9.0 – 9.3 ppg, vis 28-29 sec, No control water loss, lime for pH control.
7125' -12158'	Mud up with XCD Polymer mud system. Wt. 9.0 – 9.5 ppg, Vis 32-40 sec, WL 12-15 cc.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run open-hole logs and casing, the viscosity and water loss may have to be adjusted to meet these needs.

Mud system monitoring equipment with derrick floor indicators and visual / audio alarms shall be installed and operative prior to drilling into the Wolfcamp formation. This equipment will remain in use until the production casing is run and cemented. Monitoring equipment shall consist of the

Murchison Oil & Gas, Inc.
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following:

- A recording pit level indicator.
- A pit volume totalizer.
- A flowline sensor.

TESTING, LOGGING AND CORING PROGRAM

See COA

- A. Testing program: None planned.
- B. Mud logging program. Two man unit from 2600' to TD.
- C. Electric logging program: CNL/LDT/CAL/GR, MSFL/HALS/GR.
- D. Coring program: None planned.

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Murchison Oil & Gas, Inc.
LEASE NO.:	NMMN-105211
WELL NAME & NO.:	Pequeno Mike BLU Fed Com 3H
SURFACE HOLE FOOTAGE:	3700' FSL & 0180' FWL
BOTTOM HOLE FOOTAGE	3630' FSL & 0330' FWL
LOCATION:	Section 2, T. 16 S., R 29 E., NMPM
COUNTY:	Eddy County, New Mexico

NOTE: Operator has been in contact with BLM state office regarding bond. New bond to be in place prior to moving drilling rig from well (see I.A.2.).

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a possible hazard. It has been reported in Section 12. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide is encountered, please report measurements and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. **DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE.** Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible brine/water flows in the Salado and Artesia Groups.

Possible lost circulation in the Grayburg and San Andres formations.

Possible high pressure gas in the Wolfcamp – applicable to pilot hole.

1. The 13-3/8 inch surface casing shall be set at approximately **400** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
 - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
- 3. The minimum required fill of cement behind the **7** inch production casing is:
 - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
- 4. No cement is required behind the **4-1/2"** production liner as a Peak Completion Liner System is being used. The 100' tie-back is approved for the liner.
- 5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
- 3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.

- b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) prior to initiating the test.
- c. The results of the test shall be reported to the appropriate BLM office.
- d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
- f. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp (pilot hole)** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD – Pilot Hole

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

F. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

WWI 011011