N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

Form 3160-3
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER Undes. Foor Ranch; Pre Permian	5. Lease Serial No. NMNM8431
	6. If Indian, Allottee or Tribe Name
	7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. PENJACK FEDERAL 11
2. Name of Operator CHESAPEAKE OPERATING INC Contact: SHARON E. DRIES E-Mail: sdries@chkenergy.com	9. API Well No. 30-005-63592
3a. Address P O BOX 18496 OKLAHOMA CITY, OK 73154-0496 3b. Phone No. (include area code) Ph: 405.879.7985 Fx: 405.879.9583	10. Field and Pool, or Exploratory PERMIAN
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface NWNE 660FNL 1780FEL At proposed prod. zone CONFIDENTIAL	11. Sec., T., R., M., or Blk. and Survey or Area Sec 12 T10S R25E Mer NMP SME: BLM
14. Distance in miles and direction from nearest town or post office* 11.1 MILES NORTHEAST OF ROSWELL, NM	12. County or Parish CHAVES 13. State NM
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660	16. No. of Acres in Lease 17. Spacing Unit dedicated to this well
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 1737.6	19. Proposed Depth 5600 MD 20. BLM/BIA Bond No. on file
21. Elevations (Show whether DF, KB, RT, GL, etc. 3717 GL	22. Approximate date work will start 23. Estimated duration

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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) SHARON E. DRIES	Date 04/28/2003
Title REGULATORY ANALYST		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) ARMANDO A LOPEZ	Date 05/27/2003
Title ACTING ASST FIELD MANAGER	Office Roswell	

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 #21066 verified by the BLM Well Information System
For CHESAPEAKE OPERATING INC, sent to the Roswell
Committed to AFMSS for processing by Linda Askwig on 05/01/2003 (03LA0096AE)

AUG 2003
RECEIVED
OCD - ARTESIA

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Additional Operator Remarks:

Chesapeake Operating Inc. proposes to drill a well to 5600 to test the Abo, AboB, C, and D, and Wolfcamp Penjack formations. If productive, casing will be run and well will be completed. If dry, the well will be plugged and abandoned as per BLM and New Mexico Oil Conservation Division requirements.

Attached please find the Surface Use Plan and Drilling Plan and attachments as required by Onshore Order No. 1. A final rig layout will be submitted prior to spud once rig is assigned.

Please be advised that Chesapeake Operating, Inc. is considered to be the Operator of the above mentioned well. Chesapeake Operating, Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

Bond coverage for the well is provided by Chesapeake Operating, Inc. under their Nationwide Bond No. NM2634

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	PENJACK FEDERAL	11

OGRID No.	Operator Name	Elevation
	CHESAPEAKE OPERATING, INC.	3717'

Surface Location

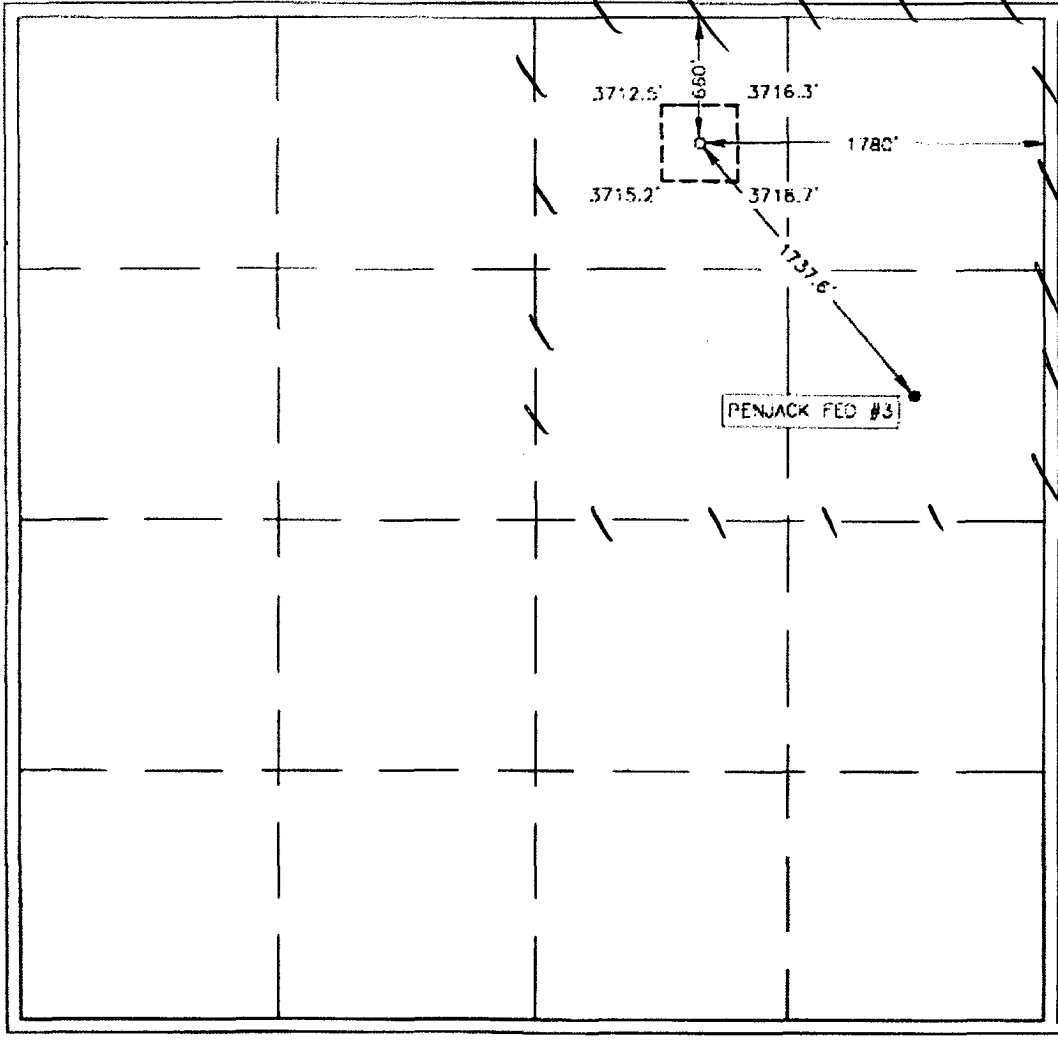
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	12	10-S	25-E		660	NORTH	1780	EAST	CHAVES

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

William F. Chatham
Printed Name

LANDMAN
Title

4/16/03
Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

April 14, 2003
Date Surveyed A.W.B

Signature & Seal of Professional Surveyor

Ronald J. Eidson 4/15/03

03.11.0401

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

1. EXISTING ROADS

   a. Existing county road will be used to enter proposed access road. The Penjack Federal 11 is located 11.1 miles N63°E of Roswell, NM.
   b. Location, access and vicinity plats attached hereto. See Exhibit A, B, and C.

2. PLANNED ACCESS ROADS

   a. A new access road 1,412' in length and 14' in travel width with a maximum disturbance area of 30' will be built coming off an existing access road in a easterly direction. See Exhibit C. The road will be built in accordance with guidelines set forth in the BLM Onshore Orders.
   b. No turnouts are expected.
   c. A locking gate will be installed at the site entrance.
   d. Any fences cut will be repaired. Cattle guards will be installed, if needed.
   e. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

3. LOCATION OF EXISTING WELLS WITHIN A 1-MILE RADIUS OF THE PROPOSED LOCATION – see Exhibit D.

4. LOCATION OF PRODUCTION FACILITIES

   Production facilities will be located on location. See Exhibit E.

5. LOCATION AND TYPE OF WATER SUPPLY

   Water will be obtained from a private water source. Chesapeake Operating, Inc. will ensure all proper notifications and filings are made with the state.

6. CONSTRUCTION MATERIALS

All material (i.e. shale) will be acquired from private or commercial sources.

7. METHODS FOR HANDLING WASTE DISPOSAL

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toliet and then hauled to an approved sanitary landfill.

8. ANCILLARY FACILITIES

None.

9. WELLSITE LAYOUT

The proposed site layout plat is attached showing rig orientation and equipment location. See Exhibit F.

10. PLANS FOR RECLAMATION OF THE SURFACE

The location will be restored to as near as original condition as possible. Reclamation of the surface shall be done in strict compliance with the existing New Mexico Oil Conservation Division regulations.

Backfilling leveling, and contouring are planned as soon as the drilling rig and steel tanks are removed. Wastes and spoils materials will be buried immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible. The rehabilitation will begin after the drilling rig is removed.

11. SURFACE AND MINERAL OWNERSHIP

United States of America
Department of Interior
Bureau of Land Management

GRAZING LEASE

Grazing Allotment #65037
"Comanche Hill"
Jack Hagelstin, Jr.

12. ADDITIONAL INFORMATION

A Class III cultural resource inventory report was prepared by Danny Boone of Boone Archaeological Services, LLC, for the proposed location and new access road. Clearance has been recommended. See Exhibit G.

13. OPERATOR'S REPRESENTATIVES

Drilling and Completion Operations
Colley Andrews
District Manager
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(405) 850-4336 (MOBILE)
(405) 879-7930 (FAX)
candrews@chkenergy.com

Drilling Engineer
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Production Operations
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Regulatory Compliance
Sharon Dries
Regulatory Analyst
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Street Address: 6100 N. Western
Oklahoma City, OK 73118
(405) 879-7985 (OFFICE)
(405) 879-9583 (FAX)
sdries@chkenergy.com

14. CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this surface use plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed will be performed by operator (including contractors and subcontractors) submitting the APD, in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

By: J. Mark Custer

Date: 4/25/03

14. CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this surface use plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed will be performed by operator (including contractors and subcontractors) submitting the APD, in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

By: _____

Date: _____

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (CFR 43, Part 3160) and the approved Application for Permit to Drill. 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.

Approval of this application 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.

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

Formation	Depth	Subsea
San Andres	705	3025
Glorietta	1870	1860
Tubb	3300	430
Abo	4045	-315
Abo B	4155	-425
Abo C	4260	-530
Abo C Lower	4350	-620
Abo D	4445	-715
Wolfcamp	4690	-960
Wolfcamp Penjack	5025	-1295
Cisco Shale	5110	-1380
Cisco Lime	5240	-1510
Basal Penn Clastic	5380	-1650
Pre-Penn Carbonate	5420	-1690
Pre Cambrian Granite	5440	-1710
Total Depth	**5600**	

2. ESTIMATED DEPTH OF WATER, OIL GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Gas	Abo	4045
Gas	Abo B	4155
Gas	Abo C	4260
Gas	Abo C Lower	4350
Gas	Abo D	4445
Gas	Wolfcamp Penjack	5025
Gas	Pre-Penn Carbonate	5420

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT: **3,000# System**

Chesapeake Operating, Inc.'s minimum specifications for pressure control equipment are as follows:

I. BOP, Annular, Choke Manifold, Pressure Test

A. Equipment
1. The equipment to be tested includes all of the following that is installed on the well. See Exhibit H.
   (a) Ram-type and annular preventers,
   (b) Choke manifolds and valves,
   (c) Kill lines and valves, and
   (d) Upper and lower kelly cock valves, inside BOP's and safety valves.

B. Test Frequency
1. All tests should be performed with clear **water**,
   (a) when installed,
   (b) before drilling out each casing string,
   (c) at any time that there is a repair requiring a pressure seal to be broken in the assembly, and
   (d) at least once every **30 days** while drilling.

C. Test Pressure
1. In some drilling operations, the pressures to be used for low and high-pressure testing of preventers and casing may be different from those given below due to governmental regulations, or approved local practices.
2. If an individual component does not test at the low pressure, **do not,** test to the high pressure and then drop back down to the low pressure.
3. All valves located downstream of a valve being tested must be placed in the open position.
4. All equipment will be tested with an initial "low pressure" test at 250 psi.
5. The subsequent "high pressure" test will be conducted at the rated working pressure of the equipment for all equipment except the annular preventer.

6. The "high pressure" test for the annular preventer will be conducted at 70% of the rated working pressure.
7. A record of all pressures will be made on a pressure-recording chart.

D. Test Duration
1. In each case, the individual components should be monitored for leaks for **5 minutes,** with no observable pressure decline, once the test pressure as been applied.

II. Accumulator Performance Test

A. Scope
1. The purpose of this test is to check the capabilities of the BOP control systems, and to detect deficiencies in the hydraulic oil volume and recharge time.

B. Test Frequency
1. The accumulator is to be tested each time the BOP's are tested, or any time a major repair is performed.

C. Minimum Requirements
1. The accumulator should be of sufficient volume to supply 1.5 times the volume to close and hold all BOP equipment in sequence, **without recharging** and the **pump turned off**, and have remaining pressures of **200 PSI above the precharge pressure**.

2. Minimum precharge pressures for the various accumulator systems per **manufacturers recommended specifications** are as follows:

System Operating Pressures	Precharge Pressure
1,500 PSI	750 PSI
2,000 PSI	1,000 PSI
3,000 PSI	1,000 PSI

3. Closing times for the Hydril should be less than **20 seconds**, and for the ram-type preventers less than **10 seconds**.

4. System Recharge time should not exceed **10 minutes**.

D. Test Procedure
1. Shut accumulator pumps off and record accumulator pressure.

2. In sequence, close the annular and one set of properly sized pipe rams, and open the HCR valve.
3. Record time to close or open each element and the remaining accumulator pressure after each operation.

4. Record the remaining accumulator pressure at the end of the test sequence. Per the previous requirement, this pressure **should not be less** than the following pressures:

System Pressure	Remaining Pressure At Conclusion of Test
1,500 PSI	950 PSI
2,000 PSI	1,200 PSI
3,000 PSI	1,200 PSI

5. Turn the accumulator pumps on and record the recharge time. This time should not exceed **10 minutes.**

6. Open annular and ram-type preventers. Close HCR valve.

7. Place all 4-way control valves in **full open** or **full closed** position. **Do not leave in neutral position**.

4. CASING AND CEMENTING PROGRAM

a. The proposed casing program will be as follows:

Purpose	Interval	Hole Size	Casing Size	Weight	Grade	Thread	Condition
Surface	0-1,000'	12-1/4"	8-5/8	32#	J-55	ST&C	NEW
Production	0-5,600'	7-7/8"	5-1/2"	17#	J-55	LT&C	NEW

b. Casing design subject to revision based on geologic conditions encountered.
c. The cementing program will be as follows:

Interval	Type	Amount	Yield	Washout	Excess
Surface	Lead: 65:35:6 "C" + 6# Salt + ¼# Flocell Tail: "C" + 2% CC	355 sx 375 sx	2.1 1.32	50%	100%
Production	50:50 "H" + 4#KCL + 0.4% Haladd-322 + 2% Gel	325	1.34	20%	30%

5. MUD PROGRAM

a. The proposed circulating mediums to be used in drilling are as follows:

Interval	Mud Type	Mud Weight	Viscosity	Fluid Loss
0-1,000'	Water Based	8.4-9.0	28-40	NC
1,000'-5,600'	Water Based	9.4-10.0	28-45	NC -10

A steel pit will be utilized during the drilling of this well. All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conversation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

6. TESTING, LOGGING AND CORING
   The anticipated type and amount of testing, logging and coring are as follows:

   a. Drill stem tests are not planned.
   b. The logging program will consist of Spectral GR, Density, Neutron and Pe from TD to surface casing, then GR and Neutron to surface; Dual Laterolog from TD to surface casing.
   c. Cores samples are not planned.

7. ABNORMAL PRESSURES AND HYDROGEN SULFIDE
   a. The estimated bottom hole pressures is 550 psi. No abnormal pressures or temperatures are anticipated.
   b. Hydrogen sulfide gas is not expected to be encountered.