Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APR 28 2009
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.

5 Lease Serial No
NMNM02862

6 If Indian, Allottee or Tribe Name

7 If Unit or CA/Agreement, Name and/or No.
NMNM71016X

1 Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8 Well Name and No
PLU BIG SINKS 26 FEDERAL 1H

2 Name of Operator
CHESAPEAKE OPERATING, INC.
Contact LINDA GOOD
E-Mail linda.good@chk.com

9 API Well No.
30-015-37031-00-X1

3a Address
OKLAHOMA CITY, OK 73154-0496

3b. Phone No (include area code)
Ph: 405.935.4275

10 Field and Pool, or Exploratory
WILDCAT

4 Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 26 T24S R30E SWSW 150FSL 600FWL

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			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ 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 recomplete 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 recompletion 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.)

REVISED SUNDRY NOTICE:

PLEASE FIND THE ATTACHED REVISED DRILLING PLAN AND PROPOSED WELL SCHEMATIC.

(CHK PN 624842)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

14 I hereby certify that the foregoing is true and correct.

Electronic Submission #68677 verified by the BLM Well Information System
For CHESAPEAKE OPERATING, INC., sent to the Carlsbad
Committed to AFMSS for processing by CHERYLE RYAN on 04/03/2009 (09CMR0293SE)

Name *(Printed/Typed)* LINDA GOOD — Title SR. REGULATORY COMPLIANCE SPEC

Signature (Electronic Submission) — Date 04/03/2009

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By WESLEY INGRAM — Title PETROLEUM ENGINEER — Date 2009 04/23/2009

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 Carlsbad

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.

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

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	Subsea KBTVD	KBTVD
BASE OF SALT	-625'	3,983'
BELL CANYON	-669'	4,027'
CHERRY CANYON MARKER	-1,749'	5,107'
BRUSHY CANYON	-2,814'	6,172'
LOWER BRUSHY CANYON	-4,237'	7,595'
BONE SPRING	-4,480'	7,838'
1ST BONE SPRING SAND	-5,465'	8,823'
2ND BONE SPRING CARBONATE	-5,698'	9,056'
2ND BONE SPRING SAND	-6,144'	9,502'
3RD BONE SPRING CARBONATE	-6,518'	9,876'
3RD BONE SPRING SAND	-7,250'	10,608'
WOLFCAMP	-7,710'	11,068'
PILOT HOLE	**TD**	**11,200'**

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
Oil/Gas	Bell Canyon	4,207'
Oil/Gas	Cherry Canyon	5,107'
Oil/Gas	Brushy Canyon	6,172'
Oil/Gas	Bone Spring	7,838'

3. BOP EQUIPMENT:

Will have a 2000 psi simplified rental stack (see proposed schematic) for drill out below surface casing; this system will be tested to 2000 psi working pressure.

Will have a 5000 psi rig stack (see proposed schematic) for drill out below intermediate casing; this system will be tested to 3000 psi working pressure.

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

I. BOP, Annular, Choke Manifold, Pressure Test - See Exhibit F-1 and F-3.

A. Equipment
1. The equipment to be tested includes all of the following that is installed on the well:
   (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
7. the rated working pressure.

8. 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 **10 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:

3.

System Operating Pressures	Precharge Pressure
1500 PSI	750 PSI
2000 PSI	1,000 PSI
3000 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 PROGRAM

a. The proposed casing program will be as follows:

Purpose	See COA Interval	Hole Size	Casing Size	Weight	Grade	Thread	Condition
Surface	Surface – ~~400'~~	17-1/2"	13-3/8"	48.0#	H-40	STC	New
Intermediate See COA	Surface – ~~4,000'~~	12-1/4"	9-5/8"	40.0#	J-55	LTC	New
Production	Surface – 12,545'	8-3/4" (4000'-8446')/ 8-1/2" 8446'-TD)	5-1/2"	20.0#	L-80	LTC	New

b. Casing design subject to revision based on geologic conditions encountered.

c. Casing Safety Factors:
13-3/8" Surface Casing: SFb = 1.6, SFc = 3.9 and SFt = 6
9-5/8" Intermediate Casing: SFb = 2.3, SFc = 3.4 and SFt = 3.1
5-1/2" Production Casing: SFb = 1.8, SFc = 2.0 and SFt = 3.4

d. The cementing program will be as follows:

5. Cementing Program

Interval	Type	Amount	Yield	Top Of Cement	Excess
Surface	Tail: Class C 1% CaCl2 (Accelerator)	450 sks see COA	1.34	Surface	100%
Intermediate	Lead: 35/65 Poz/Class C	1000 sks	2.0	Surface	100%
	Tail: Class C	325 sks	1.34		100%
~~Production~~	~~Class H~~ 0.5% Halad344 (Fluid Loss Control) 0.4% CFR-3 (Dispersant) 1 lbm/sk Salt 0.3% HR-7 (Retarder) 0.25 lbm D-AIR 3000 (Defoamer)	~~1900 sks~~	~~1.60~~	~~3,300'~~	~~40%~~

Final cement volumes will be determined by caliper.

Pilot Hole Plugging Plan:

see COA

The pilot hole will be plugged back using a plug of at least 210' from ±10,880' to 11,090' (125 sx, Class H 14.8 ppg 1.35 yld + KCL + Retarder) covering the top of Wolfcamp and base of Bone Spring. Second plug will be the same from ±9,000' to 9,210'. A third 500' balanced plug will be placed from ±7,500' to 8,000' (305 sx, 40% Excess, Class H 17.5 ppg 0.96yld + 0.75% CFR-3 + 3% KCL + 0.2% HR-800).

6. MUD PROGRAM

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

See COA

Interval	Mud Type	Mud Weight	Viscosity	Fluid Loss
0' – ~~400'~~	FW/Gel	8.4 – 9.0	28-32	NC
~~400'~~ – 4,000'	Native/Brine	9.9 – 10.1	28-30	NC
4,000' - TD	FW/LSND	8.8 – 9.5	34-45	20-10

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.

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 Natural GR, Density-Neutron, PE & Dual Laterolog from TD to surface casing; Neutron-GR surface casing to surface.
c. Cores samples are not planned.

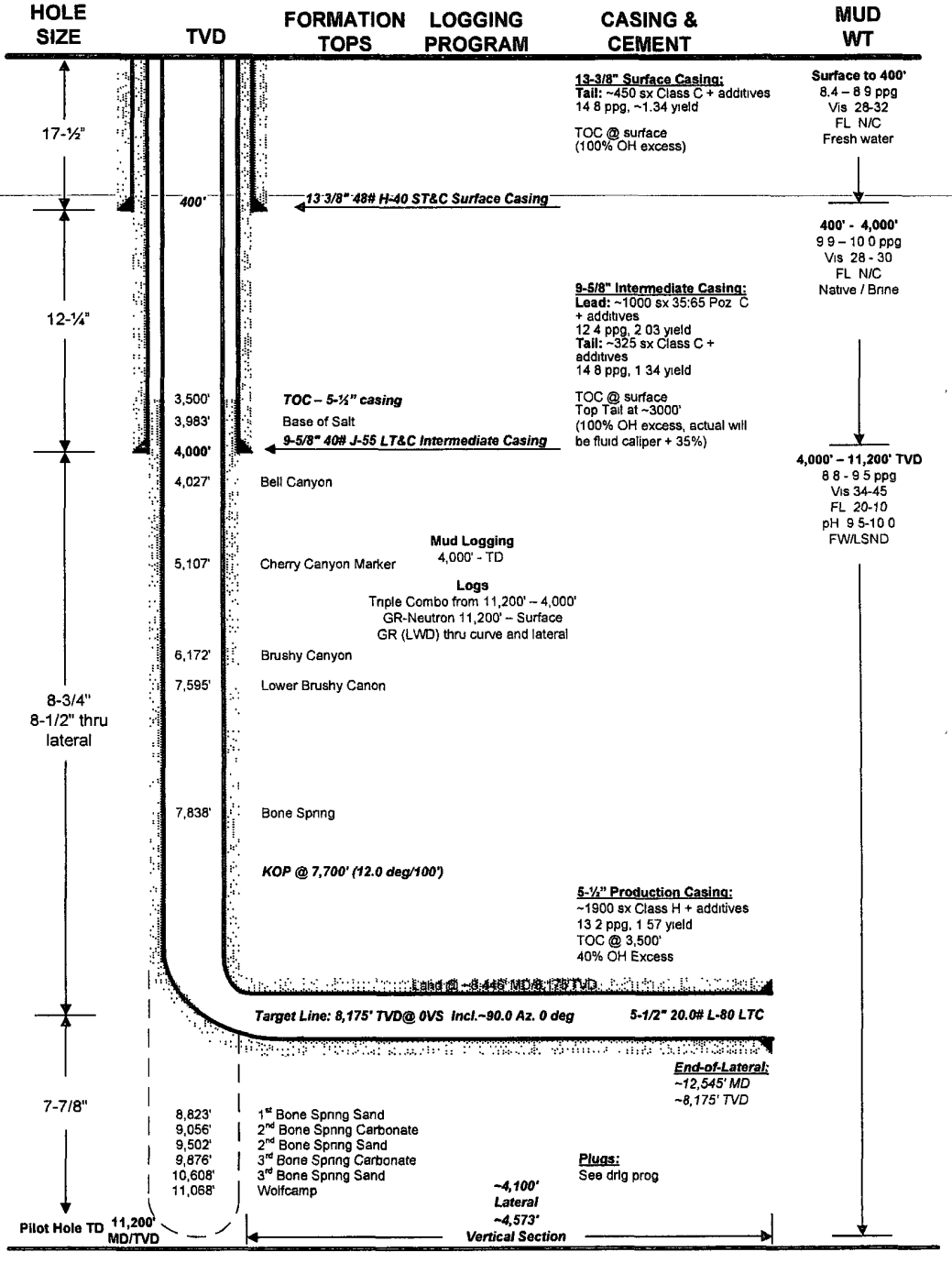
7. ABNORMAL PRESSURES AND HYDROGEN SULFIDE
   a. The estimated bottom hole pressure is 4851 psi. No abnormal pressures or temperatures are anticipated.
   b. Hydrogen sulfide gas is not anticipated.

CHESAPEAKE OPERATING INC

Proposed Well Schematic (drilling)

WELL : **PLU BIG SINKS 26 FEDERAL 1H**
SHL : **Section 26 - 24S - 30E, 350' FSL & 350' FWL**
BHL : **Section 26 - 24S - 30E, 350' FNL & 350' FWL**

COUNTY : **Eddy**
STATE : **New Mexico**
FIELD : **Delaware Basin North**
ELEVATION : **GL – 3,338'** **RKB – 3,350' Est.**



PREPARED BY: TAN **DATE:** 10/06/08

APPROVED BY: _____ **DATE:** _____

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chesapeake Operating
LEASE NO.:	NMNM02862
WELL NAME & NO.:	PLU Big Sinks 26 Federal No 1H
SURFACE HOLE FOOTAGE:	150' FSL & 600' FWL
BOTTOM HOLE FOOTAGE	350' FNL & 600' FWL
LOCATION:	Section 26, T. 24 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

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 there are no measured amounts of Hydrogen Sulfide reported, it has been reported in this section from the Delaware and is always a potential hazard. If Hydrogen Sulfide is encountered, please provide measured values 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.

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.

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 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. 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.

Medium cave/karst.
Possible lost circulation in the Delaware and Bone Spring formations.

1. The **13-3/8** inch surface casing shall be set **at approximately 650 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **The Rustler Anhydrite top can vary widely in this area. Fresh water mud to be used to setting depth. Due to additional length, additional cement will be required.**

    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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

    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. **Casing to be set in the Lamar Limestone or the Fletcher Anhydrite between 4000-4200 feet. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst concerns.**

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

Plug required at bottom of pilot hole to a minimum of 50' above the top of the Wolfcamp formation and must be tagged. Tag depth to be recorded and reported on subsequent sundry with casing information. Second plug and third plugs are approved as written.

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement should tie-back at least **500** feet into previous casing string **due to Secretary's Potash**. Operator shall provide method of verification.

4. 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 **2000 (2M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8"** intermediate casing shoe shall be **5000 (5M)** psi. **5M system will be tested as 3M.**

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. The tests shall be done by an independent service company.

    b. The results of the test shall be reported to the appropriate BLM office.

    c. 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.

    d. 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.

D. DRILL STEM TEST

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

WWI 042309