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la TYPE OF WORK:	DRILL 🔀	DEEPEN				
b. TYPE OF WELL:	GAS NZ	SINGLE [	MULTIPLE	7.UNIT AGRI	EMENT NAME	2500
%ELL   2 NAME OF OPERATO	OR Other	20NE 147179	ZONE	8.FARM OR	LEASE NAME, WELL	No. 33 4
Z WIND OF OF BIGHT	CHESAPEAKE OPERA	TING, INC. Linda G	ood 405-767-4275	CLARK 9,API WELL	7 FEDERAL	1
3. ADDRESS AND TEL		HOMA CITY, OK 73154-0	RECEIVED	30-0	15-34	536
4. LOCATION OF WEL	L (Report location clearly and in ac	· · · · · · · · · · · · · · · · · · ·		10.FTELD AN	D POOL, OR WILDCA	T
•			nts)* NOV 0 7 2005 OCU-AATEOU	UND. IN	DIAN DRAW: ,m.,or block and s	URVEY OR AREA
At surface: 2310	FNL 1000 FWL, SWNW			s 7-22S-2	8E	33720
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	ES SE OF CARLSBAD, N	SUBJECT	-		COUNTY	NM
15.DISTANCE FROM PROPOS		16.NO. OF ACRES IN LEASE	L BY STATE		17.NO. OF ACRES	
LOCATION TO NEAREST PROPERTY OR LEASE LI		140.76	•		TO THIS WELL	
(Also to nearest drlg, unit line 18.DISTANCE FROM PROPO		19.PROPOSED DEPTH			20.ROTARY OR C	ABLE TOOLS*
TO NEAREST WELL, DRI OR APPLIED FOR, ON TE		4500			ROTARY	
21.ELEVATIONS (Show wheth	er DF, RT, GR, etc.)			22, APP	ROX. DATE WORK W	ILL START*
3117 GR	CAI	RLSBAD CONTROLLED W	ATER BASIN			
SIZE OF HOLE	GRADE, SIZE OF CASING	PROPOSED CASING AND CENTER PROP	MENTING PROGRAM SETTING DEPTH	<del></del>	OHANTITY	OF CEMENT
"	66	#	6	-	+/-	OF CEMENT
"	"	#			+/-	
	<i>,</i> "	#	•		+/-	
be run and the we Conservation Div Please find the Su agreement with the Please be advised	rating, Inc. proposes to dell completed. If dry, the vision requirements.  If ace Use Plan and Drilling e grazing lessee.  If that Chesapeake Operations to be responsible under the complete of the complete	e well will be plugged a g Plan as required by Ons ng, Inc. is considered to b	and abandoned as per hore Order No. 1. Che ethe Operator of the a	BLM assapeake	nd New Mex  Operating, In  Intioned well.	ico Oil  c. has an  Chesapeake
The location on the	e NOS has changed from	2220 FNL 850 FWL per B	LM request. Please se	e new lo	cation above.	
Arch Survey BLM Nationwide B IN ABOVE SPACE DE proposal is to drill or de 24.	to follow.  Bond #NM2634.  SCRIBE PROPOSED PROGRAM  sepen directionally, give pertinent	M: If proposal is to deepen, give d data on subsurface locations and	ata on present productive zon measured and true vertical de	e and properties. Give	osed new producti blowout prevente	ve zone. If er program, if any.
					<i>~</i>	
SIGNED	14	Henry TITLE Sr. Vice Presi	Hood ident – Land & Legal I	DATE	9/30/01	
*(This space for Fede	eral or State office use)				<del></del>	
	ral or State office use)	AL SUBJECT TO	<b>a</b>			
PERMIT NO.	GENERA	IL REQUIREMENT				
thanan	not warrant or certify harving applica		rights in the subject lease which	would entitle	the applicant to con-	duct operations
CONDITIONS OF APP	PROVAL, IF ANY: ATTACH S/ James Stoval	FOR FILE	ELD MANAGER		NO.	2 2005
APPROVED BY		TITLE			E	
T: 10 ** 5 5 =		See Instructions On Re	£		VAL FOR	
	001, makes it a crime for any person ions as to any matter within its jurison		o any department or agency of t	he United S	tates any false, fict	itious or fraudulent

#### State of New Mexico

DISTRICT I 1625 N. FRENCH DR., HOBBS, NM 88240

Energy, Minerals and Natural Resources Department

Form C-102

Revised JUNE 10, 2003 Submit to Appropriate District Office

DISTRICT II 1301 W. GRAND AVENUE, ARTESIA, NM 88210

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT III

# OIL CONSERVATION DIVISION 1220 SOUTH ST. FRANCIS DR. Santa Fe, New Mexico 87505

State Lease - 4 Copies Fee Lease - 3 Copies

220 S. ST. FRANCIS DR., SANTA FE, NM 87505	WELL LOCATION	AND ACIDA	GE DEDICATION	JN ILAI	AMENDE	D REPORT
API Number	33720		esignated	Indian Di		iware
Property Code Property Name CLARK 7 FEDERAL					Well Number	
OGRID No.		Operator Nam			Elevation	n
147179	CHESAI	PEAKE OPER	ATING INC.		3110	)'
		Surface Loca	ation			
UL or lot No. Section Townsh	- 1 - 1	Feet from the	North/South line	Feet from the	East/West line	County
6 7 22-	-S 28-E	2310	NORTH	1000	WEST	EDDY
	Bottom Hole Lo	cation If Diffe	rent From Sur	face		
UL or lot No. Section Townsh	ip Range Lot Idn	Feet from the	North/South line	Peet from the	East/West line	County
Dedicated Acres Joint or Infill	Consolidation Code   0	rder No.				
NO ALLOWABLÈ WILL BE OR	E ASSIGNED TO THIS A NON-STANDARD U				EN CONSOLIDA	ATED
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LOT 7 34.92 AC		LAT.=32'24'2 LONG.=104'07'		Date Survey Signatura & Professional	UST 31, 2005  Sent Connection  Surveyor 1  MEXICAN ENGRAPMENT  OS. 11.1356  Jo. CARY ENGRAP  MESSION  MESSION	DEL 7/9/05
[ 34.44 AC [	ŧ	t		11 "115"	A EOOLO MAR	

**CONFIDENTIAL - TIGHT HOLE** 

Lease No. NMNM0429825

SURFACE USE PLAN
Page 1

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

# 1. EXISTING ROADS

- a. Existing county and lease roads will be used to enter proposed access
- b. Location, access, and vicinity plats attached hereto. See Exhibits A-1 through A-4.

# 2. PLANNED ACCESS ROADS

- a. A new access road 749' in length and 14' in travel way width with a maximum disturbance area of 30' will be built in accordance with guidelines set forth in the BLM Onshore Orders.
- b. No turnouts are expected.
- c. In order to level the location, cut and fill will be required. Please see attached Well Location and Acreage Dedication Plat Exhibit A1-A4.
- d. A locking gate will be installed at the site entrance.
- e. Any fences cut will be repaired. Cattle guards will be installed, if needed.
- f. 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.
- g. Driving directions are from the intersection of US Hwy #62/180 and Refinery Rd. (Co. Rd. #605). Go SE on Refinery Rd. approx. 4.8 miles. Turn Left (North) and Cross Cattle Guard. Turn Left (West) at "Y" intersection and go approx. 250'. Follow bend in road North and go approx. 1.4 miles to a proposed road survey on the Right. Follow proposed road survey east approx. 900' across pasture to this location.

# 3. <u>LOCATION OF EXISTING WELLS WITHIN A 1-MILE RADIUS OF THE PROPOSED LOCATION – see Exhibit B.</u>

# 4. LOCATION OF PRODUCTION FACILITIES

It is anticipated that production facilities will be located on the well pad as product will be sold at the wellhead and/or tank battery. Chesapeake Operating, Inc. will lay producer line from well to Enterprise. — See Exhibit C.

**CONFIDENTIAL - TIGHT HOLE** 

Lease No. NMNM0429825

SURFACE USE PLAN
Page 3

### 12. ADDITIONAL INFORMATION

A Class III cultural resource inventory report was prepared by Boone Archaeological Services, Carlsbad, New Mexico for the proposed location. A copy of the report has been sent to the BLM office under separate cover and is also attached for reference. See Exhibit E.

Chesapeake Operating, Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

# 13. OPERATOR'S REPRESENTATIVES

# **Drilling and Completion Operations**

Rob Jones District Manager P.O. Box 18496 Oklahoma City, OK 73154 (405) 810-2694 (OFFICE) (405) 879-9573 (FAX) rjones@chkenergy.com

Cecil Gutierrez
Sr. Landman
P.O. Box 11050
Midland, TX 79705
432-687-2992 (OFFICE)
432-687-3675 (FAX)
cgutierrez@chkenergy.com

### **Regulatory Compliance**

Linda Good Regulatory Compliance Analyst P.O. Box 18496 Oklahoma City, OK 73154 (405) 767-4275 (OFFICE) (405) 879-9583 (FAX) lgood@chkenergy.com Drilling Engineer
David DeLaO
P.O. Box 14896
Oklahoma City, OK 73154
(405) 767-4339 (OFFICE)
(405) 879-9573 (FAX)
(405) 990-8182 (MOBILE)
ddelao@chkenergy.com

Assett Manager
Andrew McCalmont
P.O. Box 18496
Oklahoma City, OK 73154-0496
405-879-7852 (OFFICE)
405-879-7930 (FAX)
amccalmont@chkenergy.com

**CONFIDENTIAL - TIGHT HOLE** 

Lease No. NMNM0429825

SURFACE USE PLAN
Page 4

# 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.

Ву:	MM
•	Henry Hood, Sr. Vice President - Land & Legal
Date:	5/30/or

CONFIDENTIAL – TIGHT HOLE Lease #NMNM0429825

DRILLING PROGRAM

Page 1

# 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	Depth
BASE OF SALT	794	2331
BELL CANYON	754	2371
CHERRY CANYON	-66	3191
BRUSHY CANYON	-1287	4412
TD		4500

# 2. <u>ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING</u> 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:

<u>Substance</u>	<u>Formation</u>	<u>Depth</u>
Oil/Gas	CHERRY CANYON	3191

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 - See Exhibit F-1 and F-2.

#### 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,

CONFIDENTIAL - TIGHT HOLE Lease #NMNM0429825

**DRILLING PROGRAM** 

Page 2

(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 <u>5</u> <u>minutes</u>, 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

CONFIDENTIAL – TIGHT HOLE Lease #NMNM0429825

**DRILLING PROGRAM** 

Page 3

<u>pump turned off</u>, and have remaining pressures of <u>200 PSI above the</u> precharge pressure.

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

3. <u>System Operating Pressures</u> <u>Precharge Pressure</u>

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 ramtype 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 <u>should not be less</u> than the following pressures:

System Pressure	Remaining Pressure At Conclusion of
	<u>Test</u>
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 <u>full open</u> or <u>full closed</u> position. <u>Do not</u> leave in neutral position.

# CONFIDENTIAL – TIGHT HOLE Lease #NMNM0429825

**DRILLING PROGRAM** 

Page 4

### 4. CASING AND CEMENTING PROGRAM

a. The proposed casing program will be as follows:

Purpose	<u>Interval</u>	Hole Size	Casing Size	Weight	Grade	Thread	Condition	1
Surface	0-450	12.25	8.625	24	J55	STC	New 1	WITNESS
Intermediate	450-4500	7.875	5.5	15.5	J55	LTC	New	

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

<u>Interval</u>	Type	Amount	Yield	Washout	Excess
0-450	Class C + additives	260	1.5	40	100
450-4500	Class C + additives	545	1.8	20	50

### 5. MUD PROGRAM

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

Interval	Mud Type	Mud Weight	Viscosity	Fluid Loss
0-450	Fresh water	8.4-9.0	27-40	NC
450-4500	Cut brine	9.7	32-36	10-12

An in-ground, lined pit will be utilized during the drilling of this well. All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation 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 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 2300 PSI. No abnormal pressures or temperatures are anticipated.
- b. Hydrogen sulfide gas is not anticipated.

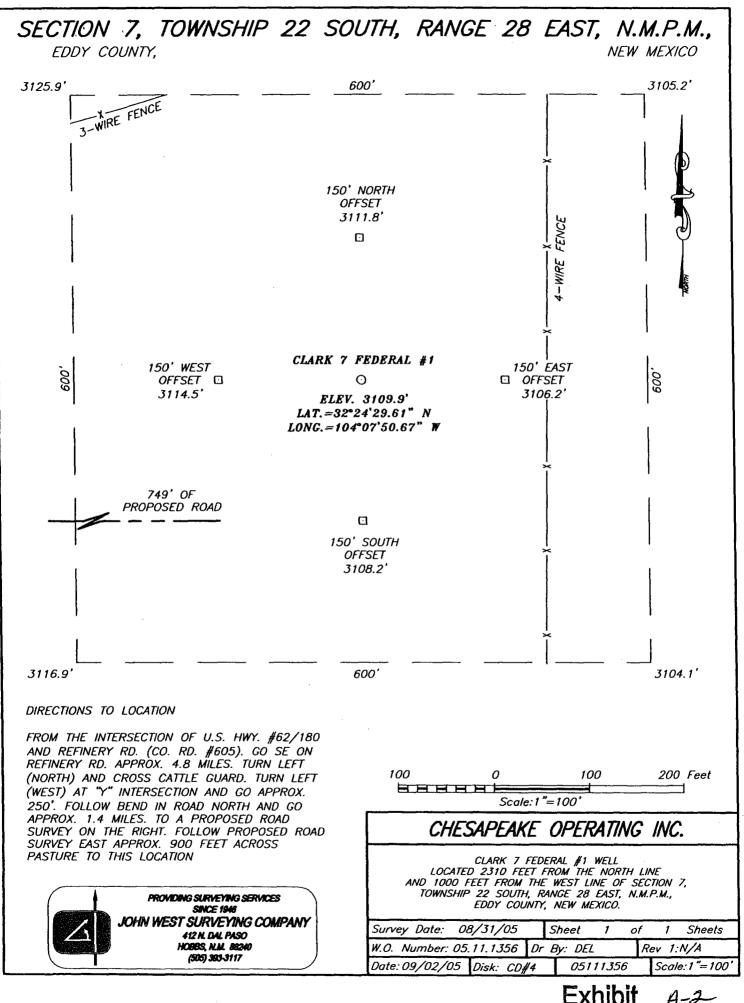
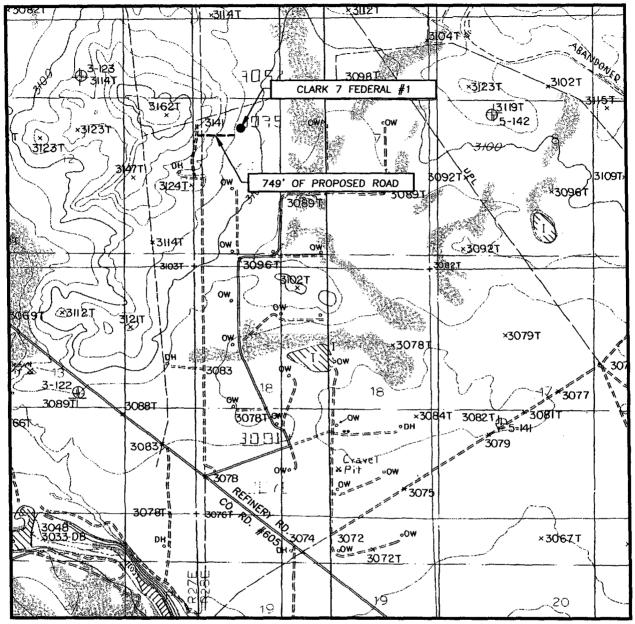


Exhibit A-2

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

SEC. 7 TWP. 22-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY\_\_\_\_EDDY

DESCRIPTION 2310' FNL & 1000' FWL

ELEVATION \_ 3110'

CHESAPEAKE
OPERATOR OPERATING INC.

LEASE CLARK 7 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP

CARLSBAD EAST & INDIAN FLATS, N.M.

CONTOUR INTERVAL: CARLSBAD EAST, N.M. – 10' INDIAN FLATS. N.M. – 10'

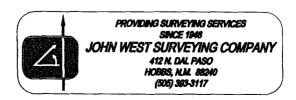
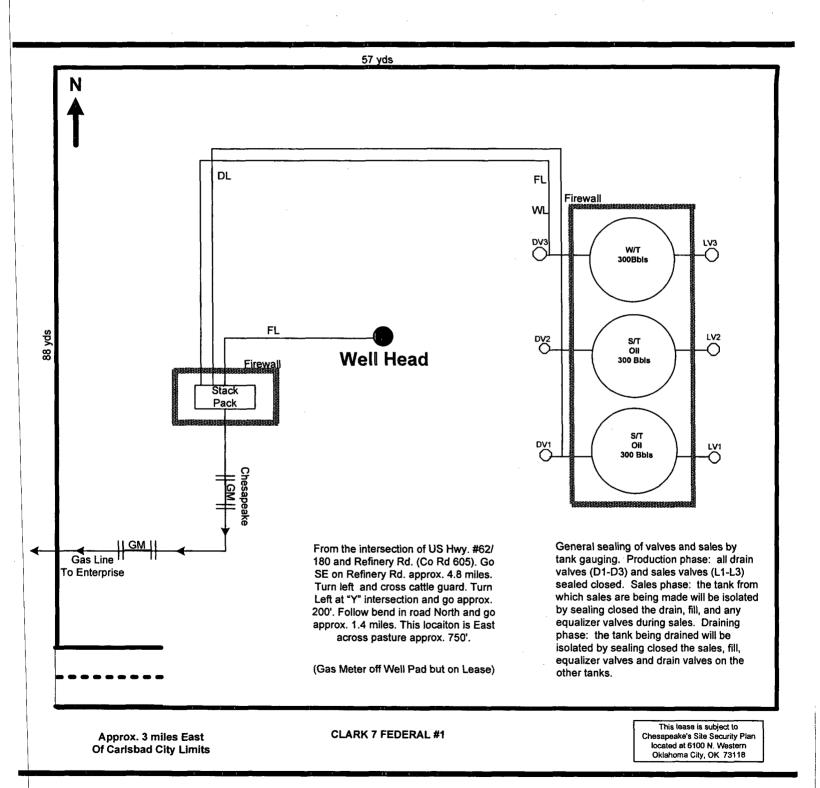


Exhibit A-4
Revised

# CHESAPEAKE OPERATING, INC.

# CLARK 7 FEDERAL 1 7-22S-28E EDDY COUNTY, NEW MEXICO



Prepared by: DEBBIE HERNANDEZ

Date: 08-11-2005

Approved by: Date:

Exhibit \_\_\_\_\_\_

# **BLOWOUT PREVENTOR SCHEMATIC** CHESAPEAKE OPERATING INC

WELL

: Clark 7 Federal 1

RIG

2"

2"

3,000#

3,000#

3,000#

Check Valve

Gate Valve

Gate Valve

COUNTY

: Eddy

STATE: New Mexico

OPERATION: Drill out below 8-5/8" Casing

	SIZE	PRESSURE	DESCRIPTION					
A	13-5/8"	500#	Rot Head	7				
В	13-5/8"	3,000#	Annular	7				
С	13-5/8"	3,000#	Pipe Rams	1				
D	13-5/8"	3,000#	Blind Rams	1				
E	13-5/8"	3,000#	Mud Cross					
				1				
	Spool	13-5/8	" 3M x 13-5/8" 3M					
_	A-Sec	8-5/8"	SOW x 13-5/8" 3M			A		
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Exhibit F-1

DESCRIPTION

Gate Valve

HCR Valve

3,000#

3,000#

#### **CONDITIONS OF APPROVAL - DRILLING**

Operator's Name:

Chesapeake Operating, Inc.

Well Name & No.

Clark 7 Federal #1

Location:

2340' FNL, 1000' FWL, Section 7, T. 22 S., R. 28 E., Eddy County, New Mexico

Lease:

NM-0429825

# I. DRILLING OPERATIONS REQUIREMENTS:

- 1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 for wells in Eddy County in sufficient time for a representative to witness:
  - A. Well spud
  - B. Cementing casing: 8-5/8 inch 5-1/2 inch
  - C. BOP tests
- 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. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing ( size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15-day time frame.
- 4. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

#### II. CASING:

- 1. The <u>8-5/8</u> inch surface casing shall be set at <u>approximately 450 feet</u> and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.
- 2. The minimum required fill of cement behind the <u>5-1/2</u> inch production casing is <u>to reach at least 500 feet</u> above the top of the uppermost hydrocarbon productive interval.

### **III. PRESSURE CONTROL:**

- 1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 8-5/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
- 2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi.
- 3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.