

CONFIDENTIAL

OCD-HOBBS

Form 3160-1
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

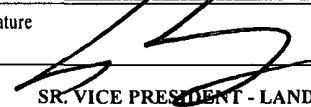
1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM 56263
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator CHESAPEAKE OPERATING, INC. ATTN: LINDA GOOD		7. If Unit or CA Agreement, Name and No.
3a. Address P.O. BOX 18496, OKLAHOMA CITY, OK 73154-0496		8. Lease Name and Well No. 300111 SUN PEARL 28 FEDERAL 7
3b. Phone No. (include area code) 405-767-4275		9. API Well No. 30-025-37974
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1980 FSL 2310 FWL, NE SW At proposed prod. zone SAME		10. Field and Pool, or Exploratory PEARL; QUEEN
14. Distance in miles and direction from nearest town or post office* APPROX 24 MILES WSW OF HOBBS, NM.		11. Sec., T. R. M. or Blk. and Survey or Area 28 - 19S - 34E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease 1281.80	17. Spacing Unit dedicated to this well 40
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 5200	20. BLM/BIA Bond No. on file NM2634
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 2700 GR (EST.) 2712 KB (EST.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

Capitan Controlled Water Basin

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 	Name (Printed/Typed) HENRY HOOD	Date 4/24/06
Title SR. VICE PRESIDENT - LAND & LEGAL		

Approved by (Signature) /s/ Tony J. Herrell	Name (Printed/Typed) /s/ Tony J. Herrell	Date JUN 13 2006
Title FIELD MANAGER		Office CARLSBAD FIELD OFFICE

Application approval 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.
Conditions of approval, if any, are attached.

APPROVAL FOR 1 YEAR

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.

*(Instructions on page 2)

Witness Surface Casing

**APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED**

Chesapeake Operating Inc.
Sun Pearl 28 Federal 7
1980 FSL 2310 FWL
NE SW of Section 22-23S-34E
Lea County, NM

Confidential – Tight Hole
Lease No. NMNM 56263

#24 Attachment to Application for Permit to Drill or Re-enter

Chesapeake Operating, Inc. respectfully requests permission to drill a well to 5200' to test the Queen formation. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and New Mexico Oil Conservation Division requirements.

Please find the Surface Use Plan and Drilling Plan as required by Onshore Order No. 1. A general rig plat is attached as Exhibit D. A final rig plat will be submitted prior to spud. Exhibit_E Archeological Survey to follow.

Chesapeake Operating, Inc. has an agreement with the surface owner.

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.



State of New Mexico

DISTRICT I

1626 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fed. Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-37874	Pool Code 49780	Pool Name Pearl; Queen
Property Code 30011	Property Name SUN PEARL 26 FEDERAL	
OGRID No. 147179	Operator Name CHESAPEAKE OPERATING, INC.	Well Number 7
		Elevation 3697'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	28	19-S	34-E		1980	SOUTH	2310	WEST	LEA

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

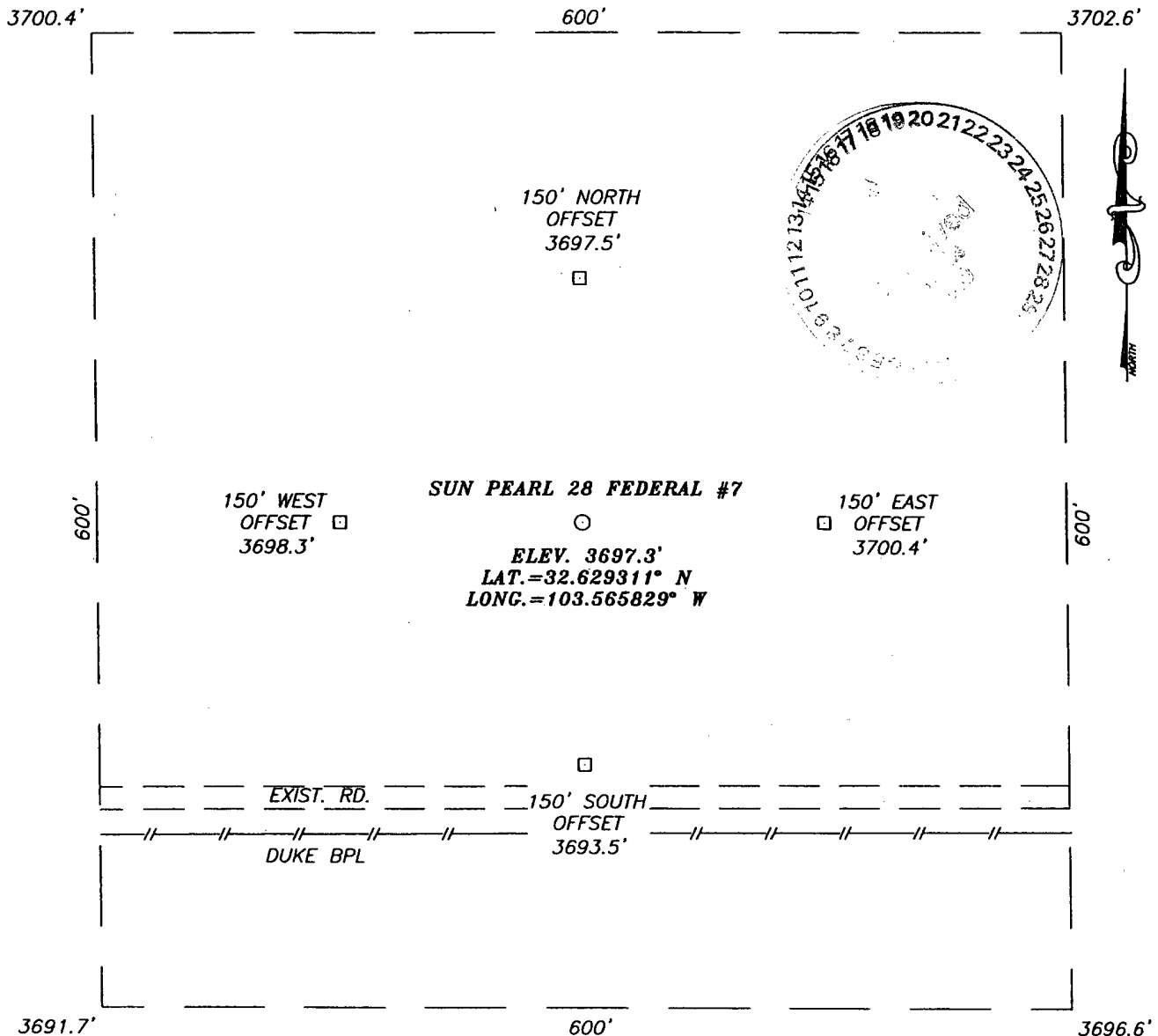
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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 that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Lynda F. Townsend</i> Signature Date Lynda F. Townsend Printed Name
	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 supervision, and that the same is true and correct to the best of my belief. MARCH 23, 2006 Date Surveyed MR Signature & Seal Professional Surveyor <i>GARY KIDSON</i> 06.11.0534 Certificate No. GARY KIDSON 12841

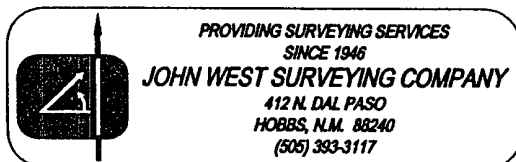
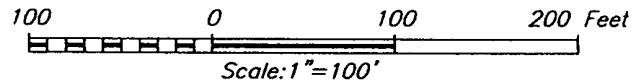
EXHIBIT A-1

SECTION 28, TOWNSHIP 19 SOUTH, RANGE 34 EAST, N.M.P.M.,
 LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM MILE MARKER 79 ON U.S. HWY. 62-180,
 GO WEST ON U.S. HWY. 62-180 APPROX. 0.7
 MILES. TURN RIGHT, AND GO NORTH 1.1 MILES TO
 ROAD INTERSECTION. TURN LEFT AND GO WEST
 APPROX. 400 FEET. THIS LOCATION IS APPROX.
 160 FEET NORTH.



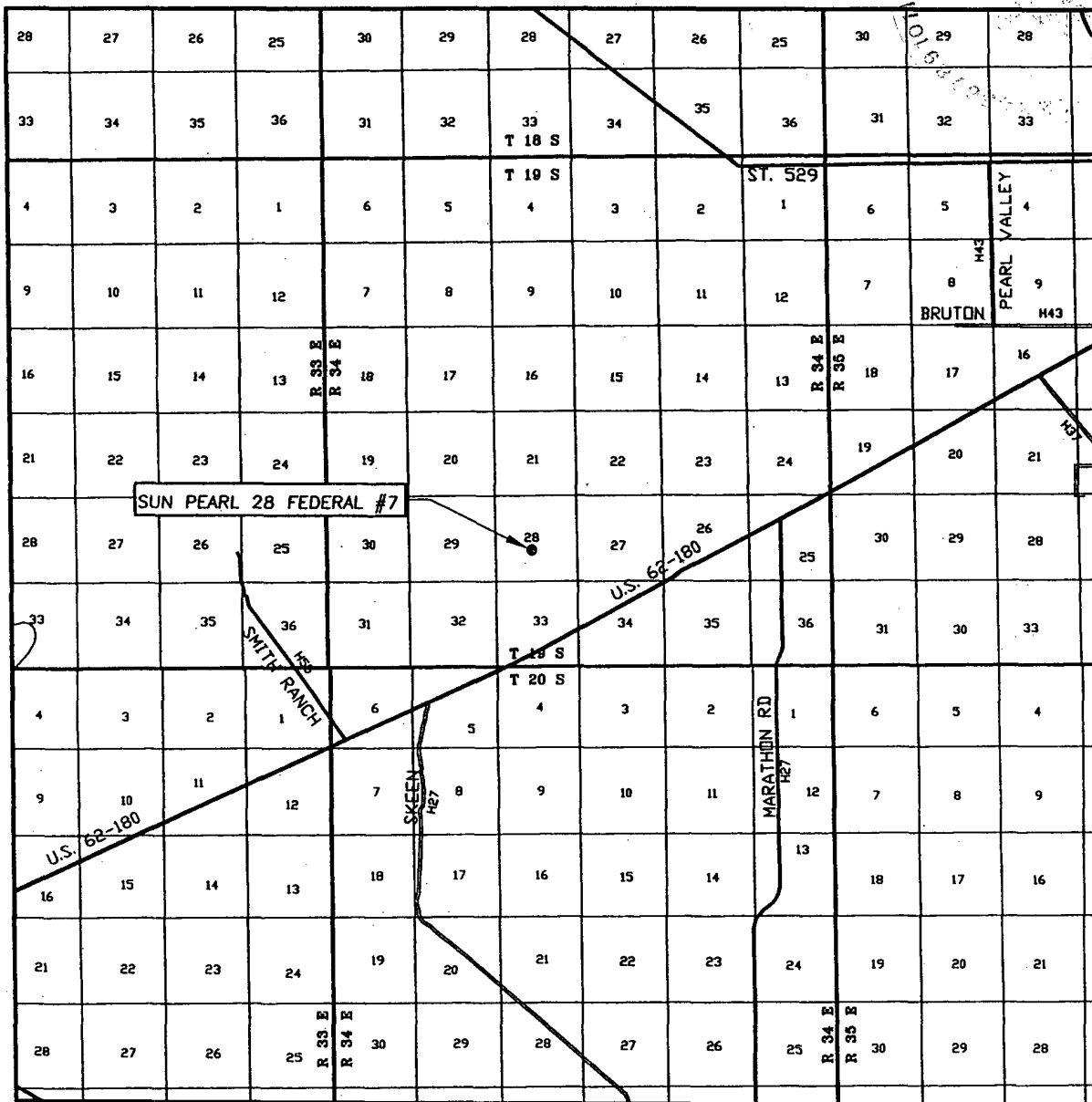
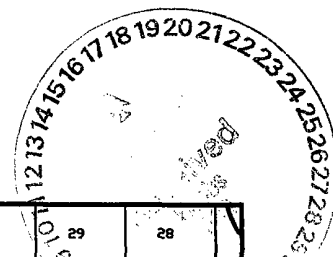
CHESAPEAKE OPERATING, INC.

SUN PEARL 28 FEDERAL #7
 LOCATED 1980 FEET FROM THE SOUTH LINE
 AND 2310 FEET FROM THE WEST LINE OF SECTION 28,
 TOWNSHIP 19 SOUTH, RANGE 34 EAST, N.M.P.M.,
 LEA COUNTY, NEW MEXICO.

Survey Date: 03/23/06	Sheet 1 of 1 Sheets
W.O. Number: 06.110534	Dr By: M.R.
Date: 03/27/06	Rev 1: N/A
Disk: CD#6	06110534
	Scale: 1"=100'

EXHIBIT A-2

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 28 TWP. 19-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 1980' FSL & 2310' FWL

ELEVATION 3697'

OPERATOR CHESAPEAKE OPERATING, INC.

LEASE SUN PEARL 28 FEDERAL

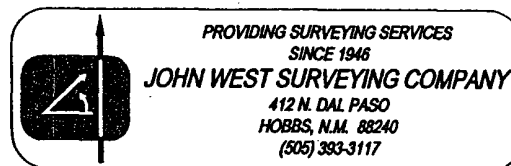
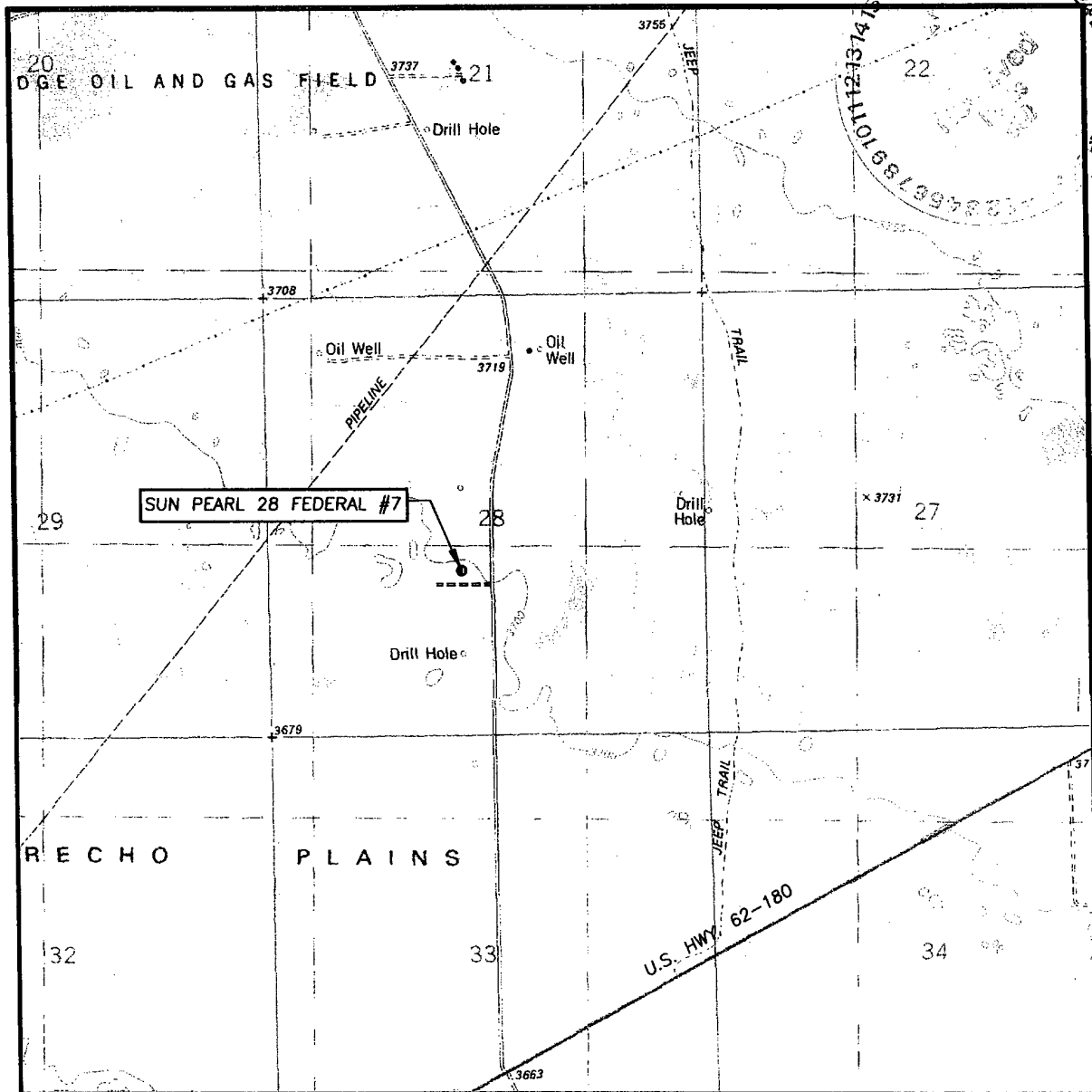


EXHIBIT A-3

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
IRONHOUSE WELL, N.M. - 10'
LEA, N.M. - 10'

SEC. 28 TWP. 19-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 1980' FSL & 2310' FWL

ELEVATION 3697'

OPERATOR CHESAPEAKE
OPERATING, INC.

LEASE SUN PEARL 28 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
IRONHOUSE WELL, N.M.

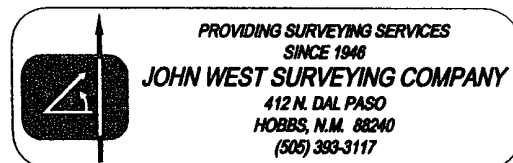
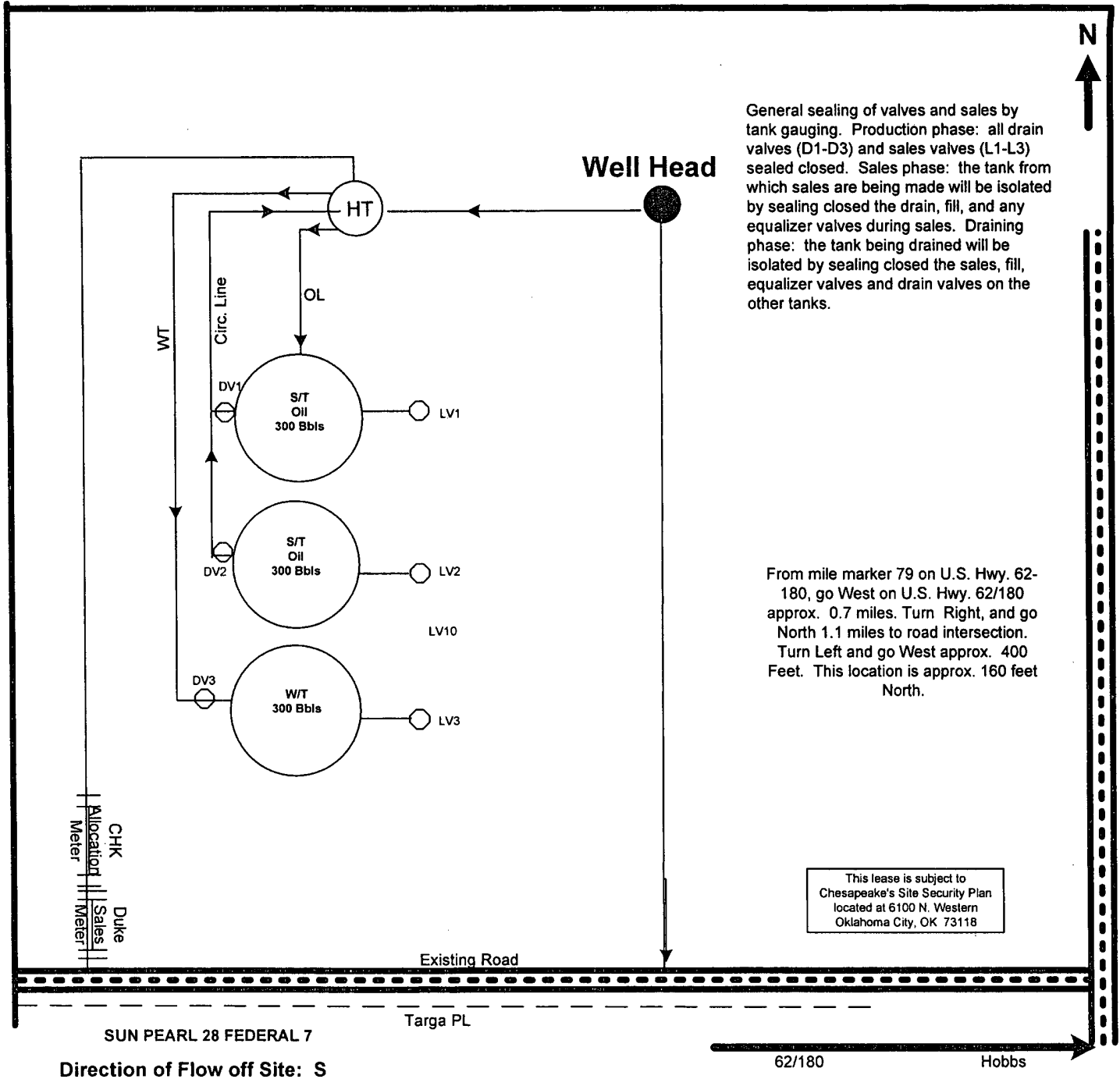
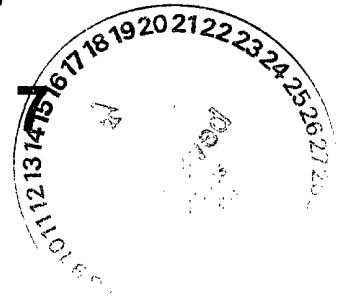


EXHIBIT A-4

EXHIBIT B

CHESAPEAKE OPERATING, INC.

SUN PEARL 28 FEDERAL 28-19S-34E LEA COUNTY, NM



Prepared by: DEBBIE HERNANDEZ
Date: 04-19-2006

Approved by:
Date:

EXHIBIT C

Prevailing Winds from the North in
Winter and from the South in
Summer.

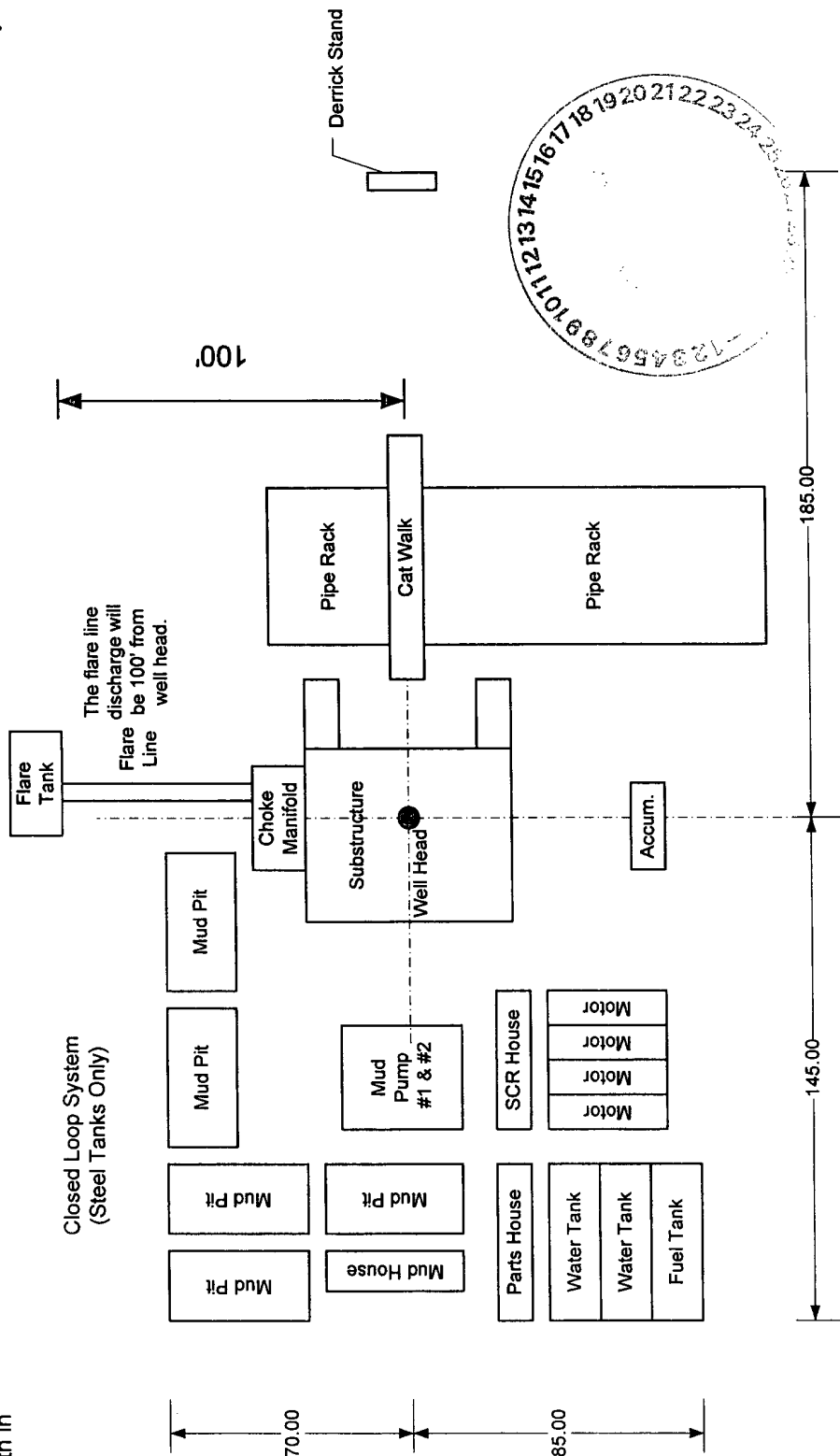


EXHIBIT D

Chesapeake Operating, Inc

General Rig Layout

SIZE	FSCM NO	DWG NO	REV
SCALE	Not to Scale	SHEET	1 OF 1

SUN PEARL 28 FEDERAL 7

BLOWOUT PREVENTOR SCHEMAT

CHESAPEAKE OPERATING INC

WELL : Sun Pearl 28 Federal #7

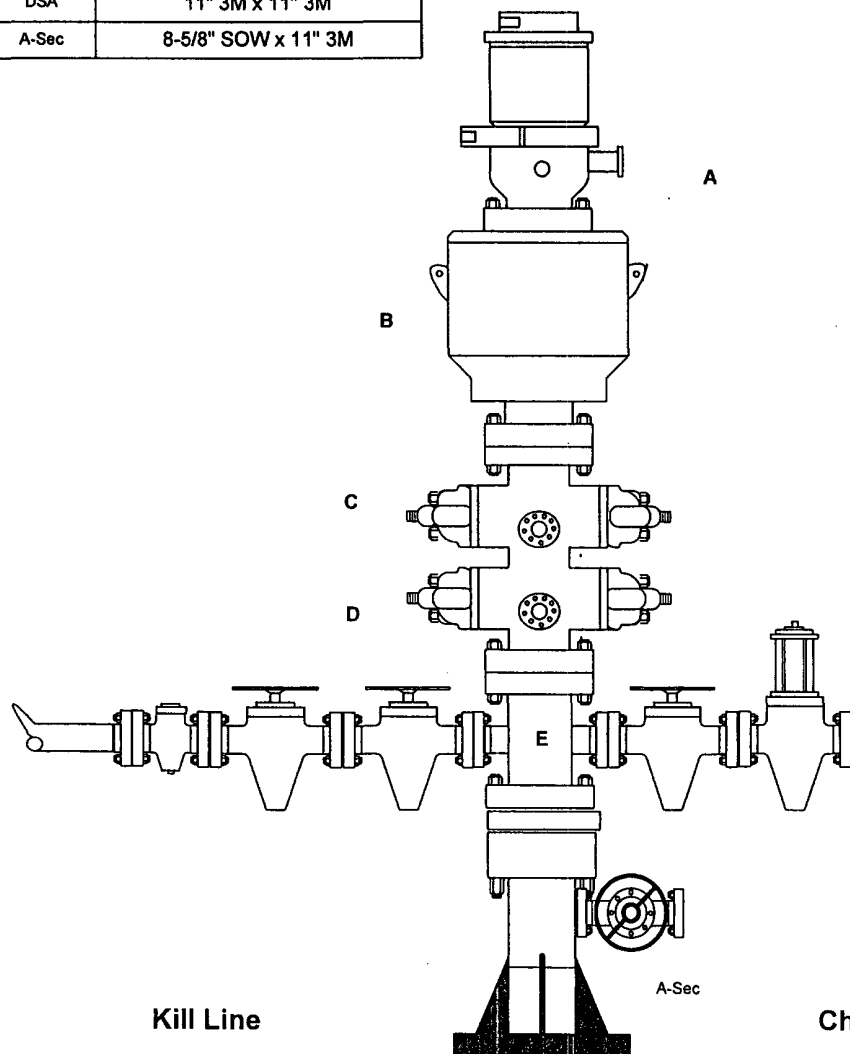
RIG :

COUNTY : Lea

STATE: New Mexico

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

	SIZE	PRESSURE	DESCRIPTION
A	7-7/8"	500#	Rot Head
B	11"	3,000#	Annular
C	11"	3,000#	Pipe Rams
D	11"	3,000#	Blind Rams
E	11"	3,000#	Mud Cross
DSA	11" 3M x 11" 3M		
A-Sec	8-5/8" SOW x 11" 3M		



SIZE	PRESSURE	DESCRIPTION
2"	3,000#	Check Valve
2"	3,000#	Gate Valve
2"	3,000#	Gate Valve

SIZE	PRESSURE
4"	3,000#
4"	3,000#

EXHIBIT F

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Sun Pearl 28 Federal 7
1980 FSL 2310 FWL, NESW
of Section 28-19S-38E
Lea County, NM

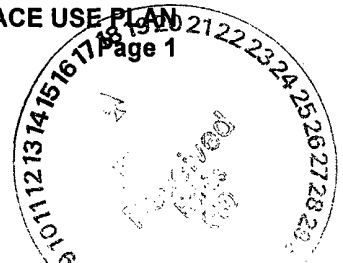
CONFIDENTIAL – TIGHT HOLE

Lease No. NMNM 56263

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 roads will be used to enter proposed well pad.
- b. Location, well pad, and vicinity plats attached hereto. See Exhibits A-1 through A-4.

2. PLANNED ACCESS ROADS

- a. No turnouts are expected.
- b. In order to level the location, cut and fill will be required. Please see attached Well Location and Acreage Dedication Plat – Exhibit A-1 to A-4.
- 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.
- f. Driving directions from mile marker 79 on US Hwy 62-180, go west on US Hwy 62-180 approx. 0.7 miles. Turn right, and go North 1.1 miles to road intersection. Turn left and go West approx. 400 feet. This location is approx 160 feet North.

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

4. LOCATION OF PRODUCTION FACILITIES

It is anticipated that production facilities will be located on the well pad as product will be measured and sold at the wellhead and/or tank battery. It is anticipated that Duke Energy will lay pipeline. All flow lines and power lines will follow existing lease roads – See Exhibit C

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

No construction materials will be used from Section 28-19S-34E. All material (i.e. shale) will be acquired from private or commercial sources.

7. METHODS FOR HANDLING WASTE DISPOSAL

A closed loop 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-toilet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

8. ANCILLARY FACILITIES

None

9. WELLSITE LAYOUT

The proposed site layout plat is attached showing a generic rig plat with rig orientation and equipment location - See Exhibit D.

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 & MINERAL OWNERSHIP

United States of America
Department of Interior
Bureau of Land Management

GRAZING LESSEE

Kenneth Smith
267 Smith Ranch Rd.
Hobbs, NM 88240
505-887-3374

(Chesapeake Operating, Inc. has an agreement with the grazing lessee)



ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Sun Pearl 28 Federal 7
1980 FSL 2310 FWL, NESW
of Section 28-19S-38E
Lea County, NM

CONFIDENTIAL – TIGHT HOLE

Lease No. NMNM 56263

SURFACE USE PLAN
Page 1

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

Jarvis Hensley
District Manager – Northern Permian
P.O. Box 18496
Oklahoma City, OK 73154
(405) 879-7863 (OFFICE)
(405) 879-9529 (FAX)
jhensley@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

Sr. Field Representative

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

Asset Manager

Jeff Finnell
P.O. Box 18496
Oklahoma City, OK 73154-0496
405-767-4347 (OFFICE)
405-879-7930 (FAX)
jfinnell@chkenergy.com

Regulatory Compliance

Linda Good
Regulatory Compliance Analyst
P.O. Box 18496
Oklahoma City, OK 73154
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(405) 879-9583 (FAX)
lgood@chkenergy.com



ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Sun Pearl 28 Federal 7
1980 FSL 2310 FWL, NESW
of Section 28-19S-38E
Lea County, NM

CONFIDENTIAL - TIGHT HOLE

Lease No. NMNM 56263

SURFACE USE PLAN

Page 1

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: 4/24/08

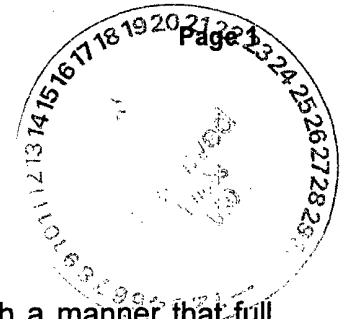


ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Sun Pearl 28 Federal 7
1980 FSL 2310 FWL, NESW
of Section 28-19S-34E
Lea County, New Mexico

CONFIDENTIAL – TIGHT HOLE
Lease Contract No. NMNM 56263

DRILLING PROGRAM

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
Rustler	1740	-277
Yates	3590	-5880
Seven Rivers Sand	3896	-6868
Queen	4486	-7092
TD	5200	

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	Seven Rivers	3896
Oil/Gas	Queen	4486

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.

DRILLING PROGRAM

Page 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,
 - (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 has 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.

<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 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:

<u>System Pressure</u>	<u>Remaining Pressure At Conclusion of</u> <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 **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:

<u>Purpose</u>	<u>Interval</u>	<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Thread</u>	<u>Condition</u>
Surface	0-500'	11"	8-5/8"	24#	J55	STC	New
Production	500'-5,200'	7-7/8"	5-1/2"	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>	<u>Type</u>	<u>Amount</u>	<u>Yield</u>	<u>Washout</u>	<u>Excess</u>
0' – 500'	35:65 Poz:C (Lead)	115 sks	2.07	40%	100%
	Class C (Tail)	125 sks	1.32	40%	100%
0' – 5,200'	50:50 Poz:C (Lead)	500 sks	2.50	20%	50%
	Class C (Tail)	100 sks	1.32	20%	25%

5. MUD PROGRAM

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

<u>Interval</u>	<u>Mud Type</u>	<u>Mud Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0 – 500'	FW	8.5 – 8.8	34-36	NC
500' – 1,687'	FW	8.5	28-29	NC
1,687'-5,200'	Cut Brine/Brine	9.7-10.0	29-32	NC

A closed loop 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-toilet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Sun Pearl 28 Federal 7
1980 FSL 2310 FWL, NESW
of Section 28-19S-34E
Lea County, New Mexico

CONFIDENTIAL – TIGHT HOLE
Lease Contract No. NMNM 56263

DRILLING PROGRAM

Page 5

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 2236 psi. No abnormal pressures or temperatures are anticipated.
- b. Hydrogen sulfide gas is not anticipated.





H₂S Contingency Plan

Sun Pearl 28 Federal #7

Section 28, T-19S R-34E

Lea County, New Mexico



June 2006

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I. H₂S CONTINGENCY PLAN SECTION

Scope

This contingency plan establishes guidelines for all company employees and contract employees whose work activities may involve exposure to Hydrogen Sulfide gas (H₂S).

Objective

1. Prevent any and all accidents, and prevent the uncontrolled release of H₂S into the atmosphere.
2. Provide proper evacuation procedures to cope with emergencies.
3. Provide immediate and adequate medical attention should an injury occur.

Discussion of Plan

The Seven Rivers, Queen and Penrose formation are capable of producing H₂S, but not probable in this area. However monitoring of H₂S and readiness will be started at surface and continue to TD.

Implementation: This plan, with all details, is to be fully implemented before spudding the well.

Emergency Response Procedure: This section outlines the conditions and denotes steps to be taken in the event of an emergency.

Emergency Equipment and Procedure: This section outlines the safety and emergency equipment that will be required for the drilling of this well.

Training Provisions: This section outlines the training provisions that must be adhered to prior to drilling.

Emergency Call Lists: Included are the telephone numbers of all persons that would need to be contacted should an emergency exists.

Briefing: This section deals with the briefing of all people involved in the drilling operation.

Public Safety: Public Safety Personnel will be made aware of the drilling of this well.

CheckLists: Status Check Lists and Procedural Check Lists have been included to insure adherence to the plan.

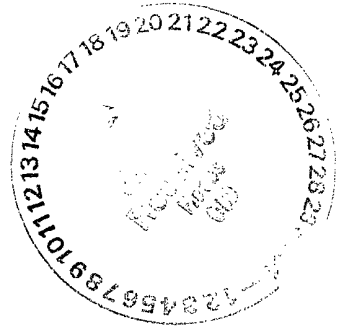
General Information: A general information section has been included to supply support information.



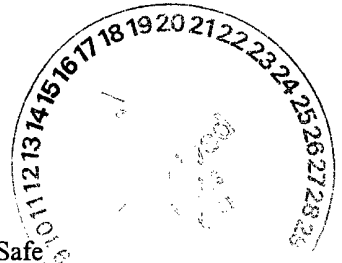
II. EMERGENCY PROCEDURES SECTION

Emergency Procedures

- I. In the event of any evidence of H₂S level above 10 ppm, take the following steps immediately:
 - A. Secure breathing apparatus.
 - B. Order non-essential personnel out of the danger zone.
 - C. Take steps to determine if the H₂S level can be corrected or suppressed, and if so, proceed with normal operations.
- II. If uncontrollable conditions occur, proceed with the following:
 - A. Take steps to protect and/or remove any public downwind of the rig including partial evacuation or isolation. Notify necessary public safety personnel and the NMOCD of the situation.
 - B. Remove all personnel to the Safe Briefing Area.
 - C. Notify public safety personnel for help with maintaining roadblocks and implementing evacuation.
 - D. Determine and proceed with the best possible plan to regain control of the well. Maintain tight security and safety procedures.
- III. Responsibility
 - A. The Company Approved Supervisor shall be responsible for the total implementation of the plan.
 - B. The Company Approved Supervisor shall be in complete command during any emergency.
 - C. The Company Approved Supervisor shall designate a back up Supervisor in the event that he/she is not available.



Emergency Procedure Implementation



I. Drilling or Tripping

A. All Personnel

1. When alarm sounds, don escape unit and report to upwind Safe Briefing Area.
2. Check status of other personnel (buddy system).
3. Secure breathing apparatus.
4. Await orders from Supervisor.

B. Drilling Foreman

1. Report to the upwind Safe Briefing Area.
2. Don Breathing Apparatus and return to the point of release with the Tool Pusher or Driller (buddy system).
3. Determine the concentration of H₂S.
4. Assess the situation and take appropriate control measures.

C. Tool Pusher

1. Report to the upwind Safe Briefing Area.
2. Don Breathing Apparatus and return to the point of release with the Drilling Foreman or Driller (buddy system).
3. Determine the concentration of H₂S.
4. Assess the situation and take appropriate control measures.

D. Driller

1. Don escape unit.
2. Check monitor for point of release.
3. Report to the Safe Briefing Area.
4. Check the status of other personnel (in a rescue attempt, always use the buddy system).
5. Assign the least essential person to notify the Drilling Foreman and Tool Pusher, in the event of their absence.
6. Assume the responsibility of the Drilling Foreman and Tool Pusher until they arrive, in the event of their absence.

E. Derrick Man

1. Remain in the Safe Briefing Area until otherwise instructed by Supervisor.

F. Mud Engineer

1. Report to Safe Briefing Area.
2. When instructed, begin check of mud for pH level and H₂S level.

G. Safety Personnel

1. Don appropriate breathing apparatus.

2. Check status of all personnel
3. Await instructions from Drilling Foreman or Tool Pusher.

II. Taking a Kick

- A. All personnel report to Safe Briefing Area.
- B. Follow standard BOP procedures.

III. Open Hole Logging

- A. All unnecessary personnel should leave the rig floor.
- B. Drilling Foreman and Safety personnel should monitor the conditions and make necessary safety equipment recommendations.

IV. Running Casing or Plugging

- A. Follow "Drilling or Tripping" procedures.
- B. Assure that all personnel have access to protective equipment.



Simulated Blowout Control Drills

All drills will be initiated by activating alarm devices (air horn). One long blast, on air horn, for ACTUAL and SIMULATED Blowout Control Drills. This operation will be performed by the Drilling Foreman or Tool Pusher at least one time per week for each of the following conditions, with each crew:

- | | |
|---------|---------------------|
| Drill 1 | Bottom Drilling |
| Drill 2 | Tripping Drill Pipe |

In each of these drills, the initial reaction time to shutting in the well shall be timed as well as the total time for the crew to complete its entire pit drill assignment. The times must be recorded on the IADC Driller's Log as "Blowout Control Drill".

Drill No.: _____
Reaction Time to Shut-In: _____ minutes, _____ seconds.
Total Time to Complete Assignment: _____ minutes, _____ seconds.

I. Drill Overviews

A. Drill No. 1--Bottom Drilling

1. Sound the alarm immediately.
2. Stop the rotary and hoist kelly joint above the rotary table.
3. Stop the circulatory pump.
4. Close drill pipe rams.
5. Record casing and drill pipe shut-in pressures and pit volume increases.

B. Drill No. 2--Tripping Drill Pipe

1. Sound the alarm immediately.
2. Position the upper tool joint just above the rotary table and set slips.
3. Install a full opening valve or inside blowout preventor tool in order to close the drill pipe.
4. Close the drill pipe rams.
5. Record the shut-in annular pressure.



II. Crew Assignments

A. Drill No. 1--Bottom Drilling

1. Driller
 - a. Stop the rotary and hoist kelly joint above the rotary table.
 - b. Stop the circulatory pump.
 - c. Check flow.
 - d. If flowing, sound the alarm immediately.
 - e. Record the shut-in drill pipe pressure.
 - f. Record all data reported by the crew.
 - g. Determine the mud weight increase needed or other courses of action.
2. Derrickman
 - a. Open choke line valve at BOP.
 - b. Signal Floor Man #1 at accumulator that choke line is open.
 - c. Close choke and upstream valve after pipe tams have been closed.
 - d. Read the shut-in annular pressure and report readings to Driller.
3. Floor Man #1
 - a. Close the pipe tams after receiving the signal from the Derrickman.
 - b. Report to Driller for further instructions.
4. Floor Man #2
 - a. Notify the Tool Pusher and Operator Representative of the H₂S alarms.
 - b. Check for open fires and, if safe to do so, extinguish them.
 - c. Stop all welding operations.
 - d. Turn-off all non-explosion proof lights and instruments.
 - e. Report to Driller for further instructions.
5. Tool Pusher
 - a. Report to the rig floor.
 - b. Have a meeting with all crews.
 - c. Compile and summarize all information.
 - d. Calculate the proper kill weight.
 - e. Ensure that proper well procedures are put into action.
6. Operator Representative
 - a. Notify the Drilling Superintendent.
 - b. Determine if an emergency exists and if so, activate the contingency plan.



B. Drill No.2--Tripping Pipe

1. Driller

- a. Sound the alarm immediately when mud volume increase has been detected.
- b. Position the upper tool joint just above the rotary table and set slips.
- c. Install a full opening valve or inside blowout preventor tool to close the drill pipe.
- d. Check flow.
- e. Record all data reported by the crew.
- f. Determine the course of action.

2. Derrickman

- a. Come down out of derrick.
- b. Notify Tool Pusher and Operator Representative
- c. Check for open fires and, if safe to do so, extinguish them.
- d. Stop all welding operations.
- e. Report to Driller for further instructions.

3. Floor Man #1

- a. Pick up full opening valve or inside blowout preventors and stab into tool joint above rotary table (with Floor Man #2).
- b. Tighten valve with back-up tongs.
- c. Close pipe rams after signal from Floor Man #2.
- d. Read accumulator pressure and check for possible high pressure fluid leaks in valves or piping.
- e. Report to Driller for further instructions.

4. Floor Man #2

- a. Pick-up full opening valve or inside blowout preventors and stab into tool joint above rotary table (with Floor Man #1).
- b. Position back-up tongs on drill pipe.
- c. Open choke line valve at BOP.
- d. Signal Floor Man #1 at accumulator that choke line is open.
- e. Close choke and upstream valve after pipe rams have been closed.
- f. Check for leaks on BOP stack and choke manifold.
- g. Read annular pressure.
- h. Report readings to the Driller.



5. Tool Pusher
 - a. Report to rig floor.
 - b. Have a meeting with all crews.
 - c. Compile and summarize all information.
 - d. Calculate proper kill weight.
 - e. See that proper well kill procedures are put into action.
6. Operator Representative
 - a. Notify Drilling Superintendent.
 - b. Determine if an emergency exists, and if so, activate the contingency plans.



III. IGNITION PROCEDURES SECTION

Responsibility

The decision to ignite the well is the responsibility of the DRILLING FOREMAN in concurrence with the STATE POLICE. In the event the Drilling Foreman is incapacitated, it becomes the responsibility of the RIG TOOL PUSHER. This decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope of controlling the blowout under the prevailing conditions.

If time permits, notify the main office, but do not delay if human life is in danger. Initiate the first phase of the evacuation plan.

Instructions for Igniting the Well

1. Two people are required for the actual igniting operation. Both men must wear self-contained breathing apparatus and attach a safety rope. One man must monitor the atmosphere for explosive gases with the Explosimeter, while the Drilling Foreman is responsible for igniting the well.
2. The primary method to ignite is a 25mm flare gun with a range of approximately 500 feet.
3. Ignite from upwind and do not approach any closer than is warranted.
4. Select the ignition site best suited for protection and which offers an easy escape route.
5. Before igniting, check for the presence of combustible gases.
6. After igniting, continue emergency actions and procedures as before.
7. All unassigned personnel will limit their actions to those directed by the Drilling Foreman.

NOTE: After the well is ignited, burning Hydrogen Sulfide will convert to Sulfur Dioxide, which is also highly toxic. Do not assume the area is safe after the well is ignited.



IV. TRAINING PROGRAM SECTION

Training Requirements

When working in an area where Hydrogen Sulfide gas (H_2S) might be encountered, definite training requirements must be carried out. The Company Supervisor will insure that all personnel, at the well site, have had adequate training in the following:

1. Hazards and characteristics of H_2S .
2. Physical effects of Hydrogen Sulfide on the human body.
3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.
4. H_2S detection.
5. Emergency rescue.
6. Resuscitators.
7. First aid and artificial resuscitation.
8. The effects of H_2S on metals.
9. Location safety.

Service company personnel and visiting personnel must be notified if the zone contains H_2S , and each service company must provide adequate training and equipment for their employees before they arrive at the well site.



V. EMERGENCY EQUIPMENT SECTION

Emergency Equipment Requirements

I. Signs

- A. Located at the location entrance with the following information:

(Lease)

CAUTION-POTENTIAL POISON GAS
HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

II. * Fresh air breathing equipment

- A. Air line units for all rig personnel on location.
B. Cascade system with hose lines to rig floor and one to the derrick man and other operation areas. Spare cascade (trailer) on location

III. Wind socks or wind streamers

- A. Two 10" windsocks located at strategic locations at a height visible from the rig floor.
B. Wind streamers (if preferred) to be placed at various locations on the well site to ensure wind consciousness at all times. (Corners of location).

IV. Hydrogen Sulfide detector and alarms.

- A. 1-four channel H₂S monitor with alarms.
B. 4 sensors located at floor, bell nipple, shale shaker, and pits
* C. Hand operated detectors with tubes.
* D. H₂S monitor tester.

V. Condition sign and flags

- A. One each of green, yellow, and red condition flags to be displayed to denote conditions:
GREEN--Normal Conditions
YELLOW--Potential Danger
RED--Danger, H₂S Present
B. The condition flag shall be posted at the location entrance

VI. * Auxiliary rescue equipment

- A. Stretcher
B. Two 100' lengths of 5/8" nylon rope.



VII. * Mud inspection devices

- A. Garrett Gas Train or Hach Tester for inspection of Hydrogen Sulfide concentration in the mud system.

VIII. Fire extinguishers

- A. Adequate fire extinguishers shall be located at strategic locations.

IX. Blowout prevention equipment

- A. The well shall have hydraulic BOP equipment for the anticipated BHP.
- B. Equipment must be tested upon installation.

X. * Combustible gas detectors

- A. There shall be one combustible gas detector on location at all times.

XI. BOP testing

- A. BOP, Choke Line and Kill Line will be tested as specified by operator.

XII. Audio system

- A. Radio communication shall be available at the rig.
- B. Radio communication shall be available at the rig floor or trailer.
- C. Radio communication shall be available on vehicles.

XIII. Special control equipment

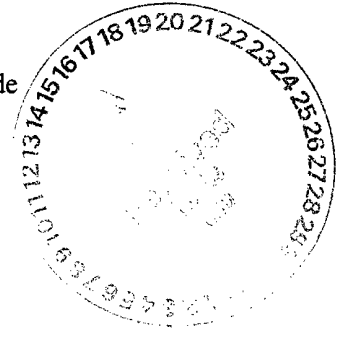
- A. Hydraulic BOP equipment with remote control on ground.
- B. Rotating head at surface casing point.

XIV. Evacuation Plan

- A. Evacuation routes should be established prior to spudding each well.
- B. Should be discussed with all rig personnel.

XV. Designated Areas

- A. Parking and visitor area.
 - 1. All vehicles are to be parked at a pre-determined safe distance from the wellhead.
 - 2. Designated smoking area.
- B. Safe Briefing Area
 - 1. Two Safe Briefing Areas shall be designated on either side of the location at the maximum allowable distance from the well bore so



they offset prevailing winds or they are at a 180 degree angle if wind directions tend to shift in the area.

2. Personal protective equipment should be stored in both protection centers or if a moveable trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both protection centers should be accessible.

- *Additional equipment will be available at Callaway Safety Midland, Texas.
- Additional personnel hydrogen sulfide monitors on location for all hands.
- Automatic flare igniter installed on rig



VI. CHECK LIST SECTION

Status Check List

Note: Date each item as they are implemented.

1. Sign at location entrance. _____
2. Two (2) wind socks (in required locations). _____
3. Wind streamers (if required). _____
4. 30 minute pressure demand air packs on location for all rig personnel and mud loggers. _____
5. Air packs, inspected and ready for use. _____
6. Spare bottles for each air pack (if required). _____
7. Cascade system and hose line hook up. _____
8. Cascade system for refilling air bottles. _____
9. Choke manifold hooked-up and tested.
(Before drilling out surface casing.) _____
10. Remote Hydraulic BOP control (hooked-up and tested before drilling out surface casing.) _____
11. BOP Preventor tested (before drilling out surface casing.) _____
12. Mud engineer on location with equipment to test mud for Hydrogen Sulfide. _____
13. Safe Briefing Areas set-up. _____
14. Condition sign and flags on location and ready. _____
15. Hydrogen Sulfide detection system hooked-up. _____
16. Hydrogen Sulfide alarm system hooked-up. _____
17. Stretcher on location at Safe Briefing Area. _____
18. 1-100' length of 5/8" nylon rope on location. _____
19. 1-20 # or 30# ABC fire extinguisher in safety _____



- trailer in addition to those on rig. _____
20. Combustible gas detector on location and tested. _____
21. All rig crews and supervisors trained (as required). _____
22. Access restricted for unauthorized personnel. _____
23. Drills on H₂S and well control procedures. _____
24. All outside service contractors advised of potential Hydrogen Sulfide on the well. _____
25. NO SMOKING sign posted. _____
26. Hand operated H₂S detector with tubes on location. _____
27. 25mm flare gun with flares. _____
28. Automatic Flare igniter installed on rig _____



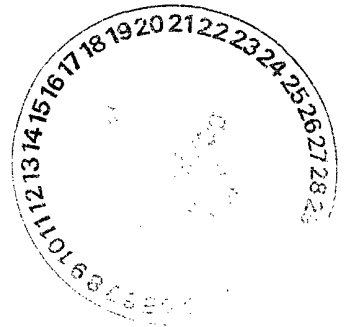
Procedural Check List

Perform the following on each tour:

1. Check fire extinguishers to see that they have the proper charge.
2. Check breathing equipment to insure that it has not been tampered with.
3. Check pressure on supply air bottles to see that they are capable of recharging.
4. Make sure all of the Hydrogen Sulfide detection systems are operative.

Perform the following each week:

1. Check each piece of breathing equipment to make sure that the demand regulator is working. This requires that the bottle be opened and the mask assembly be put on tight enough so that when you inhale, you get air.
2. Blowout preventor skills.
3. Check supply pressure on BOP accumulator stand-by source.
4. Check all work/escape units for operation: demand regulator, escape bottle air volumes, supply bottle of air volume.
5. Check breathing equipment mask assembly to see that straps are loosened and turned back, ready to put on.
6. Check pressure on breathing equipment air bottles to make sure they are charged to full volume.
7. Check breathing equipment air bottles to make sure all demand regulators are working. This requires that the bottles be opened and the mask assembly be put on tight enough so that when you inhale, you get air.
8. Confirm pressure on all supply air bottles.
9. Perform breathing equipment drills with on-site personnel.
10. Check the following supplies for availability:
 - a. Stretcher
 - b. Safety belts and ropes
 - c. Emergency telephone lists
 - d. Spare air bottles
 - e. Spare oxygen bottles (if resuscitator required)
 - f. Hand operated H₂S detectors and tubes
11. Test the Explosimeter to verify batteries are good.



VII. BRIEFING PROCEDURES SECTION

Briefing Procedures

The following scheduled briefings will be held to ensure the effective drilling and operation of this project:

Pre-Spud Meeting

Date: Prior to spudding the well.

Attendance: Drilling Supervisor
Drilling Engineer
Drilling Foreman
Rig Pushers
Rig Driller
Mud Engineer
All Safety Personnel
Service Companies

Purpose: Review and discuss the well program, step-by-step, to insure complete understanding of assignments and responsibilities.



VIII. EVACUATION PLAN SECTION

General Plan

The direct lines of action prepared by CALLAWAY SAFETY EQUIPMENT CO., INC. to protect the public from hazardous gas situations are as follows:

1. When the company approved supervisor (Drilling Foreman, Tool Pusher, Driller) determine Hydrogen Sulfide gas cannot be limited to the well location, and the public will be involved, he will activate the evacuation plan. Escape routes are noted on the Area Map.
2. Company safety personnel or designee will notify the appropriate local government agency that a hazardous condition exists and evacuation needs to be implemented.
3. Company approved safety personnel that have been trained in the use of Hydrogen Sulfide detection equipment and self-contained breathing equipment will be utilized.
4. Law enforcement personnel (State Police, Local Police Department, Fire Department, and the Sheriff's Department) will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

NOTE: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

5. After the discharge of gas has been controlled, "Company" safety personnel will determine when the area is safe for re-entry.

See Emergency Reaction Plan



Emergency Assistance Telephone List

PUBLIC SAFETY:

911 or

Lea Co. Sheriff	(505) 393-2515
Fire Department	(505) 392-7469
Ambulatory Service (Hobbs)	(505) 492-5000

Prior to starting project – Verify 911

Life Flight:	
Arrow Care-Lubbock	(806) 744-5055
Southwest Air-Med E Vac.	(800) 242-6199
Location Elev. 3697'	
Lat: 32.629311° N	
Long: 104.565829° W	
New Mexico D.O.T.	(505) 827-5100
Bureau of Land Management	(505) 393-3612
U. S. Dept. of Labor	(505) 248-5302
New Mexico OCD	(505) 393-6161
New Mexico OCD/After Hours	(505) 370-7106

Chesapeake

Hobbs Office	Office (505) 391-1462
Drilling Superintendent	
Nick Newland	Office (432) 687-2992
	Cell (432) 556-3120
Drilling Engineer	
Casey McDonough	Office (405) 767-4778
	Cell (405) 606-1482

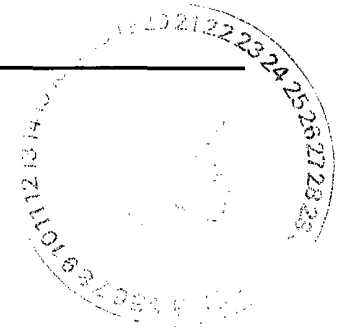
Drilling Company (Not Known as of 6/12/06)

Rig#

Toolpusher

Callaway Safety Equipment

Odessa	Office (432) 561-5049
Hobbs	Office (877) 422-6345



Affected Public Notification List
(within a 24' radius of exposure at 100ppm)

Certain geologic zones will be encountered during drilling that may possibly contain hazardous quantities of H₂S. The well is located in an area with no residents and/or public roadways. ROE calculations show that H₂S will affect the immediate area (location). Therefore, the plan is to carefully monitor hazards associated with H₂S as previously mentioned in this document.

Should these conditions change prior to starting the project; the residents within the affected radius will be notified via a hand delivered written notice describing the activities, potential hazards, conditions of evacuation, evacuation drill siren alarms, and other precautionary measures.

Evacuee Description:

Residents and/or

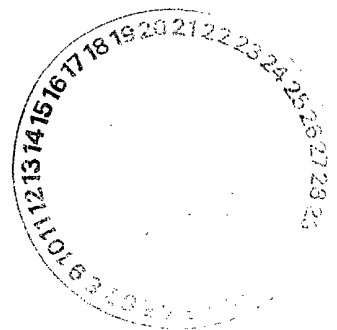
Notification Process:

A continuous siren audible to all residence will be activated, signaling evacuation of previously notified and informed residents.

Evacuation Plan:

All evacuees will migrate lateral to the wind direction.

Chesapeake will identify all home bound or highly susceptible individuals and make special evacuation preparations, interfacing with the local fire and emergency medical service as necessary.



X. GENERAL INFORMATION SECTION

Sun Pearl 28 Federal #7
Chesapeake Drilling
H2S

Radius of Exposure Calculations
Expected H2S ROE that could be encountered while drilling.

Example: 100 PPM ROE = $0.001589 \times 250 \text{ PPM} \times 275 \text{ MCF}^{0.6258}$ =
Example: 500 PPM ROE = $0.0004546 \times 250 \text{ PPM} \times 275 \text{ MCF}^{0.6258}$ =

Denotes input data

Enter H2S Concentration: PPM

Enter Max. Escape Volume: MCF/D

100 PPM Radius of Exposure: Feet

500 PPM Radius of Exposure: Feet

H2S in lbs/day: lb./day

H2S in lbs/hr: lb./hr

SO2 in lbs/hr: lb./hr

SO2 in 2000-lb tons/day: tons/day

SO2 in 2000-lb tons/yr: tons/yr

These radius of exposures are possible only if the well bore is evacuated of fluid
and there is an uncontrolled release of gas at the surface!!!!!!

Calculations generated from production test of offset wells.



Toxic Effects of Hydrogen Sulfide Poisoning

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 20 ppm, which is .002% by volume. Hydrogen Sulfide is heavier than air (specific gravity-1.192) and colorless. It forms an explosive mixture with air between 4.3 and 46.0 percent by volume. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is between five and six times more toxic than Carbon Monoxide. Toxicity data for Hydrogen Sulfide and various other gases are compared below in Table I. Physical effects at various Hydrogen Sulfide levels are shown in Table II.

Table I
Toxicity of Various Gases

Common Name	Chemical Formula	Specific Gravity	Threshold Limit (A)	Hazardous Limit (B)	Lethal Concentration C)
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H ₂ S	1.18	10 ppm (D) 20 ppm (E)	250 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21	5 ppm		1000 ppm
Chlorine	CL ₂	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO ₂	1.52	5000 ppm	5%	10%
Methane	CH ₄	0.55	90,000 ppm	(9%)	Combustible above 5% in air

-
- A. Threshold Limit--Concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.
- B. Hazardous Limit--Concentration that may cause death.
- C. Lethal Concentration--Concentration that will cause death with short-term exposure.
- D. Threshold Limit--10 ppm, 1972 ACGIH (American Conference of Governmental industrial Hygienists)
- E. Threshold Limit--20 ppm, 1966 ANSI acceptable ceiling concentration for eight-hour exposure (based on 40-hour week) is 20 ppm. OSHA Rules and Regulations (Federal Register, Volume 37, No. 202, Part II, dated 10/18/72).

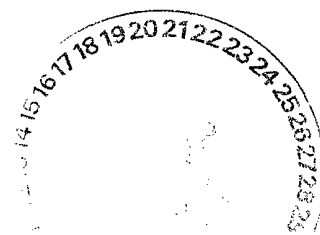


Table II

Physical Effects of Hydrogen Sulfide

Percent %	ppm	Physical Effects
0.001	10	Obvious and unpleasant odor.
0.002	20	Safe for 8 hrs. exposure
0.01	100	Kills smell in 3 to 5 minutes; may sting eyes and throat.
0.02	200	Kills smell shortly; stings eyes and throat.
0.03	300	IDLH (Immediately Dangerous to Life & Health) Level
0.05	500	Dizziness; breathing ceases in a few minutes
0.07	700	Unconscious quickly; death will result if not rescued.
0.10	1000	Unconscious at once; followed by death within minutes.

*Caution: Hydrogen Sulfide is a colorless and transparent gas and is highly flammable. It is heavier than air and may accumulate in low places.



Use of Self-Contained Breathing Apparatus

- I. Written procedures shall be prepared covering safe use of respirators in dangerous atmospheric situations which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.
- II. Respirators shall be inspected frequently, at random, to insure that they are properly used, cleaned, and maintained.
- III. Anyone who may use respirators shall be trained in how to properly seal the face piece. They shall wear respirators in normal air and then in a test atmosphere. (Note: Such items as facial hair (beard or sideburns) and eyeglass temple pieces will not allow a proper seal.) Anyone that may be expected to wear respirators should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses. Contact lenses should not be allowed.
- IV. Maintenance and care of respirators
 - A. A program of maintenance and care of respirators shall include the following:
 1. Inspection for defects, including leak checks.
 2. Cleaning and disinfecting.
 3. Repair.
 4. Storage.
 - B. Inspection: Self-Contained Breathing Apparatus for emergency use shall be inspected monthly, and records maintained, for the following:
 1. Fully charged cylinders.
 2. Regulator and warning device operation.
 3. Condition of face piece and connection.
 4. Elastomer or rubber parts shall be stretched or massaged to keep them pliable and prevent deterioration.
 - C. Routinely used respirators shall be collected, cleaned, and disinfected as frequently as necessary to insure proper protection is provided.
- V. Persons assigned tasks that require the use of Self-Contained Breathing Equipment shall be certified physically fit for breathing equipment usage by the local company physician at least annually.
- VI. Respirators should be worn during the following conditions:
 - A. Any employee who works near the top or on the top of any tank unless tests reveal less than 20 ppm of H₂S.
 - B. When breaking out any line where H₂S can reasonably be expected.
 - C. When sampling air in areas to determine if toxic concentrations of H₂S exist.
 - D. When working in areas where over 20 ppm H₂S has been detected.
 - E. At any time where there is a doubt as to the H₂S level in the area to be entered.



Rescue-First Aid for Hydrogen Sulfide Poisoning

Do Not Panic!!!

Remain Calm--THINK

1. Hold your breath (Do not inhale; stop breathing.) and go to Briefing area.
2. Put on breathing apparatus.
3. Remove victim(s) to fresh air as quickly as possible. (Go upwind from the source or at right angles to the wind; NOT downwind.)
4. Briefly apply chest pressure--arm lift method of artificial respiration to clear the victim's lungs and to avoid inhaling any toxic gas directly from the victim's lungs
5. Provide for prompt transportation to the hospital, and continue giving artificial respiration if needed.
6. Hospital(s) or medical facilities need to be informed, beforehand, of the possibility of H₂S gas poisoning, no matter how remote the possibility.
7. Notify emergency room personnel that the victim(s) have been exposed to H₂S gas.

Besides basic first aid, everyone on location should have a good working knowledge of artificial respiration, as well as first aid for eyes and skin contact with liquid H₂S. Everyone needs to master these necessary skills.



SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name: Chesapeake Operating, INC. Well Name & #: Sun Pearl 28 Federal # 7
Location: 1980' F S L & 2310' F W L Sec. 28, T. 19 S., R. 34 E.
Lease: NMNM-56263 County: Lea State: New Mexico

The Special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CRF 3165.3 AND 3165.4.

This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.

I. SPECIAL ENVIRONMENT REQUIREMENTS

- (X) Lesser Prairie Chicken (stips attached) () Flood plain (stips attached)
() San Simon Swale (stips attached) () Other

II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

(X) The BLM will monitor construction of this drill site. Notify the (X) Carlsbad Field Office at (505) 234-5972 () Hobbs Office (505) 393-3612, at least 3 working days prior to commencing construction.

(X) Roads and the drill pad for this well must be surfaced with 6 inches of compacted caliche.

() All topsoil and vegetation encountered during the construction of the drill site area will be stockpiled and made available for resurfacing of the disturbed area after completion of the drilling operation. Topsoil on the subject location is approximately _____ inches in depth. Approximately _____ cubic yards of topsoil material will be stockpiled for reclamation.

(X) Other: **Closed Loop Pit system (Steel tanks only)**

III. WELL COMPLETION REQUIREMENTS

() A Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.

(X) Surface Restoration: If the well is a producer, the cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at depth of 1/2 inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre. Seeding should be done either late in the fall (September 15 - November 15, before freeze up, or early as possible the following spring to take advantage of available ground moisture. **See attached seed mixture.**

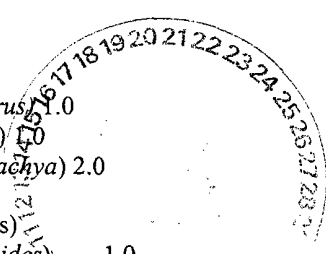
- () A. Seed Mixture 1 (Loamy Sites)
Side Oats Grama (*Bouteloua curtipendula*) 5.0
Sand Dropseed (*Sporobolus cryptandrus*) 1.0

- () B. Seed Mixture 2 (Sandy Sites)
Sand Dropseed (*Sporobolus crptandrus*) 1.0
Sand Lovegrass (*Eragrostis trichodes*) 1.0
Plains Bristlegrass (*Setaria magrostachya*) 2.0

- () C. Seed Mixture 3 (Shallow Sites)
Side oats Grama (*Boute curtipendula*) 1.0

- () D. Seed Mixture 4 (Gypsum Sites)
Alkali Sacaton (*Sporobollud airoides*) 1.0
Four-Wing Saltbush (*Atriplex canescens*) 5.0

(x) OTHER Lesser Prairie Chicken Seed Mix

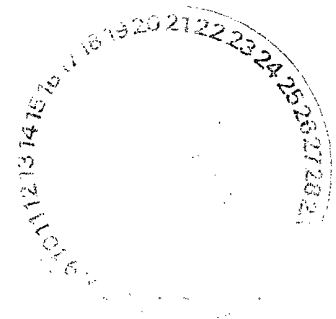


CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to process by BLM.

TRASH PIT STIPS

All trash, junk, and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.



Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
May 27, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO.
30-025-37974
5. Indicate Type of Lease
STATE ☐ FEE ☐
6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH
PROPOSALS.)

7. Lease Name or Unit Agreement Name
Sun Pearl ~~26~~ Federal

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

8. Well Number 7

2. Name of Operator
Chesapeake Operating Inc.

9. OGRID Number 147179

3. Address of Operator P. O. Box 11050
Midland, TX 79702-8050

10. Pool name or Wildcat
Pearl; Queen 49780

4. Well Location
Unit Letter K : 1980 feet from the South line and 2310 feet from the West line
Section 28 Township 19S Range 34E NMPM County Lea

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3697 GR

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type Depth to Groundwater 60 Distance from nearest fresh water well 100+ Distance from nearest surface water 1000+

Pit Liner Thickness: mil Below-Grade Tank: Volume bbls; Construction Material

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: Pit Approval

☒

OTHER:

☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

WE WILL BE USING A CLOSED LOOP SYSTEM FOR THIS WELL.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Brenda Coffman TITLE Regulatory Analyst DATE 06/21/2006

Type or print name Brenda Coffman
For State Use Only

E-mail address: bcoffman@chkenergy.com Telephone No. (432)687-2992

APPROVED BY: [Signature] TITLE
Conditions of Approval (if any):

PETROLEUM ENGINEER

DATE JUN 27 2006

 The sender of this message has requested a read receipt. [Click here to send a receipt.](#)

Mull, Donna, EMNRD

From: Phillips, Dorothy, EMNRD
To: Mull, Donna, EMNRD
Cc:
Subject: RE: Financial Assurance Requirement
Attachments:

Sent: Tue 6/27/2006 8:07 AM

These do not appear on Jane's list and all have blankets.

From: Mull, Donna, EMNRD
Sent: Tuesday, June 27, 2006 8:03 AM
To: Phillips, Dorothy, EMNRD
Cc: Macquesten, Gail, EMNRD; Sanchez, Daniel J., EMNRD
Subject: Financial Assurance Requirement

Dorothy,

Is the Financial Assurance Requirement for these Operators OK?

Strata Production Co (21712)
ConocoPhillips Co (217817)
Chesapeake Operating Inc (147179)
Platinum Exploration Inc (227103)
COG Operating LLC (229137)
Pogo Producing Co (17891)

I have checked each Operator in the Inactive well list.

Please let me know. Thanks and have a nice day. Donna