

3/13/06

Form 3160-3
(April 2004)**CONFIDENTIAL**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. NMLC 071949	
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. (35730) KELLER 27 FEDERAL 1	
3b. Phone No. (include area code) 405-767-4275		9. API Well No. 30. 025-37905	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1767' 4967 FSL 658 FWL, NWSW Unit L At proposed prod. zone SAME 460' per attached SN dated 3/27/06		10. Field and Pool, or Exploratory Antelope Ridge Delaware East	
11. Sec., T. R. M. or Blk. and Survey or Area 27-23S-34E		12. County or Parish LEA	
13. State NM		14. Distance in miles and direction from nearest town or post office* APPROX. 20 MILES NW OF JAL, NM.	
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 320	
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 8800		20. BLM/BIA Bond No. on file NM2634	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3440 GR 3452 KB		22. Approximate date work will start*	
23. Estimated duration		24. Attachments Caption 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:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name (Printed/Typed) HENRY HOOD	Date 3/1/06
Title SR. VICE PRESIDENT - LAND & LEGAL		

Approved by (Signature) /s/ Tony J. Herrell	Name (Printed/Typed) /s/ Tony J. Herrell	Date MAY 19 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**

Confidential – Tight Hole
Lease No. NMLC 071949

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.



OCD-HOBBS

Form 3160-5
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator **CHESAPEAKE OPERATING, INC. ATTN: LINDA GOOD**3a. Address
P.O. BOX 18496, OKLAHOMA CITY, OK 73154-04963b. Phone No. (include area code)
405-767-42754. Location of Well (Footage, Sec., T., R., M., or Survey Description)
NWSW 1767 FSL 660 FWL SEC 27-23S-34E

5. Lease Serial No.

NMLC 071949

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

KELLER 27 FEDERAL 1

9. API Well No.

10. Field and Pool, or Exploratory Area

BELL LAKE; DELAWARE, EAST

11. County or Parish, State

LEA COUNTY, NM

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

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

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

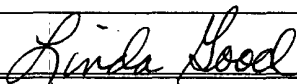
Proposed location changed per the BLM from 1967 FSL 658 FWL TO 1767 FSL 660 FWL. Please find the new plats attached.

BLM NATIONWIDE BOND #NM2634.**(CHK PN 819029)**

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

LINDA GOODTitle **PERMITTING AGENT**

Signature



Date

03/27/2006**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**Approved by **/s/ Tony J. Herrell****FIELD MANAGER**

Date

MAY 19 2006

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 FIELD OFFICE

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)

DISTRICT I
1625 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

State of New Mexico

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
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-37905	Pool Code 96322	Pool Name Bell Lake; Delaware, East
Property Code 35730	Property Name KELLER 27 FEDERAL	Well Number 1
OGRID No. 147179	Operator Name CHESAPEAKE OPERATING, INC.	Elevation 3472'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	27	23-S	34-E		1767	SOUTH	660	WEST	LEA

Bottom Hole Location If Different From Surface

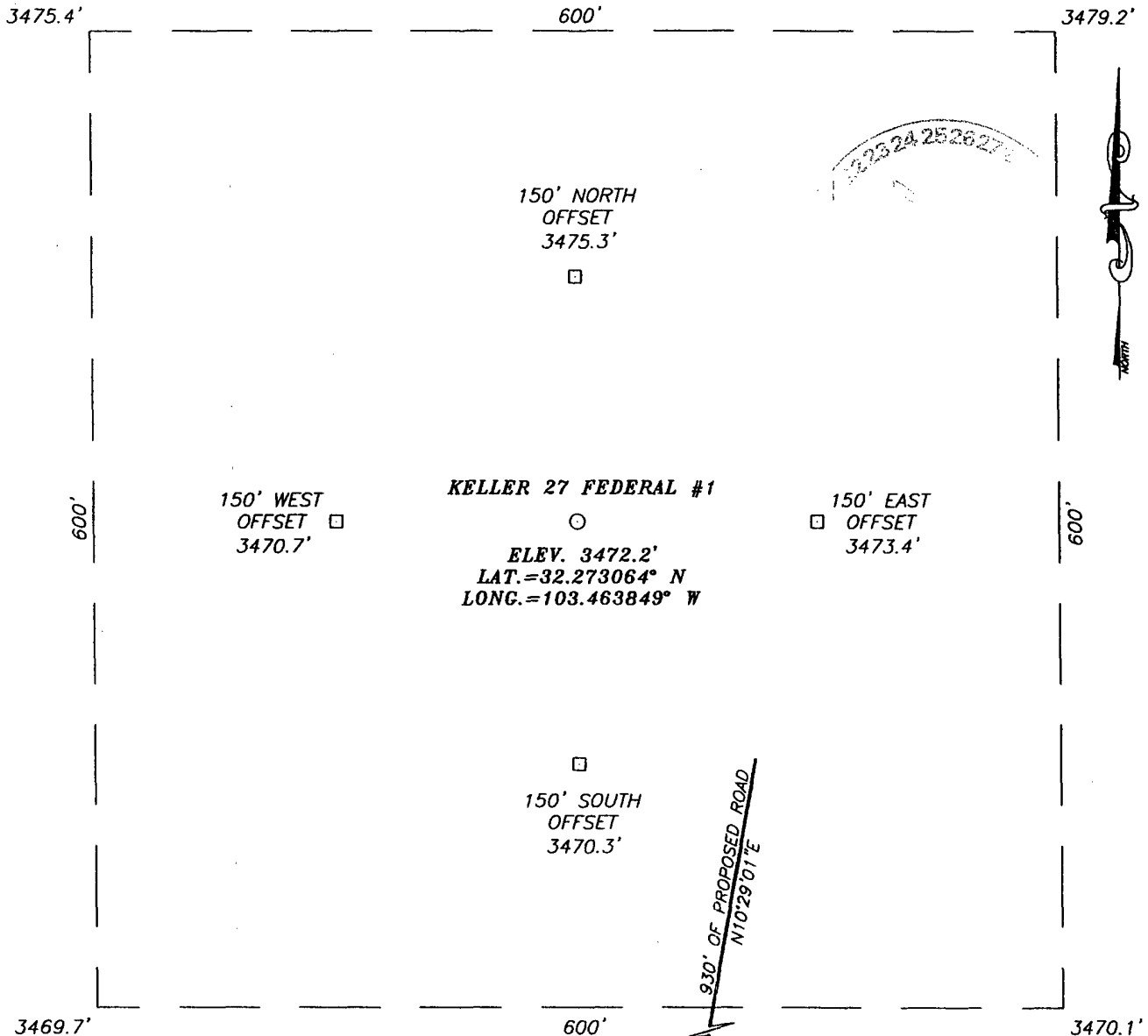
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
40									
Dedicated Acres		Joint or Infill		Consolidation Code		Order No.			

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

<p>GEODETIC COORDINATES NAD 27 NME Y=464147.3 N X=768738.0 E LAT.=32.273064° N LONG.=103.463849° W</p>				<p>OPERATOR CERTIFICATION</p> <p>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.</p> <p>Kathy F. Blick 3/27/06 Signature Date Kathy F. Blick Printed Name</p>	
<p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>MARCH 16, 2006</p> <p>Date Surveyed JR Signature & Seal of Professional Surveyor GARY EIDSON 3/21/06 06.11.0499 Certificate No. GARY EIDSON 12841</p>					

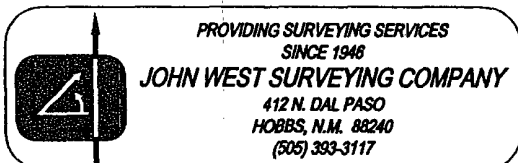
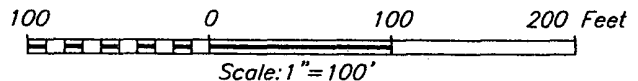
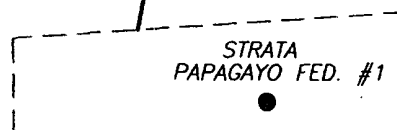
EXHIBIT A-1

SECTION 27, TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M.,
 LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. E-21 (DELAWARE BASIN RD.) AND ANTELOPE RD., GO SOUTH ON ANTELOPE RD. APPROX. 4.0 MILES. TURN LEFT (EAST) AND GO APPROX. 0.45 MILES. TURN LEFT (NORTH) AND GO APPROX. 0.1 MILES TO THE STRATA PAPAGAYA FED. #1 AND TO A PROPOSED ROAD SURVEY. FOLLOW PROPOSED ROAD SURVEY NORTH APPROX. 0.2 MILES TO THIS LOCATION.



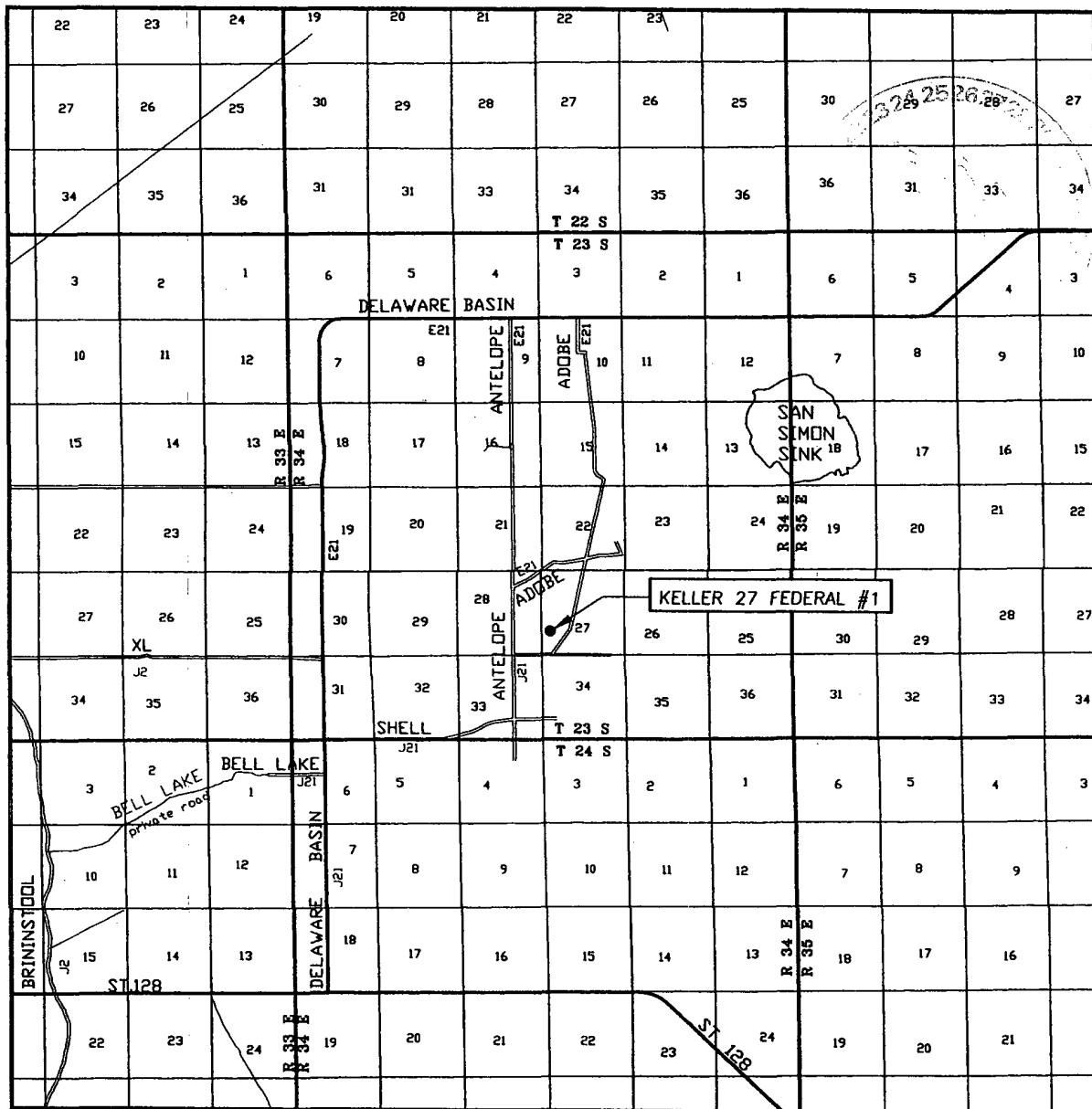
CHESAPEAKE OPERATING, INC.

KELLER 27 FEDERAL #1 WELL
 LOCATED 1767 FEET FROM THE SOUTH LINE
 AND 660 FEET FROM THE WEST LINE OF SECTION 27,
 TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M.,
 LEA COUNTY, NEW MEXICO.

Survey Date: 3/16/06	Sheet 1 of 1 Sheets
W.O. Number: 06.11.0499	Dr By: J.R.
Date: 3/20/06	Rev 1: 3/15/06
Disk: CD#6	06110499
	Scale: 1"=100'

EXHIBIT A-2

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 27 TWP. 23-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 1767' FSL & 660' FWL

ELEVATION 3472'

OPERATOR CHESAPEAKE OPERATING, INC.

LEASE KELLER 27 FEDERAL

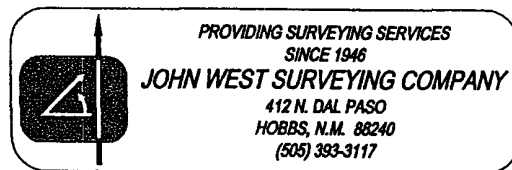
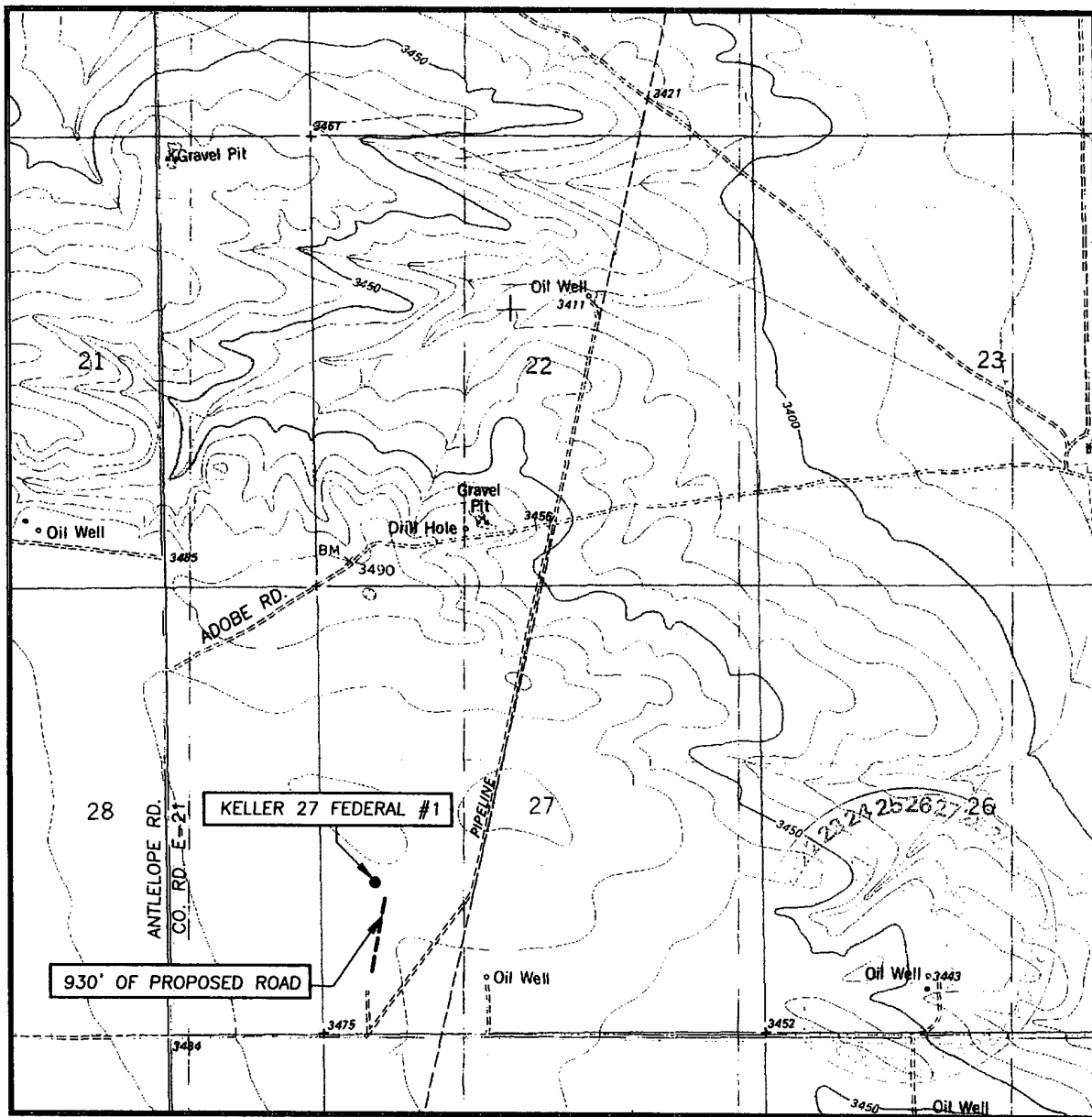


EXHIBIT A-3

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
SAN SIMON SINK, N.M. - 10'

SEC. 27 TWP. 23-S RGE. 34-E

SURVEY _____ N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 1767' FSL & 660' FWL

ELEVATION 3472'

OPERATOR CHESAPEAKE OPERATING, INC.

LEASE KELLER 27 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
SAN SIMON SINK, N.M.

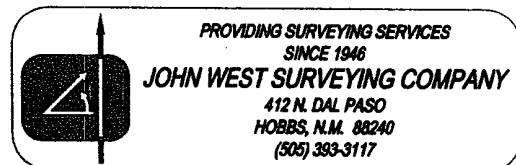


EXHIBIT A-4



Linda Good
Permitting Agent

May 4, 2006

VIA FACSIMILE (505) 234-5927

Mr. Cody Layton
United States Department of the Interior
Bureau of Land Management
Carlsbad Field Office
620 E. Greene Street
Carlsbad, NM 88220-6292

Re: Pit Dimensions

Dear Cody:

Chesapeake Operating, Inc. proposes to use a modified loop system for the wells below. There will be a pit 130' long x 10' wide x 10' deep to be used for cuttings only.

Keller 22 Federal 1
Keller 27 Federal 1, 2 & 3
Lotus C Federal 907
Lotus 10 Federal 6

We propose that the in-ground pit dimensions for the wells below will be 130' long x 15' wide x 10' deep.

Livestock Federal 3-9, Lea County
Sun Pearl 28 Federal 7, Lea County

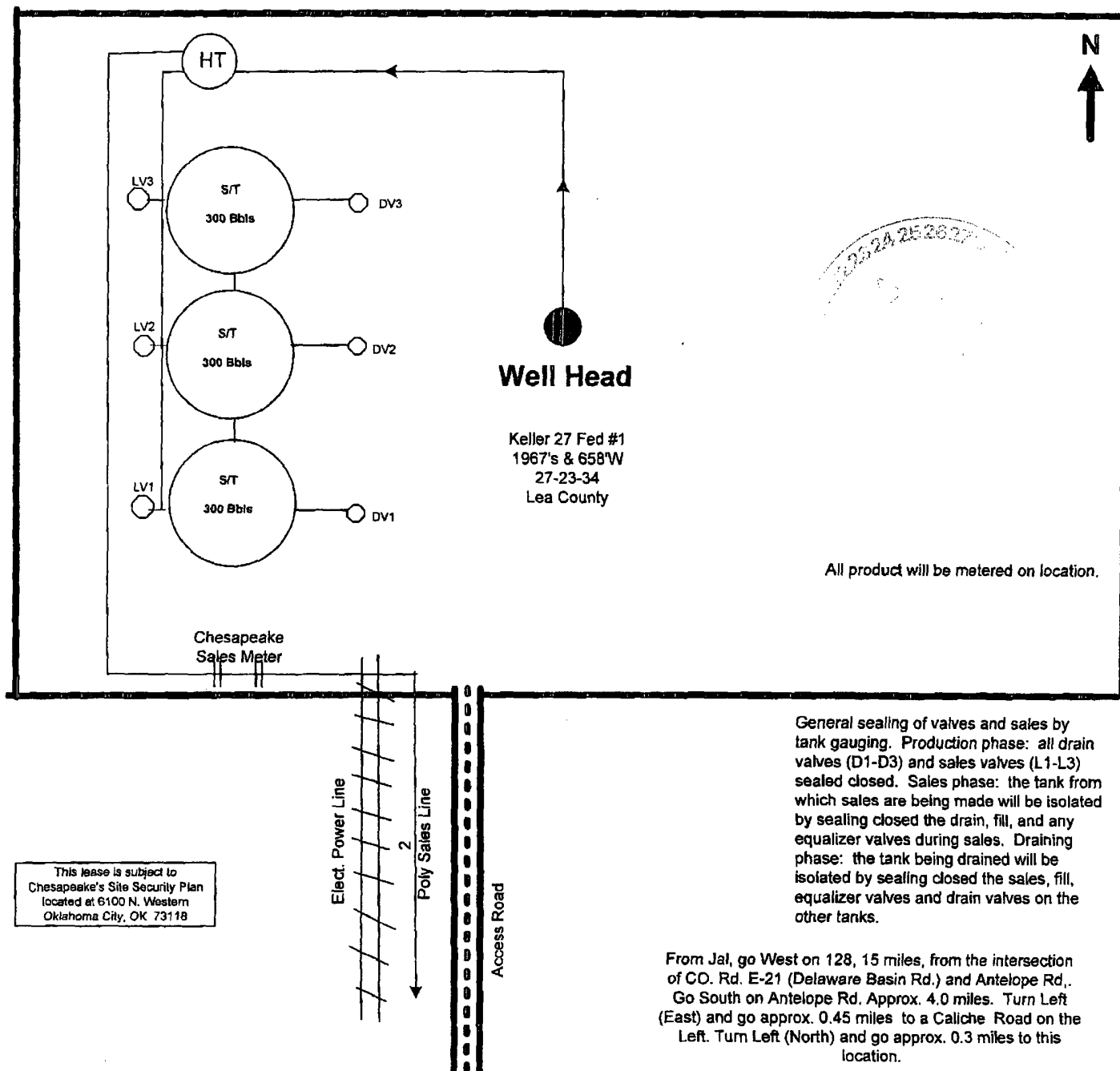
If you have any further questions, please contact me at 405-767-4275.

Sincerely,

CHESAPEAKE OPERATING, INC.

A handwritten signature in cursive script that reads "Linda Good".

Linda Good
Federal Regulatory

CHESAPEAKE OPERATING, INC.**KELLER 27 FEDERAL 1****27-23S-34E****LEA COUNTY, NM****KELLER 27 FEDERAL #1 819029**

Prepared by: **DEBBIE HERNANDEZ**
 Date: **2-22-2006**

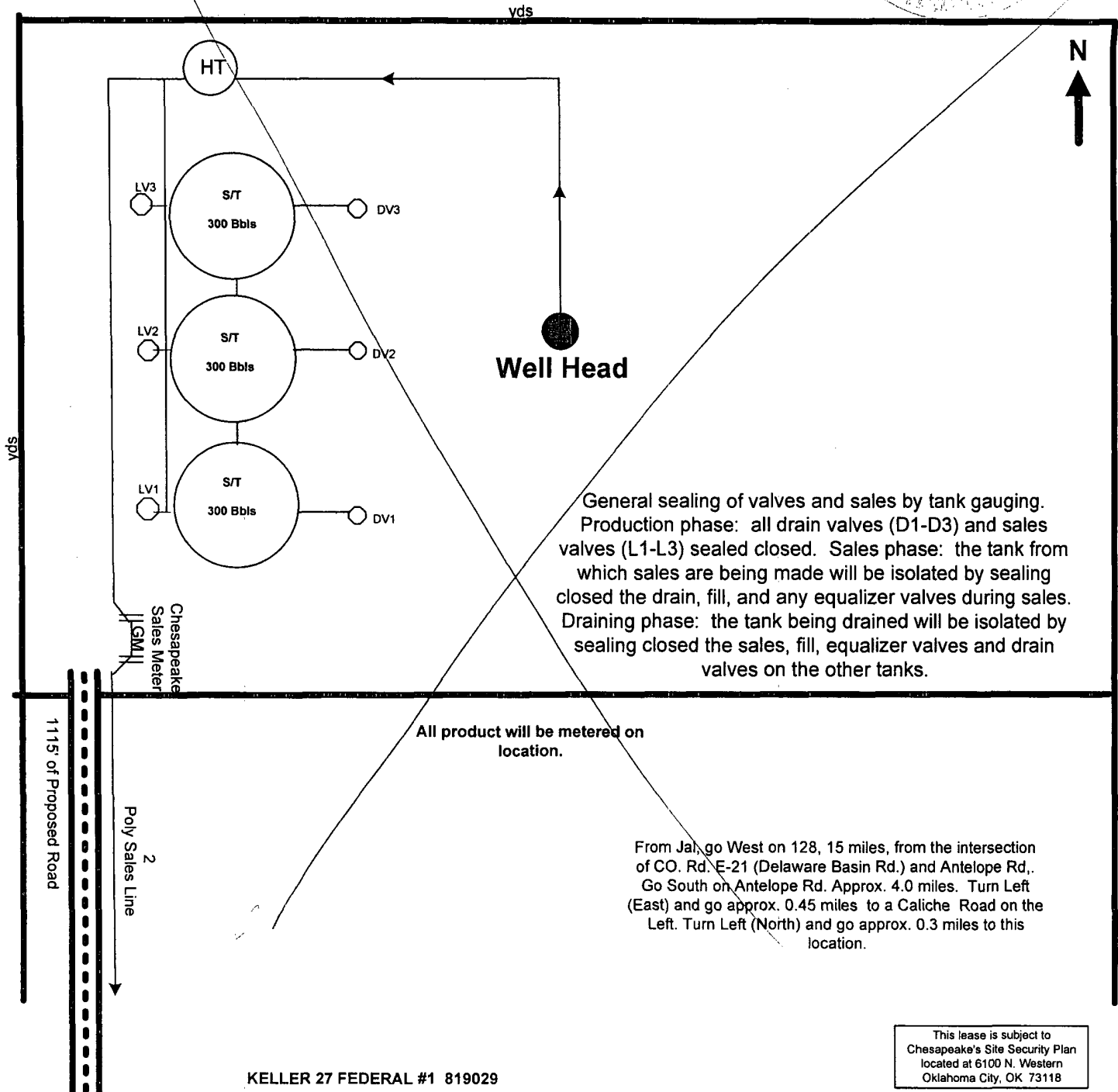
Approved by:
 Date:

EXHIBIT C

CHESAPEAKE OPERATING, INC.

KELLER 27 FEDERAL 1 27-23S-34E LEA COUNTY, NM

2024 25 26 27



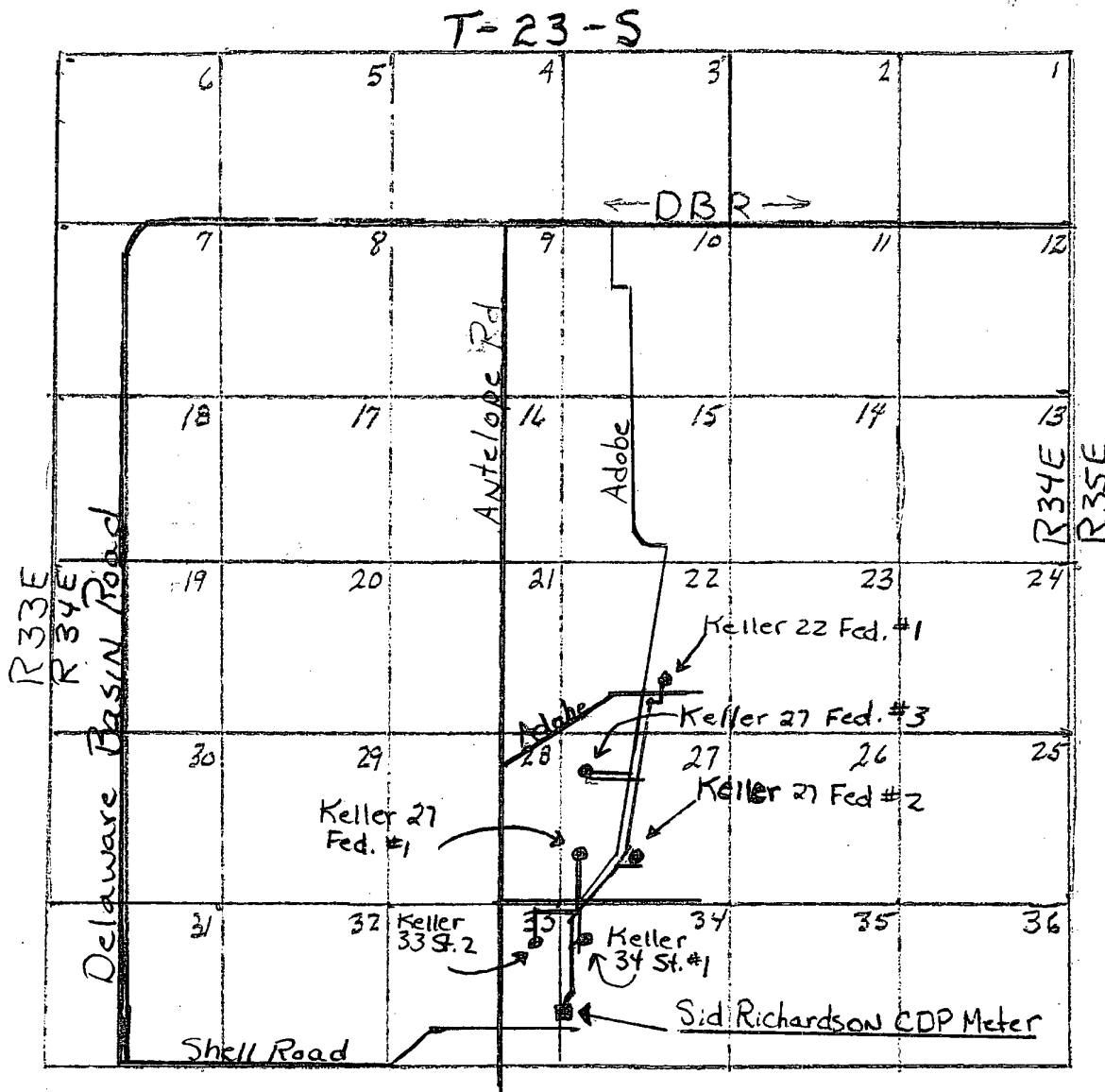
KELLER 27 FEDERAL #1 819029

Prepared by: DEBBIE HERNANDEZ
Date: 2-22-2006

Approved by:
Date:

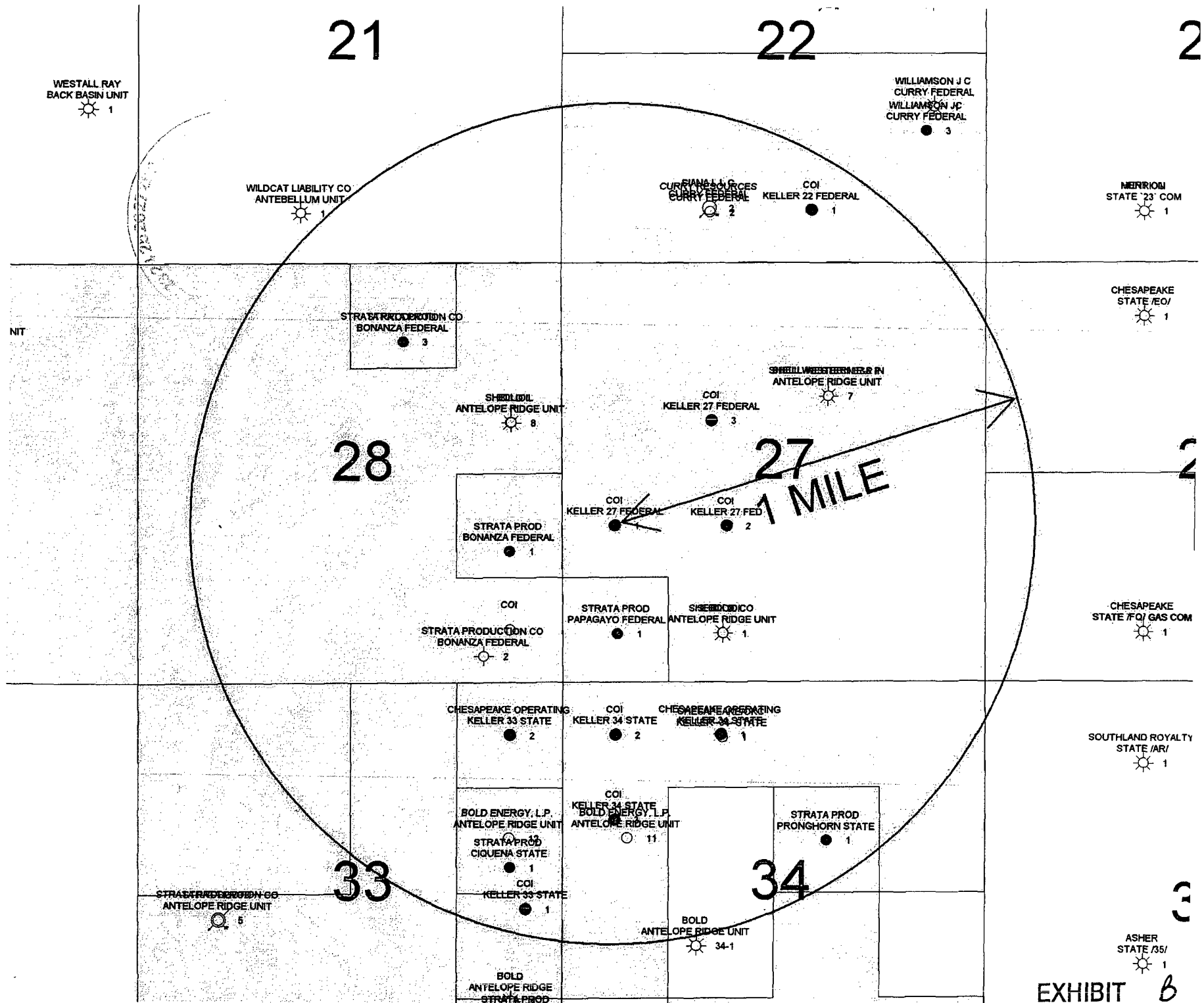
EXHIBIT C

Chesapeake Keller Gas Flow Lines

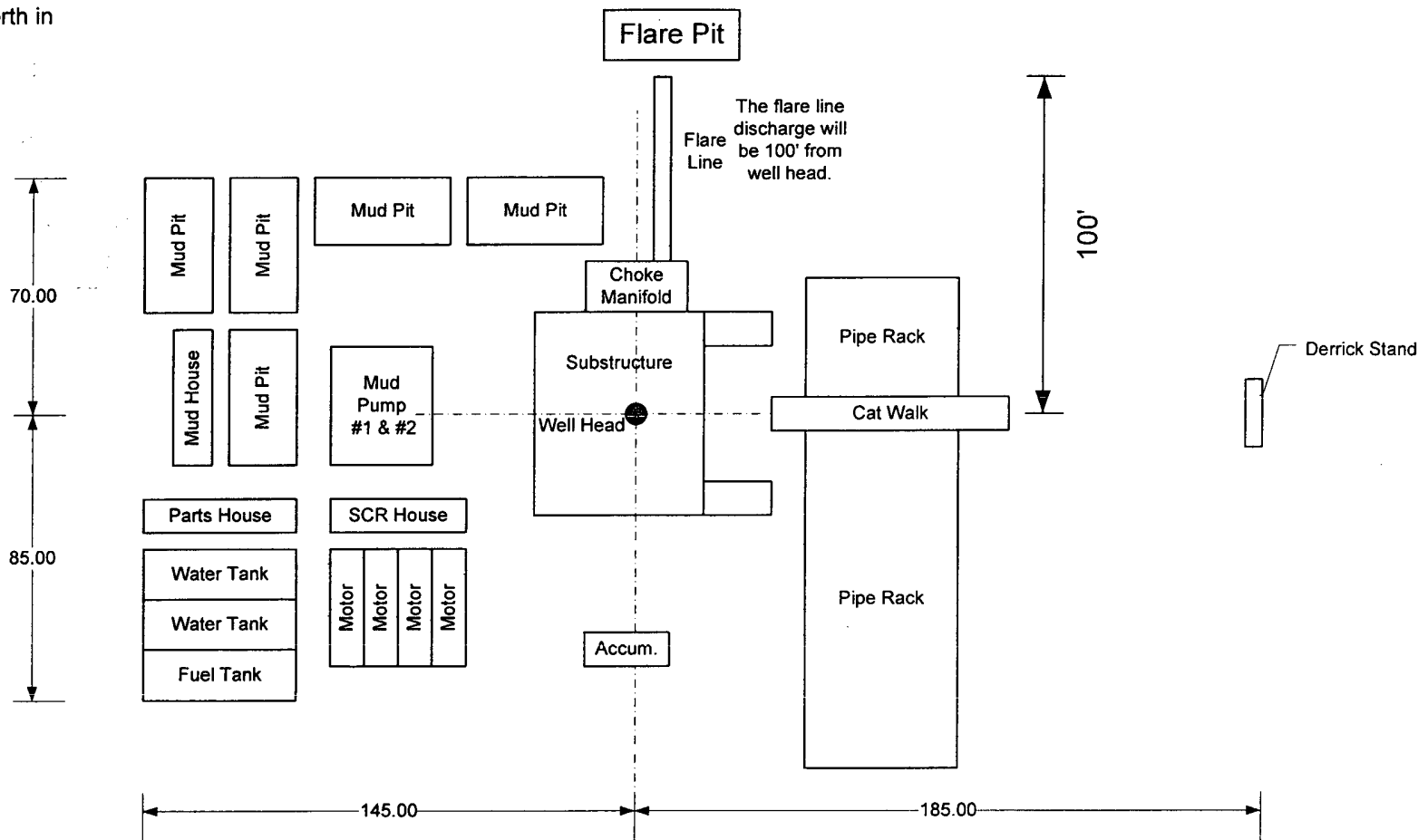
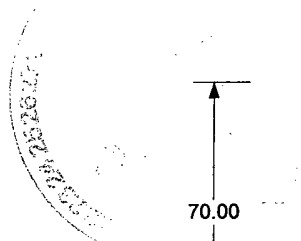


Cody the Keller 33 St. #2 production line will go over to the Keller 34 St. #1. All other wells will have their own separate batteries.

Chesapeake will measure the gas at each battery and deliver the gas to Sid Richardson/Southern Union at location marked above.



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



Chesapeake Operating, Inc			
General Rig Layout			
SIZE	FSCM NO	DWG NO	REV
SCALE	Not to Scale	SHEET	1 OF 1

EXHIBIT

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

WELL : KELLER 27 FEDERAL 1

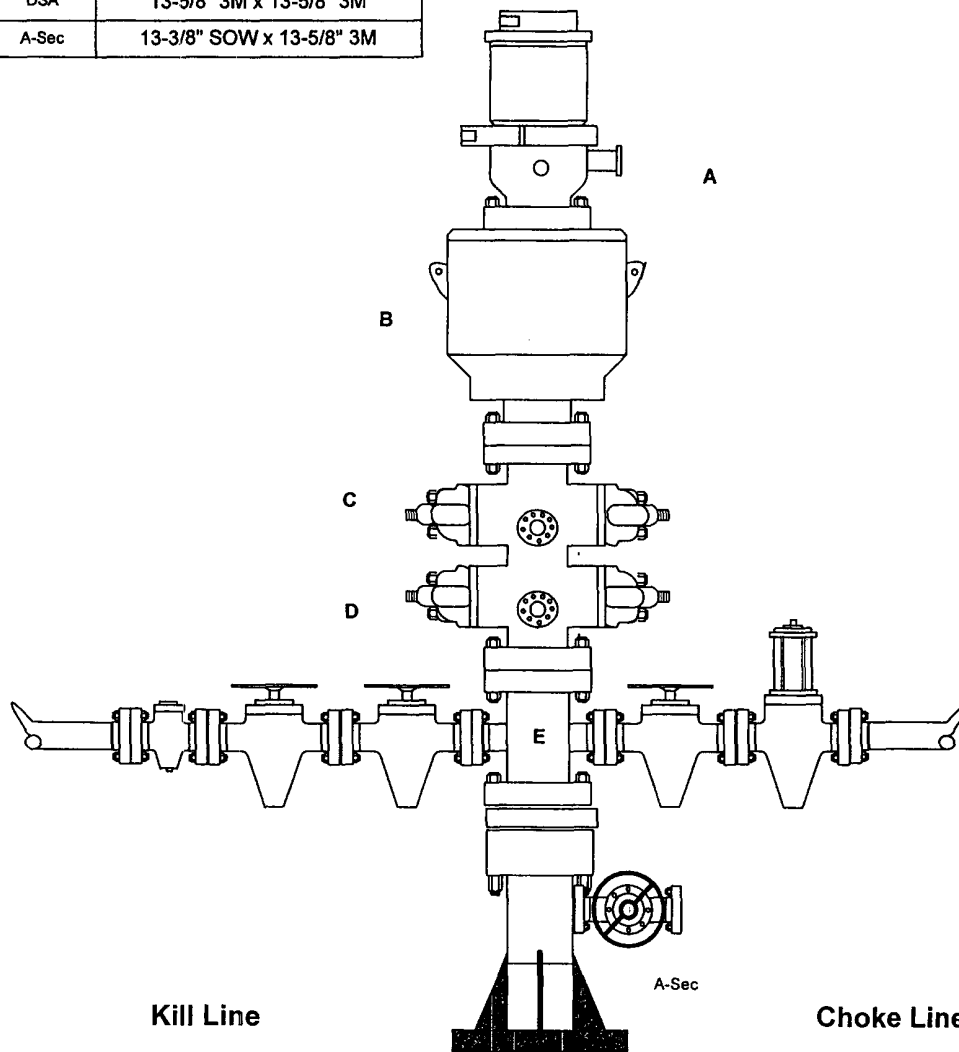
RIG :

COUNTY : Lea

STATE: New Mexico

OPERATION: Drill out below 13-3/8" Casing

	SIZE	PRESSURE	DESCRIPTION
A	13-5/8"	500#	Rot Head
B	13-5/8"	3,000#	Annular
C	13-5/8"	3,000#	Pipe Rams
D	13-5/8"	3,000#	Blind Rams
E	13-5/8"	3,000#	Mud Cross
	DSA	13-5/8" 3M x 13-5/8" 3M	
	A-Sec	13-3/8" SOW x 13-5/8" 3M	



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

	SIZE	PRESSURE	DESCRIPTION
	4"	3,000#	Gate Valve
	4"	3,000#	HCR Valve

EXHIBIT F-1

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

WELL : KELLER 27 FEDERAL 1

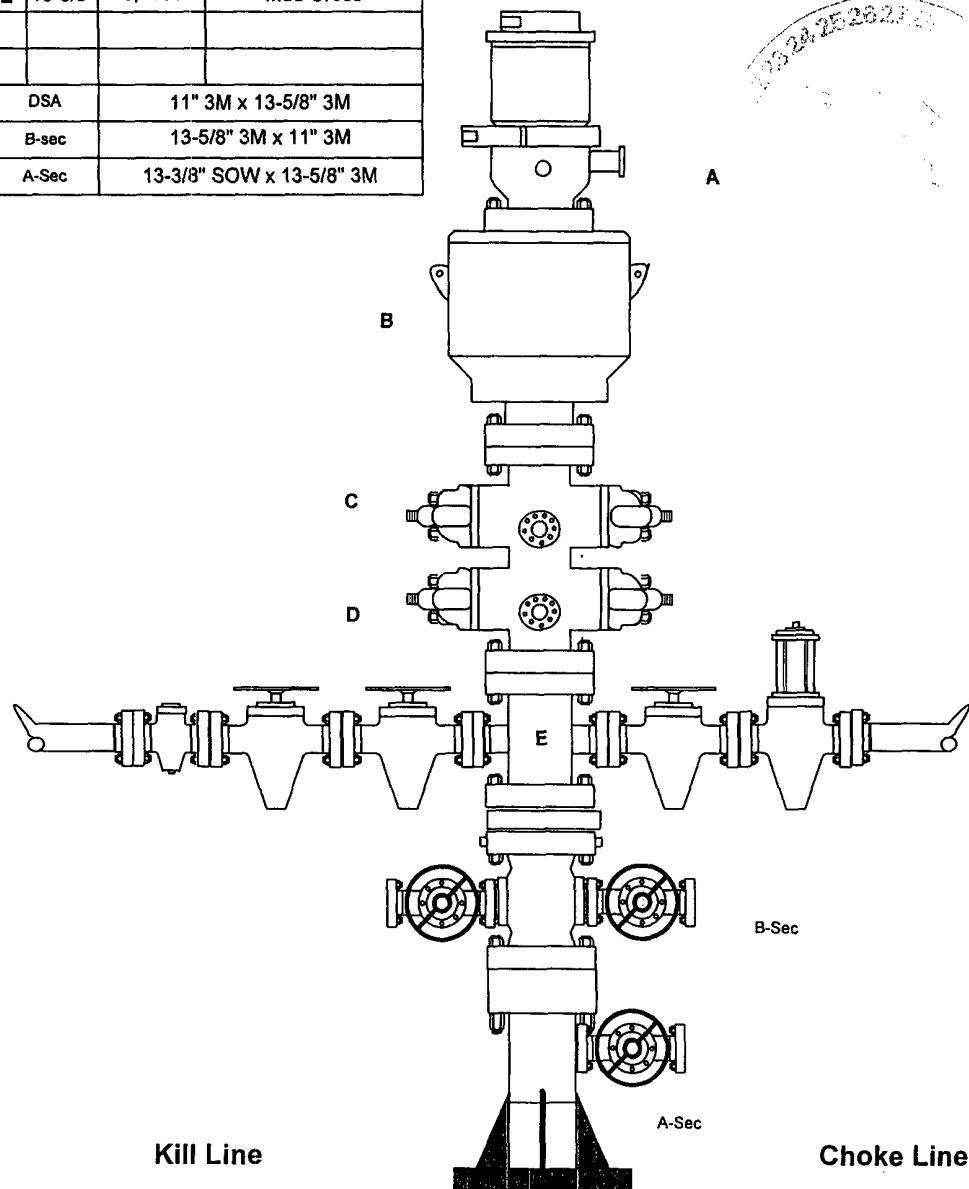
RIG :

COUNTY : Lea

STATE: New Mexico

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

	SIZE	PRESSURE	DESCRIPTION
A	13-5/8"	500#	Rot Head
B	13-5/8"	3,000#	Annular
C	13-5/8"	3,000#	Pipe Rams
D	13-5/8"	3,000#	Blind Rams
E	13-5/8"	3,000#	Mud Cross
DSA	11" 3M x 13-5/8" 3M		
B-sec	13-5/8" 3M x 11" 3M		
A-Sec	13-3/8" SOW x 13-5/8" 3M		



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

SIZE	PRESSURE	DESCRIPTION
4"	3,000#	Gate Valve
4"	3,000#	HCR Valve

EXHIBIT E-2

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 access road.
- b. Location, access, and vicinity plats attached hereto. See Exhibits A-1 through A-4.

2. PLANNED ACCESS ROADS

- a. A new access road 1115' 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 Co. Rd. E-21 (Delaware Basin Rd.) and Antelope Rd., go South on Antelope Rd. approx. 4.0 miles. Turn left (East) and go approx. 0.45 miles to a Caliche Rd on the left. Turn left (North) and go approx. 0.3 miles to this location.

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 offsite. Chesapeake Operating, Inc. proposes to lay a 2" poly pipeline to Southern Union, if needed. – 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 27-23S-34E. All material (i.e. shale) will be acquired from private or commercial sources.

7. METHODS FOR HANDLING WASTE DISPOSAL

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.

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 Oklahoma Corporation Commission 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 LEASE HELD BY:

Keller RV LLC
2811 County Road 460
Oakley, KS 67748
Phone: 785-672-3257
James Keller (contact)

(Chesapeake has an agreement with the grazing lessee.)



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

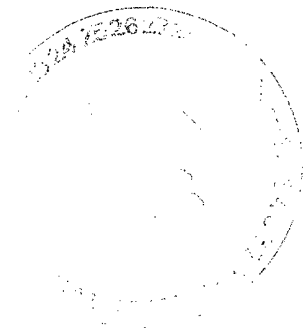
Cecil Gutierrez
P.O. Box 11050
Midland, TX 79705
432-687-2992 (OFFICE)
432-687-3675 (FAX)
cgutierrez@chkenergy.com

Assett Manager

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



ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Keller 27 Federal 1
1967 FSL 658 FWL NWSW
of Section 27-23S-34E
Lea County, NM

CONFIDENTIAL – TIGHT HOLE

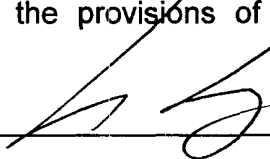
Lease No. NMLC 071949

SURFACE USE PLAN

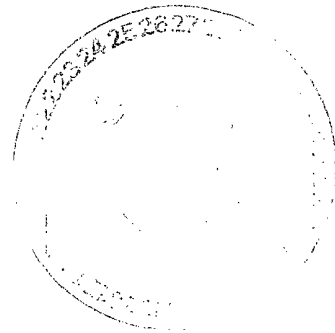
Page 4

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.

By:  _____

Date: 7/1/06 _____



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: (KB)

Formation	Subsea	Depth
BASE OF CASTILLE FM.	-1576	5068
BELL CANYON FM.	-1639	5131
CHERRY CANYON FM.	-2504	5996
MANZANITA ZN.	-2533	6025
POSTELLE ZN.	-3424	6876
BUSH ZN.	-3715	7207
BRUSHY CANYON FM.	-3784	7276
CIGUENA ZN.	-3934	7426
UPPER BRUSHY ZN.	-4108	7600
MIDDLE BRUSHY ZN.	-4870	8322
BONE SPRING FM.	-5103	8595
BONE SPRING	TOTAL DEPTH:	8800

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	Cherry Canyon	6876-7276
Oil/Gas	Brushy Canyon	7276-8595

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,
- (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.

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 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	0-575	17 1/2"	13 3/8"	48#	H-40	STC	NEW
Intermediate	0-5100	11	8 5/8"	32#	J55	STC	NEW
Production	0-8800	7 7/8"	5 1/2"	17#	L-80	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'-575'	Class C + Additives	400+100	1.74/1.34	75	100
0'- 5,100'	Class C 50/50 Poz + Additives	950+100	2.23/1.34	50	75
5,100 – 8,800'	Class H + Additives	233+273	2.3/1.57	10	30

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>
0-575	FW	8.7	29-38	NC
575-5,100	Brine	10	28	NC
5,100-8,500	FW	8.4 – 8.5	28	NC
8,500-8,800	FW	8.4-8.5	30-31	25-30

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.

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Keller 27 Federal 1
1967 FSL 658 FWL, NWSW
Section 27-23S-34E
Lea County, New Mexico

CONFIDENTIAL – TIGHT HOLE

Lease No. NMLC071949
(DRILLING PLAN)

Page 5

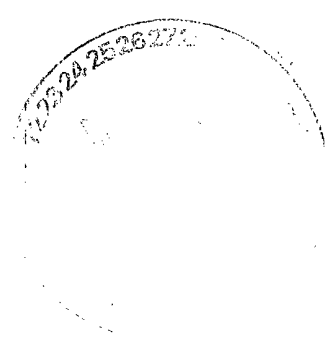
6. TESTING, LOGGING AND CORING

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 3810 psi. No abnormal pressures or temperatures are anticipated.
- b. Hydrogen sulfide gas is not anticipated.



SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name: Chesapeake Operating INC. Well Name & #: Keller 27 Federal # 1
Location 1767' F S L & 660' F W L; Sec. 27, T. 23 S., R. 34 E.
Lease #: NMLC-071949 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

- () 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 upon completion of well and it is determined to be a producer.

() 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. **Pits North V- Door East**

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.

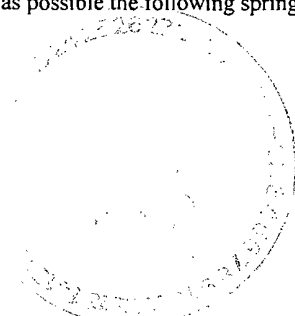
(x) Surface Restoration: If the well is a producer, the reserve pit(s) will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at depth of ½ inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre.

- | | |
|---|---|
| (X) A. Seed Mixture 1 (Loamy Sites) | () B. Seed Mixture 2 (Sandy Sites) |
| Side Oats Grama (<i>Bouteloua curtipendula</i>) 5.0 | Sand Dropseed (<i>Sporobolus cryptandrus</i>) 1.0 |
| Sand Dropseed (<i>Sporobolus cryptandrus</i>) 1.0 | Sand Lovegrass (<i>Eragrostis trichodes</i>) 1.0 |
| | Plains Bristlegrass (<i>Setaria magrostachya</i>) 2.0 |
| () C. Seed Mixture 3 (Shallow Sites) | () D. Seed Mixture 4 (Gypsum Sites) |
| Side oats Grama (<i>Boute curtipendula</i>) 1.0 | Alkali Sacaton (<i>Sporobollud airoides</i>) 1.0 |
| | Four-Wing Saltbush (<i>Atriplex canescens</i>) 5.0 |

() OTHER SEE ATTACHED SEED MIXTURE

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.

() Other



RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6-mil plastic. Mineral material extracted from within the boundary of the APD during construction of the well pad and reserve pits and be used for the construction of this well pad and its immediate access road only, as long as that portion of the access road it is use on remains on-lease. Removal of any additional material from this location for construction or improvement of other well pads and other access or lease roads must first be purchased from BLM.

Reclamation: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is NOT TO BE RUPTURED to facilitate drying; a ten month period after completion of the well is allowed for drying of the pit contents.

The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

OPTIONAL PIT CONSTRUCTION STANDARDS

The reserve pit may be constructed in predominantly fill material if:

- (1) Lined as specified above and
- (2) A temporary or emergency pit may be constructed immediately adjacent to the reserve pit as long as the pit remains within the APD boundary. Mineral material removed from this pit may be used for the construction of this well pad only and its immediate access road, as long as that portion of the access road the material is used on remains on-lease. Removal of any material from the APD boundary for use on other well locations or roads must first be purchased from BLM.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be re-contoured, all trash removed, and reseeded as specified in this permit.

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.

BLM SERIAL NO.: NMLC-071949
COMPANY REFERENCE: Chesapeake Operating INC.
WELL NO. & NAME: Keller 27 Federal # 1

Seed Mixture 1, for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

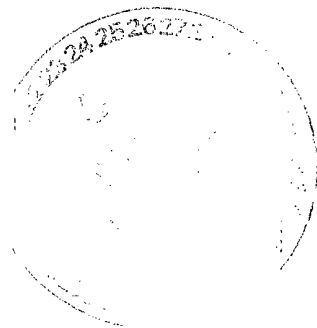
Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass (<i>Eragrostis intermedia</i>)	0.5
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sideoats grama (<i>Bouteloua curtipendula</i>)	5.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed



CONDITIONS OF APPROVAL - DRILLING

Well Name & No. 1 – KELLER 27 FEDERAL
Operator's Name: CHESAPEAKE OPERATING, INC.
Location: 1967' FSL & 660' FWL – SEC 27 – T23S – R34E – LEA COUNTY
Lease: LC-071949

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5909 or (505) 361-2822 (After hours) - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:
 - A. Spudding
 - B. Cementing casing: 13-3/8 inch 8-5/8 inch 5-1/2 inch
 - C. BOP tests
2. Hydrogen Sulfide (H₂S) gas has not been reported in Sec 27 – T23S – R34E.
3. 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.
4. 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.
5. 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 13-3/8 inch surface casing shall be set at 975 feet or you may use the Alternative Conditions of Approval – Drilling for Lea County and set surface casing at 575 feet 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 8-5/8 inch intermediate casing is circulate cement to the surface. If surface casing has been set at 575 feet the Conditions of Approval for II. Casing: 1. will apply.
4. The minimum required fill of cement behind the 5-1/2 inch production casing is tie back cement 200 feet into the 8-5/8 inch intermediate casing.

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 13-3/8 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) is 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.



ALTERNATIVE CONDITIONS OF APPROVAL - DRILLING

Drilling Fluids, Casing and Cementing Requirements for Most of Lea County:

Casing and Cementing

Surface casing is to be set at a sufficient depth to protect useable water zones and cement circulated to surface. In areas where the salt section (Salado) is present, surface casing should be set at least 25 feet into the top of the Rustler Anhydrite and cement circulated to the surface.

As an alternative, surface casing may be set through the Santa Rosa Formation or other potable water bearing zones and circulate cement to surface. For wells requiring an intermediate casing string, such string shall be cemented to the ground surface. In the case where intermediate casing is not required the operator shall case and cement the production hole to the ground surface.

While drilling from the surface casing to the Rustler formation it is recommended that operators periodically sweep the hole with viscous low water loss pills to help build a filter cake across useable water zones in the redbeds.

Drilling Fluid

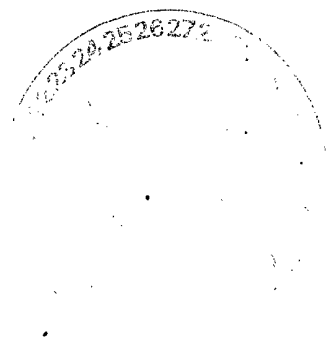
Fresh water or fresh water spud mud shall be used to drill to surface casing depth. If surface casing is set at a lesser depth than the top of the Rustler formation, fresh water spud mud may be used to drill down to the first salt in the Rustler Formation. after which brine or fresh water may be used.

Non-toxic or biodegradable water based polymers, drilling paper, starch and gels may be used in the mud system in order to retard seepage into the redbeds.

Two to five percent diesel or crude oil may be used in the redbed section in order to control heaving shales and mudstones.

Caustics and Lime shall not be used in the red beds but may be added when the Rustler formation is reached. However, sodium carbonate maybe used for alkalinity or ph control while drilling the redbeds above the Rustler formation.

Additionally, questions of whether an additive may be used should be referred to the Roswell Field office.



BLM Serial #: NMLC-071949
Company Reference: Chesapeake Operating INC.
Well # & Name: Keller 27 Federal # 1

STANDARD STIPULATIONS FOR PERMANENT RESOURCE ROADS
CARLSBAD FIELD OFFICE

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

The holder/grantee/permittee shall hereafter be identified as the holder in these stipulations. The Authorized Officer is the person who approves the Application for Permit to Drill (APD) and/or Right-of-Way (ROW).

GENERAL REQUIREMENTS

A. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

B. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

C. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seq.*) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

D. If, during any phase of the construction, operation, maintenance, or termination of the road, any oil or other pollutant should be discharged, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all

damages to Federal lands resulting there from the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

E. The holder shall minimize disturbance to existing fences and other improvements on public domain surface. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times.

The holder will make a documented good-faith effort to contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence.

F. The Holder shall ensure that the entire right-of-way, including the driving surface, ditching and drainage control structures, road verges and any construction sites or zones, will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle and salt cedar. The Holder agrees to comply with the following stipulations:

1. ROAD WIDTH AND GRADE

The road will have a driving surface of 14 feet (all roads shall have a minimum driving surface of 12 feet, unless local conditions dictate a different width). The maximum grade is 10 percent unless the box below is checked. Maximum width of surface disturbance from construction will be 30 feet.

☒ Those segments of road where grade is in excess of 10% for more than 300 feet shall be designed by a professional engineer.

2. CROWNING AND DITCHING

Crowning with materials on site and ditching on one side of the road on the uphill side will be required. The road cross-section will conform to the cross section diagrams in Figure 1. If conditions dictate, ditching may be required for both sides of the road; if local conditions permit, a flat-bladed road may be considered (if these conditions exist, check the appropriate box below). The crown shall have a grade of approximately 2% (i.e., 1" crown on a 12' wide road).

☒ Ditching will be required on both sides of the roadway as shown on the attached map or as staked in the field.

☐ Flat-blading is authorized on segment(s) delineated on the attached map.

3. DRAINAGE

Drainage control shall be ensured over the entire road through the use of borrow ditches, out-sloping, in-sloping, natural rolling topography, lead-off (turnout) ditches, culverts, and/or drainage dips.

A. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

SPACING INTERVAL FOR TURNOUT DITCHES

Percent slope	Spacing interval
0% - 4%	400' - 150'
4% - 6%	250' - 125'
6% - 8%	200' - 100'
8% - 10%	150' - 75'

A typical lead-off ditch has a minimum depth of 1 foot below and a berm 6 inches above natural ground level. The berm will be on the down-slope side of the lead-off ditch. The ditch end will tie into vegetation whenever possible.

For this road the spacing interval for lead-off ditches shall be at

☒ 400 foot intervals.

☐ _____ foot intervals.

☐ locations staked in the field as per spacing intervals above.

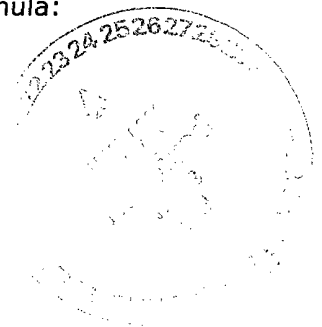
☐ locations delineated on the attached map.

B. Culvert pipes shall be used for cross drains where drainage dips or low water crossings are not feasible. The minimum culvert diameter must be 18 inches. Any culvert pipe installed shall be of sufficient diameter to pass the anticipated flow of water. Culvert location and required diameter are shown on the attached map (Further details can be obtained from the Roswell District Office or the appropriate Resource Area Office).

C. On road slopes exceeding 2%, drainage dips shall drain water into an adjacent lead-off ditch. Drainage dip location and spacing shall be determined by the formula:

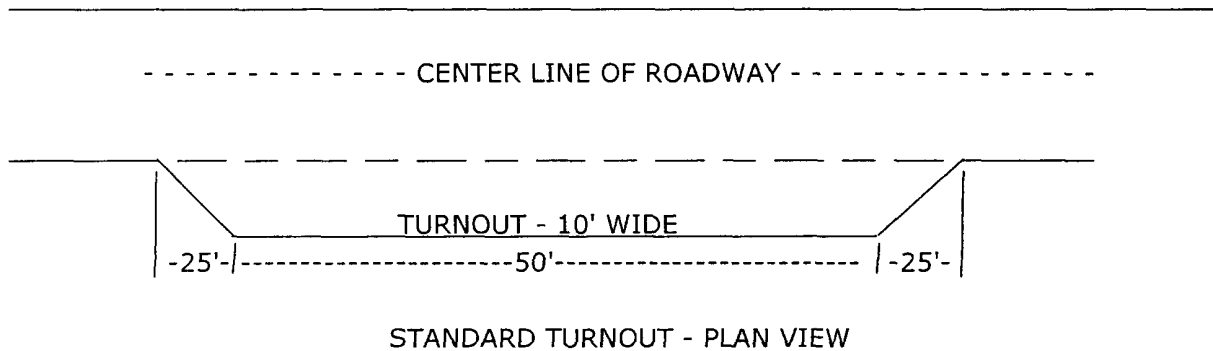
$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Example: 4% slope: spacing interval = $\frac{400}{4} + 100 = 200$ feet



4. TURNOUTS

Unless otherwise approved by the Authorized Officer, vehicle turnouts will be required. Turnouts will be located at 2000-foot intervals, or the turnouts will be intervisible, whichever is less. Turnouts will conform to the following diagram:



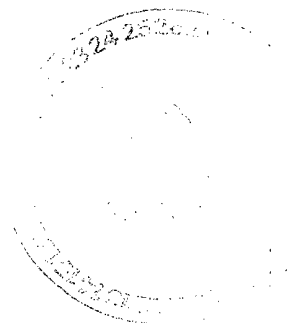
5. SURFACING

Surfacing of the road or those portions identified on the attached map may, at the direction of the Authorized Officer, be required, if necessary, to maintain traffic within the right-of-way with caliche, gravel, or other surfacing material which shall be approved by the Authorized Officer. When surfacing is required, surfacing materials will be compacted to a minimum thickness of six inches with caliche material. The width of surfacing shall be no less than the driving surface. Prior to using any mineral materials from an existing or proposed Federal source, authorization must be obtained from the Authorized Officer.

A sales contract for the removal of mineral materials (caliche, sand, gravel, fill dirt, etc.) from an authorized pit, site, or on location must be obtained from the BLM prior to using any such mineral material from public lands. Contact the BLM solid minerals staff for the various options to purchase mineral material.

6. CATTLEGUARDS

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads (exceeding H-20 loading), are anticipated (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.



7. MAINTENANCE

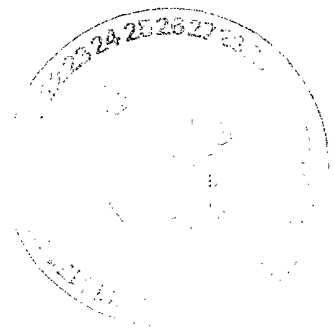
The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, drainage installation, cattleguard maintenance, and surfacing.

8. PUBLIC ACCESS

Public access along this road will not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public lands will not be locked or closed to public use unless closure is specifically determined to be necessary and is authorized in writing by the Authorized Officer.

9. CULTURAL RESOURCES

Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the authorized officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the authorized officer after consulting with the holder.



BLM Serial Number: NMLC-071949
Company Reference: Chesapeake Operating INC.
Well # & Name: Keller 27 Federal # 1

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage, or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:
 - a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
 - b. Activities of other parties including, but not limited to:

fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

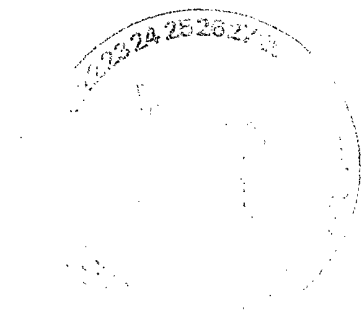
12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

(March 1989)



BLM Serial Number: NMLC-071949
Company Reference: Chesapeake Operating INC.
Well No. & Name: Keller 27 Federal # 1

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.
5. Powerlines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Powerlines, " Raptor Research Foundation, Inc., 1981. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "raptor safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large

perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.
- See attached reclamation plans.



District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1226 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
June 1, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☐

Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☐

Operator: Chesapeake Operating Inc. Telephone: (432)687-2992 e-mail address: bcoffman@chkenergy.com

Address: P. O. Box 11050 Midland, TX 79702-8050

Facility or well name: Keller 27 Federal #1 API#: 30-025-37905 U/L or Qtr/Qtr: L Sec: 27 T: 23S R: 34E

County: Lea Latitude 32.273064 N Longitude 103.463849 W NAD: 1927 ☒ 1983 ☐ Surface Owner Federal ☒ State ☐ Private ☐ Indian ☐

Pit

Type: Drilling ☒ Production ☐ Disposal ☐

Workover ☐ Emergency ☐

Lined ☒ Unlined ☐

Liner type: Synthetic ☒ Thickness 12 mil Clay ☐

Pit Volume 12129 bbl

Below-grade tank

Volume: _____ bbl Type of fluid: _____

Construction material: _____

Double-walled, with leak detection? Yes ☐ If not, explain why not: _____

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)

Less than 50 feet

(20 points)

50 feet or more, but less than 100 feet

(10 points)

100 feet or more

(0 points)

0

Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)

Yes

(20 points)

No

(0 points)

0

Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)

Less than 200 feet

(20 points)

200 feet or more, but less than 1000 feet

(10 points)

1000 feet or more

(0 points)

10

Ranking Score (Total Points)

10

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☐ offsite ☐ If offsite, name of facility: _____ (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described 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 ☐.

Date: 05/31/2006

Printed Name/Title: Brenda Coffman Regulatory Analyst

Signature: Brenda Coffman

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

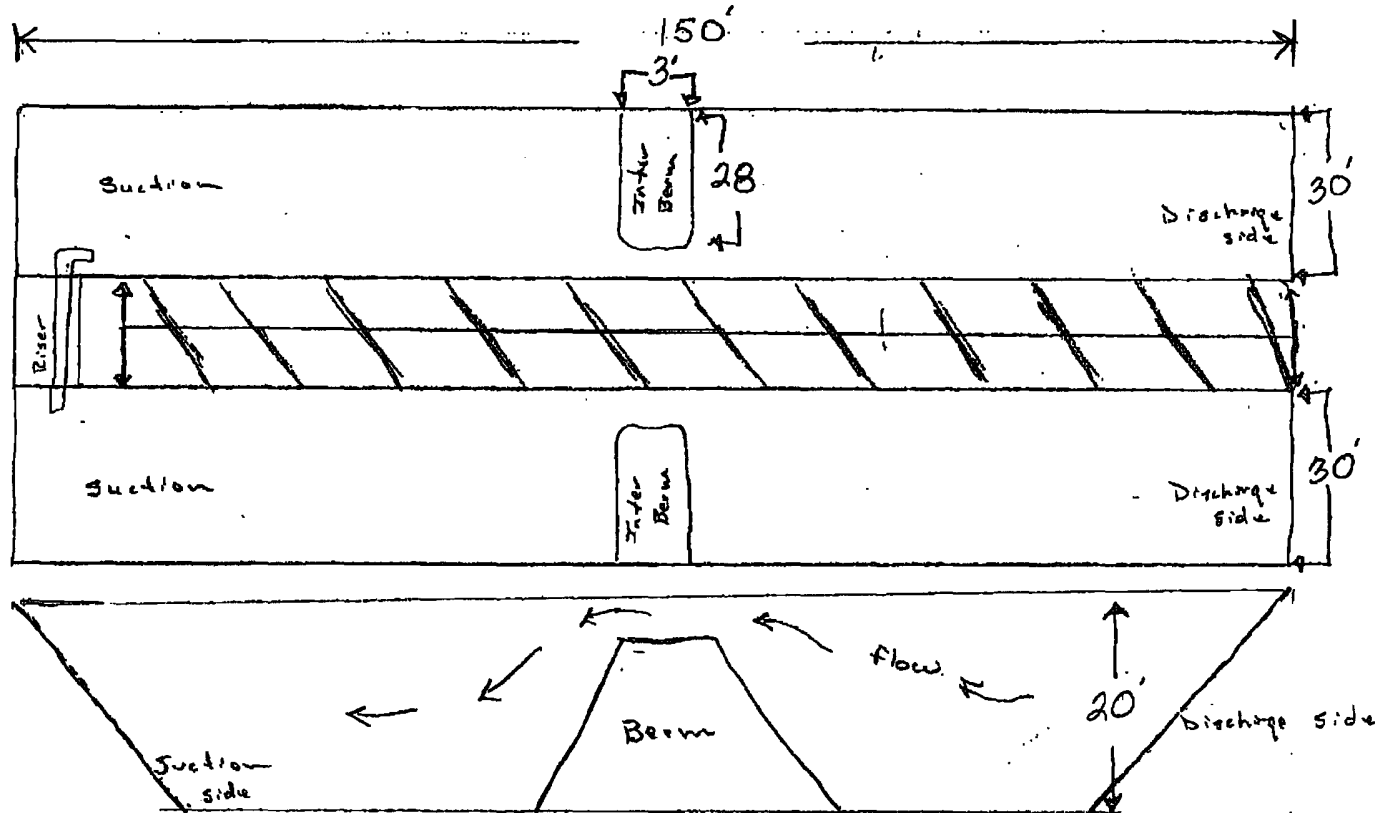
Approval:

Printed Name/Title: _____

Signature: _____

Date: JUN 05 2006

PETROLEUM ENGINEER

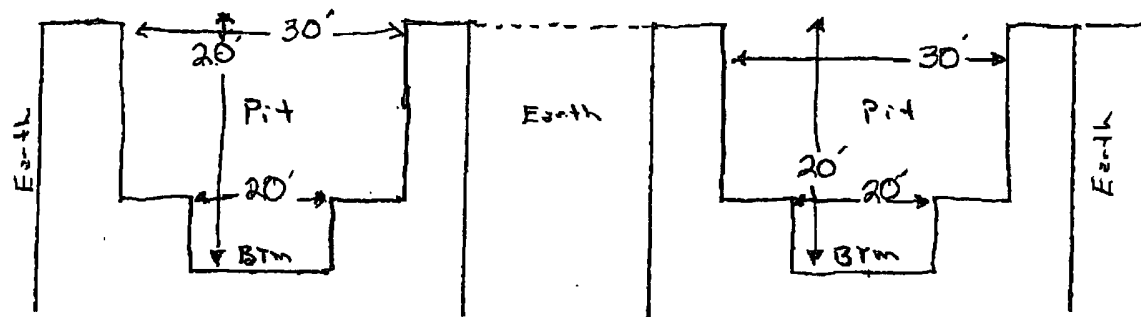


12 mm plaster
over all


Top View

Side View

$18' \times 30' \times 140' = 75600 \text{ ft}^3 \div 5.6146 = 13464.8 \text{ bbls} \times 2 = 26929.7 \text{ bbls}$, with 18' of fluid & cuttings in pits.
 $20' \times 30' \times 140' = 90000 \text{ ft}^3 \div 5.6146 = 16029.6 \text{ bbls} \times 2 = 32059.2 \text{ bbls}$ with 20'



End
cross section

 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: Mon 6/5/2006 9:18 AM

All have blankets and one appear on Jane's list.

From: Mull, Donna, EMNRD
Sent: Monday, June 05, 2006 8:06 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?

Pogo Producing Co (17891)
Devon Energy Production Co LP (6137)
Pride Energy Co (151323)
BTA Oil Producers (3002)
Chesapeake Operating Inc (147179)
B C Operating Inc (160825)

I have check the inactive well list for each of these operators.

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

<https://webmail.state.nm.us/exchange/dmull/Inbox/RE:%20Financial%20Assurance%20Requirement.EML...> 6/5/2006