State of New Mexico

Energy, Minerals and Natural Resources Department

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

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	Pool Code	Pool Name
30-025-39137	2209 -	West Antelope Ridge; Bone Spring

Property Code	Property Name	Well Number
36250	KELLER 28 FEDERAL	1

OGRID No.	Operator Name	Elevation
147179	CHESAPEAKE OPERATING, INC.	3475'

Surface Location

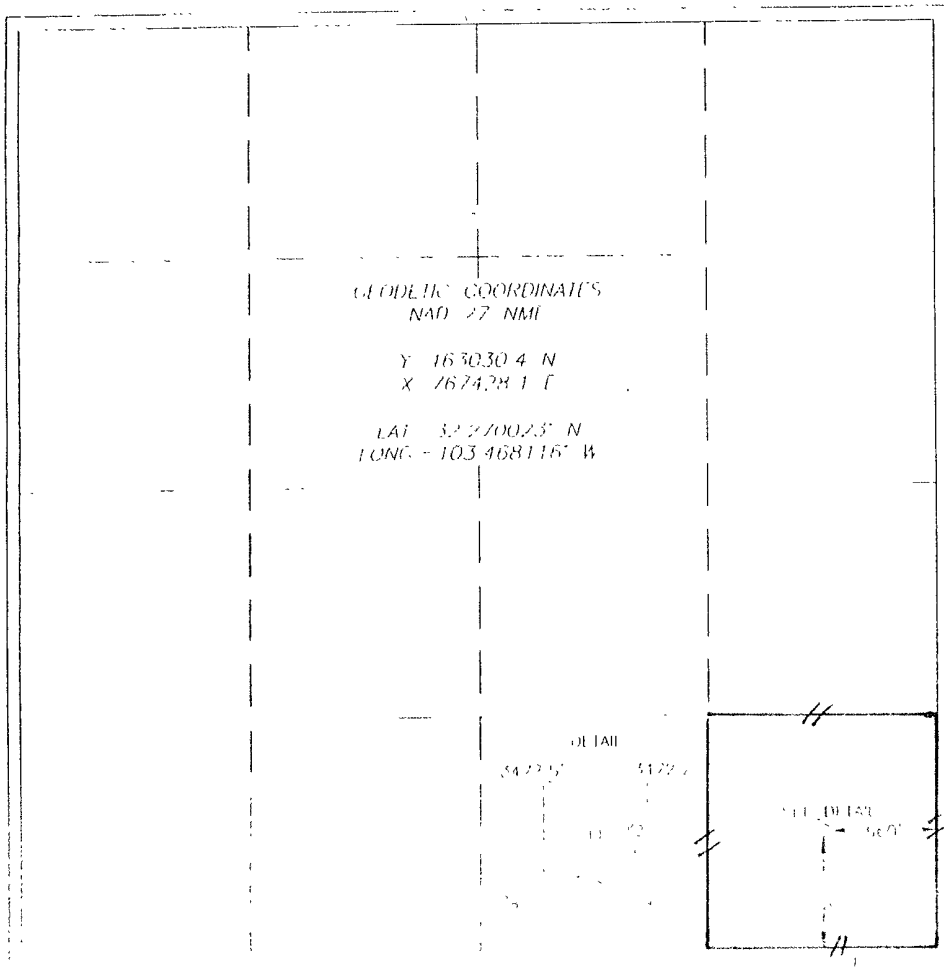
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	28	23-S	34-E		660	SOUTH	660	EAST	LEA

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

Ed Birdshead 7/22/08
Signature Date

Ed Birdshead
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

MAY 15, 2008
Date Surveyed

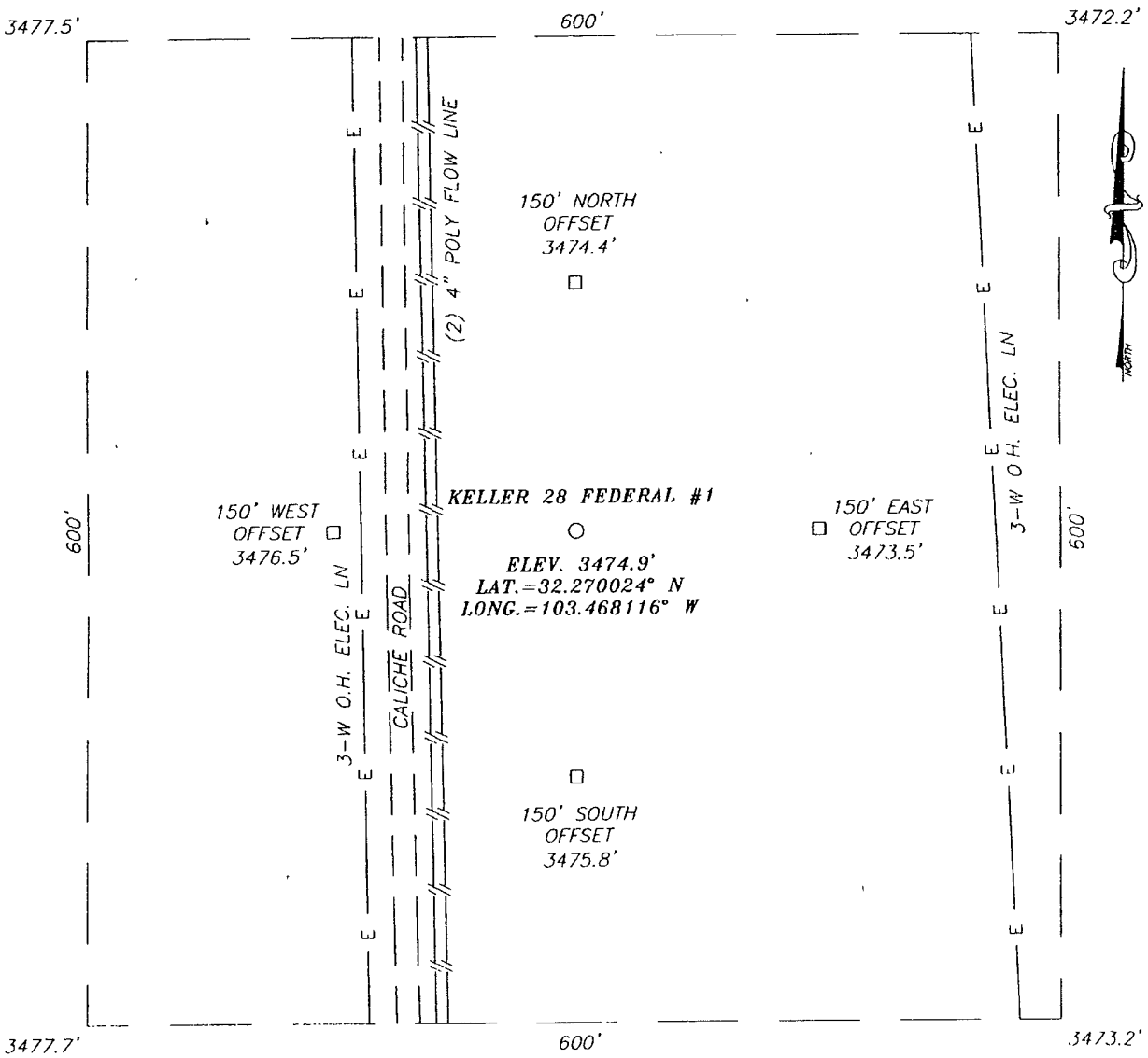
Signature & Seal of Professional Surveyor

10211 0708

EXHIBIT A-1

SECTION 28, TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. #J21 (ANTELOPE) AND CO RD. #J21 (SHELL), GO NORTH ON ANTELOPE RD. APPROX. 0.8 MILES. TURN RIGHT AND GO EAST APPROX. 0.2 MILES. TURN LEFT AND GO NORTH APPROX 0.1 MILES GO EAST APPROX. 100 FEET TO THIS LOCATION

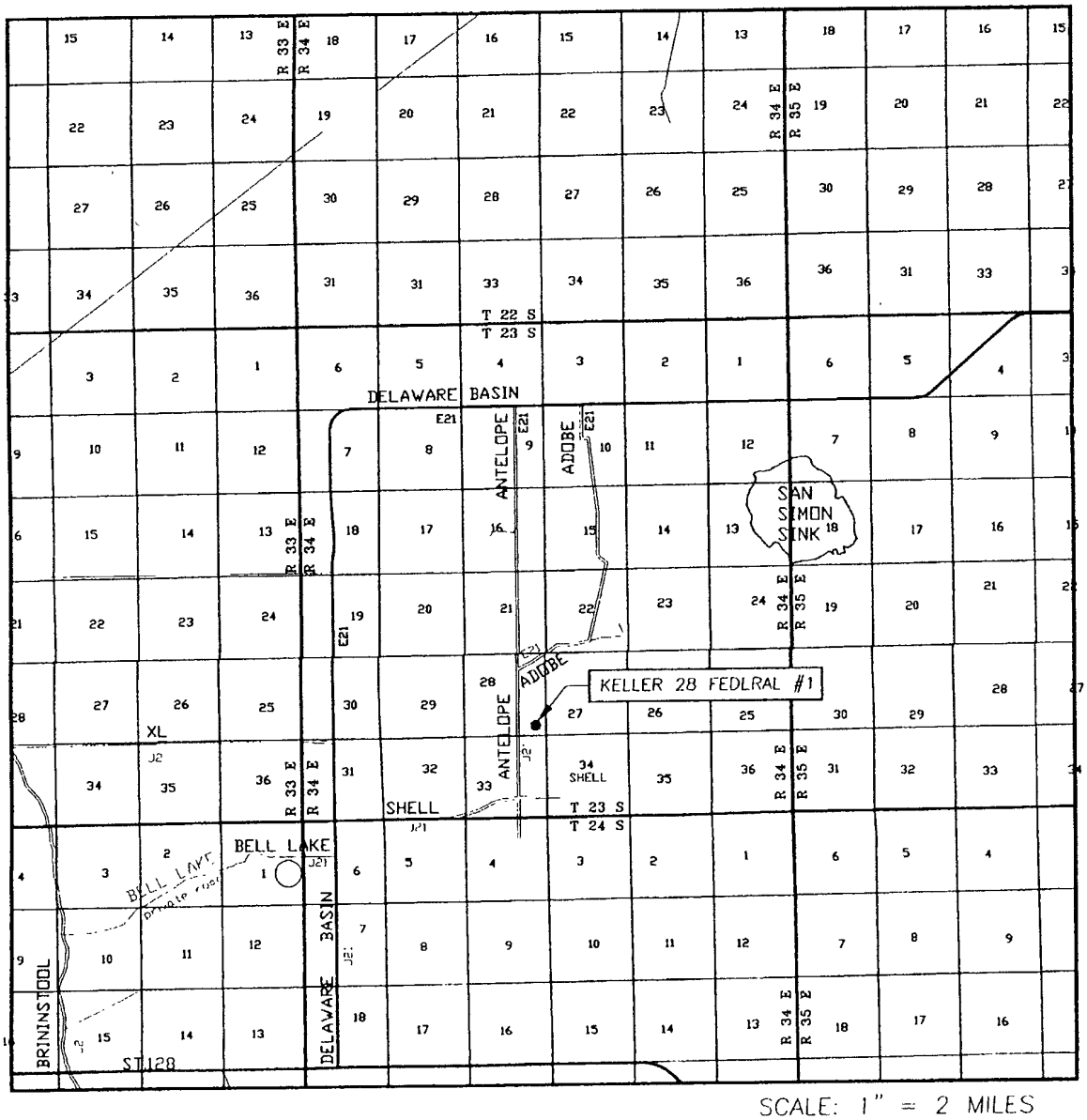
100 0 100 200 Feet

Scale 1"=100'

CHESAPEAKE OPERATING, INC.

KELLER 28 FEDERAL #1 WELL
LOCATED 660 FEET FROM THE SOUTH LINE
AND 660 FEET FROM THE EAST LINE OF SECTION 28,
TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 28 TWP 23-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

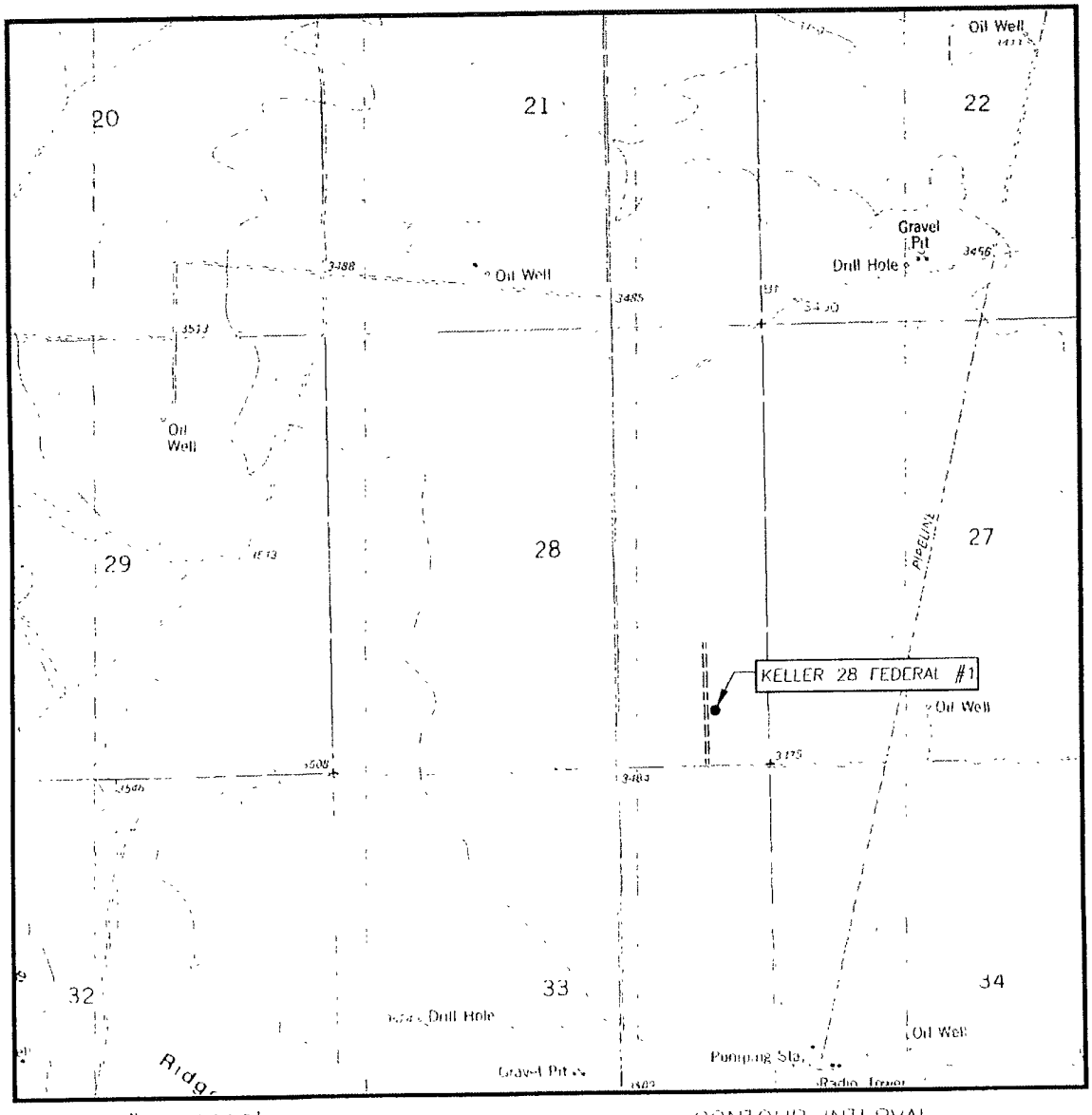
DESCRIPTION 660' FSL & 660' FEL

ELEVATION 3475'

OPERATOR CHESAPEAKE OPERATING, INC.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

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

SEC 28 TWP 23-S RGE 34 E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 660' FSL & 660' FEL

ELEVATION 3475'

OPERATOR CHESAPEAKE OPERATING, INC.

LEASE KELLER 28 FEDERAL

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

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

EXHIBIT A-4

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	~~Subsea~~ DEPTH
BASE OF SALADO FM	-1,562'	5,056'
*BELL CANYON	-1,615'	5,109'
*CHERRY CANYON FM.	-2,494'	5,988'
MANZANITA MKR.	-2,695'	6,188'
*BASAL CHERRY CANYON ZN.	-3,708'	7,202'
*BRUSHY CANYON FM.	-3,792'	7,285'
*CIGUENA ZN	-3,920'	7,414'
*UPPER BRUSHY ZN.	-4,110'	7,603'
*MIDDLE BRUSHY ZN.	-4,816'	8,310'
*BONE SPRING FM.	-5,104'	8,599'
BONE SPRING	**Total Depth:**	**8,800'**
*Potentially productive zones		

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

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

Substance	Formation	Depth
Oil/Gas	Bell Canyon	5109'
Oil/Gas	Cherry Canyon	5988'

3. BOP EQUIPMENT:

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

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

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

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

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

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

C. Test Pressure
1. In some drilling operations, the pressures to be used for low and high-pressure testing of preventers and casing may be different from those given below due to governmental regulations, or approved local practices.
2. If an individual component does not test at the low pressure, **do not,** test to the high pressure and then drop back down to the low pressure.
3. All valves located downstream of a valve being tested must be placed in the open position.
4. All equipment will be tested with an initial "low pressure" test at 250 psi.
5. The subsequent "high pressure" test will be conducted at the rated working pressure of the equipment for all equipment except the annular preventer.
6. The "high pressure" test for the annular preventer will be conducted at 70% of the rated working pressure.
7. A record of all pressures will be made on a pressure-recording chart.

D. Test Duration

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

SEE COA

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:

SEE COA

Purpose	Interval	Hole Size	Casing Size	Weight	Grade	Thread	Condition
Surface	Surface – ~~575~~ 960'	17-1/2"	13-3/8"	48.0#	H-40	STC	New
Intermediate	Surface – ~~5,060'~~ 5160'	11" 11"	8-5/8" 8-5/8"	32.0# 36.0#	J-55 L-80	LTC LTC	New NEW
Production	Surface – 8,800'	7-7/8"	5-1/2"	17.0#	L-80	LTC	New

0-4300' NEW
4300'-5160'

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

c. Casing Safety Factors:
13-3/8" Surface Casing: SFb = 1.44, SFc = 2.84 and SFt = 2.17
8-5/8" Intermediate Casing: SFb = 2.62, SFc = 1.91 and SFt = 2.22
5-1/2" Production Casing: SFb = 2.26, SFc = 3.05 and SFt = 2.27

d. The cementing program will be as follows:

*TALKED TO TODD NANCE - CHESAPEAKE - CASING CHANGE 8/11/08 LB

5. Cementing Program

SEE COA

Interval	Type	Amount	Yield	Top of CMT	Open Hole Excess
Surface	Class C 2% CaCl2 (Accelerator)	600 sks	1.34	Surface	100%
Intermediate	Lead: 50/50 Poz/Class C 1% CaCl2 (Accelerator)	1100 sks	2.03	Surface	100%

	Tail: Class C Neat	400 sks	1.26		100%
Production	Class H 0.5% LAP-1 (Fluid Loss Control) 0.4% CFR-3 (Dispersant) 1 lbm/sk Salt 0.3% HR-7 (Retarder) 0.25 lbm D-AIR 3000 (Defoamer)	750 sks	1.57	4000'	50%

6. MUD PROGRAM

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

Interval	Mud Type	Mud Weight	Viscosity	Fluid Loss
0' – ~~575'~~ 960'	FW/Gel	8.5 – 8.9	30-36	NC
~~960'~~ ~~575'~~ – ~~5,060'~~ 5160'	Brine	10.0	28-30	NC
5,060' - TD	FW/LSND	8.8 - 9.2	28-30	NC-10

SEE COA

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

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 3850 psi. No abnormal pressures or temperatures are anticipated.
b. Hydrogen sulfide gas is not anticipated.

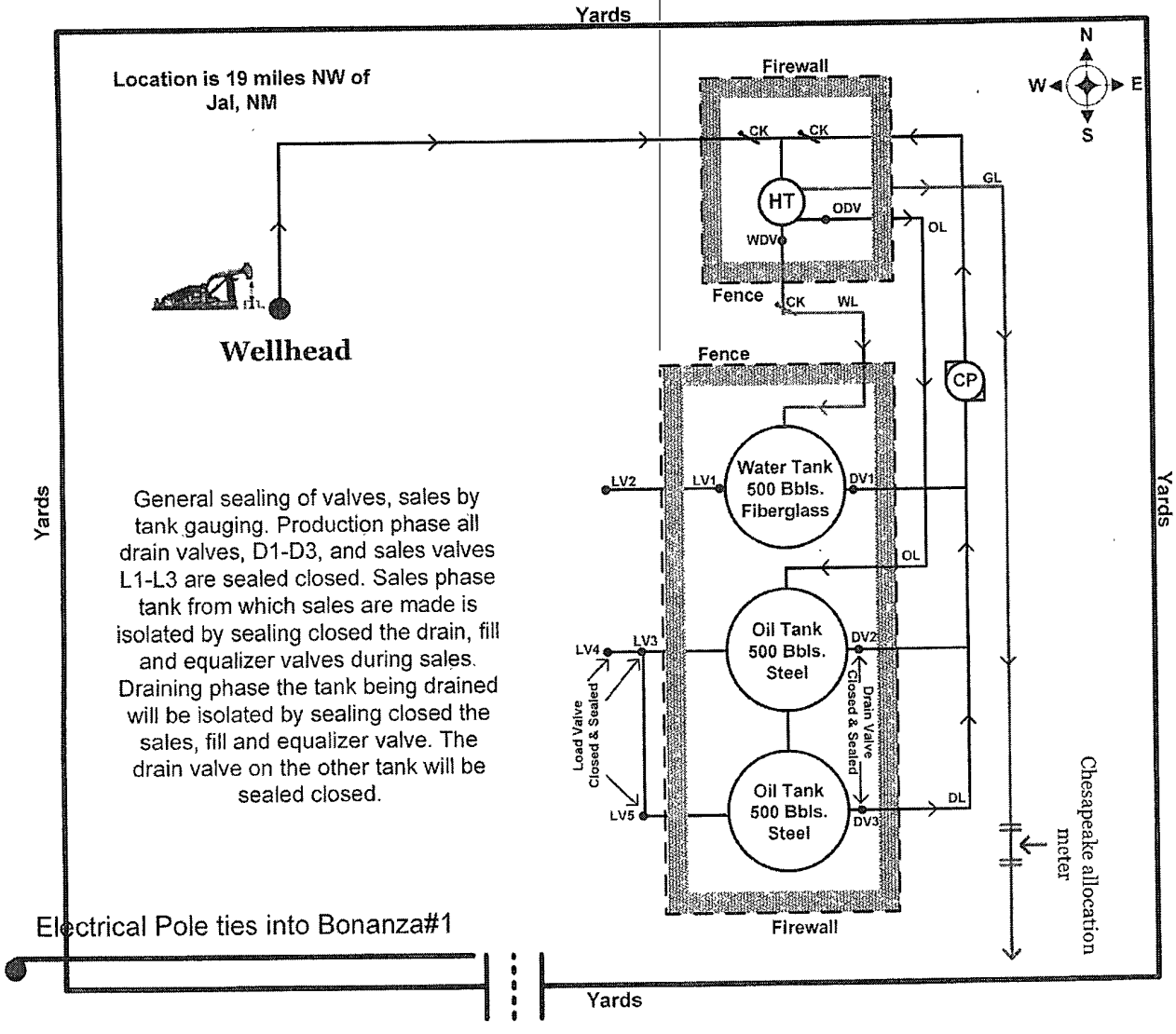
CHESAPEAKE OPERATING, INC.

KELLER 28 FEDERAL 1
28-23S-34E
LEA CO., NEW MEXICO

Chesapeake allocation meter will be on location

Sales meter located off site

Gas sales to Southern Union Gas Company



General sealing of valves, sales by tank gauging. Production phase all drain valves, D1-D3, and sales valves L1-L3 are sealed closed. Sales phase tank from which sales are made is isolated by sealing closed the drain, fill and equalizer valves during sales. Draining phase the tank being drained will be isolated by sealing closed the sales, fill and equalizer valve. The drain valve on the other tank will be sealed closed.

** We will lay a 2" Poly gas line 220 ' E to tie into Papagayo Federal #1 Gas line that will connect to Southern Union Gas Company sales meter **

Prepared by: Jackie Reynolds
Date: 6-20-2008

Approved by:
Date:

EXHIBIT C

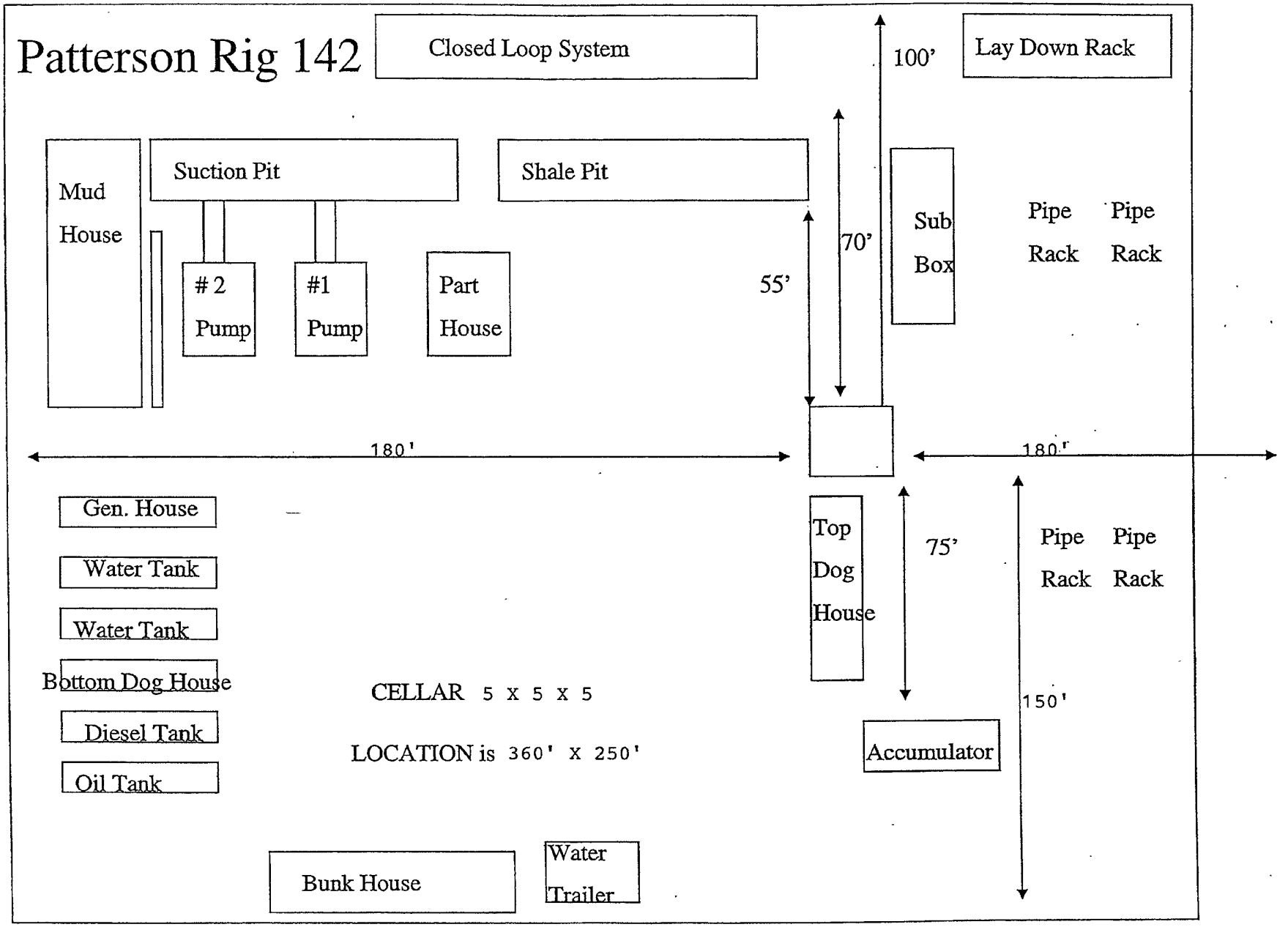

Patterson Rig 142
Closed Loop System
100'
Lay Down Rack
Mud House
Suction Pit
Shale Pit
70'
Sub Box
Pipe Rack
Pipe Rack
2 Pump
#1 Pump
Part House
55'
180'
180'
Gen. House
Water Tank
Water Tank
Bottom Dog House
Diesel Tank
Oil Tank
Top Dog House
75'
Pipe Rack
Pipe Rack
CELLAR 5 X 5 X 5
LOCATION is 360' X 250'
150'
Accumulator
Bunk House
Water Trailer

EXHIBIT A

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

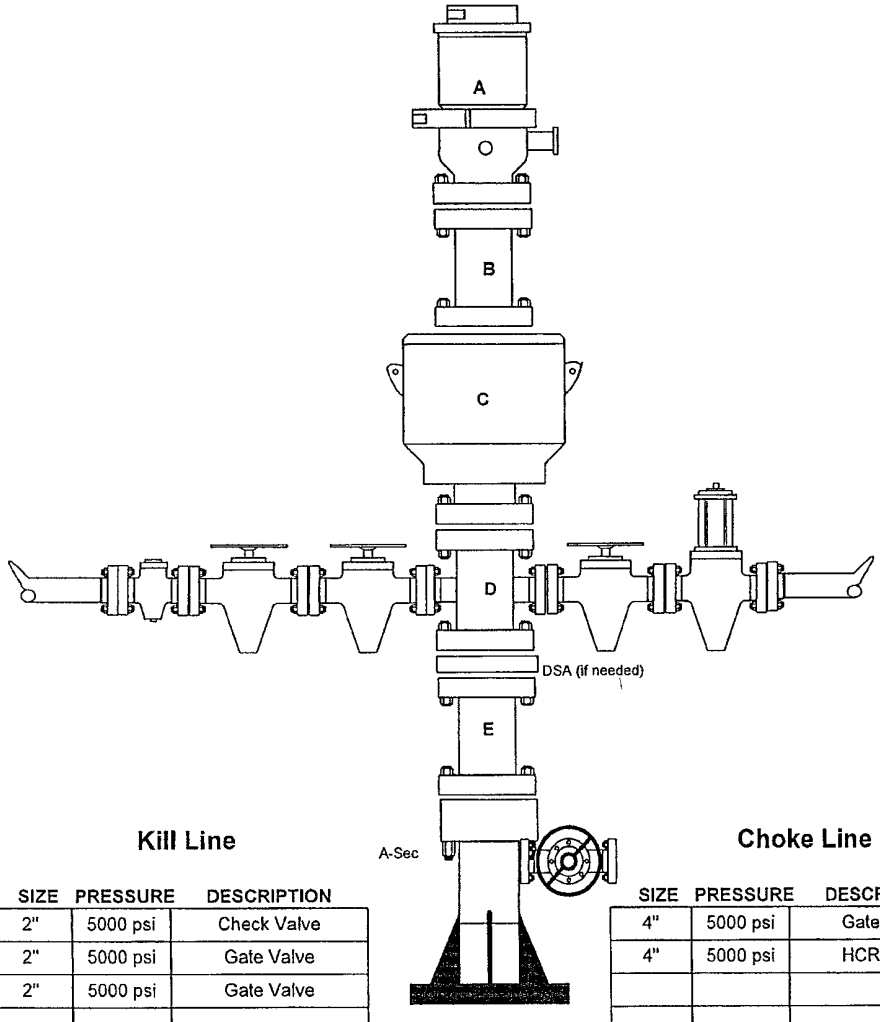
WELL : Keller 28 Federal 1

RIG : Patterson 142

COUNTY : Lea STATE: New Mexico

OPERATION: Drill out below 13-3/8" Casing (11" hole size)

	SIZE	PRESSURE	DESCRIPTION
A	13-5/8"	500 psi	Rot Head
B	13-5/8"	3000 psi	Spacer Spool
C	13-5/8"	3000 psi	Annular
D	13-5/8"	3000 psi	Mud Cross
E	13-5/8"	3000 psi	Spacer Spool
DSA	13-5/8" 3M x 13-5/8" 3M (if needed)		
A-Sec	13-3/8" SOW x 13-5/8" 3M		



Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5000 psi	Check Valve
2"	5000 psi	Gate Valve
2"	5000 psi	Gate Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
4"	5000 psi	Gate Valve
4"	5000 psi	HCR Valve

EXHIBIT F-1

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

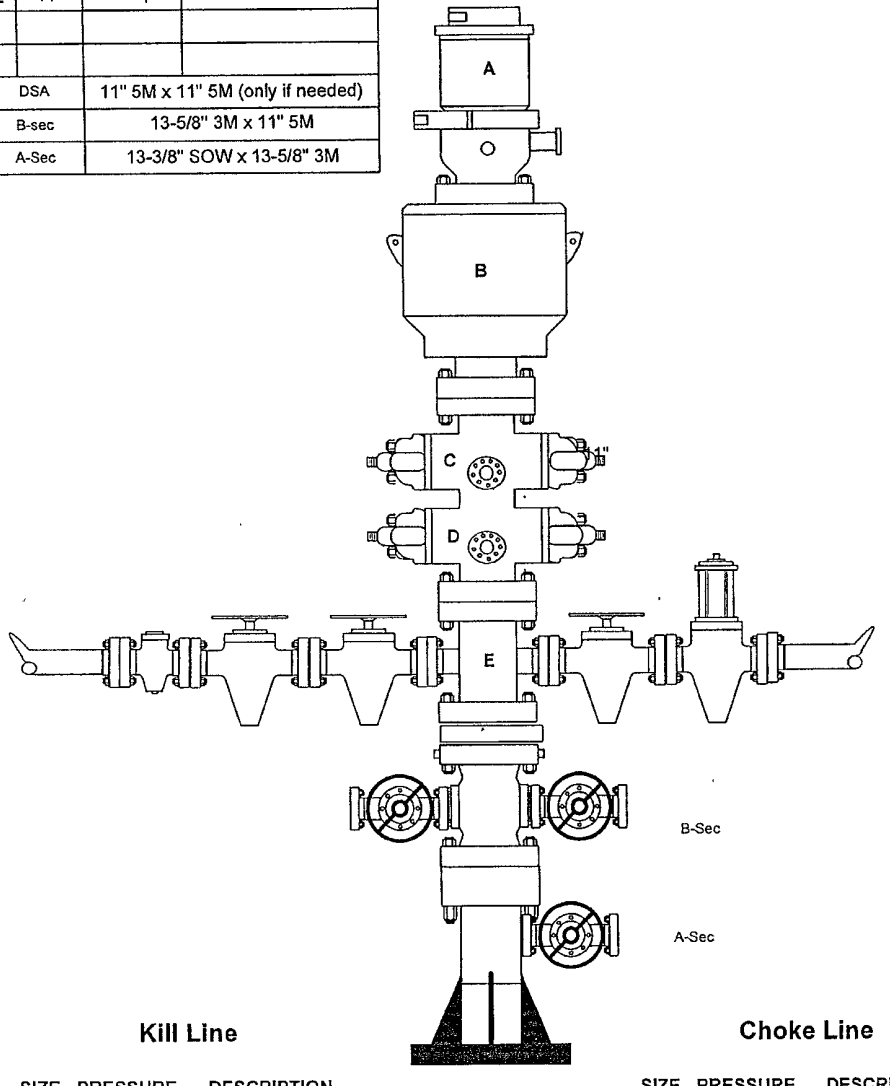
WELL : Keller 28 Federal 1

RIG : Patterson 142

COUNTY : Lea **STATE:** New Mexico

OPERATION: Drill out below 8-5/8" Casing (7-7/8" hole size)

	SIZE	PRESSURE	DESCRIPTION
A	11"	500 psi	Rot Head
B	11"	5000 psi	Annular
C	11"	5000 psi	Pipe Rams
D	11"	5000 psi	Blind Rams
E	11"	5000 psi	Mud Cross
DSA		11" 5M x 11" 5M (only if needed)	
B-sec		13-5/8" 3M x 11" 5M	
A-Sec		13-3/8" SOW x 13-5/8" 3M	



Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5000 psi	Check Valve
2"	5000 psi	Gate Valve
2"	5000 psi	Gate Valve

Choke Line

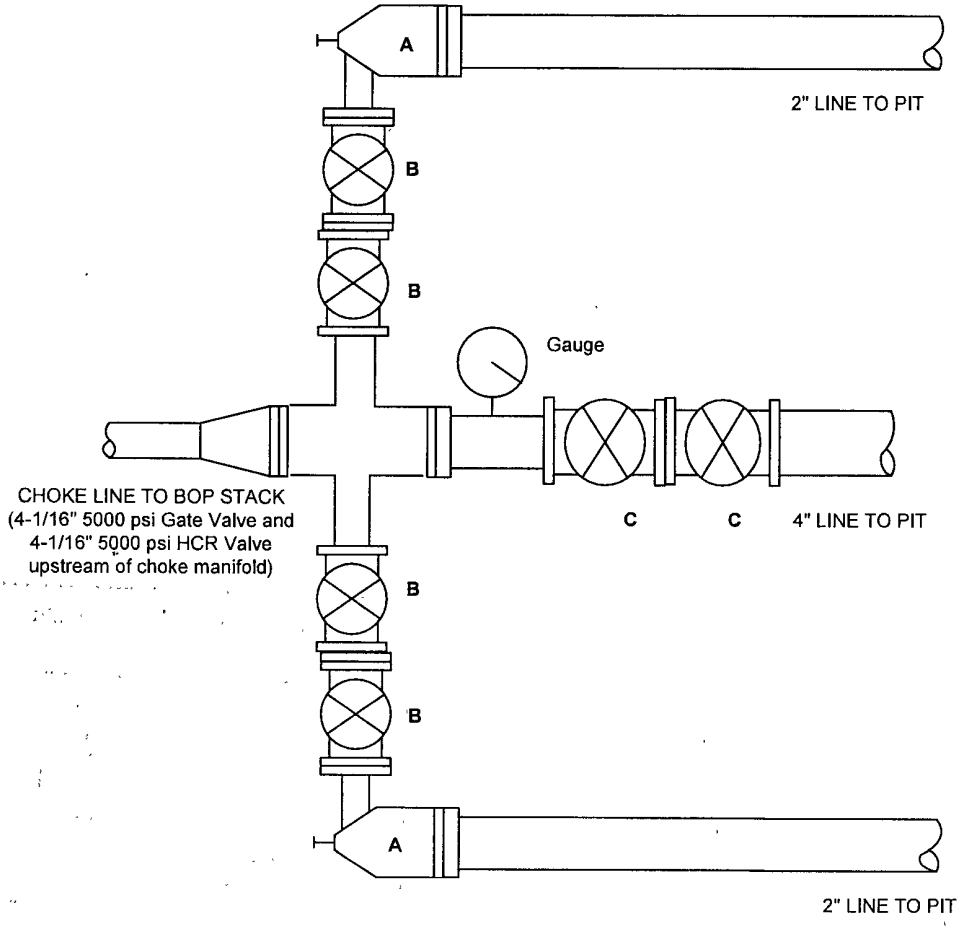
SIZE	PRESSURE	DESCRIPTION
4"	5000 psi	Gate Valve
4"	5000 psi	HCR Valve

EXHIBIT F-2

CHOKE MANIFOLD SCHEMATIC

CHESAPEAKE OPERATING, INC.

WELL : **Keller 28 Federal 1**
RIG : **Patterson 142**
COUNTY : **Lea** **STATE** : **New Mexico**
OPERATION: Drilling below/beyond 13-3/8" surface casing



Choke Controls - At Least One Choke Also
Remotely Controlled From Rig Floor

	SIZE	PRESSURE	DESCRIPTION
A	2-1/16"	5000 psi	Manual Choke
B	2-1/16"	5000 psi	Gate Valve
C	4-1/16"	5000 psi	Gate Valve

CHESAPEAKE OPERATING INC

DRILLING PROGNOSIS

WELL : Keller 28 Federal 1

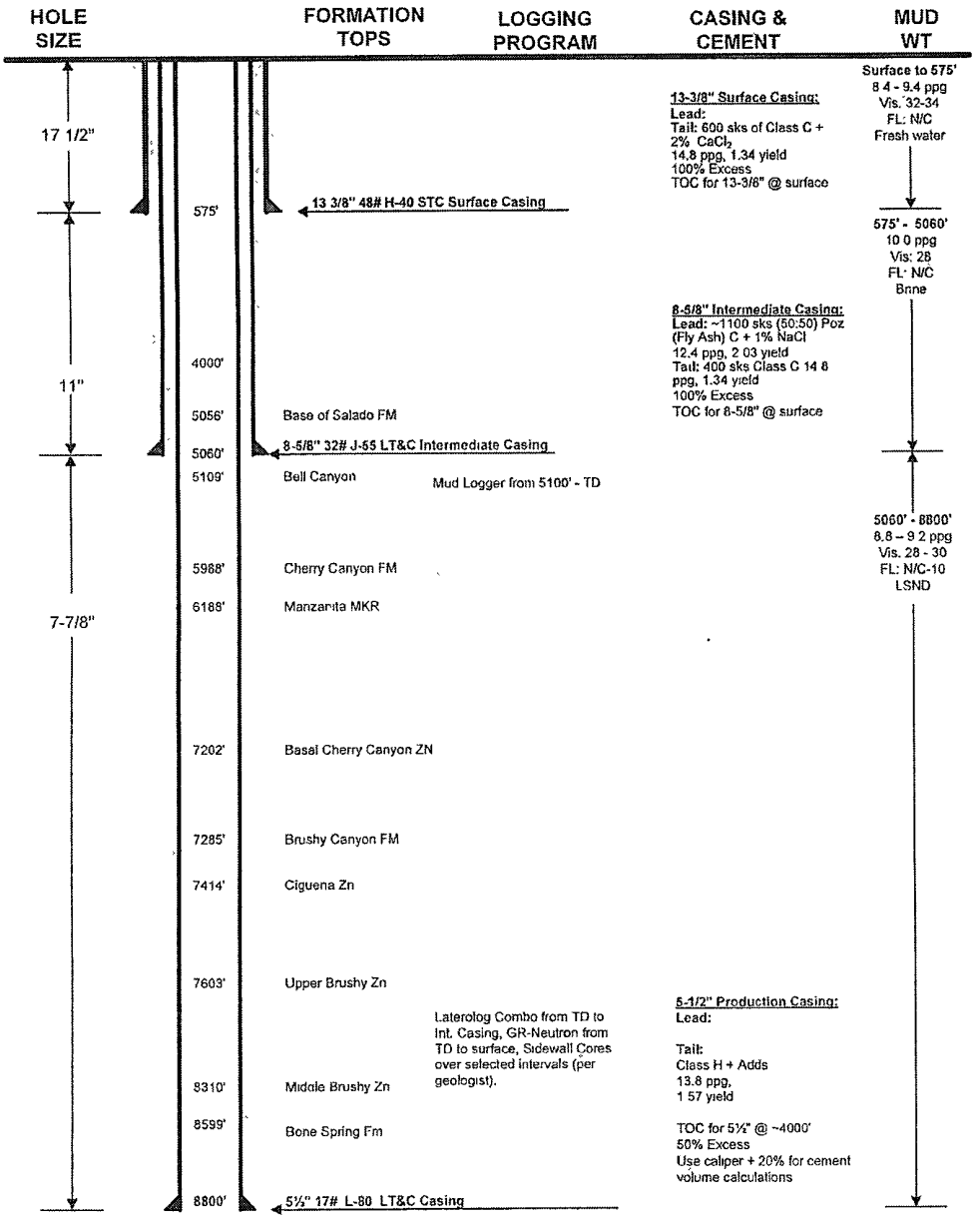
SHL : Section 28 - 23S - 34E; 660' FSL & 660' FEL

BHL : Same as surface hole location

COUNTY : Lea STATE : New Mexico

FIELD : Paloma Blanco Prospect

ELEVATION : GL: 3476' KB: 3494'



PREPARED BY: TAN DATE: 6/06/08

REVISED BY: _____ DATE: _____

EXHIBIT _____

GEOLOGICAL PROGNOSIS

Chesapeake Operating, Inc. – Permian North District
Delaware Basin North Project – Grama Ridge-Antelope Ridge Prospect
Lee G. Wescott – Geologist

WELL NAME: Keller 28 Federal 1
SURFACE LOCATION: SE/SE 28-T23S-34E, Lea Co., NM.
660' FSL & 660' FEL
Estimated Lat. 32.269981 Long. -103.468093
STAKING GUIDELINES: Stake per footage
BOTTOM HOLE LOCATION:
TARGET/HARDLINE:
ESTIMATED ELEVATIONS: **GL** 3,476' est. **KB** 3,494' est.
ANTICIPATED CASING: 13-3/8" @ 575'; 8-5/8 @ 5,060', 5½" @ 8,800'
EXPECTED FORMATION TOPS:

	SUBSEA	MEASURED DEPTH
BASE OF SALADO FM	-1,562'	5,056'
*BELL CANYON	-1,615'	5,109'
*CHERRY CANYON FM.	-2,494'	5,988'
MANZANITA MKR.	-2,695'	6,188'
*BASAL CHERRY CANYON ZN.	-3,708'	7,202'
*BRUSHY CANYON FM.	-3,792'	7,285'
*CIGUENA ZN.	-3,920'	7,414'
*UPPER BRUSHY ZN.	-4,110'	7,603'
*MIDDLE BRUSHY ZN.	-4,816'	8,310'
*BONE SPRING FM.	-5,104'	8,599'
BONE SPRING	**Total Depth:**	**8,800'**

*Potentially productive zones

REGULATORY REQUIREMENTS:

OPEN HOLE LOGS:
Company: Halliburton **Phone:** TBD
Location:
Log Types & Depths: GR, Neutron, Density, Dual Laterlog,
from TD to intermediate casing. GR/Neutron to surface.
MRIL from TD to intermediate casing.
Rotary sidewall cores.

MUDLOGGER:
Company: Morco
Mudlogger on location: Intermediate casing point

SMK 2005.08.17
Spud package DATE

COMPANY CONTACTS:

Primary:

Lee Wescott
Geology
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Office Fax: 405.879.9577
Mobile: 972.978.9050
Blackberry: 405.708.8227
lwescott@chkenergy.com

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david.godsey@chk.com

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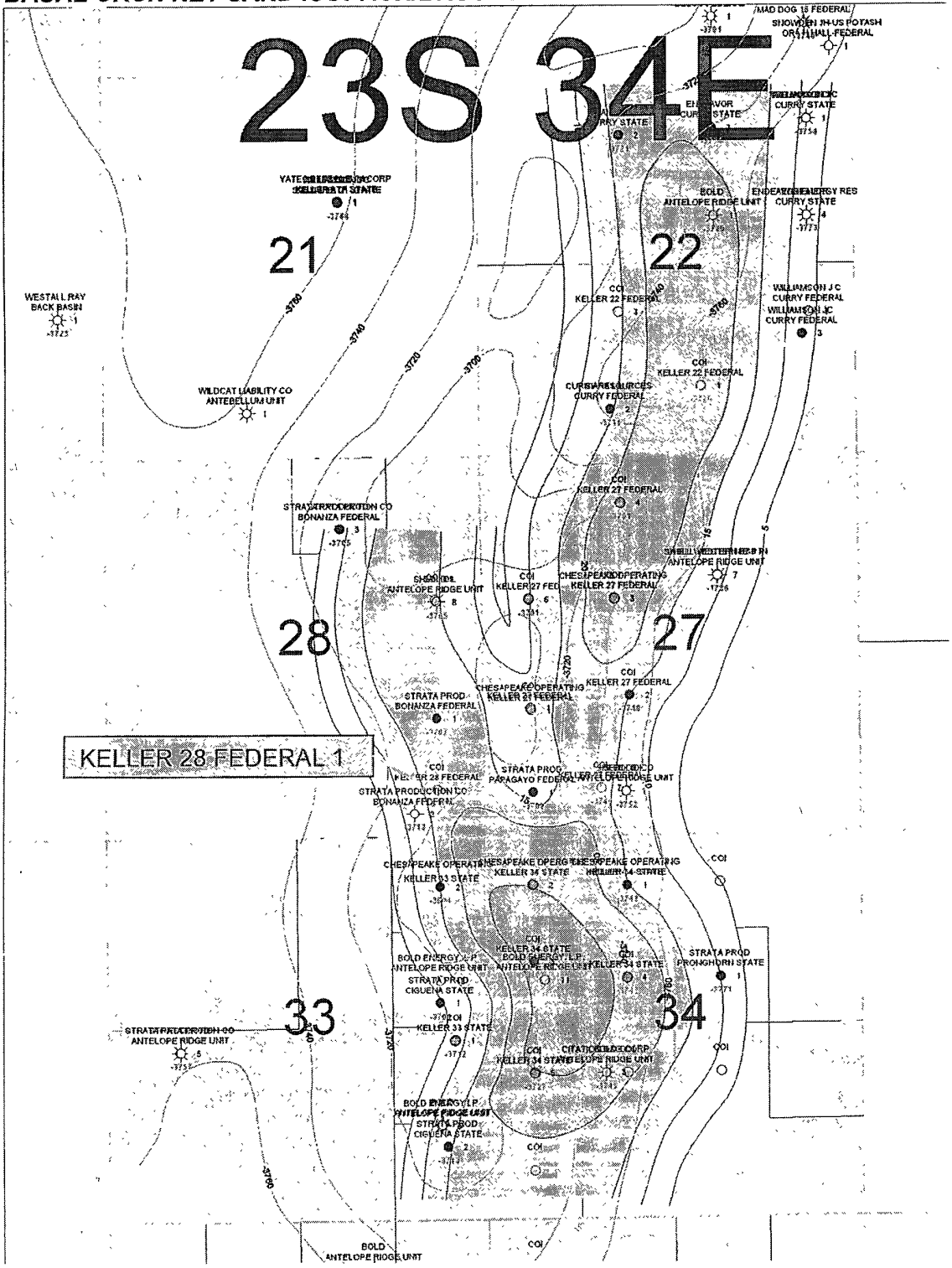
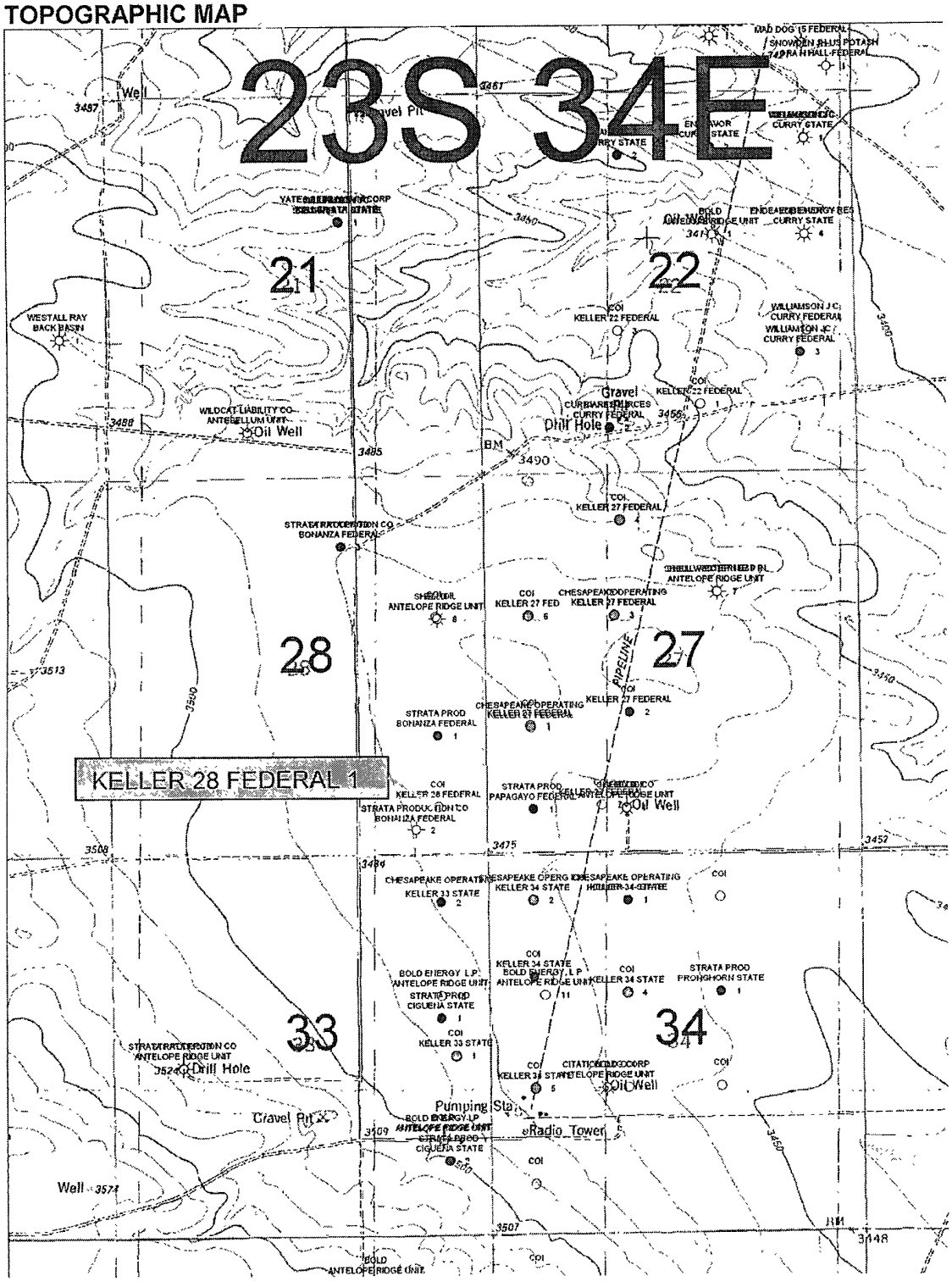
Mobile: 405.922.6386
Home:
jhensley@chkenergy.com

Greg Ramsey
Land Manager-Permian North
Office: 405.879.8105
Office Fax: 405.879.9535
Mobile: 405.200.9010
Home:
greg.ramsey@chk.com

BASAL CRCN NET SAND ISOPACH/BRUSHY CANYON STRUCTURE **CI = 20'**



TOPOGRAPHIC MAP



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

1. EXISTING ROADS
   a. The existing Adobe Rd. will be used to enter proposed well site.
   b. Location, access, and vicinity plats attached hereto. See Exhibits A-1 through A-4.

2. PLANNED LOCATION
   a. A locking gate will be installed at the site entrance.
   b. Any fences cut will be repaired. Cattle guards will be installed, if needed.
   c. 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.
   d. Driving directions are from the intersection of Co. Rd. #J21 (Antelope) and Co. Rd #J21 (Shell), Go North on Antelope Rd. approx. 0.8 miles turn right and go East approx. 0.2 miles. Turn left and go North approx. 0.1 miles, go East approx. 100 feet 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 a Chesapeake Gas Allocation Meter and production facilities will be located on the well pad. Gas sales to Southern Union Gas Company. Sales meter located off site. – 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 28-23S-34E. All material (i.e. shale) will be acquired from private or commercial sources.

7. METHODS FOR HANDLING WASTE DISPOSAL

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

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

8. ANCILLARY FACILITIES

None

9. WELLSITE LAYOUT

The proposed site layout plat is attached showing Patterson rig #142 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. MINERAL OWNERSHIP

United States of America
Department of Interior
Bureau of Land Management

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

(Chesapeake has an agreement with the surface owner)

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

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(405) 761-4699 (Cell)
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CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Executed this 30 day of June, 2008.

Name: _____
Paul Hagemeier, Vice President – Regulatory Compliance

Address: P.O. Box 18496, Oklahoma City, OK 73154-0496

Telephone: 405-848-8000

Field Representative: Curtis Griffin

Telephone: 505-391-1462 Ext 6238

E-mail: curtis.griffin@chk.com

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chesapeake Operating
LEASE NO.:	NMLC067715
WELL NAME & NO.:	Keller 28 Federal No 1
SURFACE HOLE FOOTAGE:	660' FSL & 660' FEL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 28, T. 23 S., R 34 E., NMPM
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator 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 shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Hobbs Field Station at (505) 393-3612 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

C. RESERVE PITS

The operator has applied for a closed-loop system. The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the
Carlsbad Field Office at (505) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

VI. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Lea County**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. **A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the Delaware formation. Hydrogen Sulfide has been reported in Section 28 and adjacent sections with amounts between 100 to 500 ppm from the Cherry Canyon Formation. If Hydrogen Sulfide is encountered please report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Lead slurry does not have to reach 500 pounds, but information still required to show compressive strength within 18-24 hours depending on water basin or potash. WOC for water basin or potash applies to entire wellbore.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible lost circulation in the Delaware and Bone Spring Formations

1. The **13-3/8** inch surface casing shall be set at **approximately 960 feet within the Rustler Anhydrite and above the salt)** and cemented to the surface. **If the salt is penetrated, set surface casing in the Rustler Formation 25 feet above the top of the salt. Fresh water mud shall be used to casing setting depth. Additional cement may be required to bring TOC to the surface.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

    b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:

    ☒ Cement to surface. If cement does not circulate see B.1.a-d above. **Intermediate casing shall be set within the Lamar Limestone at approximately 5160 feet.**

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

    ☒ Cement should tie-back at least **200** feet into previous casing string. **Operator shall provide method of verification.**

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

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

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

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

    c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

    d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

    e. **Onshore Order #2.III.A.2.i.ii. states pressure shall be maintained for at least 10 minutes or until requirements of test are met.**

D. DRILL STEM TEST

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

LB 8/11/08

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

VIII. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Seed Mixture 2, for Sandy 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 see mixture will be evenly and uniformly planted over the disturbed area (smaller/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:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.