Form 3160-3
(December 1990)

New Mexico Oil Conservation Division, District I

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

(See other instructions on reverse side)

Hobbs, NM 88240

Form approved.

CONFIDENTIAL – TIGHT HOLE

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a TYPE OF WORK: DRILL ☒ DEEPEN ☐

b. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ Other ___ SINGLE ZONE ☐ MULTIPLE ZONE ☐

2. NAME OF OPERATOR (147179) CHESAPEAKE OPERATING, INC. Linda Good 405-767-4275

3. ADDRESS AND TELEPHONE NO.
P.O. BOX 18496 OKLAHOMA CITY, OK 73154-0496

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements)**
At surface: 1980 FNL 660 FEL SENE Unit H

5.LEASE DESIGNATION AND SERIAL NO.: NMNM 112940
6.IF INDIAN, ALLOTTEE OR TRIBE NAME:
7.UNIT AGREEMENT NAME:
8.FARM OR LEASE NAME, WELL NO.: (35220) BRININSTOOL 25 FEDERAL 1
9.API WELL NO.: 30-025-37582
10.FIELD AND POOL, OR WILDCAT: ~~PALOMA BLANCO~~ Bell Lake Morrow Mid
11.SEC.,T.,R.,M.,OR BLOCK AND SURVEY OR AREA: SEC 25-T23S-R33E

14.DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*	12. COUNTY OR PARISH	13. STATE
APPROXIMATELY 23 MILES NW FROM JAL, NM.	LEA COUNTY	NM

15.DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line if any)	16.NO. OF ACRES IN LEASE	17.NO. OF ACRES ASSIGNED TO THIS WELL
	640	320
18.DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	**19.PROPOSED DEPTH**	**20.ROTARY OR CABLE TOOLS***
	13,850	ROTARY

21.ELEVATIONS (Show whether DF, RT, GR, etc.)		22. APPROX. DATE WORK WILL START*
3625 GL (EST) 3650 DF (EST)	CARLSBAD CONTROLLED WATER BASIN	

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
"	"	#	'	+/-
"	"	#	'	+/-
	"	#	'	+/-

Chesapeake Operating, Inc. proposes to drill a well to 13,850 to test the Santa Rosa, Brushy Canyon, Atoka and Morrow formations. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and New Mexico Oil Conservation Division requirements.

Please find the Surface Use Plan and Drilling Program, and attachments as required by Onshore Order No. 1. Chesapeake Operating, Inc. has an agreement with the surface owner.
Please be advised that Chesapeake Operating, Inc. is considered to be the Operator of the above mentioned well.
Chesapeake Operating, Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

Chesapeake has an agreement with the surface owner Brininstool Living Trust, P.O. Drawer A, Jal, NM 88252.
Arch Survey to follow.
BLM Nationwide Bond #NM2634.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.
24.

SIGNED _____ Henry Hood TITLE Sr. Vice President – Land & Legal DATE 5/20/05

*(This space for Federal or State office use)

DECLARED WATER BASIN
CEMENT BEHIND THE 13⅜ CASING MUST BE CIRCULATED

PERMIT NO. _____ APPROVAL DATE _____

WITNESS

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

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:

APPROVED BY /S/ James Stovall ACTING FIELD MANAGER TITLE _____ DATE NOV - 8 2005

See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes 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

APPROVAL FOR 1 YEAR

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 989' in length and 14' in travel way width with a maximum disturbance area of 30' will be built in accordance with guidelines set forth by the surface owner.
   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 A-1 to A-4.
   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 county road #21 (Delaware Basin Rd.) and county road #J2 (XL Rd.). Go West on County Road #J2 approx 0.8 miles. Turn right (North) and go approx. 0.3 miles. Turn Right (East) and go approx 0.2 miles. Turn left (North(and go approx 0.1 miles to dry hole Mary Fed 2 well pad. This location is approx. 989' North along proposed road survey.

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

4. LOCATION OF PRODUCTION FACILITIES

   It is anticipated that production facilities will be located on the well pad as product will be sold at the wellhead and/or tank battery. It is anticipated that Duke Energy will lay pipeline. – 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 25-23S-33E. 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.

8. ANCILLARY FACILITIES

None

9. WELLSITE LAYOUT

The proposed site layout plat is attached showing the Nabors Drilling USA Inc Rig #311 plat. - See Exhibit D.

10. PLANS FOR RECLAMATION OF THE SURFACE

The location will be restored to as near as original condition as possible. Reclamation of the surface shall be done in strict compliance with the existing New Mexico Oil Conservation Division regulations.

Backfilling leveling, and contouring are planned as soon as the drilling rig and steel tanks are removed. Wastes and spoils materials will be buried immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible. The rehabilitation will begin after the drilling rig is removed.

11. SURFACE OWNERSHIP

Brininstool Living Trust
P.O. Draw A
Jal, NM 88252

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

Mineral Ownership
United States of America
Department of Interior
Bureau of Land Management

12. ADDITIONAL INFORMATION

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

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

13. OPERATOR'S REPRESENTATIVES

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

Drilling Engineer
David DeLaO
P.O. Box 18496
Oklahoma City, OK 73154
(405) 767-4339 (OFFICE)
(405) 879-9573 (FAX)
(405) 990-8182 (MOBILE)

Sr. Landman
Cecil Gutierrez
550 West Texas Ave.
Midland, TX 79701
432-687-2992 Ext 6012 (OFFICE)
432-687-3675 (FAX)
cgutierrez@chkenergy.com

Asset 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 11050
Oklahoma City, OK 73154
(405) 767-4275 (OFFICE)
(405) 879-9583 (FAX)
lgood@chkenergy.com

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: _____
Henry Hood, Sr. Vice President – Land & Legal

Date: 9/30/05

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

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (CFR 43, Part 3160) and the approved Application for Permit to Drill. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling and completion operations.

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease, which would entitle the applicant to conduct operations thereon.

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

Formation	Depth	Subsea
Rustler	1275	2350
Delaware	5170	-1545
Bell Canyon	5225	-1600
Cherry Canyon	6075	-2450
Brushy Canyon	7375	-3750
Bone Springs Lime	8725	-5100
First Bone Springs	9825	-6200
Second Bone Springs	10,400	-6775
Third Bone Springs	11,275	-7650
Wolfcamp	11,500	-7875
Strawn	12,300	-8675
Atoka Shale	12,475	-8850
Atoka Bank	12,575	-8950
Atoka Carbonate	12,675	-9050
Upper Morrow Sand	13,225	-9600
Morrow A Sand	13,350	-9725
Morrow B Sand	13,475	-9850
Morrow C Sand	13,650	-10025
Morrow D Sand	13,700	-10075
TD	13,900	-10275

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
WATER	SANTA ROSA	600
OIL/GAS	BRUSHY CANYON	7375
OIL/GAS	ATOKA BANK	12,575
OIL/GAS	MORROW A SAND	13,350
OIL/GAS	MORROW B	13,475
OIL/GAS	MORROW C SAND	13,650
OIL/GAS	MORROW D SAND	13,700

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT: 5,000# and 10,000 System
Chesapeake Operating, Inc.'s minimum specifications for pressure control equipment are as follows:

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

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.

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:

Purpose	Interval	Hole Size	Casing Size	Weight	Grade	Thread	Condition
Surface	0' – 1,300'	17-1/2"	13-3/8"	48#	H40	STC	New
Intermediate	0' – 5,150'	12-1/4"	9-5/8"	40#	J55	LTC	New
Production	0' – 12,300'	8-3/4"	7"	26#	P110	LTC	New
Production Liner	12,000' – 13,900'	6-1/8"	4-1/2"	13.5#	P110	LTC	New

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

c. The cementing program will be as follows:

Interval	Type	Amount	Yield	Washout	Excess
0'-1,300'	Class C + Additives	750+300	1.74/1.34	75	100
0'- 5,150'	Class C 50/50 Poz + Additives	1050+200	2.23/1.34	50	75
4,650 – 12,300'	Class H + Additives	700+100	1.99/1.19	10	30
12,300'-13,900'	Class H + additives	150	1.57	10	30

5. MUD PROGRAM

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

Interval	Mud Type	Mud Weight	Viscosity	Fluid Loss
0 – 1,300'	FW	8.7	29-38	NC
1,300' - 5,150'	Brine	10	29	NC
5,150'-12,300'	FW/Brine	8.5 – 10	29-32	NC
12,300'-13,900'	Brine/XCD	12.5-13.5	29-40	NC-15

An in-ground, lined pit will be utilized during the drilling of this well. All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

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

6. TESTING, LOGGING AND CORING

The anticipated type and amount of testing, logging and coring are as follows:

a. Drill stem tests are not planned.
b. The logging program will consist of Natural GR, Density-Neutron, PE & Dual Laterolog from TD to surface casing; Neutron-GR surface casing to surface.
c. Cores samples are not planned.

7. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

a. The estimated bottom hole pressure is 9250 psi. No abnormal pressures or temperatures are anticipated.
b. Hydrogen sulfide gas is not anticipated.

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 JUNE 10, 2003
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
30-025-37582	72000	Bell Lake; Morrow Mid

Property Code	Property Name	Well Number
	BRININSTOOL 25 FEDERAL	1

OGRID No.	Operator Name	Elevation
147179	CHESAPEAKE OPERATING, INC.	3626'

Surface Location

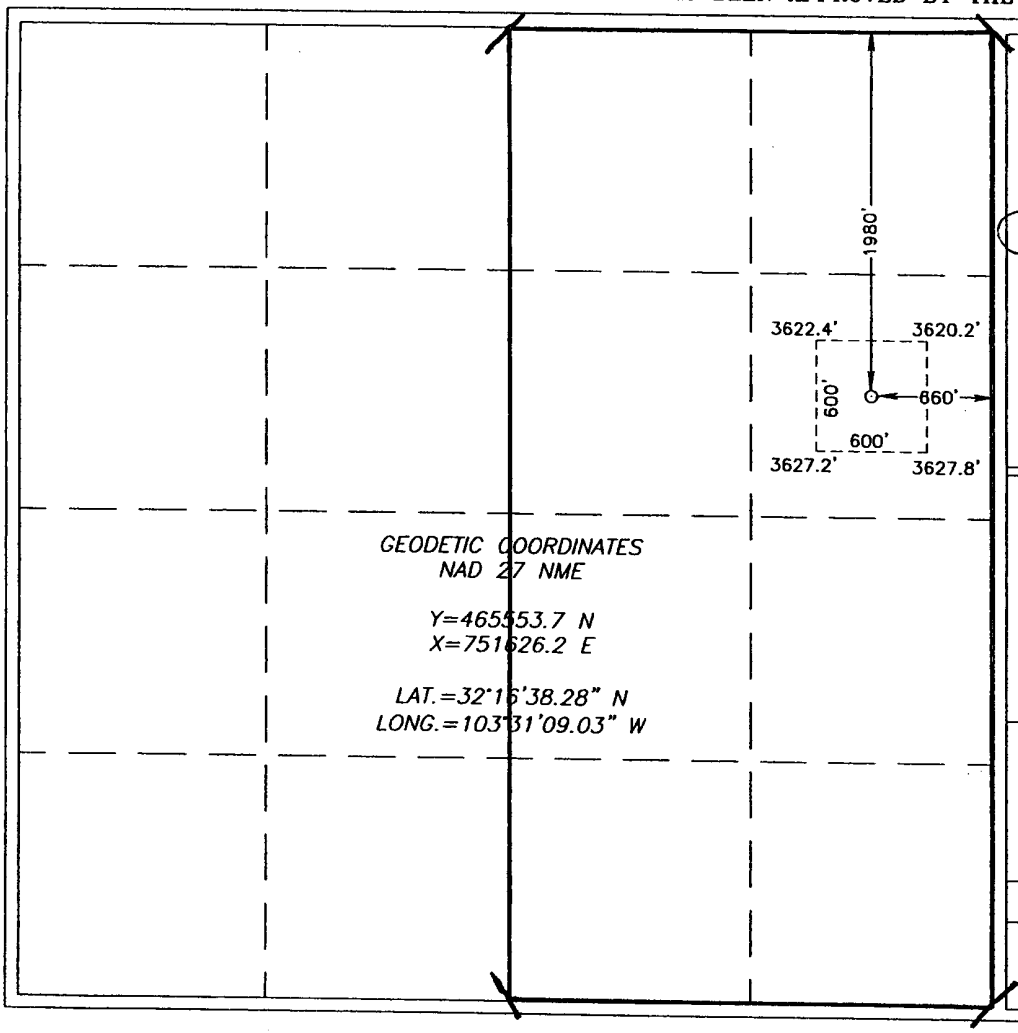
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	25	23-S	33-E		1980	NORTH	660	EAST	LEA

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.
320			

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



GEODETIC COORDINATES
NAD 27 NME

Y=465553.7 N
X=751626.2 E

LAT.=32°16'38.28" N
LONG.=103°31'09.03" W

OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Lynda F. Townsend
Signature

Lynda F. Townsend
Printed Name

Senior Landman
Title

9-20-05
Date

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 supervison, and that the same is true and correct to the best of my belief.

AUGUST 31, 2005
Date Surveyed DEL

Signature & Seal of Professional Surveyor

GARY G. EIDSON
NEW MEXICO
12641
REGISTERED PROFESSIONAL SURVEYOR

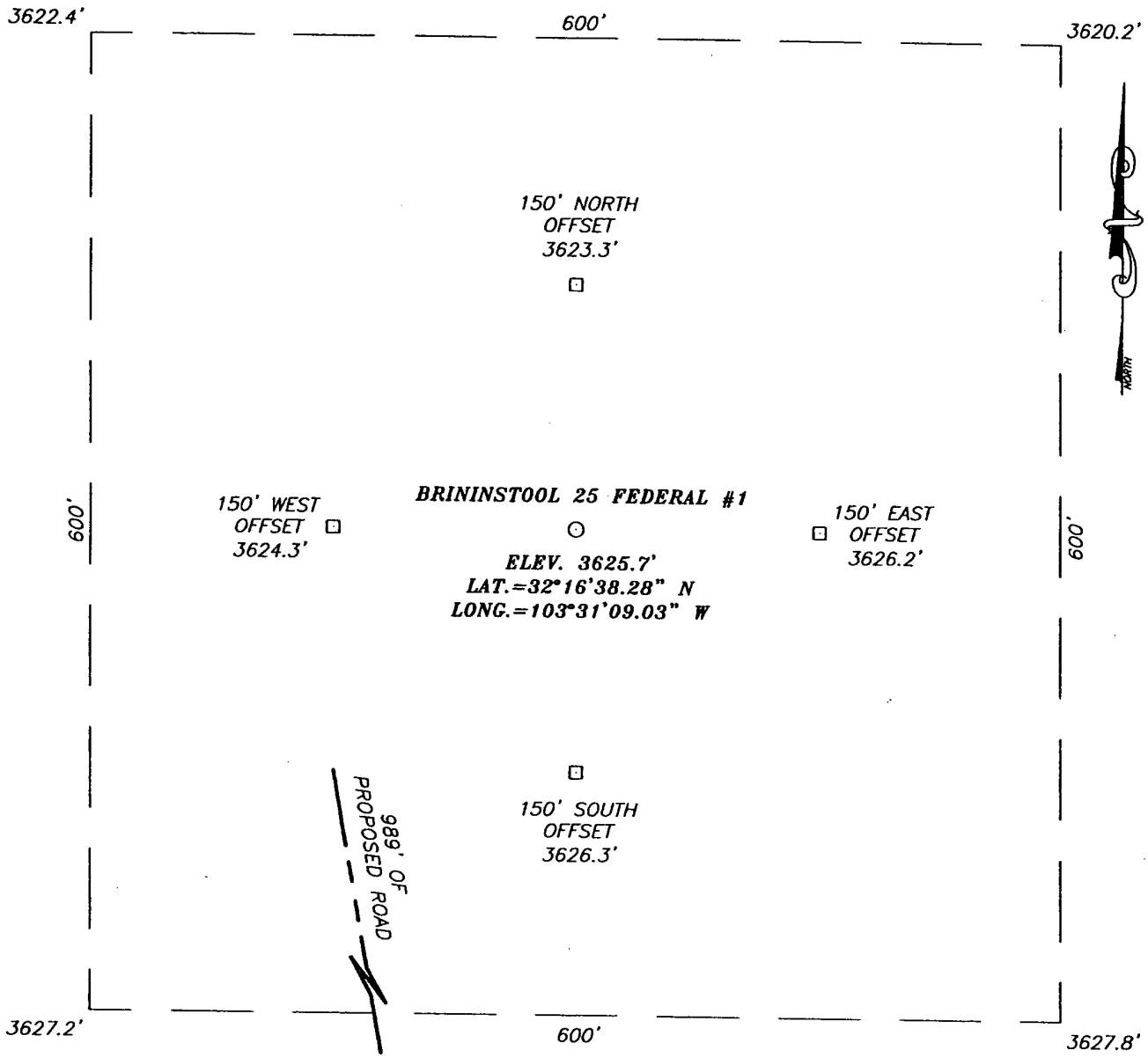
Gary G. Eidson 9/9/05
05.11.1357

Certificate No. GARY EIDSON 12641

Exhibit A-1

SECTION 25, TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. #21 (DELEWARE BASIN RD.) AND CO. RD. #J2 (XL RD.). GO WEST ON CO. RD. #J2 APPROX. 0.8 MILES. TURN RIGHT (NORTH) AND GO APPROX. 0.3 MILES. TURN RIGHT (EAST) AND GO APPROX. 0.2 MILES. TURN LEFT (NORTH) AND GO APPROX. 0.1 MILES TO DRY HOLE MARY FED. #2 WELL PAD. THIS LOCATION IS APPROX. 1100' NORTH ALONG PROPOSED ROAD SURVEY.

100 0 100 200 Feet

Scale:1"=100'

PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO

HOBBS, N.M. 88240

(505) 393-3117

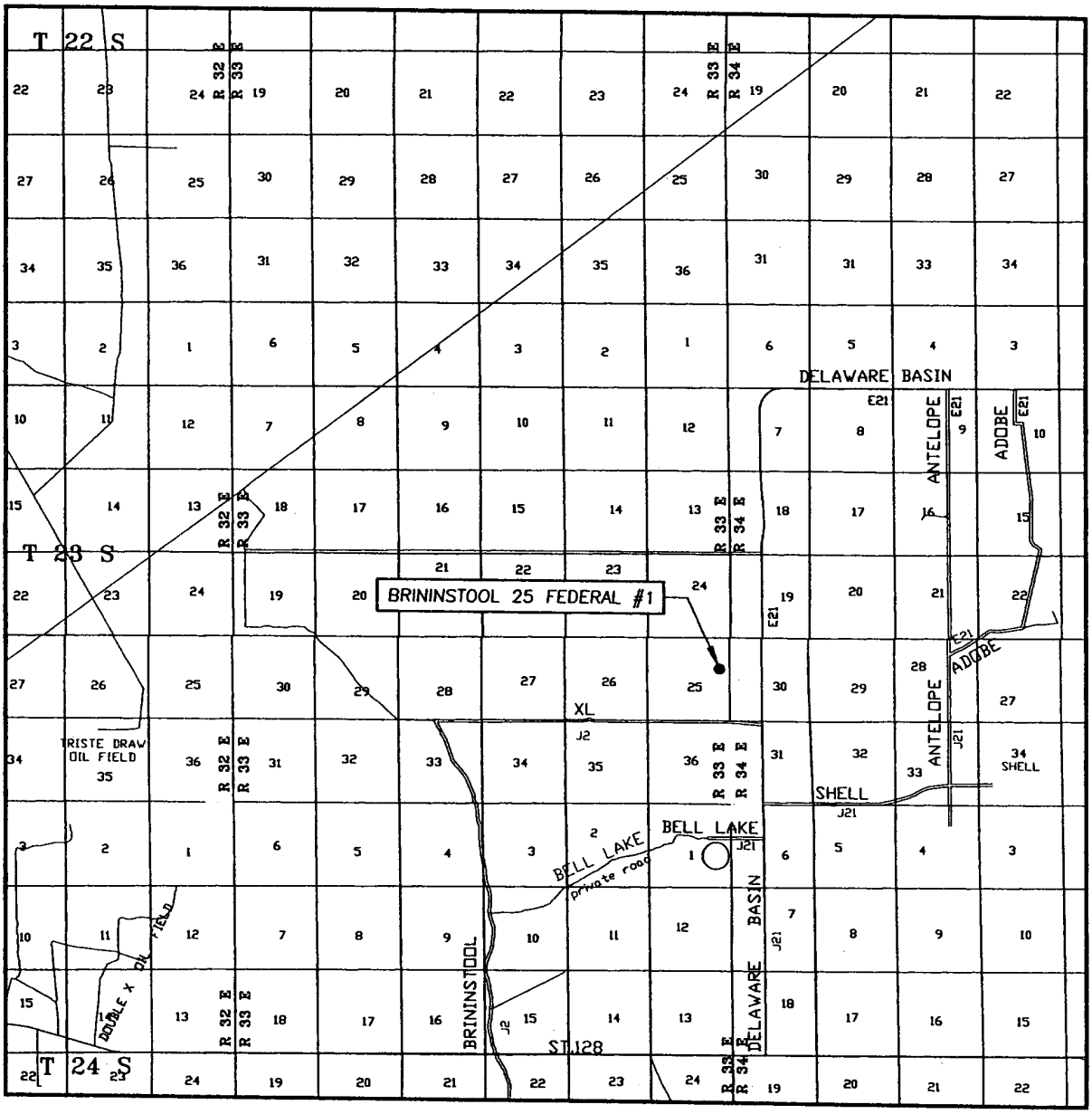
CHESAPEAKE OPERATING, INC.

BRININSTOOL 25 FEDERAL #1 WELL
LOCATED 1980 FEET FROM THE NORTH LINE
AND 660 FEET FROM THE EAST LINE OF SECTION 25,
TOWNSHIP 23 SOUTH, RANGE 33 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 08/31/05	Sheet 1 of 1 Sheets		
W.O. Number: 05.11.1357	Dr By: DEL		Rev 1:N/A
Date: 09/02/05	Disk: CD#4	05111357	Scale:1"=100'

Exhibit A-2

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 25 TWP. 23-S RGE. 33-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1980' FNL & 660' FEL

ELEVATION 3626'

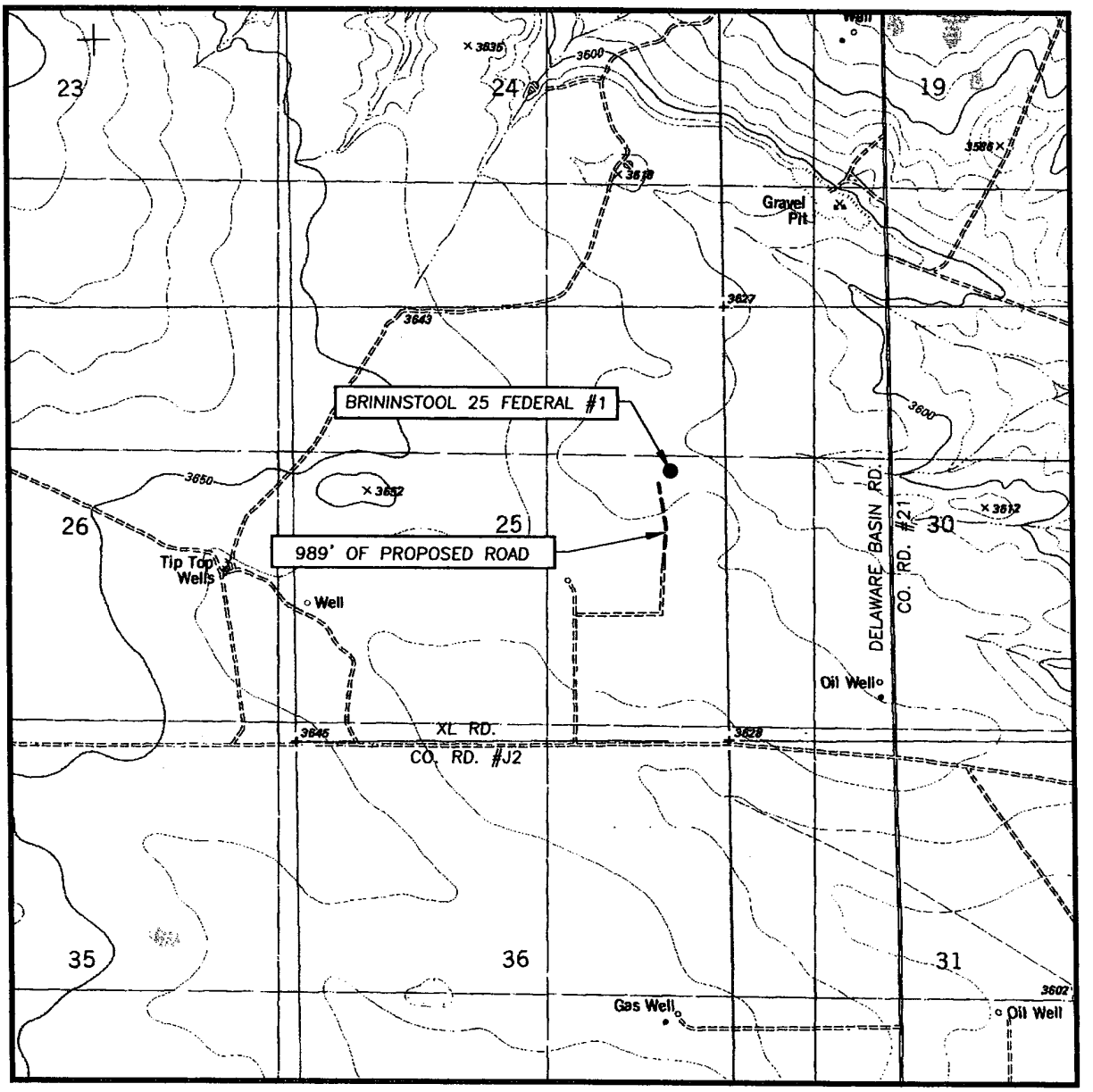
OPERATOR CHEASAPEAKE OPERATING, INC.

LEASE BRININSTOOL 25 FEDERAL

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

Exhibit A-3

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
TIP TOP WELLS, N.M. – 10'

SEC. 25 TWP. 23-S RGE. 33-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1980' FNL & 660' FEL

ELEVATION 3626'

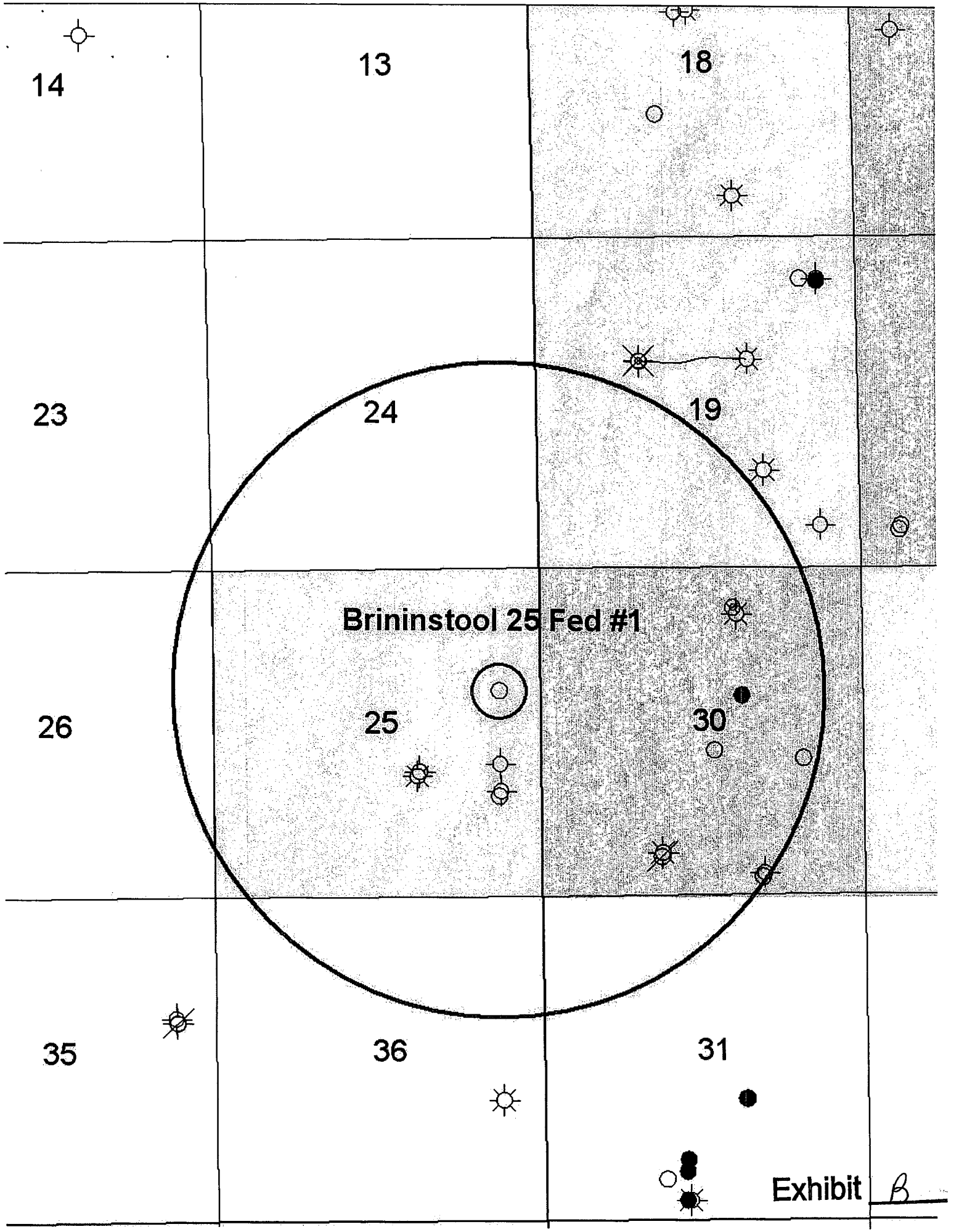
OPERATOR CHESAPEAKE OPERATING, INC.

LEASE BRININSTOOL 25 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
TIP TOP WELLS, N.M.

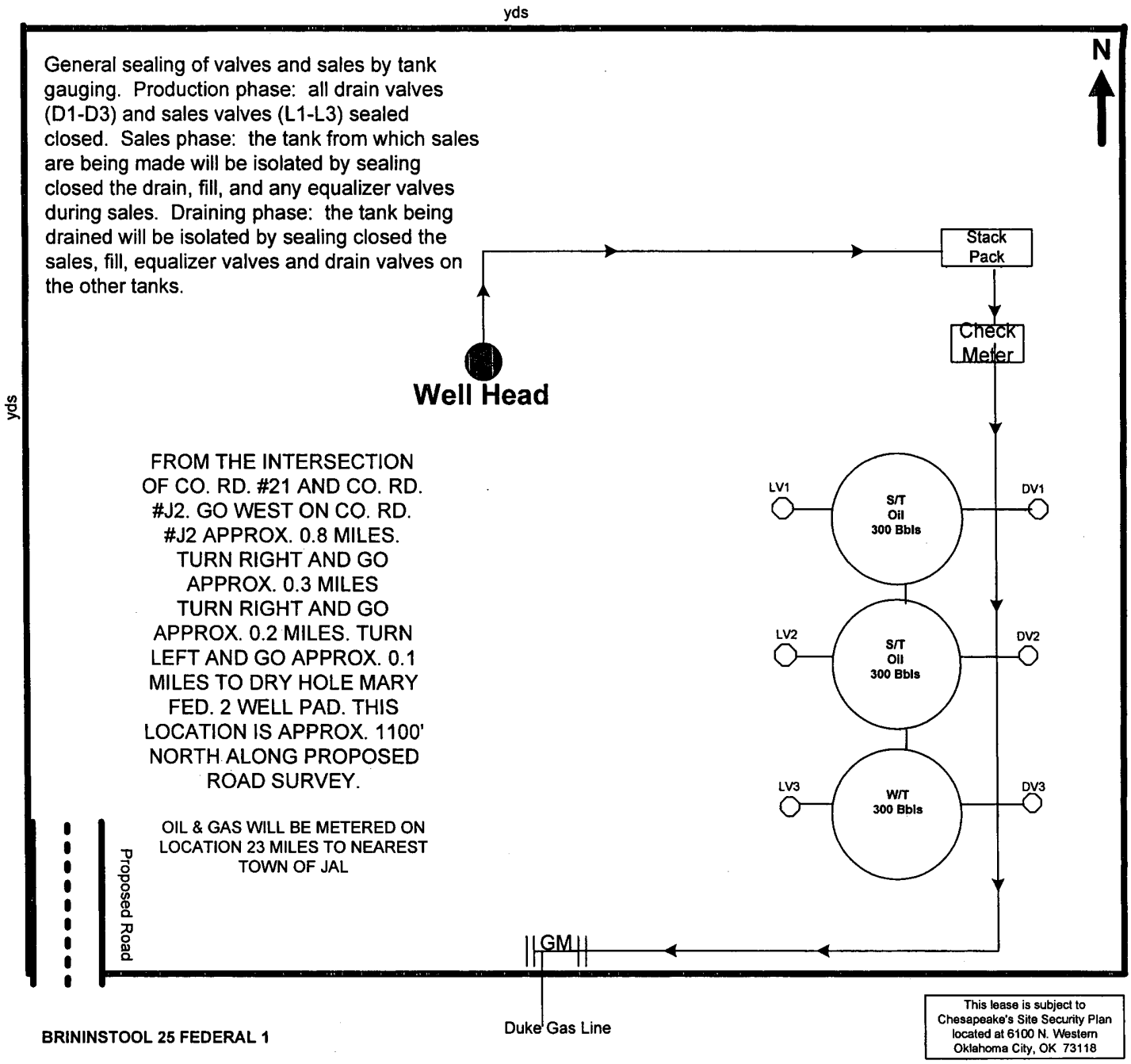
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

Exhibit A-4


14
13
18
23
24
19
Brininstool 25 Fed #1
26
25
30
35
36
31
Exhibit B

CHESAPEAKE OPERATING, INC.

BRININSTOOL 25 FEDERAL 1
15-19S-33E
LEA COUNTY, NEW MEXICO



Prepared by: DEBBIE HERNANDEZ
Date: 09-27-2005

Approved by:
Date:

Exhibit C

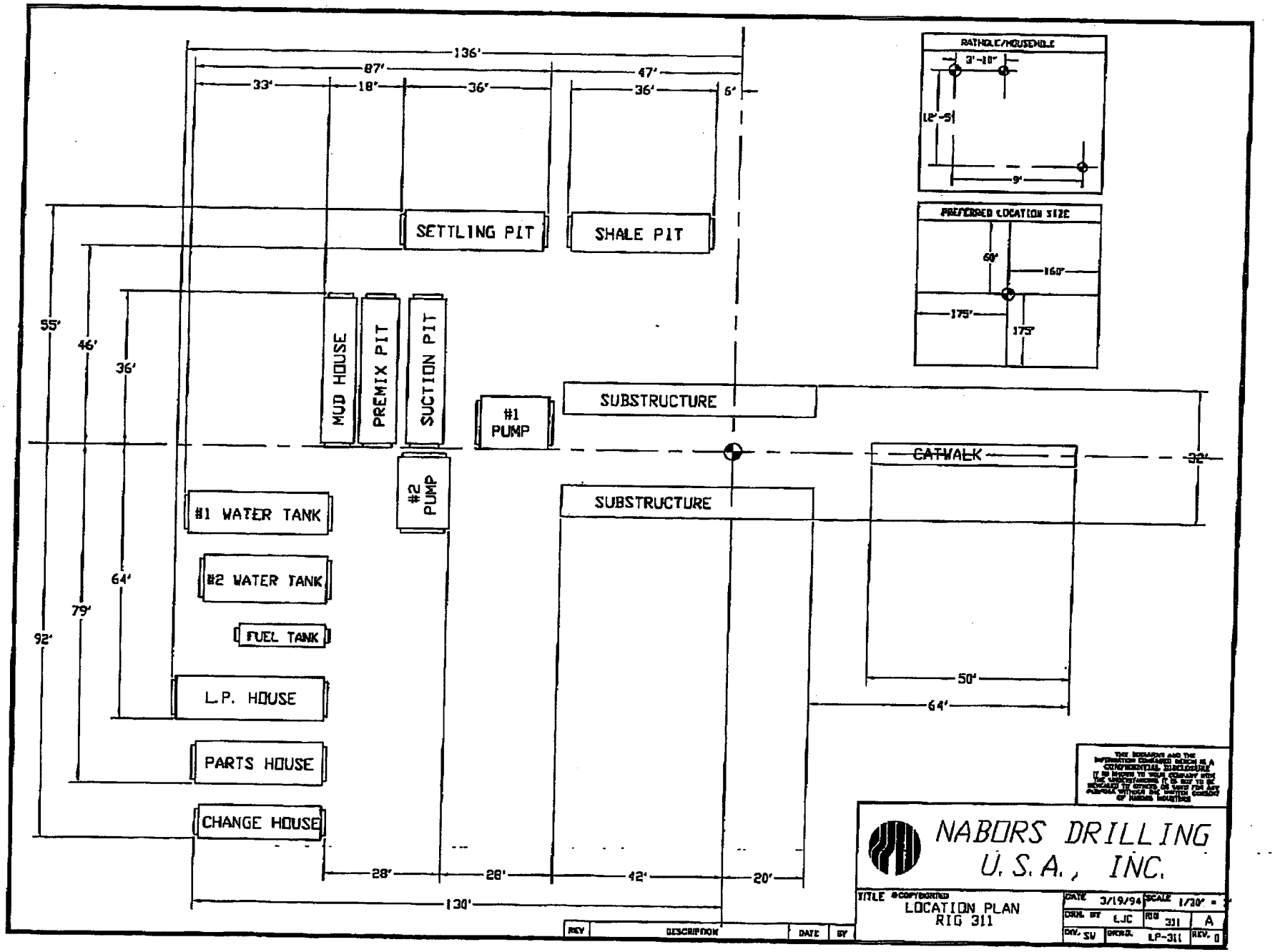

136'
87'
47'
33'
18'
36'
36'
6'
SETTLING PIT
SHALE PIT
MUD HOUSE
PREMIX PIT
SUCTION PIT
#1 PUMP
#2 PUMP
SUBSTRUCTURE
SUBSTRUCTURE
CATWALK
32'
#1 WATER TANK
#2 WATER TANK
FUEL TANK
L.P. HOUSE
PARTS HOUSE
CHANGE HOUSE
55'
46'
36'
64'
79'
92'
50'
64'
28'
28'
42'
20'
130'
RATHOLE/MOUSEHOLE
2'-10"
12'-5"
9'
PREFERRED LOCATION SIZE
60'
160'
175'
175'
NABORS DRILLING
U.S.A., INC.
TITLE
LOCATION PLAN
RIG 311
DATE 3/19/94
SCALE 1/20' =
DRWN. BY E.JC
RIG 311
A
DWG. SW
DWG. LP-311
REV. 0
REV
DESCRIPTION
DATE
BY

Exhibit D

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

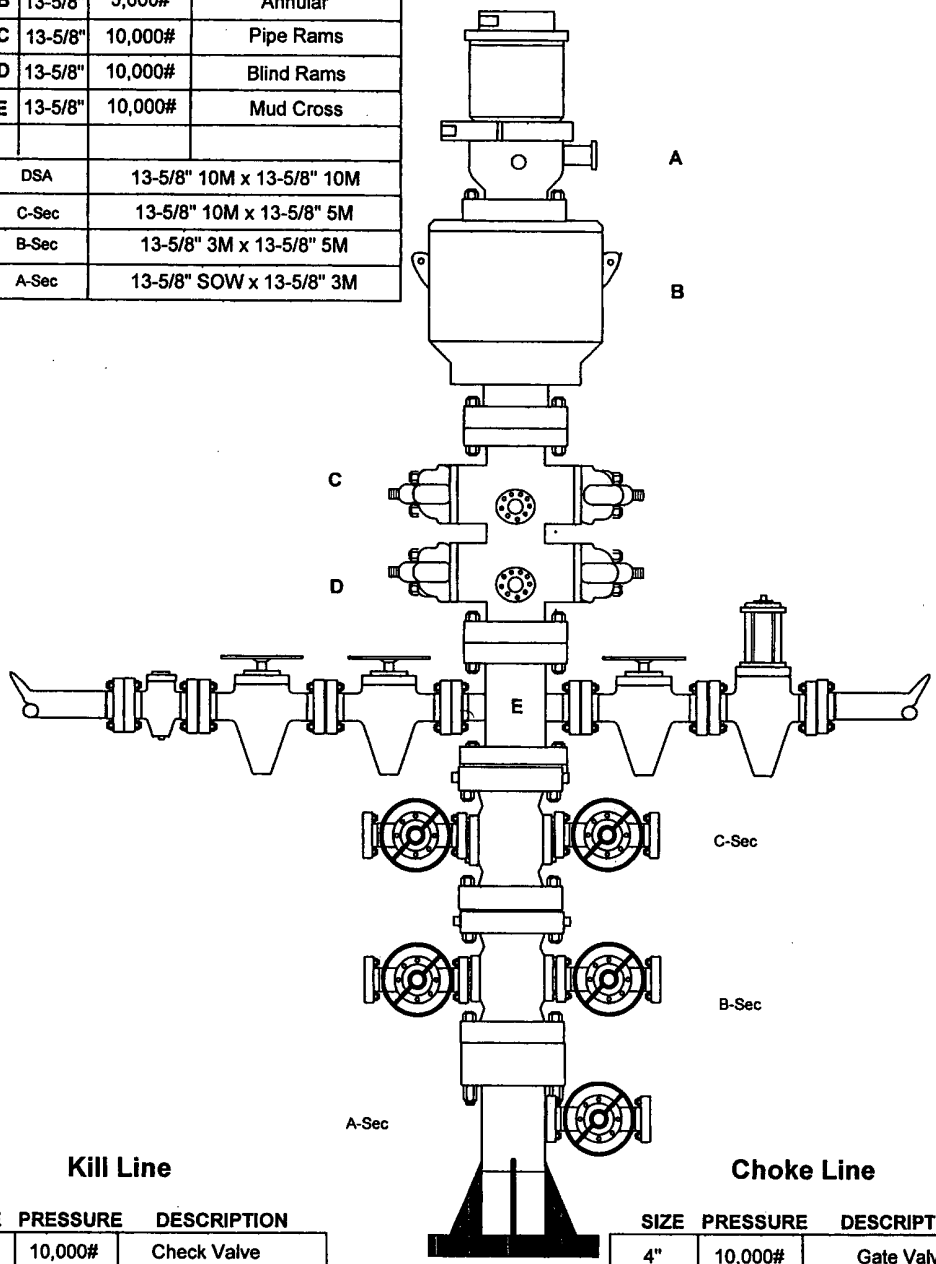
WELL : Brinistool 25 Federal #1

RIG : Nabors 311

COUNTY : Lea **STATE:** New Mexico

OPERATION: Drill out below 13-3/8" Casing (same for all intervals)

	SIZE	PRESSURE	DESCRIPTION
A	13-5/8"	500#	Rot Head
B	13-5/8"	5,000#	Annular
C	13-5/8"	10,000#	Pipe Rams
D	13-5/8"	10,000#	Blind Rams
E	13-5/8"	10,000#	Mud Cross
DSA		13-5/8" 10M x 13-5/8" 10M	
C-Sec		13-5/8" 10M x 13-5/8" 5M	
B-Sec		13-5/8" 3M x 13-5/8" 5M	
A-Sec		13-5/8" SOW x 13-5/8" 3M	



Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	10,000#	Check Valve
2"	10,000#	Gate Valve
2"	10,000#	Gate Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
4"	10,000#	Gate Valve
4"	10,000#	HCR Valve

Exhibit F

SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name Chesapeake Operating Inc Well Name & No. Brininstool 25 Federal #1
Location 1980 F N L & 660 F E L Sec. 25, T. 23 S, R. 33 E.
Lease No. NM112940 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)
( ) San Simon Swale (stips attached)
( ) Flood plain (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. V-door west (pits south)

III. WELL COMPLETION REQUIREMENTS

( ) A Communlitization 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)
Side Oats Grama (*Bouteloua curtipendula*) 5.0
Sand Dropseed (*Sporobolus cryptandrus*) 1.0

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

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

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

( ) 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 recontoured, 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 processed 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.

CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Chesapeake Operating, Inc. Well No. 1 – Brininstool 25 Federal
Location: 1980' FNL & 660' FEL sec. 25, T. 23 S., R. 33 E.
Lease: NM-112940

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at (505) 393-3612 in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: **13-3/8** inch **9-5/8** inch **7** inch **4-1/2** inch

C. BOP Test

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. Include the API No. assigned to well by NMOCD on the subsequent report of setting the first casing string.

II. CASING:

1. **13-3/8** inch surface casing should be set **at approximately 1300 feet in the Rustler Anhydrite above the top of the Salt**, below usable water and circulate cement to the surface. If cement does not circulate to the surface this 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. Minimum required fill of cement behind the **9-5/8** inch intermediate casing is **sufficient to circulate to the surface.** If cement does not circulate to the surface the BLM Hobbs 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.

3. Minimum required fill of cement behind the **7** inch production casing is **sufficient to tie back 500 feet above the top of the uppermost perforation in the pay zone.**

4. Minimum required fill of cement behind the **4-1/2** inch production liner is **sufficient to tie back 200 feet into the 7 inch production casing set at approximately 12300 feet.**

III. PRESSURE CONTROL:

1. Before drilling below the **13-3/8** inch surface casing, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve. Before drilling below the **9-5/8** inch intermediate casing, the blowout preventer assembly shall consist of a minimum of One Annular Preventer, Two Ram-Type Preventers, and a Kelly Cock/Stabbing Valve.

2. Before drilling below the **13-3/8** inch surface casing, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi. Before drilling below the **9-5/8** inch intermediate casing, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **5000** psi. Before drilling below the **7** inch production casing, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **10000** psi.

CONDITIONS OF APPROVAL – DRILLING (CONTINUED)

Operator's Name: Chesapeake Operating, Inc. **Well No.** 1 – Brininstool 25 Federal
Location: 1980' FNL & 660' FEL **sec.** 25, **T.** 23 S., **R.** 33 E.
Lease: NM-112940

III. PRESSURE CONTROL:

3. After setting the 7 inch production casing and before drilling into the **Wolfcamp** formation, the BOPE shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

A. The BLM Hobbs Office shall be notified at (505) 393-3612 in sufficient time for a representative to witness the tests.

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

C. The results of the test shall be reported to the BLM Hobbs Office at 414 West Taylor, Hobbs, New Mexico 88240.

D. 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.

E. Testing must be done in a safe workman like manner. Hard line connections shall be required.

IV. DRILLING MUD:

1. Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented. Monitoring equipment shall consist of the following:

A. Recording pit level indicator to indicate volume gains and losses.

B. Flow-sensor on the flow-line to warn of abnormal mud returns from the well.

BLM Serial Number:NM112940
Company Reference: Chesapeake Operating Inc
Well No. & Name: Brininstool 25 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 of 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.

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).

/_X_/ 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, outsloping, insloping, 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

/_x_/ 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).

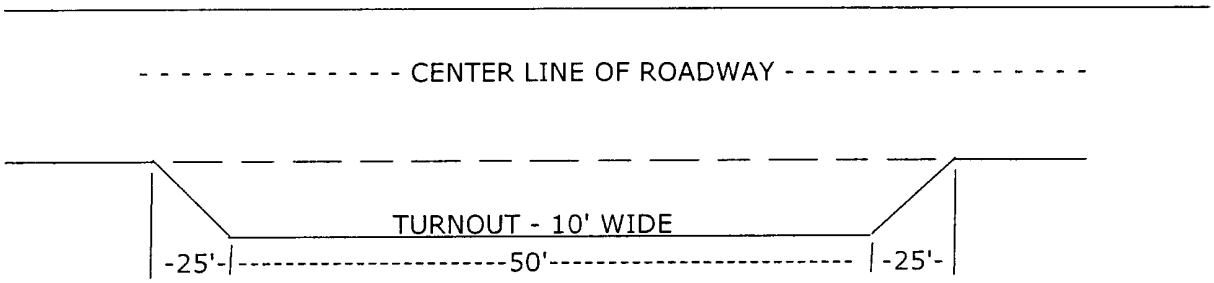
C. On road slopes exceeding 2%, drainage dips shall drain water into an adjacent lead-off ditch. Drainage dip location and spacing shall be determined by the formula:

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:



STANDARD TURNOUT - PLAN VIEW

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.

10. SPECIAL STIPULATIONS:

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

State of New Mexico
Energy, Minerals and Natural Resources

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

Form C-103
May 27, 2004

WELL API NO.

5. Indicate Type of Lease STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

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

7. Lease Name or Unit Agreement Name
Brininstool 25 Federal

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

8. Well Number 1

2. Name of Operator
Chesapeake Operating Inc.

9. OGRID Number 147179

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

10. Pool name or Wildcat
Bell Lake; Morrow

4. Well Location
Unit Letter H : 1980 feet from the North line and 660 feet from the East line
Section 25 Township 23S Range 33E NMPM County Lea

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3626'

Pit or Below-grade Tank Application ☒ or Closure ☐

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

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume 12129 bbls; Construction Material synthetic

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
OTHER:Pit ☒		OTHER: ☐	

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

Chesapeake, respectfully, request permission to build a drilling pit according to the attached diagram. Chesapeake, hereby, agrees to close the pit according to NMOCD Pit Guidelines # B3b.

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

SIGNATURE Brenda Coffman TITLE Regulatory Analyst DATE 11/14/2005

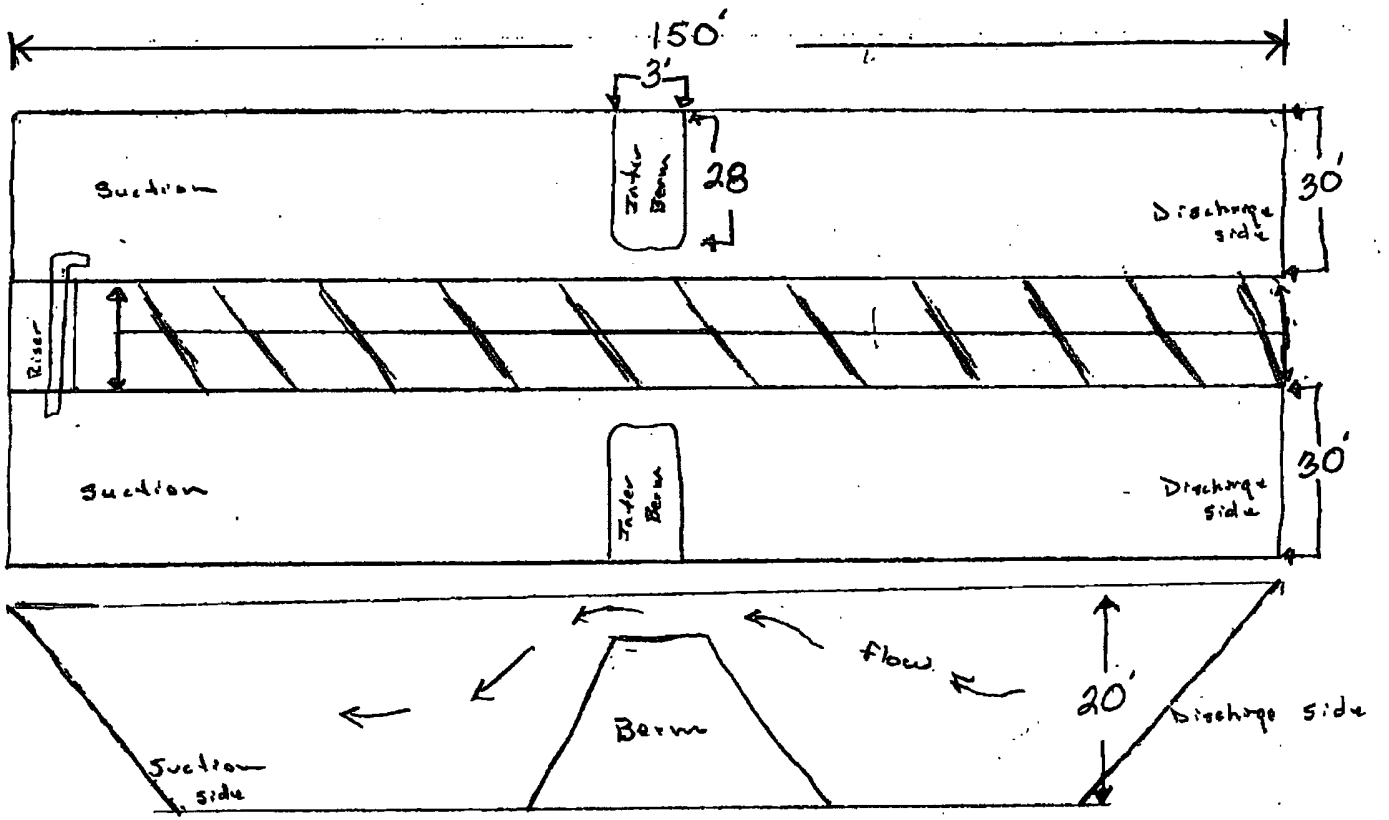
Type or print name Brenda Coffman E-mail address: bcoffman@chkenergy.com Telephone No. (432)687-2992

For State Use Only

APPROVED BY: TITLE PETROLEUM ENGINEER DATE DEC 06 2005

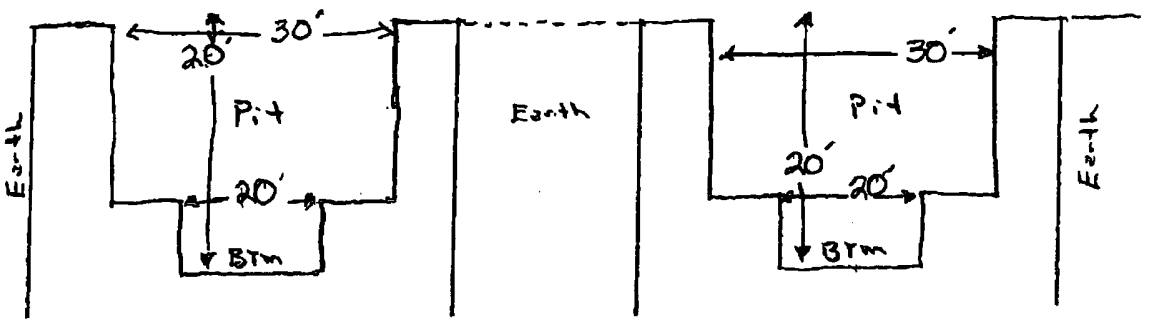
Conditions of Approval (if any):

Chesapeake Energy — Double Pit — Guideline 3A



3' x 30' x 140' = 75600 ft³ ÷ 5.6146 = 13464.8 bbls x 2 = 26929.7 bbls, with 18' of fluid & cuttings in pits.

0' x 30' x 140' = 90000 ft³ ÷ 5.6146 = 16029.6 bbls x 2 = 32059.2 bbls with 20'



End cross section