ATS-13-813

HOBBS OCD

Form 3160-3
(August 2007)

AUG 13 2013 OCD Hobbs

RECEIVED

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM~~112940~~ 114986

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

CONFIDENTIAL

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

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. <40072>
BRININSTOOL 23 23 33 USA 1H

2. Name of Operator ~~CHESAPEAKE ENERGY CORPORATION~~ Operating <147179> Contact: CAROL ADLER
carol.adler@chk.com

9. API Well No.
30-025-41330

3a. Address
P.O. BOX 18496
OKLAHOMA CITY, OK 73154-0496

3b. Phone No. (include area code)
Ph: 817-556-5825

10. Field and Pool, or Exploratory <5150>
~~WOLFCAMP~~
Bell Lake Bone Spring North

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface SWSE Lot O ~~150FSL 1980FEL~~ 149 FNL 1568 FEL B 7/22/13

At proposed prod. zone NWNE Lot ~~B 330FNL 1980FEL~~ 330 FSL 1568 FEL O Per Choice Representative

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 23 T23S R33E Mer NMP

14. Distance in miles and direction from nearest town or post office*
25 MILES FROM JAL, NEW MEXICO

12. County or Parish
LEA

13. State
NM

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
150 FEET FROM SOUTH SECTION LINE

16. No. of Acres in Lease
~~640.00~~ 12.50

17. Spacing Unit dedicated to this well
160.00

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
1580 FEET FROM NEAREST WELL

19. Proposed Depth
11180 TVD - lateral
15725 MD
12200 TVD PH

20. BLM/BIA Bond No. on file
ESB000159

21. Elevations (Show whether DF, KB, RT, GL, etc.
3680 GL

22. Approximate date work will start
09/01/2013

23. Estimated duration
30 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

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

25. Signature
(Electronic Submission)

Name (Printed/Typed)
CAROL ADLER Ph: 817-556-5825

Date
05/15/2013

Title
REGULATORY ANALYST II

Approved by (Signature)
/s/George MacDonell

Name (Printed/Typed)
/s/George MacDonell

Date
AUG - 9 2013

Title
FIELD MANAGER

Office
CARLSBAD FIELD OFFICE

Application approval does not warrant or certify 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 TWO YEARS

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.

KB 08/14/13

Additional Operator Remarks (see next page)

~~CARLSBAD CONTROLLED~~ PECOS DISTRICT WATER BASIN

Electronic Submission #207552 verified by the BLM Well Information System
For CHESAPEAKE ENERGY CORPORATION, sent to the Hobbs
Committed to AFMSS for processing by JOHNNY DICKERSON on 05/28/2013 ()

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

AUG 16 2013

dmr

Additional Operator Remarks:

CONFIDENTIAL

CHESAPEAKE OPERATING, INC. RESPECTFULLY REQUESTS PERMISSION TO DRILL A WELL TO 15,725 FEET IN THE WOLFCAMP FORMATION

CHK PN 648671

Chesapeake Operating, Inc. respectfully requests permission to drill a well to 15,725'. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and New Mexico Oil Conservation Division requirements.

Please find the Surface Use Plan and Drilling Plan as required by Onshore Order No. 1.

Attached are the Exhibit A-1 to A-4 Survey plats, Exhibit B 1 mile radius plat, Exhibit C Production facility, Exhibit D Trinidad Rig layout, Exhibit F-1 to F-2 BOP & Choke Manifold, Exhibit G Standard Planning Report, Wellbore Schematic and Form C-144 Closed Loop System Permit.

Archeological Survey will be delivered to the BLM when completed.

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

Please be advised that Chesapeake Operating, Inc. is the Designated Agent for Chevron. Chesapeake Operating, Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

OHSORE OIL & GAS ODER 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	SUB-SEA	KBTVD	MD
Rustler	2385	1314	
Top of Salt	1950	1749	
Base of Salt	-1390	5089	
Lamar	-1510	5209	
Bell Canyon	-1560	5259	
Cherry Canyon	-2375	6074	
Brushy Canyon	-4100	7799	
Bone Spring	-5250	8949	
Wolfcamp	-8411	12110	
Pilot TD	-8501	12200	
Lateral TD	-7431	11130	15725

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	Rustler	1314
Oil/Gas	Brushy Canyon	7799
Oil/Gas	Bone Spring	8949

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

3. BOP EQUIPMENT

5000

Will have a minimum of a ~~3000~~ psi rig stack (see proposed schematic) for drill out below surface casing. See COA
Stack will be tested as specified in the attached testing requirements.

4. **CASING PROGRAM**

a. The proposed casing program will be as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	1,420'	17-1/2"	13-3/8"	48 #	H-40	STC	New
Shallow Intermediate	0'	5,220'	12-1/4"	9-5/8"	40 #	J-55	LTC	New
Production	0'	15,725'	8-3/4"	5-1/2"	17.0 #	P-110	LTC	New

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

c. *****A "Worst Case" casing design for wells in a particular area is used below to calculate the Casing Safety Factors. If for any reason the casing design for a particular well requires setting casing deeper than the following "worst case" design, then the Casing Safety Factors will be recalcuated & sent to the BLM prior to drilling.**

SF Calculations based on the following "Worst Case" casing design.

Surface Casing: 1500'
Intermediate Casging: 5250'
Production Casing: 16,250' MD/11,500' TVD (5000' VS @ 90 deg inc)

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension
Surface	1.29	1.14	1.99
Shallow Intermediate	1.11	1.14	1.88
Production	1.31	1.50	1.66

Min SF is the smallest of a group of safety factors that include the following considerations:

	Surf	Int	Prod
Burst Design			
Pressure Test- Surface, Int, Prod Csg P external: Water P internal: Test psi + next section heaviest mud in csg	X	X	X
Displace to Gas- Surf Csg P external: Water P internal: Dry Gas from Next Csg Point	X		
Frac at Shoe, Gas to Surf- Int Csg P external: Water P internal: Dry Gas, 15 ppg Frac Gradient		X	
Stimulation (Frac) Pressures- Prod Csg P external: Water P internal: Max inj pressure w/ heaviest injected fluid			X
Tubing leak- Prod Csg (packer at KOP) P external: Water P internal: Leak just below surf, 8.7 ppg packer fluid			X
Collapse Design			
Full Evacuation P external: Water gradient in cement, mud above TOC P internal: none	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X
Tension Design			
100k lb overpull	X	X	X

5. CEMENTING PROGRAM

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks
Surface				(ppg)	(sx/cu ft)	Open Hole	
Lead	C + 4% Gel	0'	1,320'	13.7	1.65	250	1842
Tail	Class C	1,320'	1,420'	14.8	1.33	250	213
	***Note -- the 100' fill of Tail cement shown above is assuming 250% excess over 17-1/2" gauge hole. If a 17-1/2" gauge hole was used for volume calculations, the 213 sacks of Tail cement would result in 350' of fill.						
Intermediate							
Lead	TXI + 5% Salt	0'	4,720'	12	1.99	250	2087
Tail	50C/50Poz +5% Salt	4,720'	5,220'	14.2	1.37	250	414
Production							
Lead	35/65Poz H +8% Gel	4,720'	10,652'	12.4	2.19	75	1156
Tail	50/50Poz H +2% Gel	10,652'	11,402'	14.5	1.28	75	264

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. Open hole packers and production casing will be left uncemented from TD of 15,725' to End of Curve of 11,402', and the rest of the production casing will be cemented using a Stage Tool from 11,402' to 4,720'.
4. Production casing will have one centralizer on every other joint from Stage Tool to KOP (horizontal type) and from KOP to intermediate casing (bowspring type).

Pilot Hole Plugging Plan:
Note: -- The 8-3/4" Pilot Hole will TD within the Wolfcamp formation at +/- 12,200' (exact depth of Pilot Hole TD will depend on geologic tops encountered while drlg). The planned lateral will be in the Bone Spring formation.

Two cement plugs will be placed in the 8-3/4" Pilot Hole. The first will span 300' from Pilot Hole TD to +/- 11,900' MD/TVD and will serve as an isolation plug. This first plug will be set using 155 sx (20% excess) of 17.0 ppg 0.99 cuft/sk yield Class H cement. The second plug will span 300' from +/- 10,800' MD/TVD to +/- 10,500' MD/TVD and will serve as a kick off plug (kick off point is currently planned at 10,652', but is subject to change after evaluating Pilot Hole logs). The second plug will also be set using 155 sx (20% excess) of 17.0 ppg, 0.99 cuft/sk yield Class H cement.

6. **MUD PROGRAM**

From	To	Type	Weight	F. Vis	Filtrate
0'	1,420'	Spud Mud	8.4 - 8.7	32 - 34	NC - NC
1,420'	5,220'	Brine	9.5 - 10.1	28 - 29	NC - NC
5,220'	10,652'	FW/Cut Brine	8.3 - 9.5	28 - 29	NC - NC
10,652'	11,402'	Cut Brine	8.3 - 9.5	32 - 36	15 - 25
11,402'	15,725'	FW/Cut Brine	8.3 - 9.5	28 - 29	NC - NC

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

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

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

Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated -- a pit volume totalizer (PVT), stroke counter, and flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume.

A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate.

7. **TESTING, LOGGING, AND CORING** See COA

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 be as follows:

TYPE	Logs	Interval	Timing	Vendor
OH	Quad Combo	Pilot Hole TD to Int Csg	Pilot Hole TD	TBD
Mudlogs	2 man mudlog	Int Csg to TD	Drillout of Int Csg	TBD
LWD	MWD Gamma	Curve and Lateral	While Drilling	TBD

c. Core samples are not planned.
d. A Directional Survey will be run.

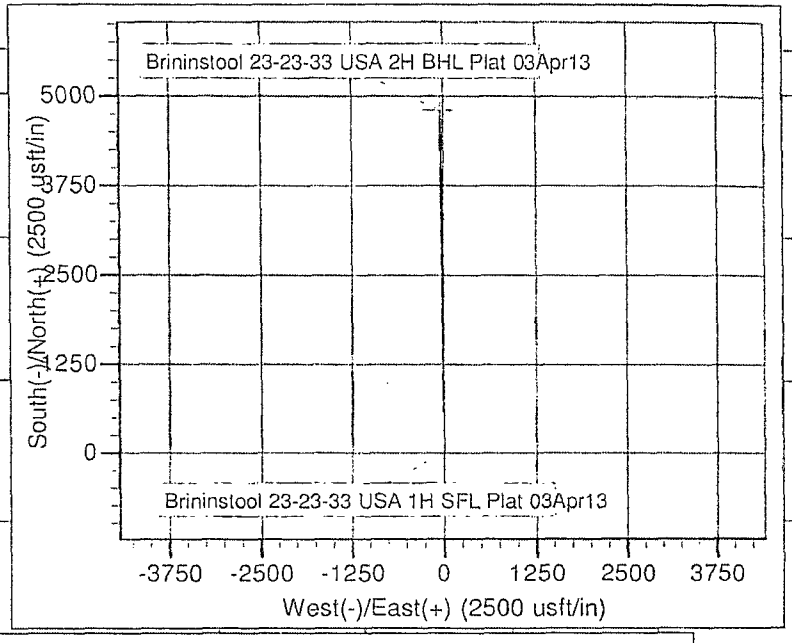
8. **ABNORMAL PRESSURES AND HYDROGEN SULFIDE**

a. No abnormal pressures or temperatures are expected. Estimated BHP is: 4919 psi
b. Hydrogen sulfide gas is not anticipated.

Project: NM - Bone Spring Sand Project
Site: Brininstool 23-23-33 USA 1H
Well: Well #1
Wellbore: Wellbore #1
Design: Plat 03Apr13

PROJECT DETAILS: NM - Bone Spring Sand Project

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	10652.5	0.00	0.00	10652.5	0.0	0.0	0.00	0.00	0.0	
3	11402.5	90.00	359.57	11130.0	477.5	-3.6	12.00	359.57	477.5	
4	15725.2	90.00	359.57	11130.0	4800.0	-36.0	0.00	0.00	4800.1	Brininstool 23-23-33 USA 2H BHL Plat 03Apr13

Permian District

NM - Bone Spring Sand Project
Brininstool 23-23-33 USA 1H
Well #1

Wellbore #1

Plan: Plat 03Apr13

Standard Planning Report

29 April, 2013

Chesapeake Operating
Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Site Brininstool 23-23-33 USA 1H
Company:	Permian District	TVD Reference:	RKB @ 3697.0usft
Project:	NM - Bone Spring Sand Project	MD Reference:	RKB @ 3697.0usft
Site:	Brininstool 23-23-33 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat 03Apr13		

Project NM - Bone Spring Sand Project

Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Brininstool 23-23-33 USA 1H

Site Position:		Northing:	467,649.00 ft	Latitude:	32° 16' 59.49252234 N
From:	Map	Easting:	745,008.00 ft	Longitude:	103° 32' 25.94695338 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	0.42 °

Well Well #1

Well Position	+N/-S	0.0 usft	Northing:	467,649.00 ft	Latitude:	32° 16' 59.49252234 N
	+E/-W	0.0 usft	Easting:	745,008.00 ft	Longitude:	103° 32' 25.94695338 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	3,680.0 usft	Ground Level:	3,680.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/29/2013	7.35	60.20	48,466

Design Plat 03Apr13

Audit Notes:

Version:		Phase:	PLAN	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.57

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,652.5	0.00	0.00	10,652.5	0.0	0.0	0.00	0.00	0.00	0.00	
11,402.5	90.00	359.57	11,130.0	477.5	-3.6	12.00	12.00	0.00	359.57	
15,725.2	90.00	359.57	11,130.0	4,800.0	-36.0	0.00	0.00	0.00	0.00	Brininstool 23-23-3

Chesapeake Operating

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Site Brininstool 23-23-33 USA 1H
Company:	Permian District	TVD Reference:	RKB @ 3697.0usft
Project:	NM - Bone Spring Sand Project	MD Reference:	RKB @ 3697.0usft
Site:	Brininstool 23-23-33 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat 03Apr13		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Chesapeake Operating

Planning Report

Database:	Drilling Database	**Local Co-ordinate Reference:**	Site Brininstool 23-23-33 USA 1H
Company:	Permian District	**TVD Reference:**	RKB @ 3697.0usft
Project:	NM - Bone Spring Sand Project	**MD Reference:**	RKB @ 3697.0usft
Site:	Brininstool 23-23-33 USA 1H	**North Reference:**	Grid
Well:	Well #1	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat 03Apr13		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,200.0	0.0	0.0	0.0	0.00	0.00	0.00
10,300.0	0.00	0.00	10,300.0	0.0	0.0	0.0	0.00	0.00	0.00
10,400.0	0.00	0.00	10,400.0	0.0	0.0	0.0	0.00	0.00	0.00
10,500.0	0.00	0.00	10,500.0	0.0	0.0	0.0	0.00	0.00	0.00
10,600.0	0.00	0.00	10,600.0	0.0	0.0	0.0	0.00	0.00	0.00
10,652.5	0.00	0.00	10,652.5	0.0	0.0	0.0	0.00	0.00	0.00

Chesapeake Operating

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Site Brininstool 23-23-33 USA 1H
Company:	Permian District	TVD Reference:	RKB @ 3697.0usft
Project:	NM - Bone Spring Sand Project	MD Reference:	RKB @ 3697.0usft
Site:	Brininstool 23-23-33 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat 03Apr13		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,675.0	2.70	359.57	10,675.0	0.5	0.0	0.5	12.00	12.00	0.00
10,700.0	5.70	359.57	10,699.9	2.4	0.0	2.4	12.00	12.00	0.00
10,725.0	8.70	359.57	10,724.7	5.5	0.0	5.5	12.00	12.00	0.00
10,750.0	11.70	359.57	10,749.3	9.9	-0.1	9.9	12.00	12.00	0.00
10,775.0	14.70	359.57	10,773.7	15.6	-0.1	15.6	12.00	12.00	0.00
10,800.0	17.70	359.57	10,797.7	22.6	-0.2	22.6	12.00	12.00	0.00
10,825.0	20.70	359.57	10,821.3	30.8	-0.2	30.8	12.00	12.00	0.00
10,850.0	23.70	359.57	10,844.4	40.3	-0.3	40.3	12.00	12.00	0.00
10,875.0	26.70	359.57	10,867.0	50.9	-0.4	50.9	12.00	12.00	0.00
10,900.0	29.70	359.57	10,889.1	62.7	-0.5	62.7	12.00	12.00	0.00
10,925.0	32.70	359.57	10,910.5	75.7	-0.6	75.7	12.00	12.00	0.00
10,950.0	35.70	359.57	10,931.1	89.7	-0.7	89.7	12.00	12.00	0.00
10,975.0	38.70	359.57	10,951.0	104.8	-0.8	104.8	12.00	12.00	0.00
11,000.0	41.70	359.57	10,970.1	120.9	-0.9	120.9	12.00	12.00	0.00
11,025.0	44.70	359.57	10,988.4	138.1	-1.0	138.1	12.00	12.00	0.00
11,050.0	47.70	359.57	11,005.7	156.1	-1.2	156.1	12.00	12.00	0.00
11,075.0	50.70	359.57	11,022.0	175.0	-1.3	175.0	12.00	12.00	0.00
11,100.0	53.70	359.57	11,037.3	194.8	-1.5	194.8	12.00	12.00	0.00
11,125.0	56.70	359.57	11,051.6	215.3	-1.6	215.3	12.00	12.00	0.00
11,150.0	59.70	359.57	11,064.8	236.5	-1.8	236.5	12.00	12.00	0.00
11,175.0	62.70	359.57	11,076.8	258.4	-1.9	258.4	12.00	12.00	0.00
11,200.0	65.70	359.57	11,087.7	280.9	-2.1	280.9	12.00	12.00	0.00
11,225.0	68.70	359.57	11,097.4	304.0	-2.3	304.0	12.00	12.00	0.00
11,250.0	71.70	359.57	11,105.8	327.5	-2.5	327.5	12.00	12.00	0.00
11,275.0	74.70	359.57	11,113.1	351.4	-2.6	351.4	12.00	12.00	0.00
11,300.0	77.70	359.57	11,119.0	375.7	-2.8	375.7	12.00	12.00	0.00
11,325.0	80.70	359.57	11,123.7	400.3	-3.0	400.3	12.00	12.00	0.00
11,350.0	83.70	359.57	11,127.1	425.0	-3.2	425.0	12.00	12.00	0.00
11,375.0	86.70	359.57	11,129.2	449.9	-3.4	449.9	12.00	12.00	0.00
11,400.0	89.70	359.57	11,130.0	474.9	-3.6	474.9	12.00	12.00	0.00
11,402.5	90.00	359.57	11,130.0	477.5	-3.6	477.5	12.00	12.00	0.00
11,500.0	90.00	359.57	11,130.0	574.9	-4.3	574.9	0.00	0.00	0.00
11,600.0	90.00	359.57	11,130.0	674.9	-5.1	674.9	0.00	0.00	0.00
11,700.0	90.00	359.57	11,130.0	774.9	-5.8	774.9	0.00	0.00	0.00
11,800.0	90.00	359.57	11,130.0	874.9	-6.6	874.9	0.00	0.00	0.00
11,900.0	90.00	359.57	11,130.0	974.9	-7.3	974.9	0.00	0.00	0.00
12,000.0	90.00	359.57	11,130.0	1,074.9	-8.1	1,074.9	0.00	0.00	0.00
12,100.0	90.00	359.57	11,130.0	1,174.9	-8.8	1,174.9	0.00	0.00	0.00
12,200.0	90.00	359.57	11,130.0	1,274.9	-9.6	1,274.9	0.00	0.00	0.00
12,300.0	90.00	359.57	11,130.0	1,374.9	-10.3	1,374.9	0.00	0.00	0.00
12,400.0	90.00	359.57	11,130.0	1,474.9	-11.1	1,474.9	0.00	0.00	0.00
12,500.0	90.00	359.57	11,130.0	1,574.9	-11.8	1,574.9	0.00	0.00	0.00
12,600.0	90.00	359.57	11,130.0	1,674.9	-12.6	1,674.9	0.00	0.00	0.00
12,700.0	90.00	359.57	11,130.0	1,774.9	-13.3	1,774.9	0.00	0.00	0.00
12,800.0	90.00	359.57	11,130.0	1,874.9	-14.1	1,874.9	0.00	0.00	0.00
12,900.0	90.00	359.57	11,130.0	1,974.9	-14.8	1,974.9	0.00	0.00	0.00
13,000.0	90.00	359.57	11,130.0	2,074.9	-15.6	2,074.9	0.00	0.00	0.00
13,100.0	90.00	359.57	11,130.0	2,174.9	-16.3	2,174.9	0.00	0.00	0.00
13,200.0	90.00	359.57	11,130.0	2,274.9	-17.1	2,274.9	0.00	0.00	0.00
13,300.0	90.00	359.57	11,130.0	2,374.9	-17.8	2,374.9	0.00	0.00	0.00
13,400.0	90.00	359.57	11,130.0	2,474.9	-18.6	2,474.9	0.00	0.00	0.00
13,500.0	90.00	359.57	11,130.0	2,574.9	-19.3	2,574.9	0.00	0.00	0.00
13,600.0	90.00	359.57	11,130.0	2,674.9	-20.1	2,674.9	0.00	0.00	0.00
13,700.0	90.00	359.57	11,130.0	2,774.9	-20.8	2,774.9	0.00	0.00	0.00

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

Minimum Requirements

OPERATION : Intermediate and Production Hole Sections

Minimum System Pressure Rating : **5,000 psi**

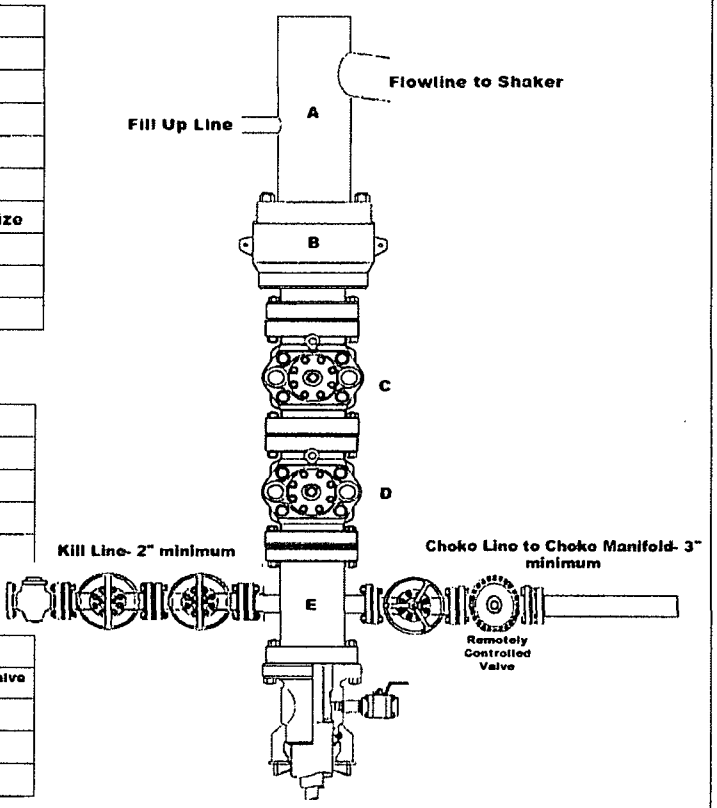
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	5,000 psi	Annular
C	13 5/8"	5,000 psi	Pipe Ram
D	13 5/8"	5,000 psi	Blind Ram
E	13 5/8"	5,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec			
B-Sec		13-5/8" 5K x 11" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000 psi	Gate Valve
2"	5,000 psi	Gate Valve
2"	5,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Gate Valve
3"	5,000 psi	Remotely Controlled Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

CHK Representative: _____

Date: _____

CHOKE MANIFOLD SCHEMATIC

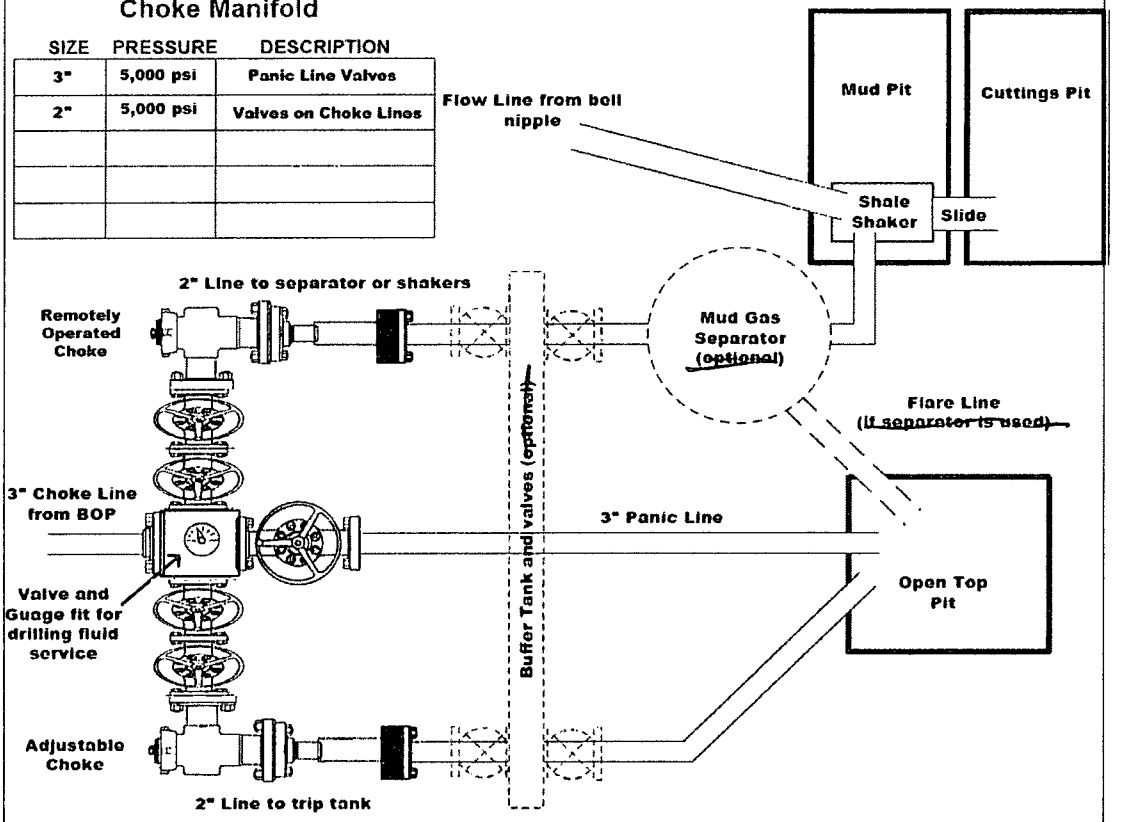
CHESAPEAKE OPERATING INC
Minimum Requirements

OPERATION : Intermediate and Production Hole Sections

Minimum System Pressure Rating : **5,000 psi**

Choke Manifold

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Panic Line Valves
2"	5,000 psi	Valves on Choke Lines



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.
- ☐ Adjustable Chokes may be Remotely Operated but will have backup hand pump for hydraulic actuation in case of loss of rig air pressure or power.
- ☐ Flare and Panic lines will terminate a minimum of 150' from the wellhead. These lines will terminate at a location as per approved APD.
- ☐ The choke line, kill line, and choke manifold lines will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration. This excludes the line between mud gas separator and shale shaker.
- ☐ All valves (except chokes) on choke line, kill line, and choke manifold will be full opening and will allow straight through flow. This excludes any valves between mud gas separator and shale shakers.
- ☐ All manual valves will have hand wheels installed.
- ☐ If used, flare system will have effective method for ignition
- ☐ All connections will be flanged, welded, or clamped (no threaded connections like hammer unions)
- ☐ If buffer tank is used, a valve will be used on all lines at any entry or exit point to or from the buffer tank.

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

CHK Representative: _____

Date: _____

BOPE Testing

CHESAPEAKE OPERATING INC
Minimum Requirements

Closing Unit and Accumulator Checklist

The following item must be performed, verified, and checked off at least once per well prior to low/high pressure testing of BOP equipment. This must be repeated after 6 months on the same well.

☐ **Precharge pressure for each accumulator bottle must fall within the range below. Bottles may be further charged with nitrogen gas only. Tested precharge pressures must be recorded for each individual bottle and kept on location through the end of the well. Test will be conducted prior to connecting unit to BOP stack.**

Check one that applies	Accumulator working pressure rating	Minimum acceptable operating pressure	Desired precharge pressure	Maximum acceptable precharge pressure	Minimum acceptable precharge pressure
☐	1500 psi	1500 psi	750 psi	800 psi	700 psi
☐	2000 psi	2000 psi	1000 psi	1100 psi	900 psi
☐	3000 psi	3000 psi	1000 psi	1100 psi	900 psi

☐ **Accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if used), close all rams, close the annular preventer, and retain a minimum of 200 psi above the maximum acceptable precharge pressure (see table above) on the closing manifold without the use of the closing pumps. This test will be performed with test pressure recorded and kept on location through the end of the well**

☐ **Accumulator fluid reservoir will be double the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at manufacturer's recommendations. Usable fluid volume will be recorded. Reservior capacity will be recorded. Reservoir fluid level will be recorded along with manufacturer's recommendation. All will be kept on location through the end of the well.**

☐ **Closing unit system will have two independent power sources (not counting accumulator bottles) to close the preventers.**

☐ **Power for the closing unit pumps will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure decreases to the pre-set level. It is recommended to check that air line to accumulator pump is "ON" during each tour change.**

☐ **With accumulator bottles isolated, closing unit will be capable of opening the hydraulically-operated choke line valve (if used) plus close the annular preventer on the smallest size drill pipe within 2 minutes and obtain a minimum of 200 psi above maximum acceptable precharge pressure (see table above) on the closing manifold. Test pressure and closing time will be recorded and kept on location through the end of the well.**

☐ **Master controls for the BOPE system will be located at the accumulator and will be capable of opening and closing all preventer and the choke line valve (if used)**

☐ **Remote controls for the BOPE system will be readily accessible (clear path) to the driller and located on the rig floor (not in the dog house). Remote controls will be capable of closing all preventers.**

☐ **Record accumulator tests in drilling reports and IADC sheet**

BOPE Test Checklist

The following item must be ckecked off prior to beginning test

☐ **BLM will be given at least 4 hour notice prior to beginning BOPE testing**

☐ **Valve on casing head below test plug will be open**

☐ **Test will be performed using clear water.**

The following item must be performed during the BOPE testing and then checked off

☐ **BOPE will be pressure tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs, and at a minimum of 30 days intervals. Test pressure and times will be recorded by a 3rd party on a test chart and kept on location through the end of the well.**

☐ **Test plug will be used**

☐ **Ram type preventer and all related well control equipment will be tested to 250 psi (low) and 5,000 psi (high).**

☐ **Annular type preventer will be tested to 250 psi (low) and 3,500 psi (high).**

☐ **Valves will be tested from the working pressure side with all down stream valves open. The check valve will be held open to test the kill line valve(s)**

☐ **Each pressure test will be held for 10 minutes with no allowable leak off.**

☐ **Master controls and remote controls to the closing unit (accumulator) must be function tested as part of the BOP testing**

☐ **Record BOP tests and pressures in drilling reports and IADC sheet**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer along with any/all BOP and accumulator test charts and reports from 3rd parties.

Wellname: _____

CHK Representative: _____

Date: _____

Closed Loop System

BRININSTOOL 24 23 33 USA 1H
Unit M, Sec. 24, T-23-S R-33-E
Eddy Co., NM
API# 30-015-

Plans are to use a closed loop system with roll-off bins in the drilling of this well. Operator will maintain all liquids and solids within the closed loop system in a safe manner in order to protect public health and the environment.

Operations and Maintenance:

The rig's crew will inspect and monitor the drilling fluids contained within the tank and monitor any spill which may occur. Should a spill, release or leak occur; the NMOCD District II office in Artesia (575.748.1283) will be notified. Please note that notifications may be made earlier to the district office should a greater release occur in compliance with NMOCD's rules.

Closure:

During and after the drilling, all fluids and drill cuttings will be transported to Controlled Recovery, Inc. Permit # NM-01-0006.

The alternative disposal facility will be at Sundance Disposal. Permit # NM-01-0003.

Brininstool 23-23-33 USA 1H Pad Layout (330' x 370')