State of New Mexico
Energy, Minerals and Natural Resources Department

New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 9|5|2019
Well information;
Operator Black Expl., Well Name and Number Ka Wame 1

API# 30-043-21337, Section 11, Township 14ⓝ/S, Range 2ⓔ/W

Conditions of Approval: (See the below checked and handwritten conditions)

- ✓ Notify Aztec OCD 24hrs prior to casing & cement.
- ✓ If cement doesn't circulate on any casing string or stage tool a CBL will be required. Contact the regulatory agencies prior to proceeding.
- o Hold C-104 for directional survey & "As Drilled" Plat
- o Hold C-104 for: NSL, NSP, DHC, 5.9 Compliance
- o Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- o Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- o Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- o Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- ✓ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ✓ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ✓ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

NMOCD Approved by Signature

1/28/20
Date

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

P

NMOCD

JAN 08 2020

DISTRICT III

Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
7902171419

6. If Indian, Allotee or Tribe Name
ZIA PUEBLO

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☑ Multiple Zone

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

8. Lease Name and Well No.
KO WA ME
1

2. Name of Operator
BLACK EXPLORATION LLC

9. API Well No.
30-043-21337

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
206 W 38th Street Farmington NM 87401	(505)325-7855	Wildcat

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NWSW / 1921 FSL / 654 FWL / LAT 35.45534 / LONG -106.7059
At proposed prod. zone NWSW / 1921 FSL / 654 FWL / LAT 35.45534 / LONG -106.7059

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 11 / T14N / R2E / NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
8.3 miles	SANDOVAL	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
10032 feet	33840.13	40

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
30096 feet	9600 feet / 9600 feet	IND: 0126188623

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
5579 feet	06/15/2020	15 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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 must 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 requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Jim Lovato / Ph: (505)320-7378	09/05/2019

Title
Consultant

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Richard Fields / Ph: (505)564-7612	11/26/2019

Title	Office
Field Manager	FARMINGTON

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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.

APPROVED

Approval Date: 11/26/2019

(Continued on page 2)

*(Instructions on page 2)

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-043-21337	98334	WC 14N2E11; Pennsylvanian

Property Code	Property Name	Well Number
327009	KO-WA-ME	#1

OGRID No.	Operator Name	Elevation
371259	Black Exploration, LLC	5579

Surface Location

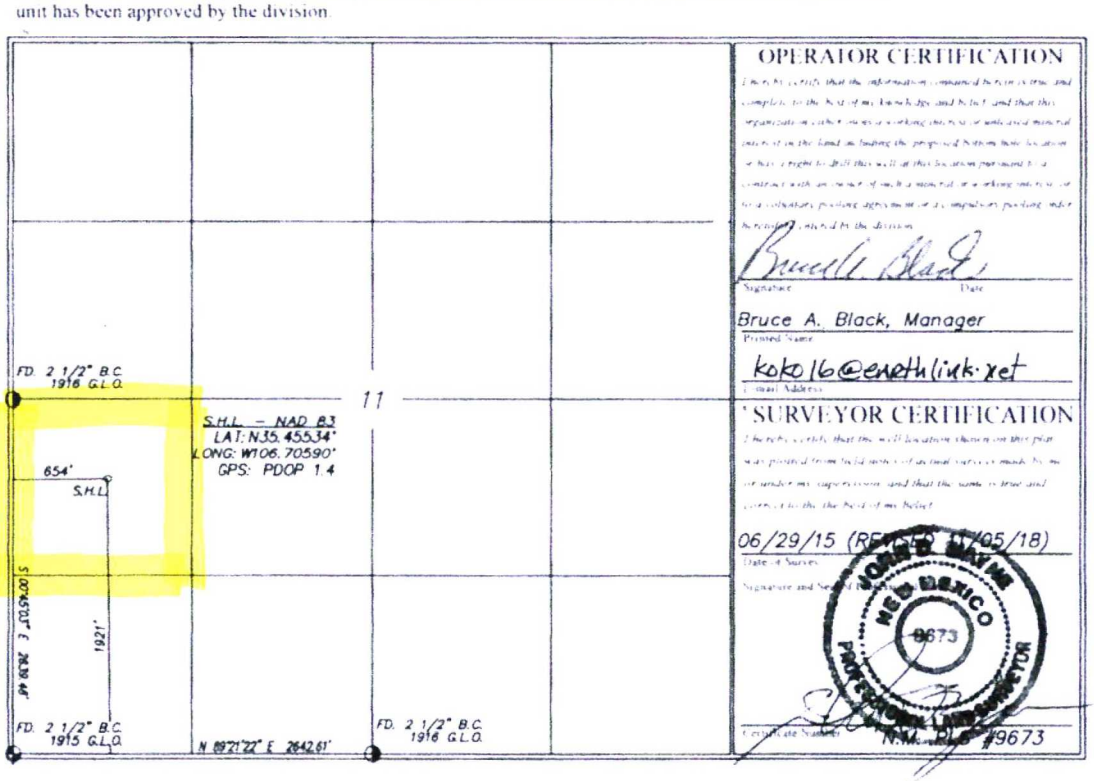
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	11	T14N	R2E		1921'	SOUTH	654'	WEST	SANDOVAL

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 ac			

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 contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Bruce A. Black
Signature Date

Bruce A. Black, Manager
Printed Name

koko16@eveth link.net
E-mail Address

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.

06/29/15 (REVISED 7/05/18)
Date of Survey

Signature and Seal of Professional Surveyor

JOHN E. SAYNE
NEW MEXICO
9673
PROFESSIONAL LAND SURVEYOR

Certificate Number N.M. P.L.S. #9673

Attachment to Application for Permit To Drill

Drilling Program

Black Exploration LLC

KO-Wa-Me No.1

Surface Location: 1921' FSL & 654' FWL Section 11, T. I 4N., R. 02E. NMPM

Ungraded GL Elev 5579'

Sandoval County, New Mexico

Drilling program written in compliance with onshore Oil and Gas Order No. 1
(001 III.D.3, effective May 2007) and Onshore Order No. 2 Dated November 18, 1988.

1. Geological Name of Surface Formation Estimate Formation Top
   A. The following table identifies the geologic markers and formation tops (depth in feet from surface) based on open hole logs from the nearest offset wells.

FORMATION	ESTIMATED FORMATION TOP
Quaternary Alluvium	Surface
Santa Fe Grp	10'
Lower Tertiary	700'
KT Unconformity	1800'
Point Lookout Sandstone	3080'
Upper Mancos	3100"
Hosta-Dalton	4200 '
Tocito	5140'
L. Mancos Carlisle	5150'
Juan Lopez	5400'
Greenhorn	5700'
Graneros	5800'
Dakota	5860'
Morrison	5950"
Todilto	6350'
Entrada	6450'
Chinle	6650'
Aqua Zarca	7350'
Yeso	7750'

FORMATION	ESTIMATED FORMATION TOP
Mesita Blanca	8000'
Abo Formation	8250'
Madera Group	8950'
Sandia Formation	9450'
Mississippian	9500'
Precambrian	9550'
Total Well Depth	9600'

2. Estimated Depth of all Zones Anticipated to Have Fluid Occurrences (Oil, Gas, Water)

   A. All formations listed in the table above are expected to contain some water. The first potential valid objective formation that could contain oil and/or gas is the Cretaceous Point Lookout Sandstone. Any of the deeper formations listed in the table above could also contain oil and gas, however our primary target zones are the Cretaceous Dakota, the Jurassic Entrada and the Pennsylvanian Madera Limestones. Other possible objectives are the Triassic Agua Zarca, the Permian Mesita Blanca, and possible Mississippian limestones, as well as fractured basement rock in the Precambrian.

3. Pressure Control Equipment

   A. Blowout Preventer (BOP) Equipment

DEPTH INTERVAL	BOP EQUIPMENT
0-325'	No pressure control required
325' – 9600'	11" 3000 psi double ram BOP

      i. Drilling spool to accommodate choke and kill lines with choke manifold rated at 3000psi.

   B. Ancillary Equipment
      i. Upper Kelly cock and lower Kelley cock will be installed while drilling.
      ii. Inside BOP or stab in valve will be available in open position on rig floor at all times.
      iii. Safety valves and subs to fit all string connections in use.

   C. Choke Manifold
      i. Refer to Exhibit 1 for detailed schematics.

   D. BOP Testing

      i. An 11" 3M BOP stack will be installed on casing head after setting 9-5/8" surface casing.
      ii. The BLM and State of NM will be notified 24 hours in advance of all BOP pressure tests.
      iii. Pressure tests will be conducted on the BOP stack using a test plug and independent test company after nipple up.
      iv. Subsequent BOP tests will be conducted each time the stack is altered.
      v. All BOP and manifold tests will be conducted in accordance with the requirements of Onshore Order No. 2 and Farmington Field Office Policy.

E. BOP Test Pressures

11" 3M BOP			
Pressure Test	Ram Test	Hydrill Test	Manifold Test
High Pressure	3000psi	NA	3000 psi
Low Pressure	250 psi	NA	250 psi

4. Proposed Bit and Casing Program

A. Bit Program

12 1/4" Surface Hole to 325'
7-7/8" Production Hole to 9600'

Casing Program - all casing stings are new casing

Casing & Hole Size	Weight	Grade	Coupling	Setting Depth (MD)	Comments
9-5/8" (12 1/4")	36 ppf	J or K-55	ST&C	0' - 325'	New casing. Cement to surface.
5-1/2" (7 7/8")	17 ppf	N-80	LT&C	**O' - 9600'** MD	New Casing. Cement to surface.

Casing strings will be tested to .22 psi per foot of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield.

Minimum casing design factors used: Collapse- 1.125
Burst- 1.0
Jt. Strength - 1.8

Surface casing shall have a minimum of 1 centralizer per joint on the bottom three (3) joints, starting with the shoe joint for a total of (4) minimum centralizers. Centralizers will be placed 10' above the shoe on the shoe joint, on the 1st, 2nd and 3rd casing collars then every other joint to surface.

The production casing will be centralized using 1 centralizer on the first 10 joints and then every 4th joint to the surface.

5. Proposed Cementing Program

The proposed cementing program has been designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. All indications of useable water shall be reported.

A. The proposed cementing program is as follows:

Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a pre-flush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

6. Proposed Drilling Fluid Program

A. Mud type and properties

Hole Size (in)	TVD (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
12 1/4"	0-325'	Fresh H20 Mud	8.4 - 8.6	70-100	NC
7-7/8"	325' - 9600'	LSND Mud	8.5 - 8.8	40-50	6 - 8

i. Closed loop system will be utilized in accordance with NMOCD guidelines (NMOCD 19.15.17) with all solids placed on a drying pads or storage bins and liquids hauled to an approved disposal site. Solids will be THP tested and disposed of in an approved manner.

ii. Enough barite will be kept onsite to weight mud sufficiently to contain any unexpected pressures.

B. Monitoring

i. Mud volume and flow will be monitored visually.

7. Formation Evaluation Program

Cores	**Possible Sidewall**
Testing	**None anticipated**
Sampling	**30' samples from 325' to TD**
Surveys	**Single shot surveys as needed, or at a minimum every 500' to TD**
Log Program	**DIL-G R-SP, FDC-CNL-GR- Caliper in zones of interest**

8. Drilling Conditions

A. Anticipated abnormal pressures or temperatures.

i. No abnormal pressures or temperatures or other hazards are anticipated.

ii. Maximum bottom hole pressure equals approximately 4393 psig (pounds per square inch gauge)*

* Max mud wt x 0.052 x TD= A (bottom hole pressure)
8.8 X 0.052 X 9600 = 4393 psig

** Maximum surface pressure= A- (0.22 x TD)
4393 - (0 .22 X 9600) = 2281 psig

B. Hydrogen Sulfide (H2S)

i. H2S is not expected but standard monitoring and personal monitors will be in place on the rig and drilling crew.

9. Other Information

A. Drilling Schedule

Activity	Date
Location Construction	September 2019
Spud	September 2019
Total Drilling Duration	8 days drilling time
Total Completion Duration	10 days completion time

Surface Casing Single Stage Job - (0-325'):
Excess -125% over gauge hole -12-1/4" hole and 9-5/8" casing
Top of Cement - Surface

Main Slurry: 200 sx Premium, - 15.8 ppg, yield 1.16 cf/sx

Production Casing - Two Stage Job w/ DV tool at 4800' (Cement: 0' - 9600' MD):
Excess - 50% over gauge hole - 7-7/8" hole and 5-1/2" casing

Stage #1 (9600' to 4800' DV tool)

Lead Cement		
HALCEM (TM) SYSTEM	Fluid Weight:	12.3 lbm/gal
0.35 % HR-5 (Retarder Additive)	Slurry Yield:	1.99 ft^3/sk
5 lbs/sx Kol Seal (Loss Circulation Additive)	Total Mixing Fluid:	6.75 Gal/sk
1 lb/sx Pheno Seal Medium (Low Fluid Loss Control)	Volume:	663 ft^3 - 118 bbls
0.125 lbs/sx Poly-E-Flake (Fluid Loss Control)	Calculated Sacks:	333 sks

Tail Cement		
FRACCEM (TM) SYSTEM	Fluid Weight:	12.50 lbm/gal
0.125 lbs/sx Poly-E-Flake (Fluid Loss Control)	Slurry Yield:	1.29 ft^3/sk
0.7 % HALAD-R9 (Low Fluid Loss Control)	Total Mixing Fluid:	5.64 Gal/sk
0.15% CFR SA-1015 (Suspension Agent)	Volume:	584 ft^3 - 105 bbls
5 lbs/sx Kol Seal	Calculated Sacks:	453 sx

Stage #2 (4800' to Surface)

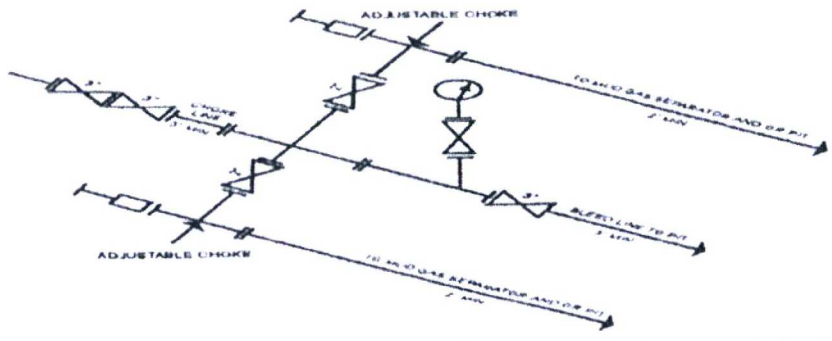
Lead Cement		
HALCEM (TM) SYSTEM	Fluid Weight	12.3 lbm/gal
0.35 % HR-5 (Retarder Additive)	Slurry Yield:	1.99 ft^3/sk
5 lbs/sx Kol Seal (Loss Circulation Additive)	Total Mixing Fluid:	6.75 Gal/sk
1 lb/sx Pheno Seal Medium (Low Fluid Loss Control)	Volume:	1134 ft^3 - 202 bbls
0.125 lbs/sx Poly-E-Flake (Fluid Loss Control)	Calculated Sacks:	570 sks

Tail Cement		
HALCEM (TM) SYSTEM	Fluid Weight:	15.8 lbm/gal
0.125 lbs/sx Poly-E-Flake (Fluid Loss Control)	Slurry Yield:	1.15 ft^3/sk
0.7 % HALAD-R9 (Low Fluid Loss Control)	Total Mixing Fluid:	4.98 Gal/sk
0.15% CFR SA-1015 (Suspension Agent)	Volume:	115 ft^3 - 20 bbls
5 lbs/sx Kol Seal	Calculated Sacks:	100 sx

Total sacks of cement pumped= 1656 sx
Cement volumes are minimums and may be adjusted based on caliper log results.

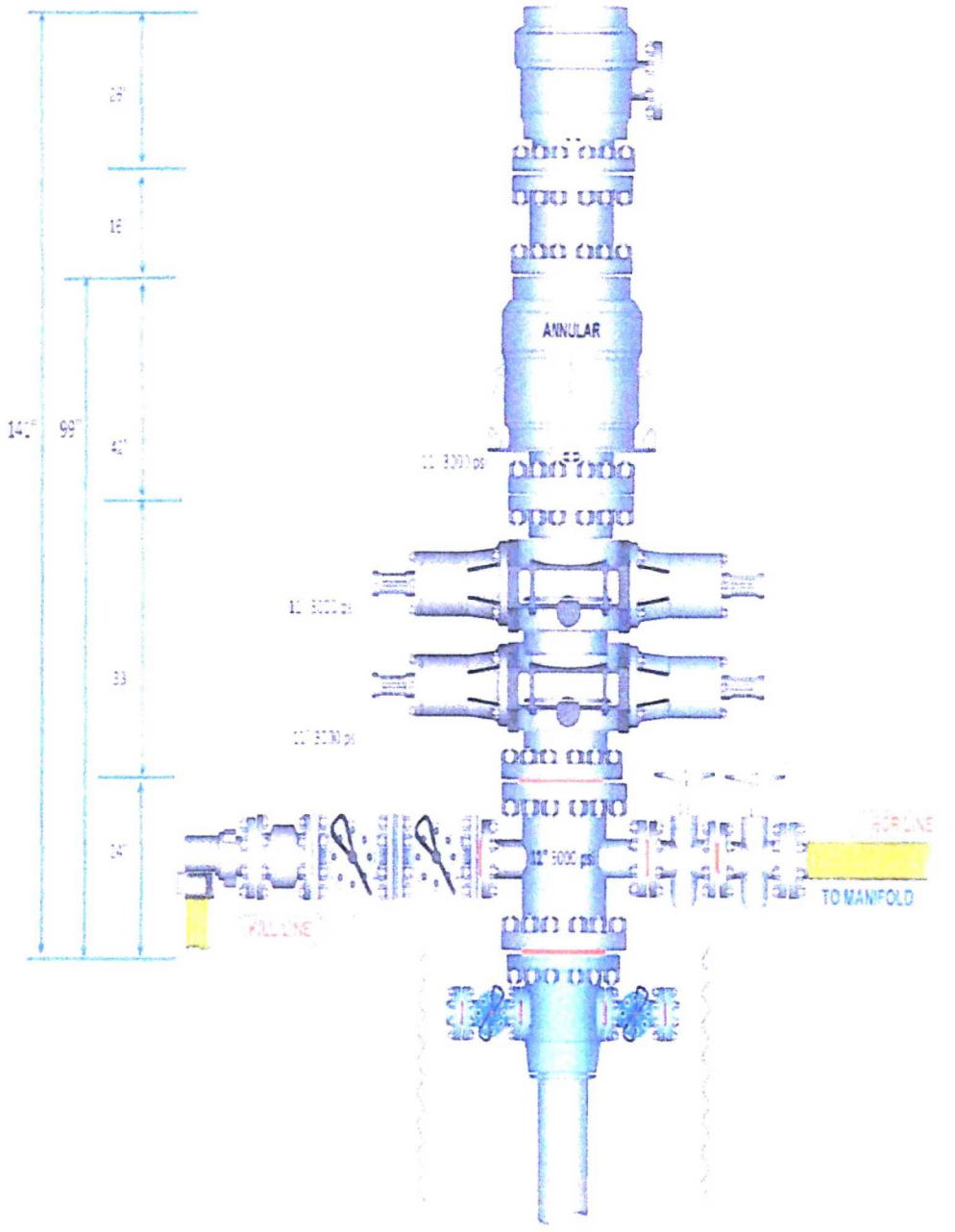
Actual volumes will be calculated and determined by conditions onsite. All cement slurries will meet or exceed minimum BLM and State of New Mexico Oil & Gas Division requirements. Slurries used will be the slurries listed above or equivalent slurries depending on service provider selected. Cement yields may change depending on slurries selected.

All waiting on cement times shall be a minimum of 8 hours or adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.



3M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

[54 FR 39528, Sept. 27, 1989]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