

District I

1625 N French Dr, Hobbs, NM 88240

District II

1301 W Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St Francis Dr, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-101

May 27, 2004

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

Submit to appropriate District Office

OCT 26 2007

☐ AMENDED REPORT

OCD-ARTESIA

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Chesapeake Operating Inc. 2010 Rankin Hwy Midland, TX 79701		² OGRID Number 147179
³ Property Code		³ API Number 30 - 005 - 63949
⁴ Property Name Johnson 21		⁶ Well No 1H
⁹ Proposed Pool 1 Wildcat; Wolfcamp		¹⁰ Proposed Pool 2

32. 99646 104. 35225 Surface Location

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/Westline	County
M	21	15S	26E		990	South	200	West	Chaves

⁸ Proposed 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/Westline	County
P	21	15S	26E		800	South	700	East	Chaves

Additional Well Information

¹¹ Work Type Code New Well	¹² Well Type Code Gas	¹³ Cable/Rotary R	¹⁴ Lease Type Code State	¹⁵ Ground Level Elevation 3365 GR
¹⁶ Multiple N	¹⁷ Proposed Depth 9475	¹⁸ Formation Wolfcamp	¹⁹ Contractor	²⁰ Spud Date 07/01/2008
Depth to Groundwater 451		Distance from nearest fresh water well 1000		Distance from nearest surface water 1000
Pit Liner: Synthetic ☒ 12 milsthick Clay ☐ Pit Volume 12129 bbls Drilling Method: Closed-Loop System ☐ Fresh Water ☒ Brine ☐ Diesel/Oil-based ☐ Gas/Air ☐				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17.5	13.375	48	330	290 sx CI C	Surface
12.25	9.652	36	1360	440 sx CI C	"
7.875	5.5	17	9475	2150 sx TXI LW	"

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.
13 3/8 csg @ 330 lead 130 sx 35:65 Poz C, tail 160 sx CI C, 9 5/8 csg @ 1360 lead 250 sx 35:65 Poz C, tail 190 sx CI C, 5 1/2 csg @ 9475 2150 sx TXI LW.

**NOTIFY OCD OF SPUD &
TIME TO WITNESS
CEMENTING OF SURFACE &
INTERMEDIATE CASING**

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☒ a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Printed name. Shay Stricklin

Title Regulatory Tech.

E-mail Address sstricklin@chkenenergy.com

Date 10/25/2007

Phone (432)687-2992

OIL CONSERVATION DIVISION

Approved by:

BRYAN G. ARRANT

Title: DISTRICT II GEOLOGIST

Approval Date DEC 18 2007

Expiration Date DEC 18 2008

Conditions of Approval Attached ☒

DISTRICT I

1820 N. FRENCH BL., HOUBBS, NM 87410

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1090 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name	Well Number
QCRIID No.	Operator Name	Elevation
	JOHNSON 21	114
	CHESAPEAKE OPERATING, INC.	3371'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	15-S	26-E		990	SOUTH	200	WEST	CHAVES

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
P	21	15-S	26-E		800	SOUTH	700	EAST	CHAVES

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

GEODEIC COORDINATES NAD 27 NME SURFACE HOLE LOCATION Y=726227.0' N X=494340.7' E LAT = 32.996164' N LONG = 104.351792' W		ENTRY POINT Y=726036.6' N X=494801.6' E		BOTTOM HOLE LOCATION "TERMINUS" Y=726034.0' N X=498763.8' E	
PROJECT AREA					
PRODUCING AREA					
GRID: AZ. = 112°26'17" HORZ. DIST. = 498.6' CRID: AZ. = 90°02'18" HORZ. DIST. = 3967.2'					
"TERMINUS" B.H.L.					

OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____

Printed Name: _____

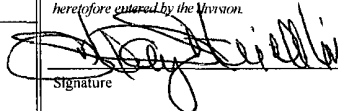
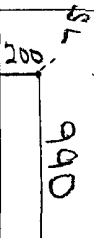
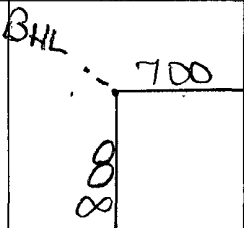
SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

DATE SURVEYED: MAY 24, 2007

Signature & Seal of Professional Surveyor: *GARY EIDSON*

Certificate No. GARY EIDSON 12841

16			17 OPERATOR CERTIFICATION <i>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.</i>  10/25/2007 Signature Date <u>Shay Stricklin</u> Printed Name
			18 SURVEYOR CERTIFICATION <i>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</i> Date of Survey Signature and Seal of Professional Surveyor Certificate Number

Well : Johnson 21 1H
Field : NW Shelf Project – Pecos Slope-Pioneer Wolfcamp Prospect
County : Chaves **State** : NM
Surf Locat : Section 21-15S-26E, 990' FSL & 200' FWL
BH Locat : Section 21-15S-26E, 800' FSL & 700' FEL (660' Hard Lines)
KB Elev : 3371' (est ; not surveyed yet) **Grd Elev** : 3389' (based on est. 18' KB)



Wellhead Equipment

Tree Connection	
Backpressure Valve	
Tree Description	
Tubing Spool	11" 5M x 7-1/16" 5M
B-Section	13-5/8" 3M x 11" 5M
Casing Head	13-5/8" SOW x 13-5/8" 3M

Tubular Detail

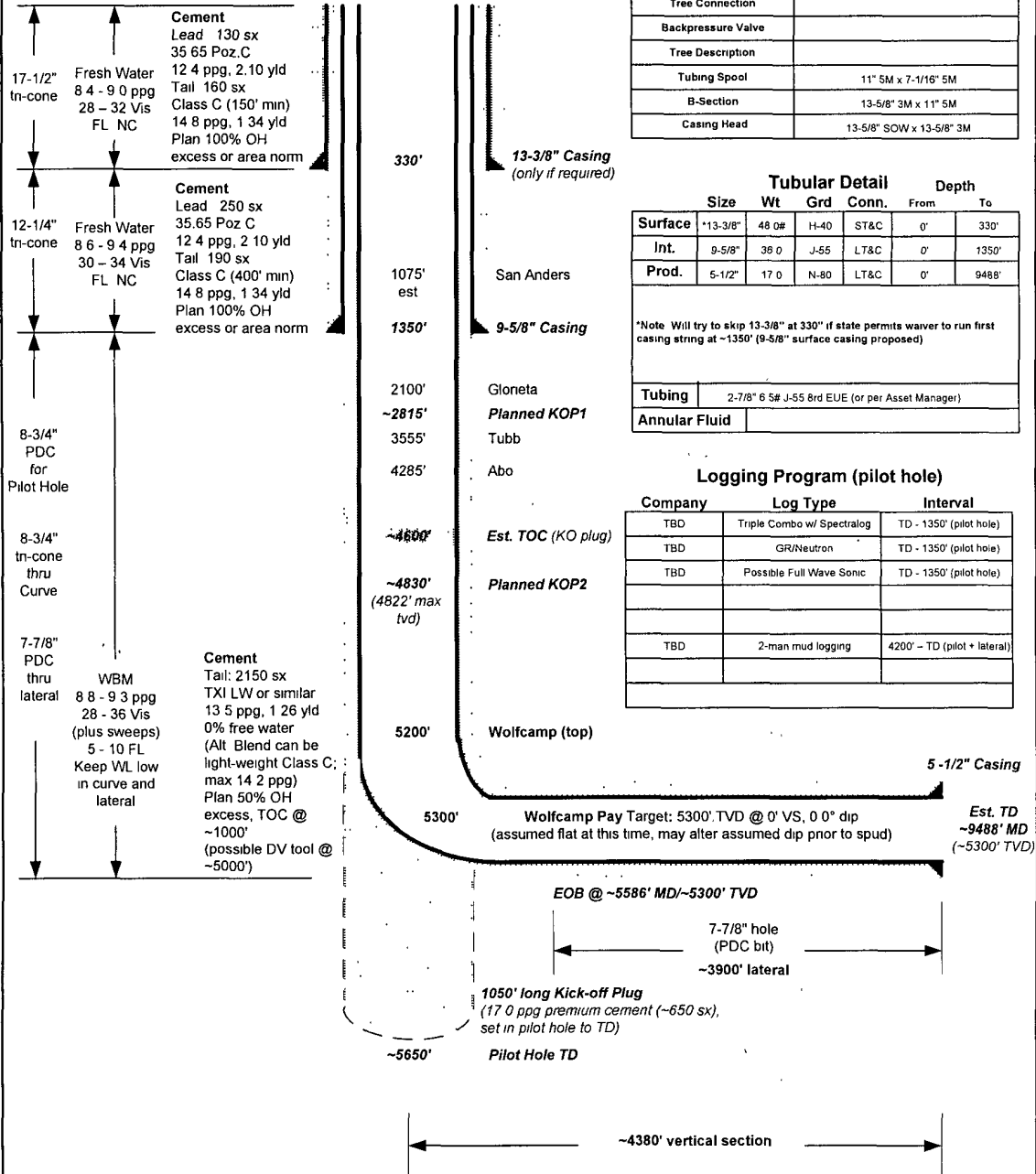
	Size	Wt	Grd	Conn.	From	Depth To
Surface	13-3/8"	48.0#	H-40	ST&C	0'	330'
Int.	9-5/8"	38.0	J-55	LT&C	0'	1350'
Prod.	5-1/2"	17.0	N-80	LT&C	0'	9488'

*Note: Will try to skip 13-3/8" at 330" if state permits waiver to run first casing string at ~1350' (9-5/8" surface casing proposed)

Tubing	2-7/8" 6.5# J-55 8rd EUE (or per Asset Manager)
Annular Fluid	

Logging Program (pilot hole)

Company	Log Type	Interval
TBD	Triple Combo w/ Spectralog	TD - 1350' (pilot hole)
TBD	GR/Neutron	TD - 1350' (pilot hole)
TBD	Possible Full Wave Sonic	TD - 1350' (pilot hole)
TBD	2-man mud logging	4200' – TD (pilot + lateral)



Note: All Depths are TVD unless otherwise indicated

Drawn by

R. L. Patterson

Date:

5/11/07

Revised by

R. L. Patterson

Date

6/1/07

Well Name	Johnson 21 1H		Rig	Forster 15
County	Chaves, NM		Survey Co.	
VS Plane	90.00			
VS Origin	0.00 NS	0.00 EW	Section Plane	Section Origin
			N-S	E-W
Target #1	5300.00	TVD	0 Dip(- Up)	90.00
Target #2		TVD	Dip(- Up)	0
Target #3		TVD	Dip(- Up)	0

Survey	Measured Depth	Inclination	Azimuth	Course Length	TVD	North (+) South (-)	East (+) West (-)	VS	BUR	DLS	Relation to Landing PT
KOP1	2,815	0.00	0.00	2,815	2815.0	0	0.0	0.0			2485.0
Hold	3,500	10.00	180.00	685	3496.5	-59.6	0.0	0.0	1.46	1.46	1803.5
Begin Drop	4,000	10.00	180.00	500	3988.9	-146.5	0.0	0.0	0.00	0.00	1311.1
Hold	4,500	0.00	180.00	500	4486.4	-190.0	0.0	0.0	-2.00	2.00	813.6
KOP2	4,836	0.00	90.00	336	4822.4	-190.0	0.0	0.0	0.00	0.00	477.6
Landing	5,586	90.00	90.00	750	5300.0	-190.0	477.6	477.6	12.00	12.00	0.0
TD	9,488	90.00	90.00	3901.8	5300.0	-190.0	4379.4	4379.4	0.00	0.00	0.0

CHESAPEAKE OPERATING INC
DIRECTIONAL PLANNING WORKSHEET
 CALCULATED USING MINIMUM CURVATURE METHOD

Well Name: Johnson 21 1H (21-15S-26E, Chaves Co., NM)

Prepared By: RLP

	MD	Inc	AZ	TVD	N/S	E/W	VS
KOP:	4,836	0.00	90.00	4,822	-190.00	0 00	0.00
Target:	5,300	@ 0' VS					
Dip:	0.00 (- Updip / + Downdip)						
Azimuth:	90.00					Section Plane:	90.00
Proposed VS:	4,380						

Feather: °/100' TVD (Vertical Feather Only)

	MD	Course Length	Inc	AZ	TVD	North(+) South(-)	East(+) West(-)	VS	BUR	DLS	Target Depth	Dist To Target
EOB	5,587	751	90.00	90.00	5,300	-190.00	478.00	478.00	11.99	11.99	5,300	0
EOF	5,587	0	90.00	90.00	5,300	-190.00	478.00	478.00	0.00	0.00	5,300	0
EOH	9,488	3,902	90.00	90.00	5,300	-190.00	4379.60	4379.60	0.00	0.00	5,300	0

Comments: _____

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

WELL : Johnson 21 1H

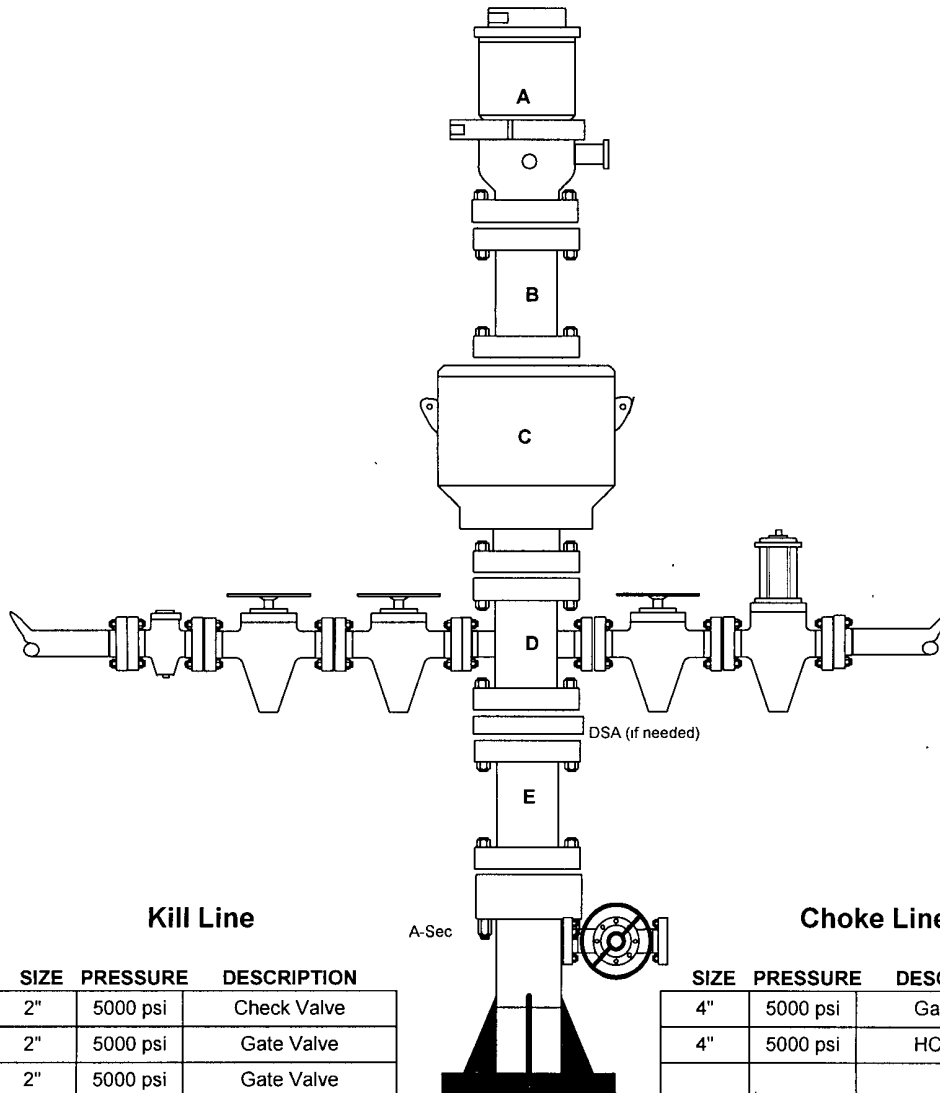
RIG : Forster 15

COUNTY : Chaves

STATE: New Mexico

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

	SIZE	PRESSURE	DESCRIPTION
A	13-5/8"	500 psi	Rot Head
B	13-5/8"	2000 psi	Spacer Spool
C	13-5/8"	2000 psi	Annular
D	13-5/8"	2000 psi	Mud Cross
E	13-5/8"	2000 psi	Spacer Spool
	DSA	13-5/8" 3M x 13-5/8" 2M (if needed)	
	A-Sec	13-3/8" SOW x 13-5/8" 3M	



Kill Line

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

Choke Line

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

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

WELL : Johnson 21 1H

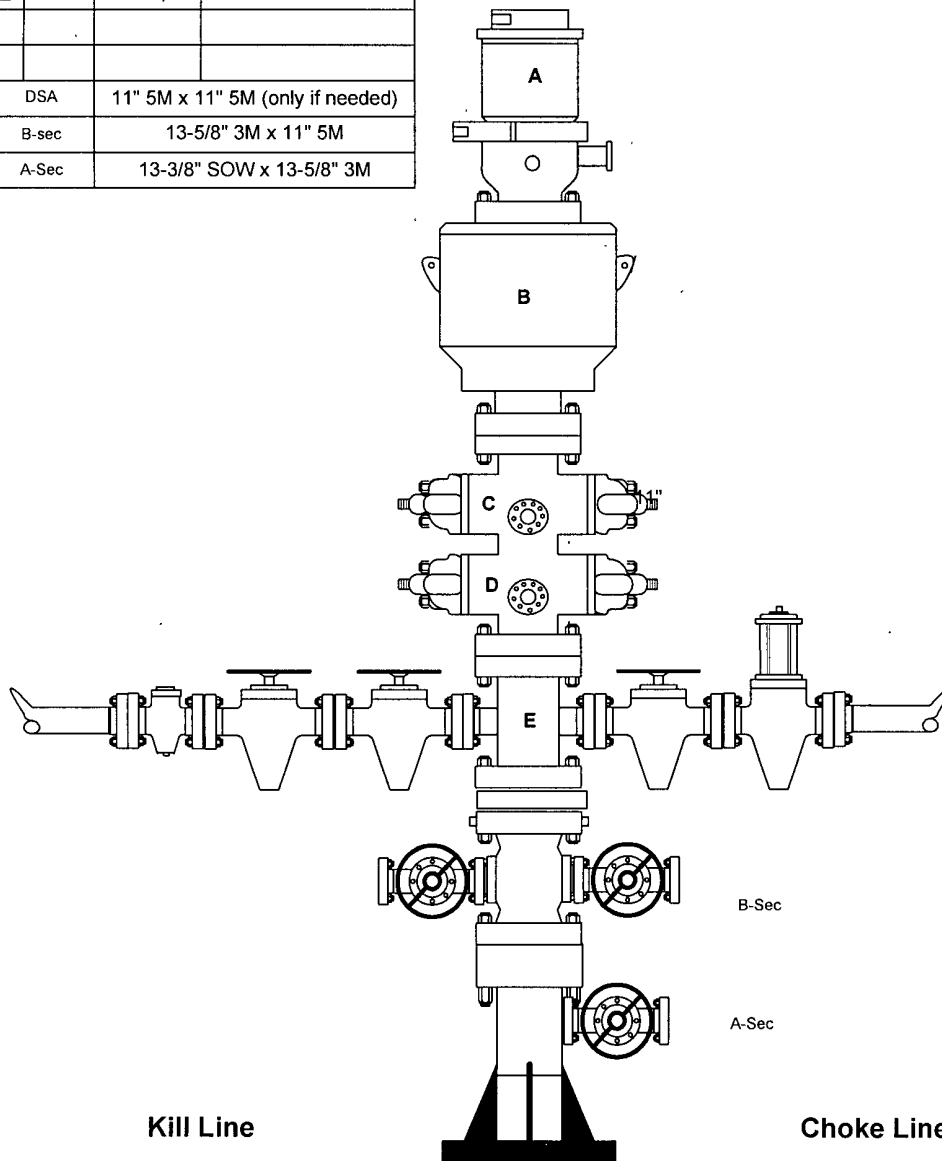
RIG : Forster 15

COUNTY : Chaves

STATE: New Mexico

OPERATION: Drill out below 9-5/8" Casing

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



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

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

Arrant, Bryan, EMNRD

From: Arrant, Bryan, EMNRD
Sent: Friday, October 26, 2007 2:58 PM
To: 'Shay Stricklin'
Subject: Johnson 21 # 1H

Dear Shay,

In briefly reviewing the above noted APD, I need to go over with someone in your office on the subject matter below and have you submit the following:

If this well location lies within 1/2 mile of an existing dwelling, please submit a H2S well contingency plan that meets the requirements of New Mexico Oil Conservation Division (NMOCD) Rule 19.15.3.118. In reviewing the area, the town of Lake Arthur lies directly to the west of this well location. However, I do not know what (if any) public dwellings are in the immediate area. If it is determined that there are no public dwelling(s) within 1/2 mile of this area and the drilling of this well bore does not fall under the requirements of NMOCD Rule 118, please submit a letter of statement.

I need for you to sign off on NMOCD form C-102.

Please note that the penetration point is: "The point at which the well bore penetrates the top of the pool from which it is intended to produce".

In this case, the penetration point of the Wolfcamp needs to be at least 660' from the western boundary of the lease line. In reviewing the "Proposed Well Schematic Drilling" diagram submitted, it appears that the top of the Wolfcamp will be non-standard.

I pulled an electric log that lies a number of miles to the north of this location (API #30-005-63785) and the top of the Wolfcamp comes in @ 5296' or at a sub sea depth of @ -1837'.

There is little well control in this area and I need for everyone to be on page as to where the top of the Wolfcamp formation is picked.

Finally, I may shorten your intermediate casing. I need to further review this area as I found one well bore where a show of oil and sulfur water was encountered @ 1234'1246' down.

Thanks and I'll visit w/you later,

Bryan G. Arrant
District II Geologist
New Mexico Oil Conservation Division
1301 West Grand Ave.
Artesia, NM 88210
505-748-1283 Ext. 103

10/26/2007