Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

HOBBS OCD

DEC 05 2019

RECEIVED

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMLC062300

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.
CO YETI 15 22 FED COM 0052H

2. Name of Operator
CHEVRON USA INCORPORATED
Contact: KAYLA MCCONNELL
E-Mail: kaylamcconnell@chevron.com

9. API Well No.
30-025-45534-00-X1

3a. Address
6301 DEAUVILLE BLVD
MIDLAND, TX 79706

3b. Phone No. (include area code)
Ph: 432-687-7375

10. Field and Pool or Exploratory Area
WOLFCAMP

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 15 T25S R32E NENE 10FNL 1310FEL
32.137733 N Lat, 103.658455 W Lon

11. County or Parish, State
LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Chevron respectfully requests to utilize a 5M system for the wells listed below, when drilling the intermediate hole sections (INT and or INT2) in addition to the production hole lateral drilling in the Wolfcamp formation.

CO YETI 15 22 FED COM 0052H API:30-025-45534
CO YETI 15 22 FED COM 0054H API:30-025-45537
CO YETI 15 22 FED COM 0056H API:30-025-45536

Attached, you will find the supporting documentation.

Carlsbad Field Office
OCD Hobbs

SEE ADDITIONAL COAs.

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #491642 verified by the BLM Well Information System
For CHEVRON USA INCORPORATED, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 11/12/2019 (20PP0346SE)

Name *(Printed/Typed)* KAYLA MCCONNELL — Title PERMITTING SPECIALIST

Signature (Electronic Submission) — Date 11/08/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By NDUNGU KAMAU — Title PETROLEUM ENGINEER — Date 11/26/2019

Conditions of approval, if any, are attached. Approval of this notice 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.

Office Hobbs

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.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Revisions to Operator-Submitted EC Data for Sundry Notice #491642

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMLC062300	NMLC062300
Agreement:		
Operator:	CHEVRON USA INC 6301 DEAUVILLE BLVD MIDLAND, TX 79706 Ph: 432-687-7375	CHEVRON USA INCORPORATED 6301 DEAUVILLE BLVD MIDLAND, TX 79706 Ph: 432.687.7100 Fx: 432-687-7221
Admin Contact:	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: kaylamcconnell@chevron.com Ph: 432-687-7375	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: kaylamcconnell@chevron.com Ph: 432-687-7375
Tech Contact:	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: kaylamcconnell@chevron.com Ph: 432-687-7375	KAYLA MCCONNELL PERMITTING SPECIALIST E-Mail: kaylamcconnell@chevron.com Ph: 432-687-7375
Location: State: County:	 NM LEA	 NM LEA
Field/Pool:	WOLFCAMP	WOLFCAMP
Well/Facility:	CO YETI 15 22 FED COM 0052H Sec 15 T25S R32E 10FNL 1310FEL	CO YETI 15 22 FED COM 0052H Sec 15 T25S R32E NENE 10FNL 1310FEL 32.137733 N Lat, 103.658455 W Lon

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: CHEVRON USA INCORPORATED
LEASE NO.: NMLC0062300
COUNTY: LEA

CO YETI 15 22 FED COM 0052H
LOCATION: Section 15, T25S, R32E, NMPM
SURFACE HOLE FOOTAGE: 10'/N & 1310'/E
BOTTOM HOLE FOOTAGE: 100'/S & 2090'/E

CO YETI 15 22 FED COM 0054H
LOCATION: Section 15, T25S, R32E, NMPM
SURFACE HOLE FOOTAGE: 10'/N & 1260'/E
BOTTOM HOLE FOOTAGE: 100'/S & 1210'/E

CO YETI 15 22 FED COM 0056H
LOCATION: Section 15, T25S, R32E, NMPM
SURFACE HOLE FOOTAGE: 10'/N & 1210'/E
BOTTOM HOLE FOOTAGE: 100'/S & 330'/E

COA

ALL PREVIOUS COAs STILL APPLY.

A. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

Delaware Basin
Changes to APD/COA for Federal Well

Well Name		API #
CO YETI 15 22 FED COM	0052H	3002545534
CO YETI 15 22 FED COM	0054H	3002545537
CO YETI 15 22 FED COM	0056H	3002545536

Chevron Drilling Engineer Contact(s)

Phillipe Salanova (psalanova@chevron.com, 432-257-4140) and Jessica Herren-Onstad (jherren@chevron.com, 832-523-0657)

Summary of Changes to APD Submission

Chevron respectfully requests to utilize a 5M system for the wells named above, when drilling the intermediate hole sections (INT and or INT2) in addition to the production hole lateral drilling in the Wolfcamp formation.

The Class 4 BOP 5M BOP System (with upgraded 10M Stack/Choke manifold) and test pressures shall reflect as follows:

Component	Pressure – Low (PSI)	Pressure – High (PSI)
13 5/8" Annular	250-350	3500
3.5"x 5.5" or 4.5" x 7" VBRs or Rams	250-350	6650
3.5"x 5.5" or 4.5" x 7" VBRs or Rams	250-350	6650
Choke Manifold (valves)	250-350	6650

(Per onshore order 2, the 5M BOP/Choke Manifold Equipment stack will include 1x adjustable choke and 1x remotely operated choke.)

Validation of the MASP and associated reservoir fluids in the Wolfcamp A can be found in the documentation below, along with the well control safeguards and plans.

South Lea (and neighboring area) MASP and Reservoir Fluid Analysis

Introduction:

This document is to justify the proposal by Chevron North America to utilize a 10M BOP stack, tested to 6,650 psi (high), in conjunction with a 5M annular preventor, tested to 3,500 psi (high) for all Wolfcamp developments in South Lea County and the bordering fields in Eddy county. These fields currently consist of Sand Dunes, Salado Draw, Cotton Draw, Dagger Lake and future fields that lay within these bounds that have similar Wolfcamp target depths.

The analysis illustrated below in this document use "worst-case" values, such that the deepest formations within the Wolfcamp remain the scope, inclusive of the highest known PP (pore pressure) and applicable FG (Frac Gradient), along with the actual production values supplied by our Reservoir and Production engineering teams.

By validating these worst-case scenarios, the logic is that all reservoirs that are shallower in TVD and lower PP will still fall within the constraints set forth.

Wellbore information and Calculations:

Target formation: Wolfcamp A

Target TVD: 12,000 - 12,852' TVD

Target MW: 12.0 – 14.1 ppg

Expected PP Ranges in Wolfcamp A: 9.8 – 13.1 ppg (Maximum PP: 14.8 ppg)

Reservoir Fluid Densities

An analysis has been performed by the Chevron Reservoir Engineering team to analyze the formation fluid properties. The analysis shows that the Wolfcamp gradient (psi/ft) ranges from 0.377 to 0.390 (assuming full evacuation), which equates to an average of 0.384 psi/ft gradient, or SG of 0.885; referenced in Figure 1 and Figure 2. The inputs for these calculations are recorded field water and oil properties, and bottom hole conditions. *(Note: This value does not vary by more than ~1% whether the fluids come from the upper WCA formations, or the lowest possible Wolfcamp A formation which can reach a maximum depth of 12,852.)*

BLM MASP Justifications

Mud weight selection in the lateral production hole where this Wolfcamp is drilled is primarily driven by the need to combat mechanical stresses and wellbore instability, which often lead to using higher mud weights that far surpass the reservoir pressure (or PP). Historically, the BLM utilizes the permitted drilling fluid mud weights that Chevron provides for the production hole section in order to calculate the bottom hole pressure conditions.

The subject well, which is the most aggressive possible target that can be developed in the WCA, has a maximum depth of 12,852 ftTVD and a pore pressure range of 13.1 ppg to 14.8 ppg, per the latest Geological assessment. The BLM method of calculating MASP assumes full wellbore evacuation, which in this field equates to a 0.384 psi/ft gradient.

Therefore, the maximum MASP, per BLM calculations, should be between 3,820 and 4,956 psi. It is important to note however, that the deepest TVD lateral drilled to date is 12,783 ft; which then equates to a MASP ranging from 3,799 to 4,929 psi, depending on localized pore pressure estimates.

Conclusion

Chevron follows *API Standard 53: Well Control Equipment Systems for Drilling wells, Fifth Edition, December 2018;* which specifies a Class 4 BOP, with a 5M annular tested to 70% RWP (3,500 psi) with three (3) rams, including two (2) variable bore rams, tested to 6,650 psi, in accordance to Table C.5 on page 63. Chevron will continue to use the annulars as the first shut in method, with the immediate option to use one of the two variable bore rams. *(The test pressure of 6,650 psi on the BOP rams was chosen value based on the wellhead testing pressures. Chevron has chosen to keep values consistent with the wellhead limitations. This pressure also surpasses all MASP scenarios.)*

Appendix

Water Cut:	66.5%		c3 =	2.5E-14 -3E-13
Chlorides:	270,000 ppm		c2 =	-8.4E-10 9E-09
WCA TVD:	12,352 ft		c1 =	1.2E-05 -1E-04
Temperature:	169 °F		c0 =	0.20387 2.5223

	Pressure	Temp	Water Density			B_w	Undersaturated Oil Density			B_o	Depth	Pressure
	(psia)	(°F)	(g/cc)	(lb_m/ft^3)	(psi/ft)	rb/STB	(g/cc)	(lb_m/ft^3)	(psi/ft)	rb/STB	(ft TVD)	(psia)
	10,000	169	1.209	75.48	0.524	0.995	0.615	38.41	0.267	1.964	12,854	9,954
Reservoir	**9,954**	169	1.209	75.46	0.524	0.995	0.615	38.39	0.267	1.965	12,804	9,935
	9,500	169	1.206	75.26	0.523	0.998	0.612	38.21	0.265	1.974	12,754	9,915
	9,000	169	1.202	75.06	0.521	1.001	0.609	38.00	0.264	1.985	12,704	9,896
	8,500	169	1.199	74.86	0.520	1.003	0.605	37.77	0.262	1.998	12,654	9,876
	8,000	169	1.196	74.67	0.519	1.006	0.601	37.52	0.261	2.011	12,604	9,857
	7,500	169	1.193	74.49	0.517	1.008	0.597	37.26	0.259	2.025	12,554	9,837
	7,000	169	1.191	74.33	0.516	1.010	0.592	36.97	0.257	2.040	12,504	9,818
	6,572	169	1.188	74.19	0.515	1.012	0.588	36.72	0.255	2.055	12,454	9,798
	6,079	169	1.186	74.05	0.514	1.014	0.583	36.40	0.253	2.073	12,404	9,779
	5,578	169	1.184	73.91	0.513	1.016	0.577	36.04	0.250	2.093	12,354	9,759
	5,063	169	1.182	73.78	0.512	1.018	0.571	35.64	0.248	2.117	12,304	9,740
	4,471	169	1.180	73.64	0.511	1.020	0.563	35.13	0.244	2.148	12,254	9,720
Bubble Point	**4,316**	169	1.179	73.61	0.511	1.020	0.561	34.99	0.243	2.156	12,204	9,701
Standard Conditions	**15.025**	**60**	1.203	75.11	0.522	1.000	---	---	---	1.000	12,154	9,681
											12,104	9,662

Figure 1: Reservoir fluid calculation snap shot

Phil—I've calculated an [redacted] for the combined reservoir fluids of the Salado Draw WCA. It assumes:

- Reservoir is still at initial (virgin) conditions
- Wellbore only contains produced fluids—no muds/completion fluids present
- Remaining pressure is contained at surface (pressure on BOP stack)

The 0.799 number below very likely only represents the hydrocarbon fraction at a single pressure. PVT reports generally exclude water, unless stated otherwise.

Thanks,

Figure 2: Reservoir Engineer communication (dated October 24th 2019)

Well Control Plan & Processes

The following items highlight the applicable Chevron technical standards and operational safeguards which justify how Chevron calculates MASP and how the well's risks are managed.

MASP Justification

Per Chevron global requirements, as seen in Figure 3, Section 1.a; The hydrocarbon to mud gradient, for a wellbore with the maximum hole TVD between 12,001 and 15,000 ftTVD shall be interpolated between 60% hydrocarbon gradient and 50% hydrocarbon gradient. Thus, the hydrocarbon gradient for the subject wellbore is 57.2%, with the mud gradient of 42.8%. (Figure 4)

For the subject well, in order to evacuate the wellbore of drilling fluids by 57.2%, the rig would have to shut in and control the well after receiving a 329 bbl fluid gain. No data can be found for an influx of this size occurring for a Chevron operated well in New Mexico.

With the appropriate hydrocarbon gradient applied for the well's TVD, one can see in the "Mixed" case scenario (Figure 4), which is the commonly chosen scenario, that a MASP of 3,033 psi shall be planned for. This same methodology of using mid-case fluid gradients is what Chevron uses for Gulf of Mexico Worst Case Discharge calculations as well.

Therefore, Chevron Technical Standards validate the usage of the 5M annular and 10M BOP stack, as MASP falls within operating limits and testing scenarios of the well control equipment utilized.

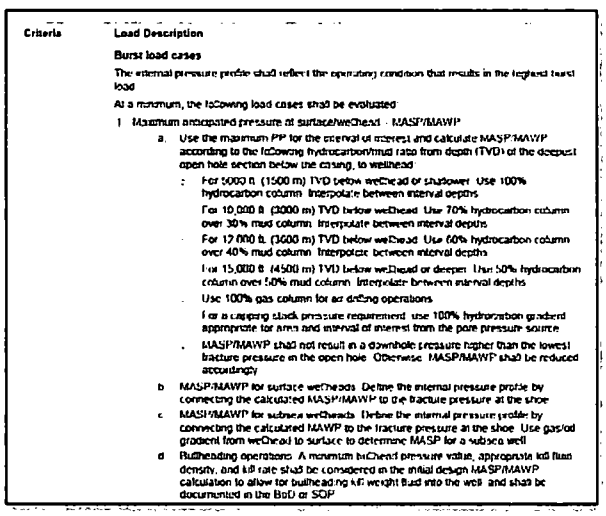
Well Control and Safeguards

All wells are designed per standard technical standards, but Chevron also utilizes the safety assurance program *'WellSafe'* to conduct Rig Certifications and manage pertinent operational safeguards in respect to preventing loss of containment incidents. Within the multitude of requirements, the WellSafe program ensures the following items are maintained and validated by both on-site Chevron company representatives, in addition to quarterly assessments conducted by an external group. A few of those requirements and standards are as follow:

1) Daily Well control checklists
    a. These checklists ensure that ever tour (twice a day), the driller has his PVT alarms set at either 5 to 10 bbls, BOP/Manifold is in the proper alignment or status and the accumulator pressures are at correct values. This has been proven to ensure that drillers catch an influx as quickly as possible and are able to shut in immediately without issue.
2) PVT calibrations
    a. PVT's are calibrated by a third-party company and documented in the WellSafe folder on location. This is conducted yearly, at a minimum.
3) Well Control drills
    a. Well control drills are conducted, at a minimum, of once per week per crew. Therefore, on a given week, at least 2x well control drills with be conducted and debriefed. Each one of these Well Control Drills are documented in a central server.
4) BOP Well Control Equipment

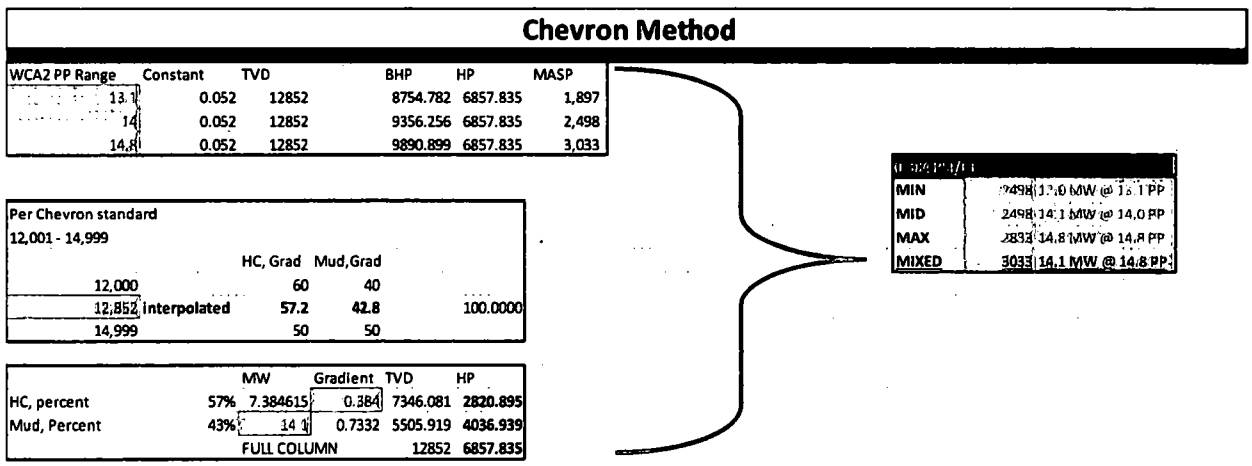
a. WellSafe processes ensure and maintain all BOP components are API, with the COC (Certificate of Compliance) stored for reference on location. This document validates all components used on the BOP stack are tested and certified.

5) BOP Testing
   a. All BOP components (rams, annular) are tested every 14 days, but not to surpass 21 days.
6) Well Design Plan Certifications and Well Execution Certifications
   a. Prior to execution, all drilling programs are reviewed and vetted by WellSafe, a group of senior engineers, to ensure all well control related criteria is validated and accurate.
   b. The Well Execution Certifications are also a part of WellSafe that validates pertinent procedural steps and well control barriers were executed or installed per plan.
7) IADC Well Control Certificates
   a. All Company Representatives, Rig managers and drillers will be certified for Well Control at all times per IADC stipulations.



Criteria	Load Description
	Burst load cases
	The internal pressure profile shall reflect the operating condition that results in the highest burst load
	At a minimum, the following load cases shall be evaluated:
	1 Maximum anticipated pressure at surface/wellhead - MASP/MAWP
	a. Use the maximum PP for the interval of interest and calculate MASP/MAWP according to the following hydrocarbon/mud ratio from depth (TVD) of the deepest open hole section below the casing, to wellhead:
	For 5000 ft (1500 m) TVD below wellhead or shallower: Use 100% hydrocarbon column. Interpolate between interval depths
	For 10,000 ft (3000 m) TVD below wellhead: Use 70% hydrocarbon column over 30% mud column. Interpolate between interval depths
	For 12,000 ft (3600 m) TVD below wellhead: Use 60% hydrocarbon column over 40% mud column. Interpolate between interval depths
	For 15,000 ft (4500 m) TVD below wellhead or deeper: Use 50% hydrocarbon column over 50% mud column. Interpolate between interval depths
	Use 100% gas column for air drilling operations
	For a capping stack pressure requirement: use 100% hydrocarbon gradient appropriate for area and interval of interest from the pore pressure source
	MASP/MAWP shall not result in a downhole pressure higher than the lowest fracture pressure in the open hole. Otherwise, MASP/MAWP shall be reduced accordingly
	b MASP/MAWP for surface wellheads: Define the internal pressure profile by connecting the calculated MASP/MAWP to the fracture pressure at the shoe
	c MASP/MAWP for subsea wellheads: Define the internal pressure profile by connecting the calculated MAWP to the fracture pressure at the shoe. Use gas/oil gradient from wellhead to surface to determine MASP for a subsea well
	d Bullheading operations: A maximum wellhead pressure value, appropriate kill fluid density, and kill rate shall be considered in the initial design MASP/MAWP calculation to allow for bullheading kill weight fluid into the well, and shall be documented in the BoD or SOP

Figure 3: MASP Design calculation (DSM-BST-102002-A-MCBU-1, Casing and Tubing Design)



Chevron Method

WCA2 PP Range	Constant	TVD	BHP	HP	MASP
13.1	0.052	12852	8754.782	6857.835	1,897
14	0.052	12852	9356.256	6857.835	2,498
14.8	0.052	12852	9890.899	6857.835	3,033

Per Chevron standard
12,001 - 14,999

		HC, Grad	Mud,Grad	
12,000		60	40	
12,852	Interpolated	57.2	42.8	100.0000
14,999		50	50	

		MW	Gradient	TVD	HP
HC, percent	57%	7.384615	0.384	7346.081	2820.895
Mud, Percent	43%	14.1	0.7332	5505.919	4036.939
		FULL COLUMN		12852	6857.835

MIN	2498 13.0 MW @ 13.1 PP
MID	2498 14.1 MW @ 14.0 PP
MAX	2833 14.8 MW @ 14.8 PP
MIXED	3033 14.1 MW @ 14.8 PP

Figure 4: MASP calculations for "Mixed" case = Likely Mud Weight with highest PP possible

BLOWOUT PREVENTER SCHEMATIC

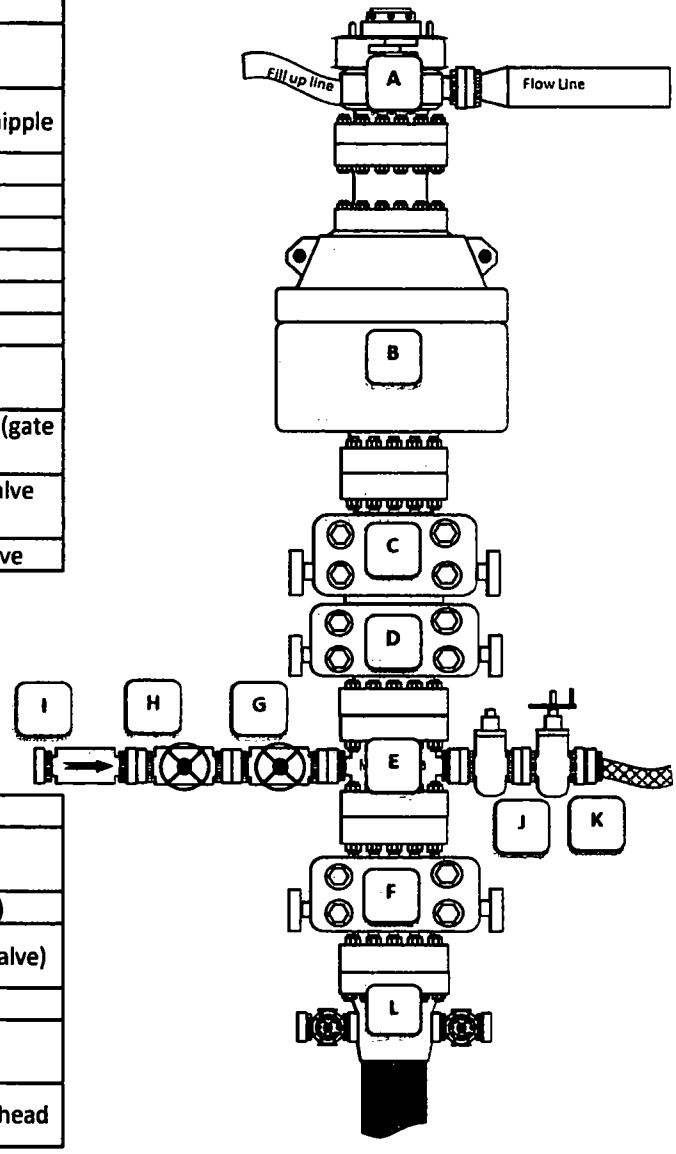
Operation:	Intermediate & Production Drilling Operations
Minimum System operation pressure	5,000 psi

BOP Stack

Part	Size	Pressure Rating	Description
A	13-5/8"	N/A	Rotating Head/Bell nipple
B	13-5/8"	5,000	Annular
C	13-5/8"	10,000	Blind Ram
D	13-5/8"	10,000	Pipe Ram
E	13-5/8"	10,000	Mud Cross
F	13-5/8"	10,000	Pipe Ram

Kill Line

Part	Size	Pressure Rating	Description
G	2"	10,000	Inside Kill Line Valve (gate valve)
H	2"	10,000	Outside Kill Line Valve (gate valve)
I	2"	10,000	Kill Line Check valve



Choke line

Part	Size	Pressure Rating	Description
J	3"	10,000	HCR (gate valve)
K	3"	10,000	Manual HCR (gate valve)

Wellhead

Part	Size	Pressure Rating	Description
L	13-5/8"	5,000	FMC Multibowl wellhead

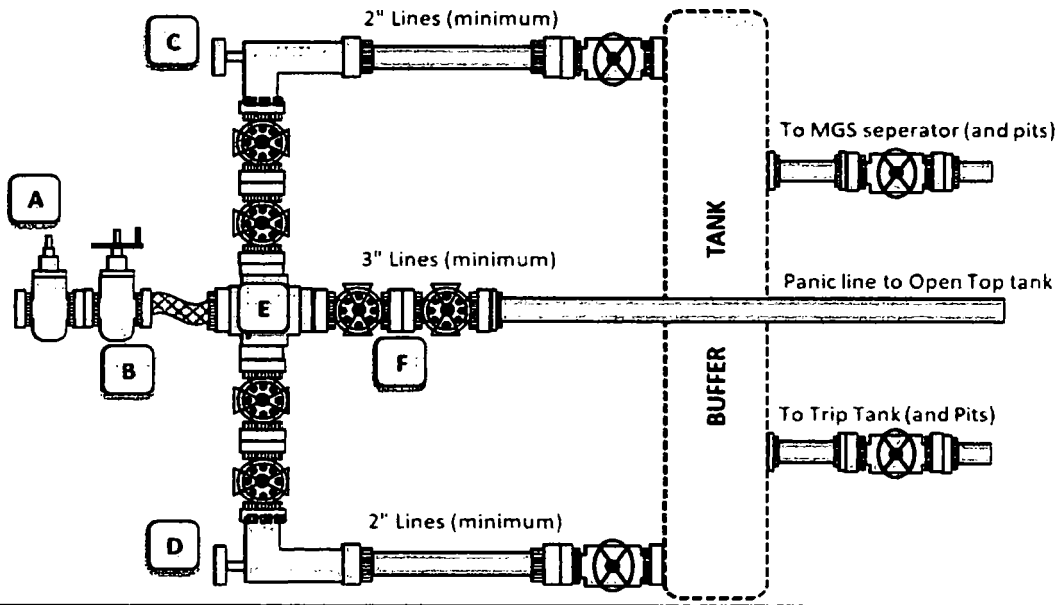
BOP Installation Checklist: The following items must be verified and checked off prior to pressure testing BOP equipment
The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment 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 flow through.
Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be install on all manual valves on the choke 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 saved valve and subs to fit all drill string connections in use.

CHOKE MANIFOLD SCHEMATIC

Operation:	Intermediate & Production
Minimum System operation pressure	5,000 psi

Choke Manifold

Part	Size	Pressure Rating	Description
A	3"	10,000	HCR (remotely operated)
B	3"	10,000	HCR (manually operated)
C	2"	10,000	Remotely operated choke
D	2"	10,000	Adjustable choke
E	3"	10,000	Crown valve with pressure gage
F	3"	10,000	Panic line valves



Choke Manifold Installation Checklist: The following items must be verified and checked off prior to pressure testing 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 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.
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 the mud gas separator and shale shakers.
All manual valves will have hand wheels installed.
Flare systems will have an effective method for ignition.
All connections will be flanged, welded or clamped
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.