

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

JUL 20 2016

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMLC029410A
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator ConocoPhillips Company (217817)		7. If Unit or CA Agreement, Name and No. N/A
3a. Address 600 N. Dairy Ashford Rd.; P10-3096 Houston, TX 77079-1175	3b. Phone No. (include area code) 281-206-5281	8. Lease Name and Well No. MCA Unit 556 (31422)
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1315' FNL and 1009' FWL; UL D, Sec. 29, T17S, R32E At proposed prod. zone 1980' FNL and 1309' FWL; UL E, Sec. 29, T17S, R32E		9. API Well No. 30-025-43367 (43329)
14. Distance in miles and direction from nearest town or post office* Approximately 3.5 miles south east of Maljamar, New Mexico		10. Field and Pool, or Exploratory Maljamar; Grayburg, San Andres
15. Distance from proposed* 11' to UL line location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease 560.00	11. Sec., T. R. M. or Blk. and Survey or Area Sec. 29, T17S, R32E
18. Distance from proposed location* approx. 50' at surface to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 4553' MD/ 4438' TVD	12. County or Parish Lea County
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3934' GL	22. Approximate date work will start* 01/01/2016	13. State NM
17. Spacing Unit dedicated to this well 40		
20. BLM/BIA Bond No. on file ES0085		
23. Estimated duration 7 days		

24. Attachments

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

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature <u>Susan B. Maunder</u>	Name (Printed/Typed) Susan B. Maunder	Date 6/26/15
Title Senior Regulatory Specialist		
Approved by (Signature) <u>/s/George MacDonell</u>	Name (Printed/Typed)	Date JUL 19 2016
Title FIELD MANAGER		
Office CARLSBAD FIELD OFFICE		

Application approval does not warrant or certify that the applicant will conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. States any false, fictitious or fraudulent statement

(Continued on page 2)

See attached NMOCD
Conditions of Approval

in the subject lease which would entitle the applicant to

APPROVAL FOR TWO YEARS

fully to make to any department or agency of the United

*(Instructions on page 2)

Roswell Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

K

ConocoPhillips, MCA UNIT 556

1. Geologic Formations

TVD of target	4438'	Pilot hole depth	NA
MD at TD:	4553'	Deepest expected fresh water:	706'

Permian Basin

Formation	TVD (ft)
Rustler	706
Salado	863
Tansill	1873
Yates	2053
Seven Rivers	2438
Queen	3038
Grayburg	3438
San Andres	3818
TD	4438

2. Casing Program

See
COA

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
12.25"	0	741' 780	8.625"	24	J55	STC	4.18	9.01	13.7
7.875"	0	4543'	5.5"	17	J55	LTC	2.13	2.31	3.27
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

ConocoPhillips, MCA UNIT 556

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	YES
Does casing meet API specifications? If no, attach casing specification sheet.	YES
Is premium or uncommon casing planned? If yes attach casing specification sheet.	NO
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	YES
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	N/A
Is well located within Capitan Reef?	NO
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	NO
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	NO
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	NO
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	NO
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	350	13.5	1.75	9.17	15.75	Lead: Class C + 4% Bentonite + 2% CaCl ₂ + 0.25% Cello Flake (LCM)
	250	14.8	1.34	6.36	8	Tail: Class C + 2% CaCl ₂
DV Tool- Contin- gency	450	11.5	3.22	19.06	29	Lead: Class C + 3% MPA-5 (strength enhancement) + 10% extender + .005 lbs/sx Static Free + .005 gps defoamer + .125 lb/sx Cello Flake + 3 lbs/sx LCM + 2% extender + 1% bonding improver + 6% Bentonite
<i>DV Tool 1800 or 3400</i>	320	14.0	1.37	6.17	5.5	Tail: (35:65) Poz: Class C + 1% Extender + 1.5% Fluid Loss Add. + .125 lbs/sx Cello Flake + 3 lbs/sx LCM
	250	14.8	1.34	6.36	8	Stage 2: Class C + 2% CaCl ₂

ConocoPhillips, MCA UNIT 556

Prod.	450	11.5	3.21	19.34	29	Lead: Class C +10% Gas Migration Add.+2% Extender+3% MPA-5 (strength enhancement) +1% BA-10A (Bonding improver)+6% Bentonite
	320	14.0	1.37	6.48	5.5	Tail: (35:65) Poz:Class C+1% Extender+1.5% Fluid Loss Add.

Lab reports with recipe and the 500 psi compressive strength time for the cement will be onsite for review.

DV tool to be run and two stage cement job to be performed as contingency in the event of flows or severe losses while drilling and running casing. DV tool depth will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe.

Casing String	TOC	% Excess
Surface	0'	157% lead, 107% tail
Production	0'	262% lead, 81% tail

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
7-7/8"	11"	3M	Annular	x	70% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
			Pipe Ram		
			Double Ram		
			Other *		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

ConocoPhillips, MCA UNIT 556

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y /N	Are anchors required by manufacturer?
	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.
	See attached schematic.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss	PH
From	To					
0	Surf. shoe	FW Gel	8.5-9.0	28-40	N/C	N.C.
Surf. Shoe	TD	Saturated Brine	10.0	29	N/C	10-11

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
---	-----------------------------

6. Logging and Testing Procedures

Logging, Coring and Testing.	
NO	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
NO	Drill stem test? If yes, explain
NO	Coring? If yes, explain

Additional logs planned	Interval
Resistivity	
Density, GR, BHC	
CBL	
Mud log	
PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	1922 psi
Abnormal Temperature	No

- Mitigation measure for abnormal conditions - Loss of circulation is a possibility in the horizons below the Top of Grayburg. We expect that normal Loss of Circulation Material will be successful in healing any such loss of circulation events.

Gas detection equipment and pit level flow monitoring equipment will be on location. A flow paddle will be installed in the flow line to monitor relative amount of mud flowing in the non-pressurized return line. Mud probes will be installed in the individual tanks to monitor pit volumes of the drilling fluid with a pit volume totalizer. Gas detecting equipment and H2S monitor alarm will be installed in the mud return system and will be monitored. A mud gas separator will be installed and operable before drilling out from the Surface Casing. The gases shall be piped into the flare system. Drilling mud containing H2S shall be degassed in accordance with API RP-49, item 5.14. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

X	H2S is present
X	H2S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe.

Will be pre-setting casing? If yes, describe.

A 10' rathole is planned between TD and production casing set depth.

Attachments

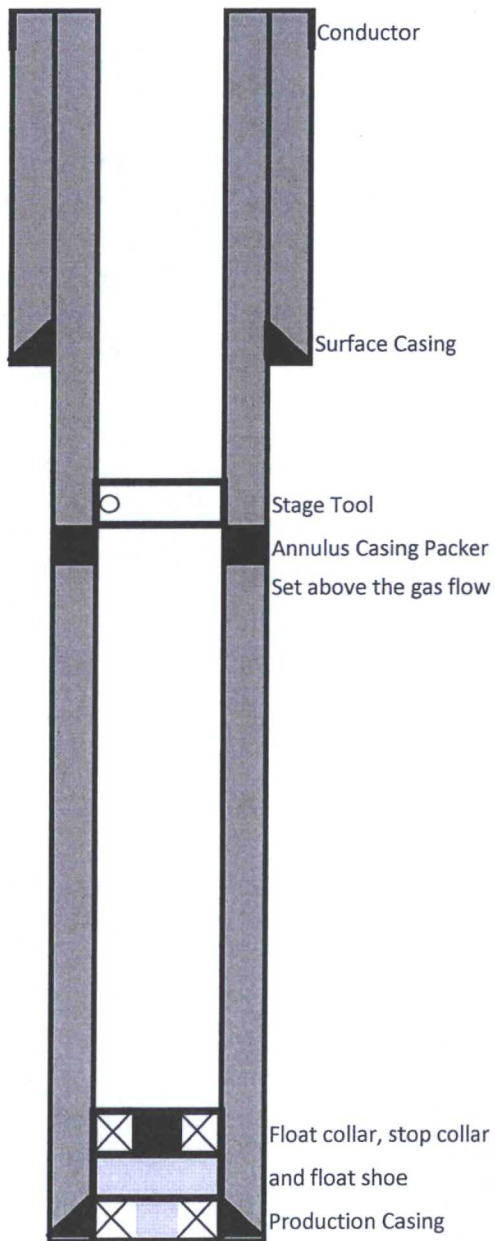
☒ Directional Plan

☒ Other, describe: Two Stage contingency cementing diagram, Drill Plan Attachment

Drill Plan Attachment

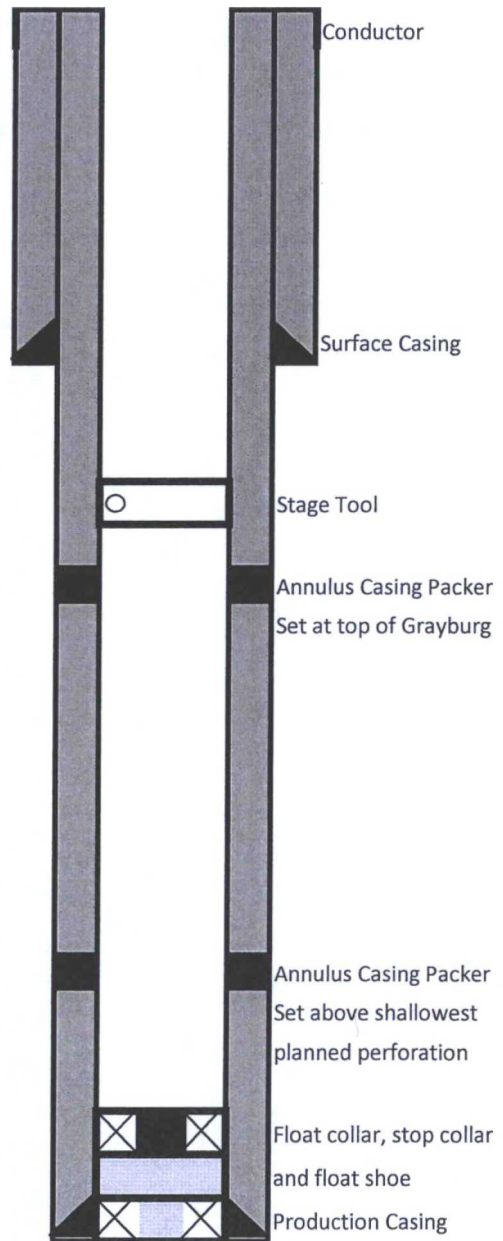
Two-Stage Cementing (Alternative for Shallow Gas)

Provide contingency plan for using two-stage cementing for the production casing cement job if gas flow occurs during the drilling operations. See APD Drill Plan Section 3.



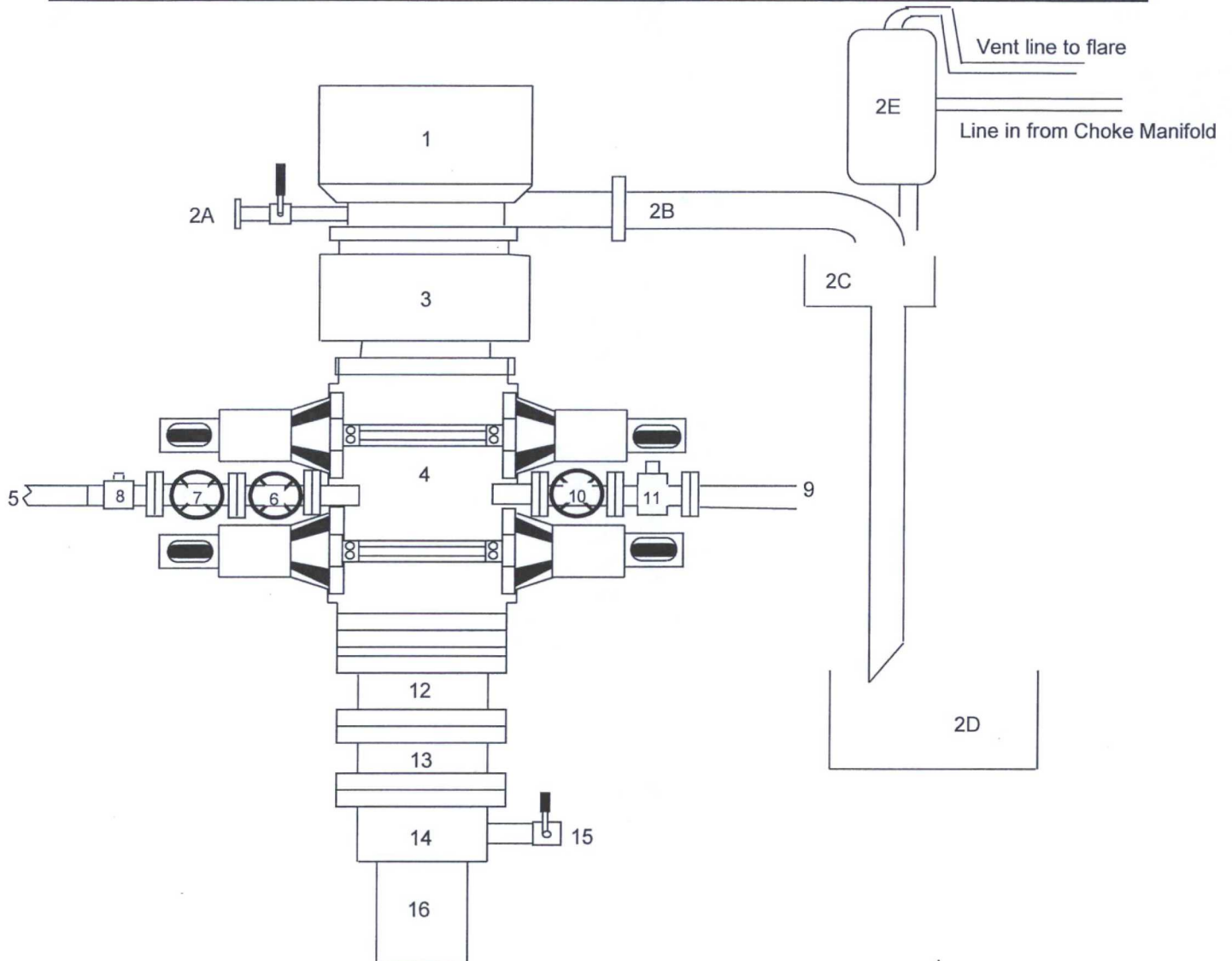
Two-Stage Cementing (Alternative for Oil/Water/Gas & Water Flow)

Provide contingency plan for using two-stage cementing for the production casing cement job if oil or water flow occurs during drilling operations. See APD Drill Plan Section 3.



BLOWOUT PREVENTER ARRANGEMENT

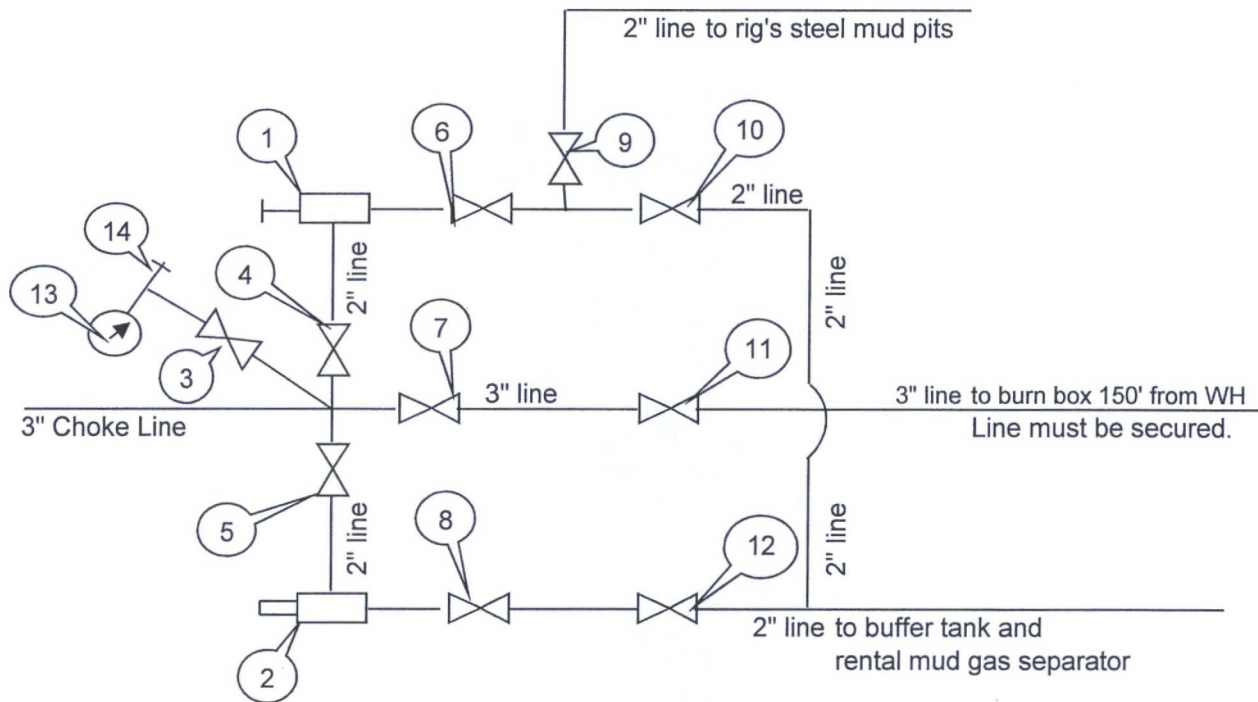
3M System per Onshore Oil and Gas Order No. 2 utilizing 3M and 5M Rated Equipment



Item	Description
1	Rotating Head (11")
2A	Fill up Line and Valve
2B	Flow Line (8")
2C	Shale Shakers and Solids Settling Tank
2D	Cuttings Bins for Zero Discharge
2E	Rental Mud Gas Separator with vent line to flare and return line to mud system
3	Annular BOP (11", 3M)
4	Double Ram (11", 3M, equipped with Blind Rams and Pipe Rams)
5	Kill Line (2" flexible hose, 3000 psi WP)
6	Kill Line Valve, Inner (2-1/16", 3000 psi WP)
7	Kill Line Valve, Outer (2-1/16", 3000 psi WP)
8	Kill Line Check Valve (2-1/16", 3000 psi WP)
9	Straight Choke Line (3" 3000 psi WP)
10	Choke Line Valve, Inner (3-1/8", 3000 psi WP)
11	Choke Line Valve, Outer, (Hydraulically operated, 3-1/8", 3000 psi WP)
12	Spacer Spool (11" 3M x 3M)
13	Adapter Flange (11" 3M x 5M)
14	Casing Head (11" 5M)
15	Ball Valve and Threaded Nipple on Casing Head Outlet, (2", 5M)
16	Surface Casing

CHOKE MANIFOLD ARRANGEMENT

3M System per Onshore Oil and Gas Order No. 2 utilizing 3M and 5M Equipment



Item	Description
1	Manual Adjustable Choke, 2-1/16", 5M
2	Remote-Controlled Hydraulically-Operated Adjustable Choke, 2-1/16", 10M
3	Gate Valve, 2-1/16" 5M
4	Gate Valve, 2-1/16" 5M
5	Gate Valve, 2-1/16" 5M
6	Gate Valve, 2-1/16" 5M
7	Gate Valve, 3-1/8" 3M
8	Gate Valve, 2-1/16" 5M
9	Gate Valve, 2-1/16" 5M
10	Gate Valve, 2-1/16" 5M
11	Gate Valve, 3-1/8" 3M
12	Gate Valve, 2-1/16" 5M
13	Pressure Gauge
14	2" hammer union tie-in point for BOP Tester

We will test each valve to 3000 psi from the upstream side.

Submitted by:

Cord Denton

Drilling Engineer, Mid-Continent Business Unit, ConocoPhillips Company

Date: 27-April-2015