Form 3160-3
(March 2012)

ATS-15-149

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

OCD Hobbs

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD
DEC 22 2016
RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☑ DRILL ☐ REENTER	5. Lease Serial No. SHL: NMNM120907 BHL:NMNM02969
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	6. If Indian, Allotee or Tribe Name
2. Name of Operator COG Production LLC. (217955)	7. If Unit or CA Agreement, Name and No.
3a. Address 2208 West Main Street Artesia, NM 88210	3b. Phone No. (include area code) 575-748-6940
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface 190' FSL & 1980' FWL Unit Letter N (SESW) SHL Sec 23-T24S-R32E; At proposed prod. Zone 330' FNL & 1980' FWL Unit Letter C (NENW) BHL Sec 23-T24S-R32E	UNORTHODOX LOCATION
8. Lease Name and Well No. (317200) Treasure Island Federal Com #3H	
9. API Well No. 30-025-43515	
10. Field and Pool, or Exploratory (97964) WC-025 G-07 S243225C; Bone Spring	
11. Sec., T.R.M. or Blk and Survey or Area Sec. 23 - T24S - R32E	
14. Distance in miles and direction from nearest town or post office* Approximately 24 miles from Malaga	12. County or Parish Lea County; 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. Unit line, if any) 190'	16. No. of acres in lease SHL: 1840 BHL: 640
17. Spacing Unit dedicated to this well 160	
18. Distance from location* to nearest well, drilling, completed, applied for, on this lease, ft. SHL: 1460' Treasure Island #2H BHL: 330'	19. Proposed Depth TVD: 10,960' MD: 15,478'
20. BLM/BIA Bond No. on file NMB000860 &NMB000845	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3588.6' GL	22. Approximate date work will start* 2/1/2015
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	Name (Printed/Typed)	Date
Mayte Reyes	Mayte Reyes	11-5-14

Title: Regulatory Analyst

Approved by (Signature)	Name (Printed/Typed)	Date
/s/Cody Layton		DEC 19 2016

Title	Office
FIELD MANAGER	CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legan or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations theron.
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.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

KZ 12/27/16

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

KZ

COG Operating, LLC, Treasure Island Fed. Com #3H

1. Geologic Formations

TVD of target	10960'	Pilot hole depth	-
MD at TD:	15478'	Deepest expected fresh water:	400'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1070	Water	
Top of Salt	1100	Salt	
Lamar	4700	Barren	
Delaware Group	4925	Oil/Gas	
Bone Spring	8840	Oil/Gas	
2nd Bone Spring Lime	10525	Target Zone	
Wolfcamp	12130	Oil/Gas	

See COA

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	~~1100~~ 1165	13.375"	54.5	J55	STC	2.20	1.08	8.57
12.25"	0	4350	9.625"	40	J55	BTC	1.136	0.70*	3.68
12.25"	4350	4850	9.625	40	L80	BTC	1.225	1.01	4.88
8.75"	0	11200	5.5"	17	P110	BTC	1.51	1.87	2.07
7.875"	11200	15478	5.5"	17	P110	BTC	1.51	1.87	2.07
				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

- 9-5/8" 40# J-55: Pi = 3950; Pi/D = 3950 psi/4850ft = 0.81, above the fracture gradient of 0.7 psi/ft at the shoe.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). (Assumption bulleted above)	N
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
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?	N

If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
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?	N
If yes, are there three strings cemented to surface?	

2. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	500	13.5	1.73	9.16	12	Lead: Class C + 4% Gel + 1% CaCl2
	250	14.8	1.35	6.39	8	Tail: Class C + 2% CaCl2
Inter.	900	12.7	1.98	9.6	10	Lead: Class C + 5% Salt + 3 LB Kol-Seal
	250	14.8	1.34	6.34	10	Tail: Class C Blend
Prod.	650	10	3.34	17.3	22	Lead: Tuned Light Blend
	1050	14.4	1.25	5.77	10	Tail: 50:50:2 Class H + 1% Salt + 0.4% GasStop + 0.3% CFR-3

Casing String	TOC	% Excess
Surface	0'	50%
Intermediate	0'	35%
Production	4650'	35%

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	2M	Annular	x	~~50% of working pressure~~ See COA
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	11"	3M	Annular	x	50% testing pressure
			Blind Ram	x	3M
			Pipe Ram	x	
			Double Ram		
			Other*		
			Annular		
			Blind Ram		
			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.

N	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.
Y	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.
	N — Are anchors required by manufacturer?
N	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.

See COA

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. shoe	FW Gel	8.6-8.8	28-34	N/C
Surf csg	Int shoe	Saturated Brine	10.0-10.2	28-34	N/C
Int shoe	TD	Cut Brine	8.5-9.3	28-34	N/C

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.	
x	Will run GR/CNL fromTD 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.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Resistivity	Int. shoe to KOP
X	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5225 psi
Abnormal Temperature	No

See COA

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

Is this a walking operation? No
Will be pre-setting casing? No

Attachments

- Directional Plan
- BOP & Choke Schematics
- C102 and supporting maps
- Flex Hose Variance
- Rig plat
- H2S schematic
- H2S contingency plan
- Interim reclamation plat

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01932		C	ED		3	1	12	24S	32E	628633	3567188*	492		
C 02350			ED		4	3	10	24S	32E	625826	3566333*	60		
C 03527 POD1		C	LE	1	2	3	03	24S	32E	625770	3568487	500		
C 03528 POD1		C	LE	1	1	2	15	24S	32E	626040	3566129	541		
C 03530 POD1		C	LE	3	4	3	07	24S	32E	620886	3566156	550		
C 03555 POD1		C	LE	2	2	1	05	24S	32E	622709	3569231	560		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 6

PLSS Search:

Township: 24S **Range:** 32E

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 23 **Township:** 24S **Range:** 32E

Flex Hose Variance Request

Flex Hose Variance Statement

COG (operator) requests a variance if Basic 46 (rig name) is used to drill this well to use a co-flex line between the BOP and choke manifold.
Manufacturer: N. R. P. Jones
Serial Number: MA3113 Repair
Length: 23 Size: 3 1/2 Ends - flanges/clamps
WP rating: 5000 psi Anchors required by manufacturer – Yes/No

N·R·P JONES

Certificate of Conformance

DATE ~~3/7/13~~ 3/11/13

SERIAL NO. MA3111 3REPAIR ***PART NO.*** _____

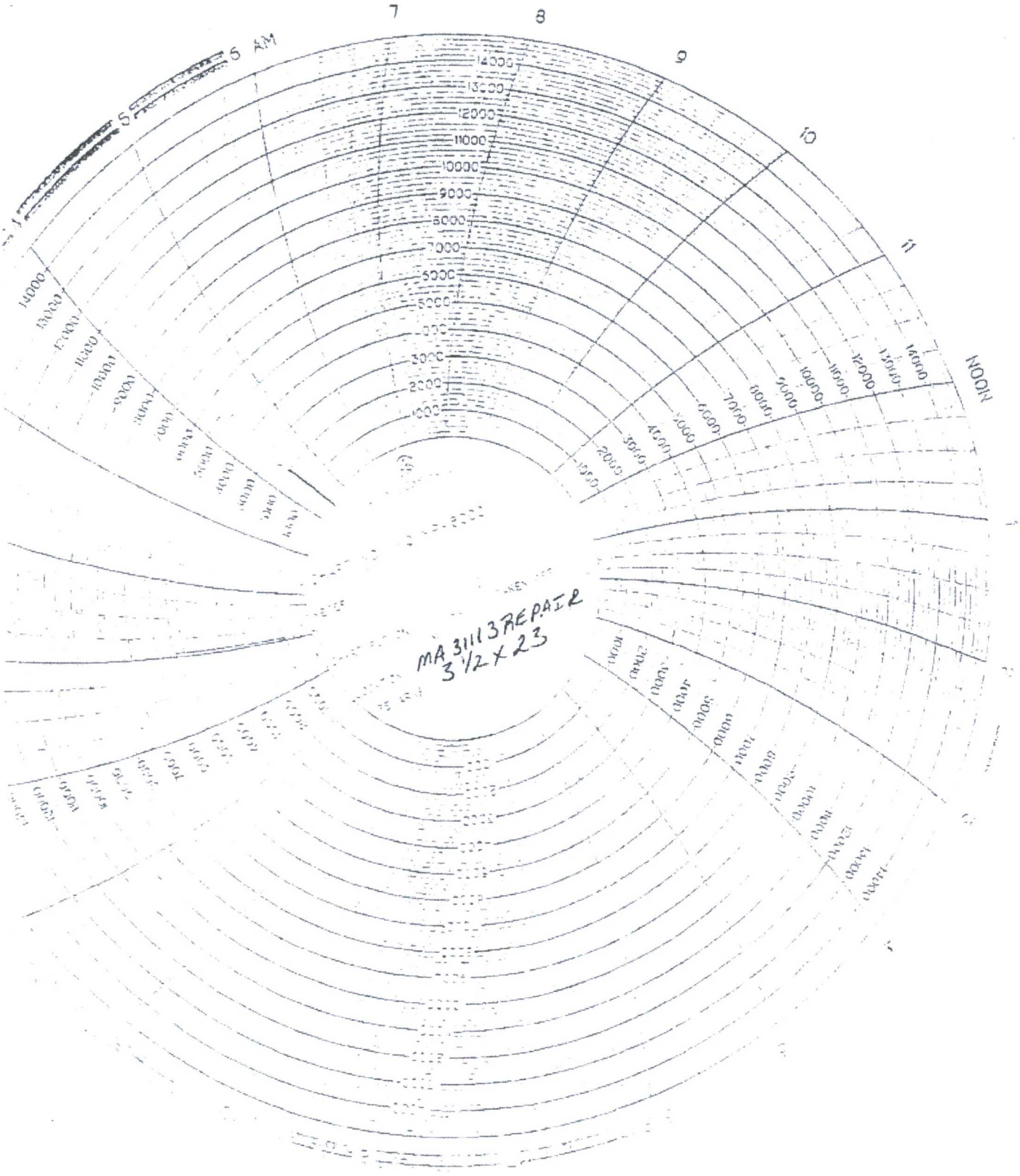
SIZE 3 1/2 ***LENGTH*** 23

HYDROSTATICALLY TESTED AT 5000

BY Chance Perkins ***Q.A.*** Allen Casey

NEPHI RUBBER PRODUCTS CORP.

Corporate Office: P.O. Box 310 • LaPorte, Indiana 46352 • (800)348-8868 • (219)362-9908 • Fax Number (219)324-0815
Manufacturing: 255 West 11th North • Nephi, Utah 84648 • (800)453-1480 • (435)623-1740 • Fax Number (435)623-2638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2000
1000
MA 31113 REPAIR
3 1/2 X 23

Product Specification **3 1/2" CHOKE AND KILL LINE**

Catalog Item? Yes **Design Factor** 2:1

Scope	Hydraulic control line between BOP control system and Manifold Equipment.
Tube	High grade abrasion resistant synthetic HNBR for H2S service
Cover	High grade Neoprene with high ozone, abrasion and heat resistance
Fluids	Oil based drilling fluids, glycols and polyglycols, and hydraulic oil
Reinforcement	Multiple plies of Nylon Cord, with 2 high tensile spiraled wound cables
Pressure	5000 PSI Working Pressure 10,000 PSI Burst Test Pressure
Thermal Barrier	Layer of thermal insulation material rated from-250° F to +1500° F 1/16" Chemical Resistant, Non-Flammable Industrial grade braided yarn
Outer Armor	Interlocking stainless steel armor heat resistant +1500° F
Fittings	Hose fitting is an Integral Swage Coupling with 4 1/6" RX-39 Flanges Coupling combines locking features of the insulation and armor.
Lengths	Lengths vary by request.
Testing	Hydrostatically tested at 2 times working pressure for 5 minutes.
Conformity	Manufactured to meet or exceed API 16C Specifications. A prototype of each control line manufactured is then fire tested per API16C. Each control line is hydrostatically tested per API 16C Specifications. Each control line is issued a serial number which is etched on the completed assembly and documented with a Certificate of Proof Test.

ID	OD	WEIGHT FT/LBS	BEND RADIUS	W.P PSI	BURST PSI
3 ½"	5.75"	18.6	54"	5,000 PSI	10,000PSI

Construction

Tube: Black, oil and abrasion resistant HNBR for H_2S service.

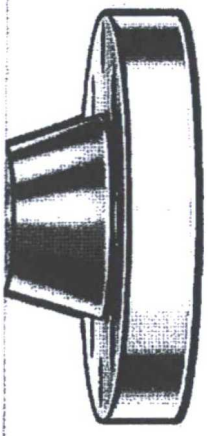
Reinforcement: Multiple plies of bias laid textile cord for extra strength and flexibility. Spirally wound, high tensile, multiple strand cables to provide unsurpassed ruggedness and reliability to withstand sudden high pressure.

Cover: Special flame resistant red Neoprene (CR) with optional stainless steel armor.

Fittings: Integral connection flanged or hubbed.

Temperature: -40 to 212°F (-40 to 100°C)

Branding: NRP Choke & Kill Hose. MADE IN USA.

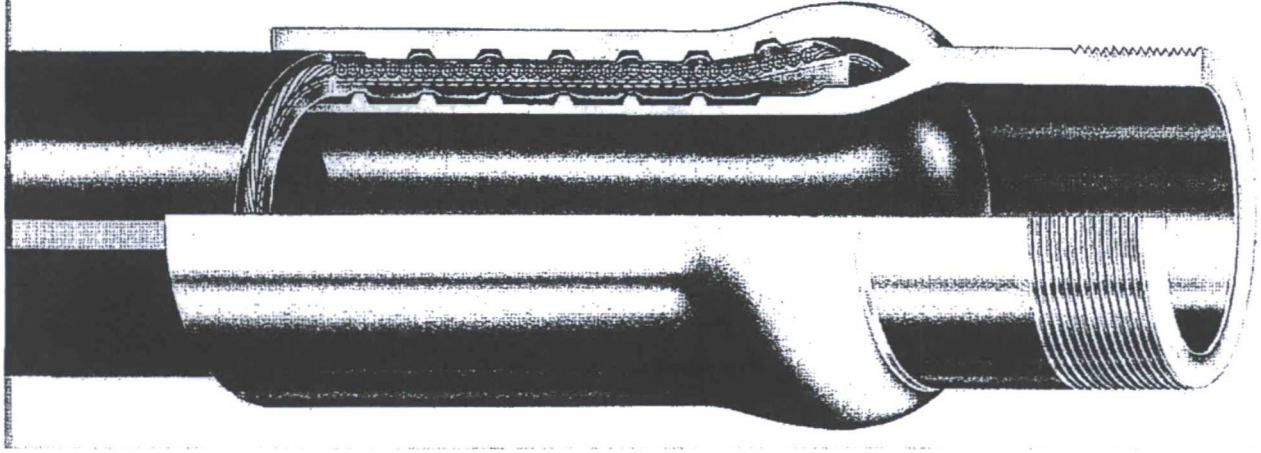


Choke & Kill Specifications

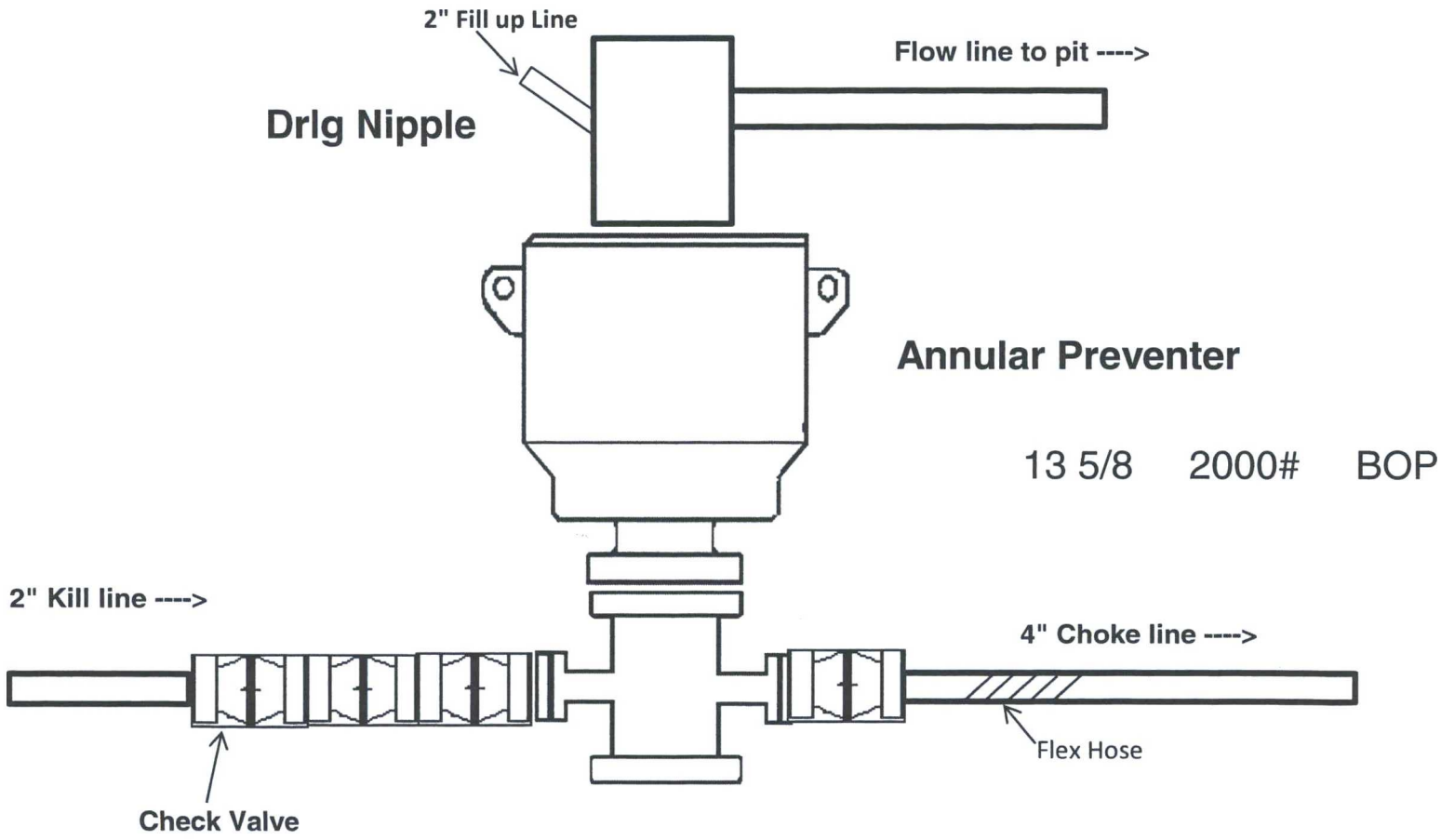
NRP Part Number	Hose ID (in)	Hose OD (in)	Rated WP (psi)	Test Pressure (psi)	Minimum Bend Radius	Weight per Foot (lbs)
5035-32	2.00	4.45	5,000	10,000	44	12.9
5035-40	2.50	4.60	5,000	10,000	48	13.9
5035-48	3.00	5.10	5,000	10,000	52	16.1
5040-32	2.00	4.68	10,000	15,000	48	22.4
5040-40	2.50	5.34	10,000	15,000	52	27.4
5040-48	3.00	5.84	10,000	15,000	56	28.8
Super Choke & Kill Specifications						
5085-40	2.50	5.84	15,000	22,500	60	28.2
5085-48	3.00	6.34	15,000	22,500	60	34.1

Specifications

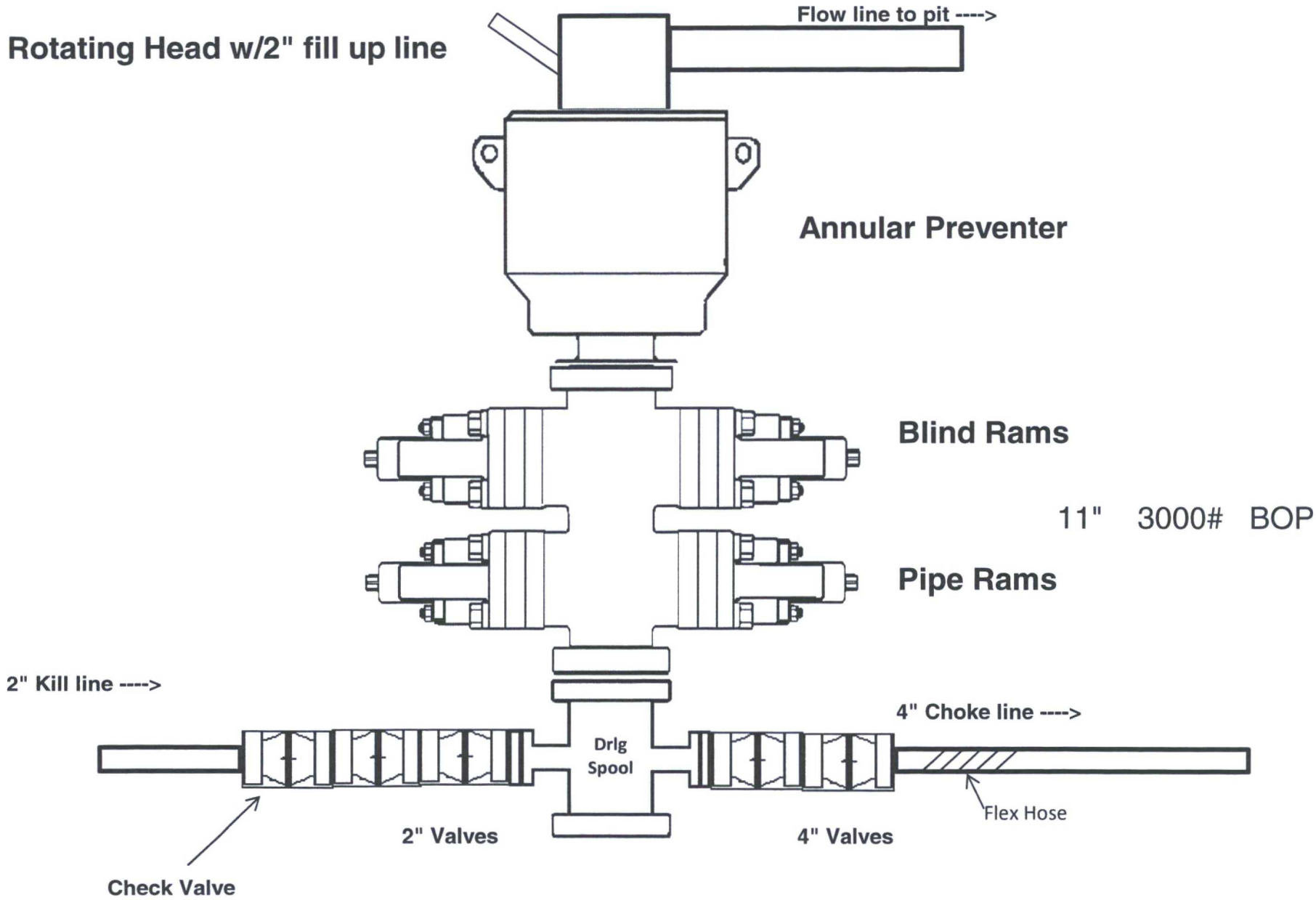
NRP Rotary Number	NRP Vibrator Number	Hose ID (in)	Hose OD (in)	Grade	Rated WP (psi)	Test Pressure (psi)	Minimum Bend Radius	Weight per Foot (lbs)	Weight of 2 Cplgs (lbs)	Cplg Thread API (in)
5501-40	5502-40	2.50	4.45	C	4,000	8,000	36	12.9	54	3
5501-48	5502-48	3.00	4.95	C	4,000	8,000	48	14.9	74	4
5501-56	5502-56	3.50	5.45	C	4,000	8,000	54	16.6	94	4
5603-40	5604-40	2.50	4.60	D	5,000	10,000	36	13.6	54	3
5603-48	5604-48	3.00	5.10	D	5,000	10,000	48	15.5	74	4
5603-56	5604-56	3.50	5.75	D	5,000	10,000	54	18.6	94	4
5603-64	5604-64	4.00	6.25	D	5,000	10,000	54	19.8	105	5



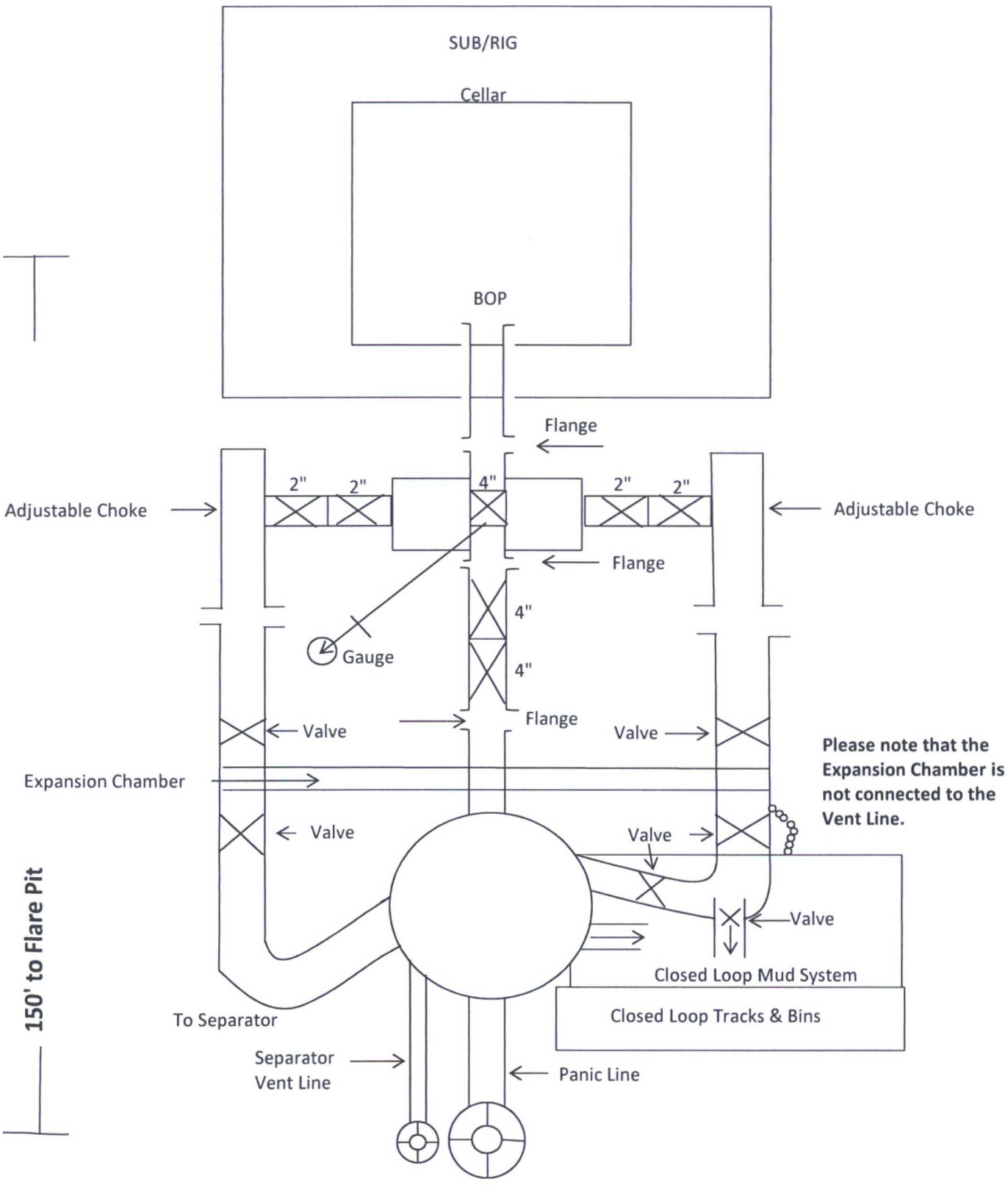
2,000 psi BOP Schematic



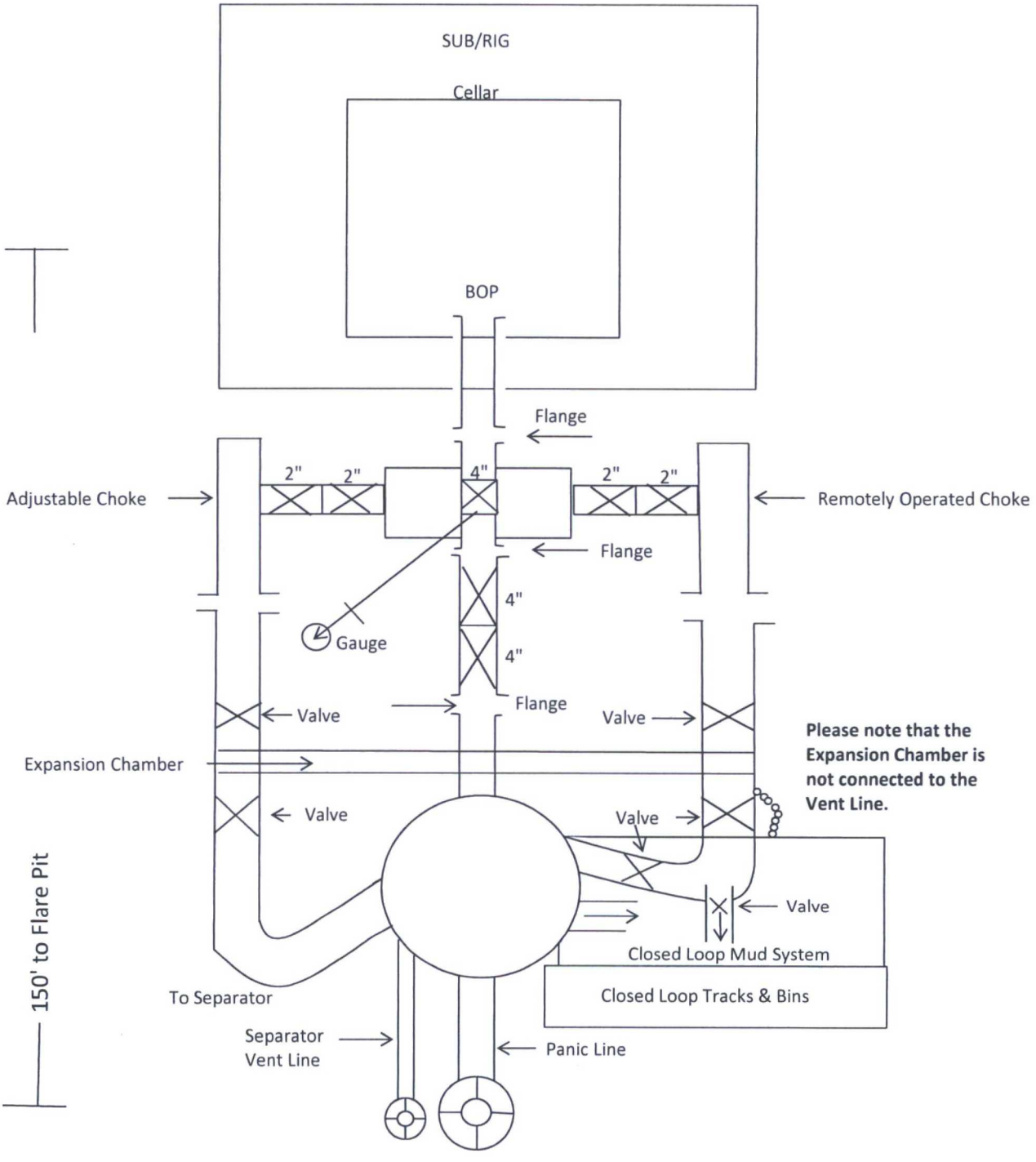
3,000 psi BOP Schematic



2M Choke Manifold Equipment



3M Choke Manifold Equipment



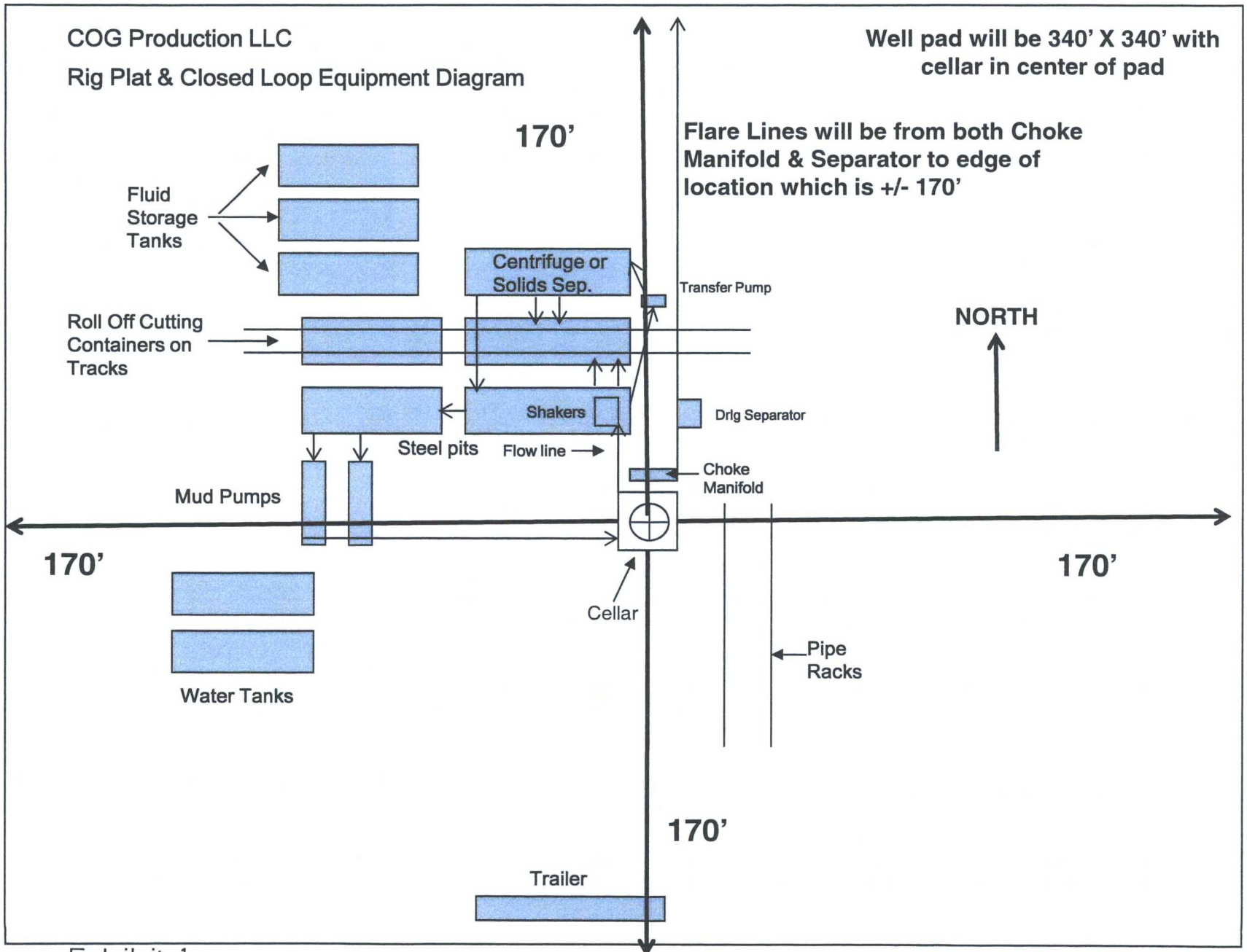
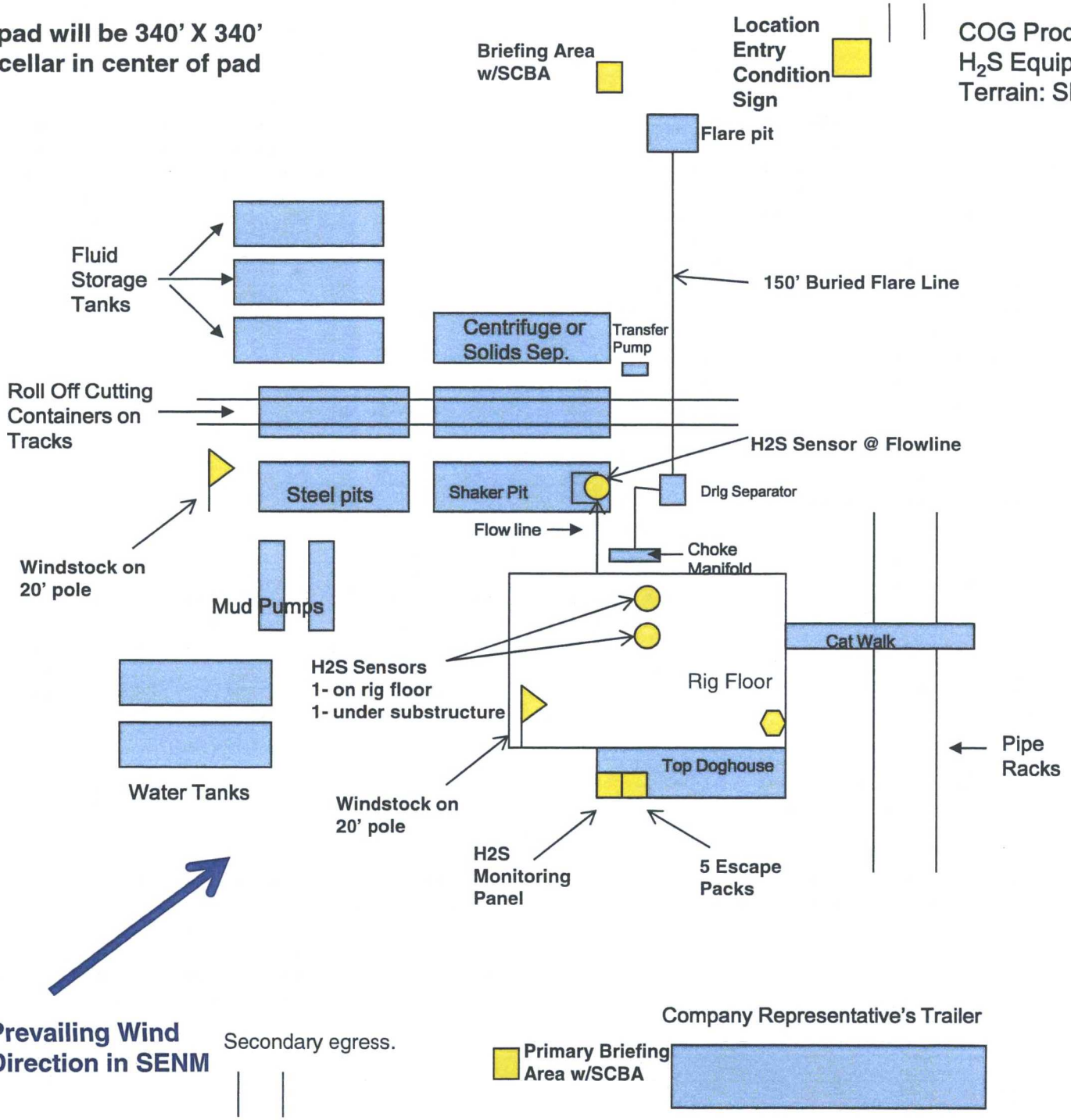


Exhibit 1

"I further certify that COG will comply with Rule 19.15.17 NMAC by using a Closed Loop System."

Well pad will be 340' X 340' with cellar in center of pad

COG Production LLC
H_2S Equipment Schematic
Terrain: Shinnery sand hills.



OPERATOR CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or COG Operating LLC, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 2nd day of March, 2015.

Signed: Melanie Parker

Printed Name: Melanie J. Parker
Position: Regulatory Coordinator
Address: 2208 W. Main Street, Artesia, NM 88210
Telephone: (575) 748-6940
Field Representative (if not above signatory): Rand French
E-mail: mparker@concho.com