Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Carlsbad Field Office
NM OIL CONS DIV DIST 2
OCD Artesia
FEB 05 2018
RECEIVED

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.

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMLC063667

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.
BIG EDDY UNIT DI30 314H

2. Name of Operator
BOPCO LP
Contact: KELLY KARDOS
E-Mail: kelly_kardos@xtoenergy.com

9. API Well No.
30-015-43649-00-X1

3a. Address
6401 HOLIDAY HILL RD BLDG 5 SUITE 200
MIDLAND, TX 79707

3b. Phone No. (include area code)
Ph: 432-620-4374

10. Field and Pool or Exploratory Area
WILLIAMS SINK

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 14 T20S R31E SWSW 1110FSL 250FWL

11. County or Parish, State
EDDY 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 APD
	☐ 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.

OPERATOR MUST SUBMIT C103 TO OCD SANTA FE OFFICE FOR SWD PERMIT.

BOPCO, LP requests approval of the following changes to the original APD:

Well Type: Change from horizontal producer to vertical disposal.

Pool: Change from Williams Sink (Bone Spring) to Devonian SWD.

SEE ATTACHED FOR CONDITIONS OF APPROVAL

2/7/18

Well Name:
Old Name - Big Eddy Unit DI30 314H
New Name - Big Eddy Unit 14 Federal SWD 1

Pad Size: Expand pad size from 350' x 350' to 430' x 400' to accommodate rig.

Engineering Cond 75. good Surface

2-1-18
BLM

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

Electronic Submission #401518 verified by the BLM Well Information System
For BOPCO LP, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 01/25/2018 (18PP0733SE)

Name *(Printed/Typed)* KELLY KARDOS — Title REGULATORY COORDINATOR

Signature (Electronic Submission) — Date 01/18/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ZOTA STEVENS — Title PETROLEUM ENGINEER — Date 02/01/2018

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 Carlsbad

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 ****

Additional data for EC transaction #401518 that would not fit on the form

32. Additional remarks, continued

Please see attached revised:

Drilling Program
C102
Pad Layout Diagram
BOP/Choke Design
Flex Hose Variance

DRILLING PLAN: BLM COMPLIANCE
(Supplement to BLM 3160-3)

XTO Energy Inc.
BEU 14 Federal 1 SWD
Projected TD: 15540' MD / 14250' TVD
SHL: 690' FSL & 175' FWL , Section 14, T20S, R31E
BHL: 690' FSL & 175' FWL , Section 14, T20S, R31E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	610'	Water
Top of Salt	940'	Water
Base of Salt	2050'	Water
Capitan Reef	2745'	Water
Delaware	4560'	Water
Brushy Canyon	5780'	Water/Oil/Gas
Bone Spring	7395'	Water/Oil/Gas
First Bone Spring Sand	8620'	Water/Oil/Gas
Second Bone Spring Sand	9210'	Water/Oil/Gas
Third Bone Spring Sand	10220'	Water/Oil/Gas
Wolfcamp	10595'	Water/Oil/Gas
Cisco	11150'	Water/Oil/Gas
Canyon	11520'	Water/Oil/Gas
Strawn	11635'	Water/Oil/Gas
Atoka	12030'	Water/Oil/Gas
Atoka Bank	12190'	Water/Oil/Gas
Morrow	12500'	Water/Oil/Gas
Morrow Clastics	12680'	Water/Oil/Gas
Barnett	13110'	Water/Oil/Gas
Mississippian Lime	13540'	Water/Oil/Gas
Woodford	14120'	Water/Oil/Gas
Siluro-Devonian	14291'	Disposal
Fusselman	14666'	Disposal
Montoya	15242'	Disposal
TD	15540'	
Simpson	15546'	

*** Hydrocarbons @ Brushy Canyon
*** Groundwater depth 40' (per NM State Engineers Office).

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 18-5/8 inch casing @ 850' (90' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8 inch casing at 2400' and circulating cement to surface. The Capitan Reef zone will be isolated by setting 9-5/8 inch casing at 4750'. An 8-3/4 inch hole will be drilled to 14250' and 7 inch casing will be set and cemented back up to the 9-5/8 inch casing shoe. A 6 inch hole will be drilled to TD at 15540' for an openhole completion.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 850'	18-5/8"	87.5	BTC	J-55	New	2.97	1.43	17.87
17-1/2"	0' – 2400'	13-3/8"	61	BTC	J-55	New	2.86	1.20	6.57
12-1/4"	0' – 4750'	9-5/8"	47	LTC	L-80	New	1.39	2.24	4.00
8-3/4"	0' – 14250'	7"	32	BTC	P-110	New	2.33	1.33	4.23
6"	14250' – 15540'	Open hole							

WELLHEAD:

Temporary Wellhead

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.

A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom

B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Manufacturer will witness installation of test plug for initial test.
- Operator will test the 9-5/8" casing to 70% of casing burst before drilling out.

4. Cement Program

Surface Casing: 18-5/8", 87.5# New J-55, BTC casing to be set at +/- 850'

Lead: 770 sxs Poz/C (mixed at 13.5 ppg, 1.77 ft3/sx, 9.46 gal/sx water)
Tail: 550 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.36 ft3/sx, 6.61 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

1st Intermediate Casing: 13-3/8", 61# New J-55, BTC casing to be set at +/- 2400'

Lead: 1510 sxs Poz/C (mixed at 12.8 ppg, 1.923 ft3/sx, 10.45 gal/sx water)
Tail: 310 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.42 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Intermediate Casing: 9-5/8", 47# New L-80, LTC casing to be set at +/- 4750'
ECP/DV Tool to be set at 2820'
1st Stage

Lead: 0 sxs Poz-C + 2% CaCl (mixed at 12.9 ppg, 1.9 ft3/sx, 9.99 gal/sx water)

Tail: 960 sxs Class C + 2% CaCl (mixed at 14.4 ppg, 1.25 ft3/sx, 5.49 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Stage

Lead: 760 sxs Poz/C + 2% CaCl (mixed at 12.9 ppg, 1.9 ft3/sx, 9.61 gal/sx water)

Tail: 250 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.25 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

Production Casing: 7", 32# New P-110, BTC casing to be set at +/- 14250'

Lead: 660 sxs Poz/C (mixed at 11 ppg, 2.811 ft3/sx, 17.4 gal/sx water)

Tail: 60 sxs Class C (mixed at 13.2 ppg, 1.468 ft3/sx, 7.46 gal/sx water)
Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

5. Pressure Control Equipment

The blow out preventer equipment (BOP) on surface casing/temporary wellhead will consist of a 21-1/4" minimum 2M Annular. MASP should not exceed 757 psi.

Once WH is installed on 13-3/8 inch casing, the blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 5M Annular and a 13-5/8" minimum 5M Double Ram BOP. MASP should not exceed 4942 psi. In any instance where 10M BOP is required by BLM, XTO requests variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M).

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 13-5/8" 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nippling up on the 9-5/8", the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 850'	24"	FW/Native	8.4-10	29-40	NC
850' - 2400'	17-1/2"	Brine	9.8-10.3	29-32	NC
2400' to 4750'	12-1/4"	FW	8.4-8.8	29-32	NC
4750' to 14250'	8-3/4"	FW / Cut Brine / Polymer	8.4-10.9	29-40	NC - 20
14250' to 15540'	6"	FW	8.4-8.8	29-32	NC

The necessary mud products for weight addition and fluid loss control will be on location at all times.

Spud with fresh water/native mud. Drill out from under 18-5/8" surface casing with brine solution. A 9.8-10.3 ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

A. A Kelly cock will be in the drill string at all times.
B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
C. H2S monitors will be on location when drilling below the 13-3/8" casing.

8. Logging, Coring and Testing Program

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.

Open hole logging will be conducted in intermediate and production hole sections. Logs that may be run include Triple Combo, Dipole Sonic, FMI, and Rotary SWC.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 190-220F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences.Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation is possible, and will be managed by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 6949 psi.

10. Anticipated Starting Date and Duration of Operations

Road and location construction will begin after Santa Fe and BLM have approved the APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 50-75 days. If production casing is run, an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to commence injection.

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

[1] API Number	[2] Pool Code	[3] Pool Name
	96101	Devonian; SWD

[4] Property Code	[5] Property Name	[6] Well Number
	BIG EDDY UNIT 14 FEDERAL SWD	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
260737	BOPCO, L.P.	3449'

[10] 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	14	21 S	31 E		1,110	SOUTH	250	WEST	EDDY

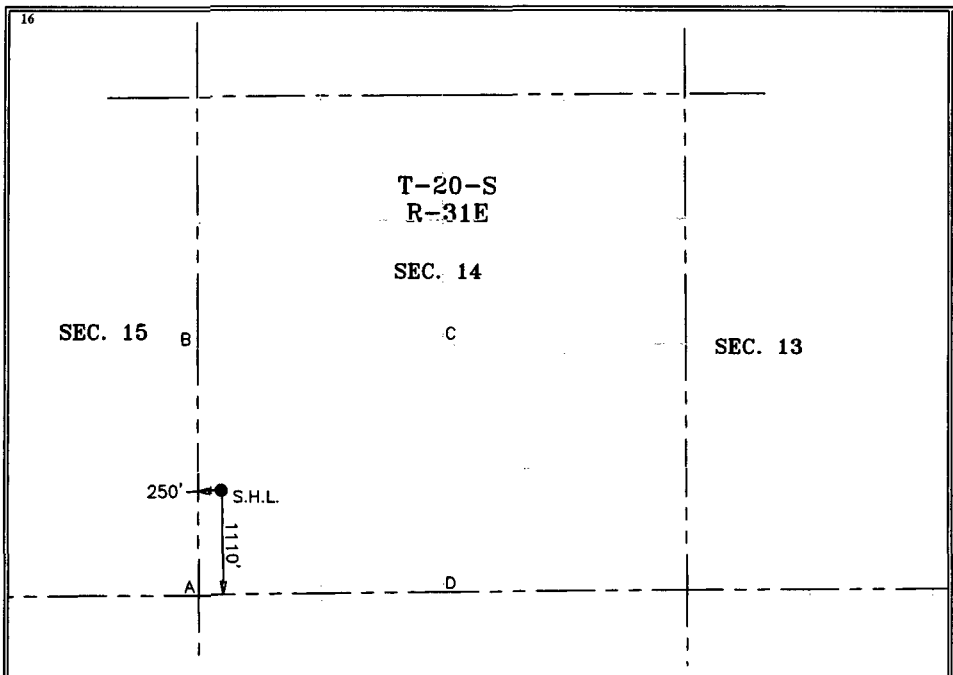
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
0			

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.

16



GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y= 571,049.3
X= 649,779.7
LAT.= 32.568981°N
LONG.= 103.847141°W

CORNER COORDINATES TABLE
NAD 27 NME
A - Y= 569,936.9 N, X= 649,535.5 E
B - Y= 572,589.6 N, X= 649,521.6 E
C - Y= 572,606.9 N, X= 652,167.6 E
D - Y= 569,963.4 N, X= 652,180.5 E

GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y= 571,111.0
X= 690,959.4
LAT.= 32.569101°N
LONG.= 103.847642°W

CORNER COORDINATES TABLE
NAD 83 NME
A - Y= 569,998.6 N, X= 690,715.2 E
B - Y= 572,651.3 N, X= 690,701.2 E
C - Y= 572,668.6 N, X= 693,347.2 E
D - Y= 570,025.1 N, X= 693,360.2 E

[17] 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.

Signature 1/8/18
Date

Kelly Kardos
Printed Name

kelly_kardos@xtoenergy.com
E-mail Address

[18] 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.

1-8-2018
Date of Survey

Signatue and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number AI 2017081251

GATES E & S NORTH AMERICA, INC
DU-TEX
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe&s@gates.com
WEB: www.gates.com

GRADE D PRESSURE TEST CERTIFICATE

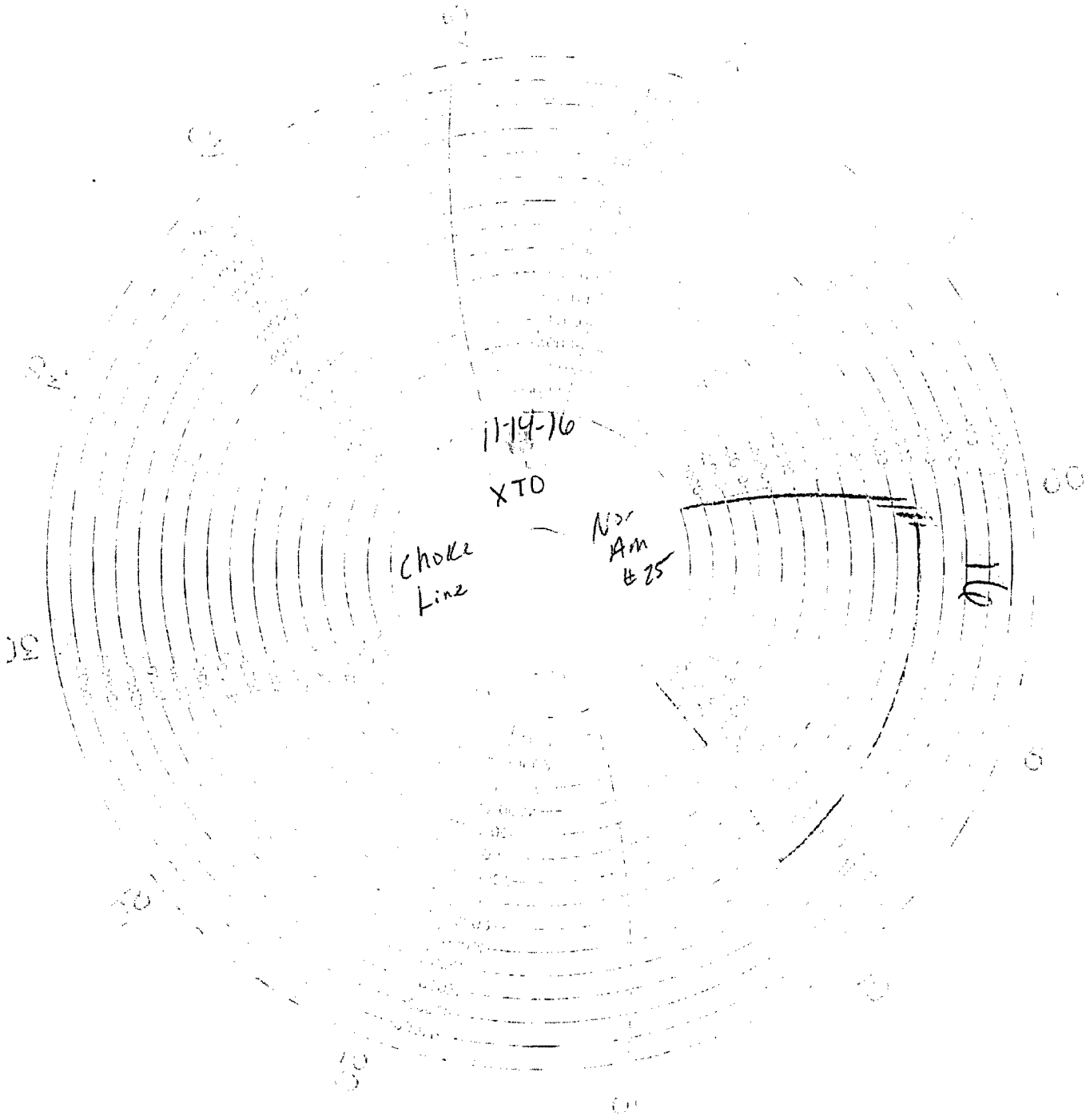
Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No..	D-060814-1
Invoice No. :	201709	Created By:	NORMA

Product Description:	FD3.042.0R41/16.5KFLGE/E LE

End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Technical Supervisor :	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :		Signature :	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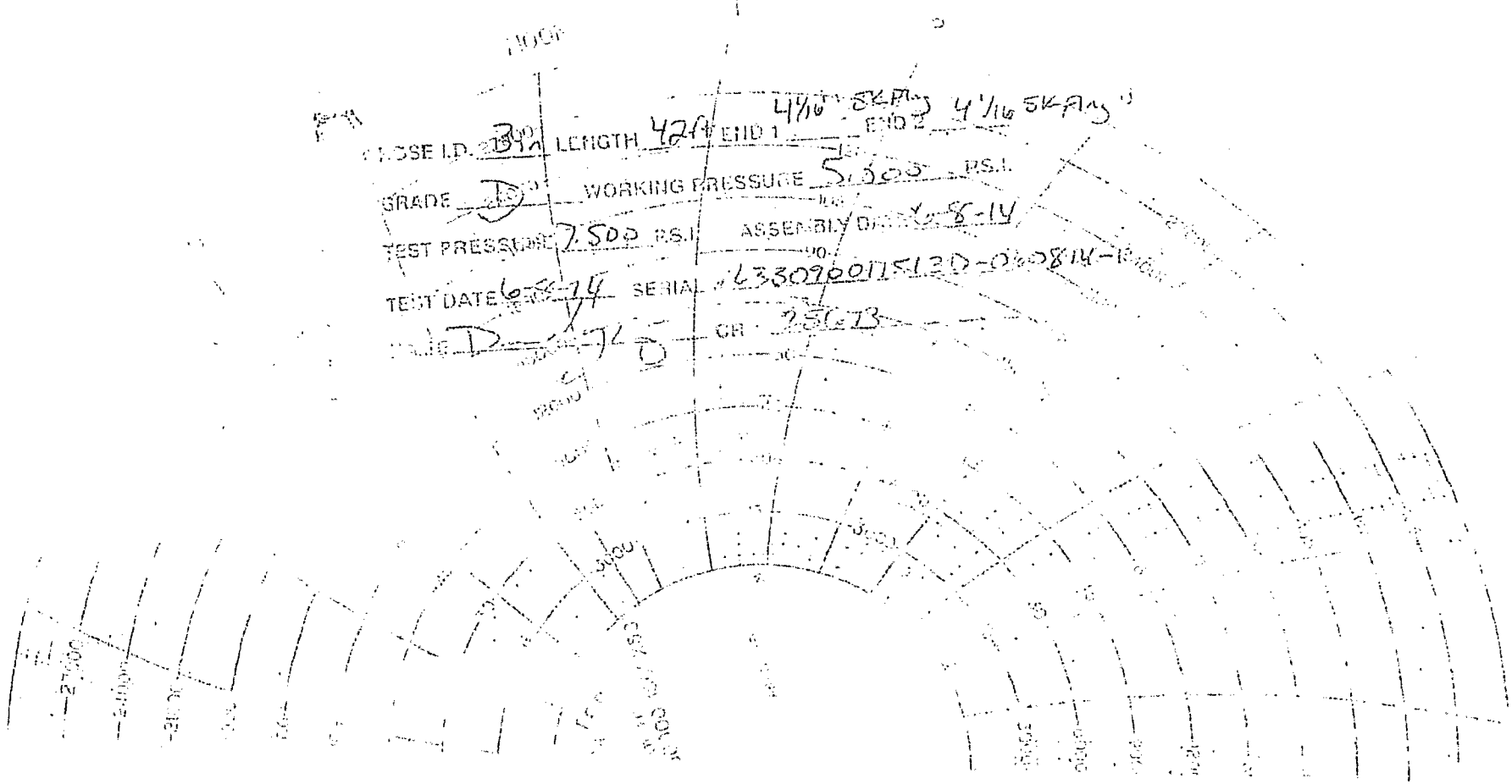
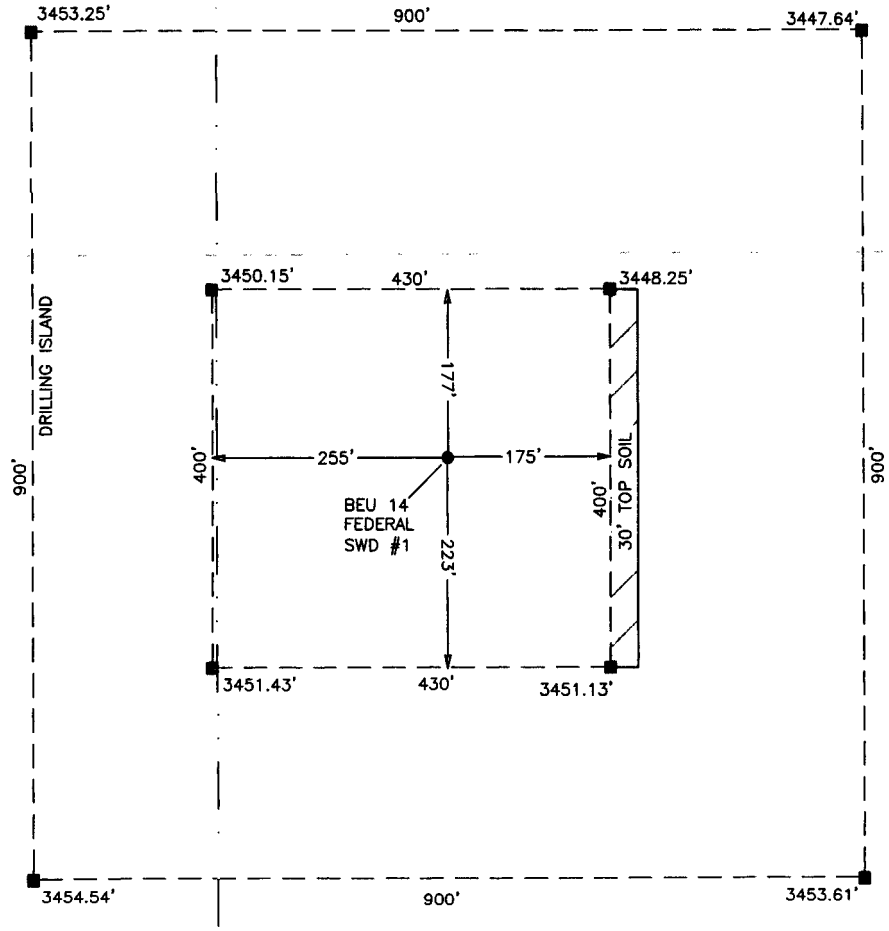

HOSE I.D. 3"
LENGTH 42"
END 1 4 1/16 SKFNS
END 2 4 1/16 SKFNS
GRADE D
WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I.
ASSEMBLY DATE 6-14
TEST DATE 6-14
SERIAL 633090011513D-060814-1
CR 25613

WELL SITE PLAN

EXISTING 2 TRACK ROAD

SECTION 15
TOWNSHIP 20 SOUTH,
RANGE 31 EAST
NEW MEXICO PRIME
MERIDIAN

SECTION 14
TOWNSHIP 20 SOUTH,
RANGE 31 EAST
NEW MEXICO PRIME
MERIDIAN



BIG EDDY UNIT 14
FEDERAL SWD #1
ELEV. 3449'
NAD 83 (NME)
Y= 571,111.0
X= 690,959.4
LAT.= 32.569101°N
LONG.= 103.847642°W
NAD 27 (NME)
Y= 571,049.3
X= 649,779.7
LAT.= 32.568981°N
LONG.= 103.847141°W

LEGEND

PROPOSED PAD

N

0 100' 200'
1" = 200 FEET

NOTE:

1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR PROPOSED ROAD LOCATION

DIRECTIONS TO THIS LOCATION:
FROM THE INTERSECTION OF HIGHWAY 62 (HOBBS HWY.) AND POTASH MINES RD. (NM-31) GO EAST ON HIGHWAY 62 APPROX. 7.4 MILES. TURN LEFT (NORTH) ONTO LEASE RD. AND GO APPROX. 1.9 MILES, ARRIVING AT A PAD. CONTINUE EAST THEN NORTH ALONG LEASE ROAD FOR APPROX. 1.45 MILES TO A CURVE. HEAD WEST ON SAID LEASE ROAD FOR APPROX. 0.35 MILES TO A CURVE. HEAD SOUTH ON SAID LEASE ROAD FOR APPROX. 0.13 MILES AND THE LOCATION IS TO THE SOUTH.

XTO ENERGY, INC.

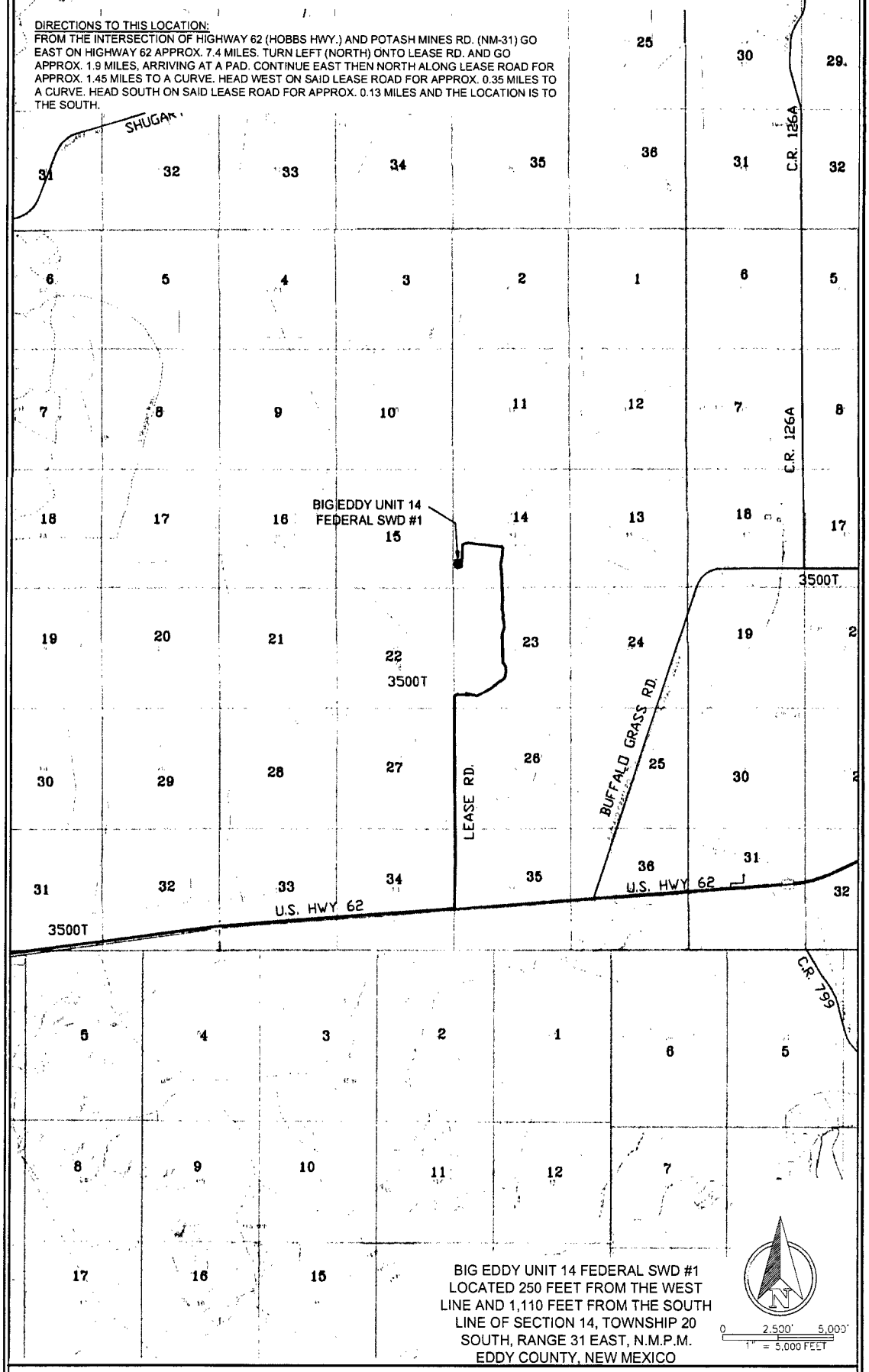
BIG EDDY UNIT 14 FEDERAL SWD #1
LOCATED 250 FEET FROM THE WEST LINE AND 1,110 FEET FROM THE NORTH LINE OF SECTION 14, TOWNSHIP 20 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, NEW MEXICO

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	1-15-2018	PROJECT NO:	2017081251
DRAWN BY:	AI	SCALE:	1" = 200'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE	REVISION:	NO

TOPOGRAPHICAL AND ACCESS ROAD MAP

DIRECTIONS TO THIS LOCATION:
FROM THE INTERSECTION OF HIGHWAY 62 (HOBBS HWY.) AND POTASH MINES RD. (NM-31) GO EAST ON HIGHWAY 62 APPROX. 7.4 MILES. TURN LEFT (NORTH) ONTO LEASE RD. AND GO APPROX. 1.9 MILES, ARRIVING AT A PAD. CONTINUE EAST THEN NORTH ALONG LEASE ROAD FOR APPROX. 1.45 MILES TO A CURVE. HEAD WEST ON SAID LEASE ROAD FOR APPROX. 0.35 MILES TO A CURVE. HEAD SOUTH ON SAID LEASE ROAD FOR APPROX. 0.13 MILES AND THE LOCATION IS TO THE SOUTH.



BIG EDDY UNIT 14 FEDERAL SWD #1
LOCATED 250 FEET FROM THE WEST
LINE AND 1,110 FEET FROM THE SOUTH
LINE OF SECTION 14, TOWNSHIP 20
SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, NEW MEXICO

0 2,500' 5,000'
1" = 5,000 FEET

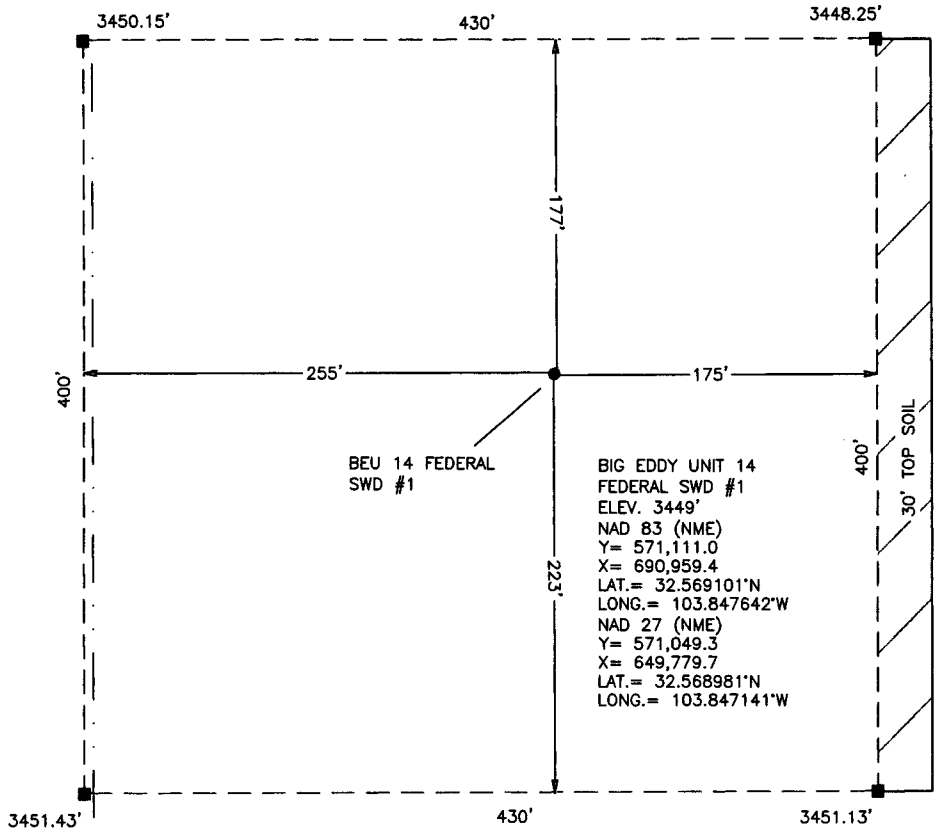
FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

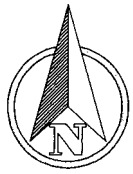
DATE:	1-15-2018	PROJECT NO:	2017081251
DRAWN BY:	AW	SCALE:	1" = 5,000'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE/KN/CD	REVISION:	NO

WELL SITE PLAN

SECTION 15
TOWNSHIP 20 SOUTH,
RANGE 31 EAST
NEW MEXICO PRIME
MERIDIAN

SECTION 14
TOWNSHIP 20 SOUTH, RANGE 31 EAST
NEW MEXICO PRIME MERIDIAN





0 50' 100'
1" = 100 FEET

LEGEND
PROPOSED PAD

NOTE:

1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR PROPOSED ROAD LOCATION

DIRECTIONS TO THIS LOCATION:
FROM THE INTERSECTION OF HIGHWAY 62 (HOBBS HWY.) AND POTASH MINES RD. (NM-31) GO EAST ON HIGHWAY 62 APPROX. 7.4 MILES. TURN LEFT (NORTH) ONTO LEASE RD. AND GO APPROX. 1.9 MILES, ARRIVING AT A PAD. CONTINUE EAST THEN NORTH ALONG LEASE ROAD FOR APPROX. 1.45 MILES TO A CURVE. HEAD WEST ON SAID LEASE ROAD FOR APPROX. 0.35 MILES TO A CURVE. HEAD SOUTH ON SAID LEASE ROAD FOR APPROX. 0.13 MILES AND THE LOCATION IS TO THE SOUTH.

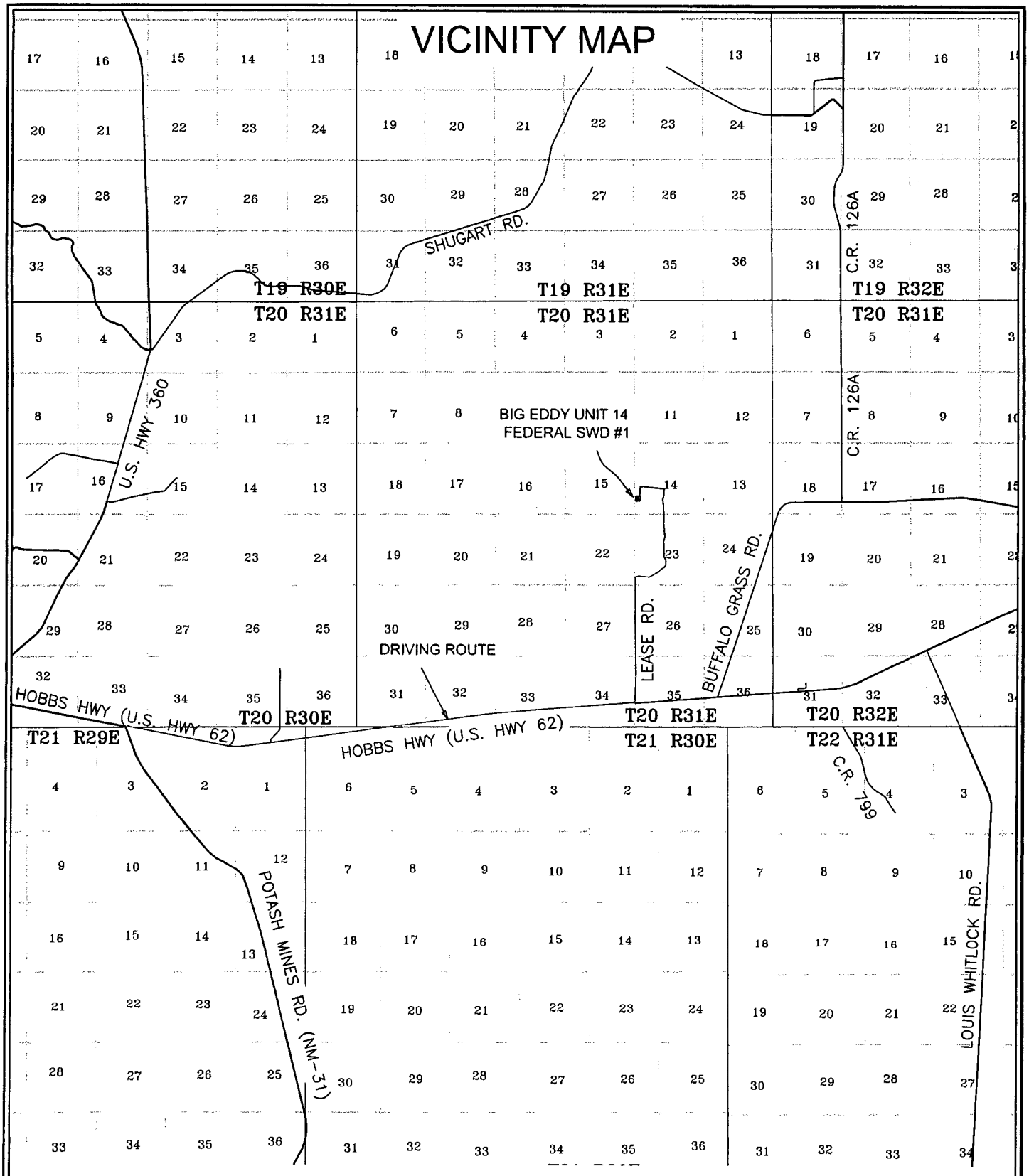
XTO ENERGY, INC.

BIG EDDY UNIT 14 FEDERAL SWD #1
LOCATED 250 FEET FROM THE WEST LINE AND 1,110 FEET FROM THE NORTH LINE OF SECTION 14, TOWNSHIP 20 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, NEW MEXICO

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	1-15-2018	PROJECT NO:	2017081251
DRAWN BY:	AI	SCALE:	1" = 100'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE	REVISION:	NO

VICINITY MAP



BIG EDDY UNIT 14 FEDERAL SWD #1
LOCATED 250 FEET FROM THE WEST LINE AND 1,110 FEET FROM THE SOUTH LINE OF SECTION 14, TOWNSHIP 20 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, NEW MEXICO

N

0 5,000' 10,000'
1" = 10,000 FEET

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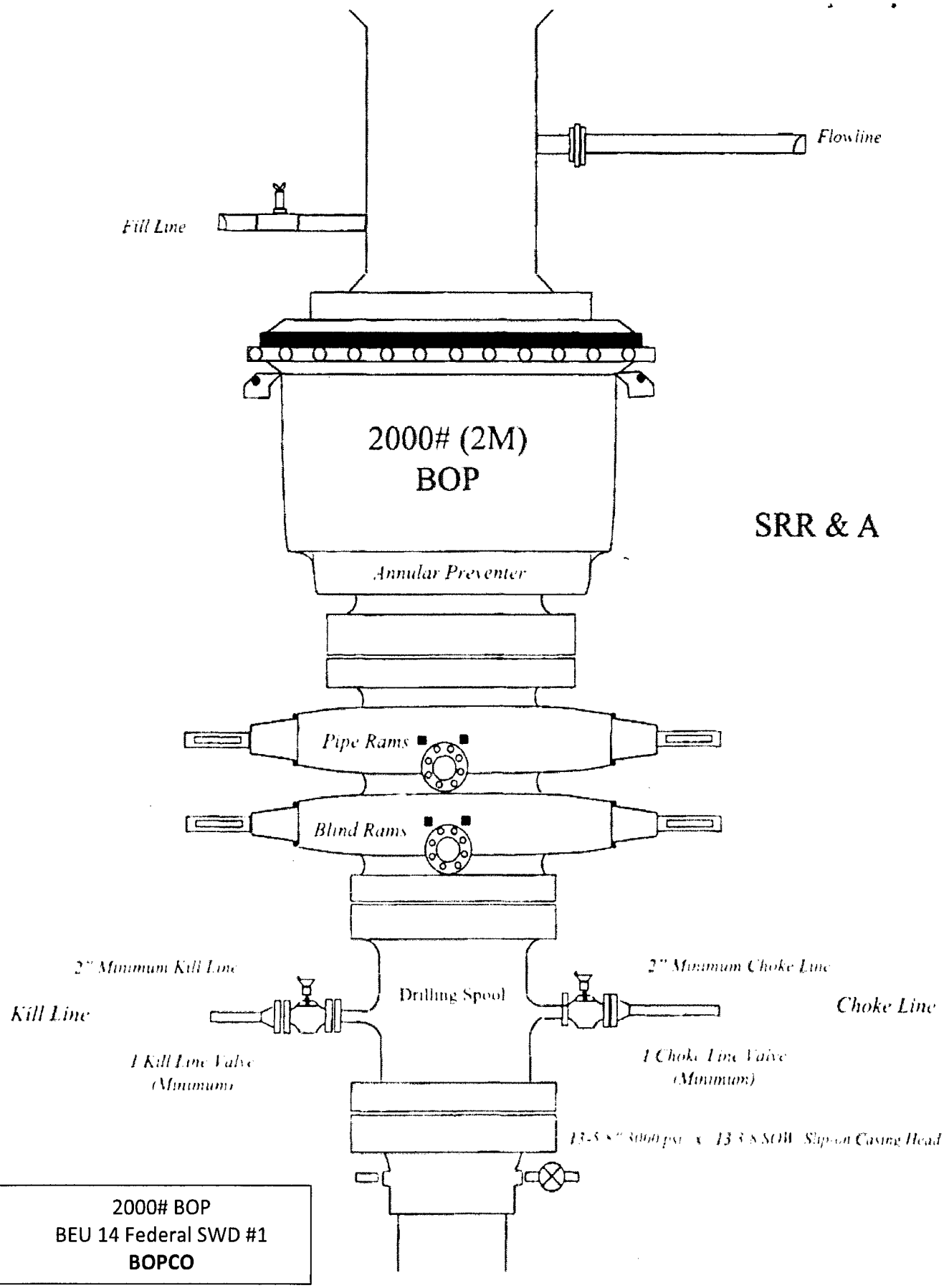
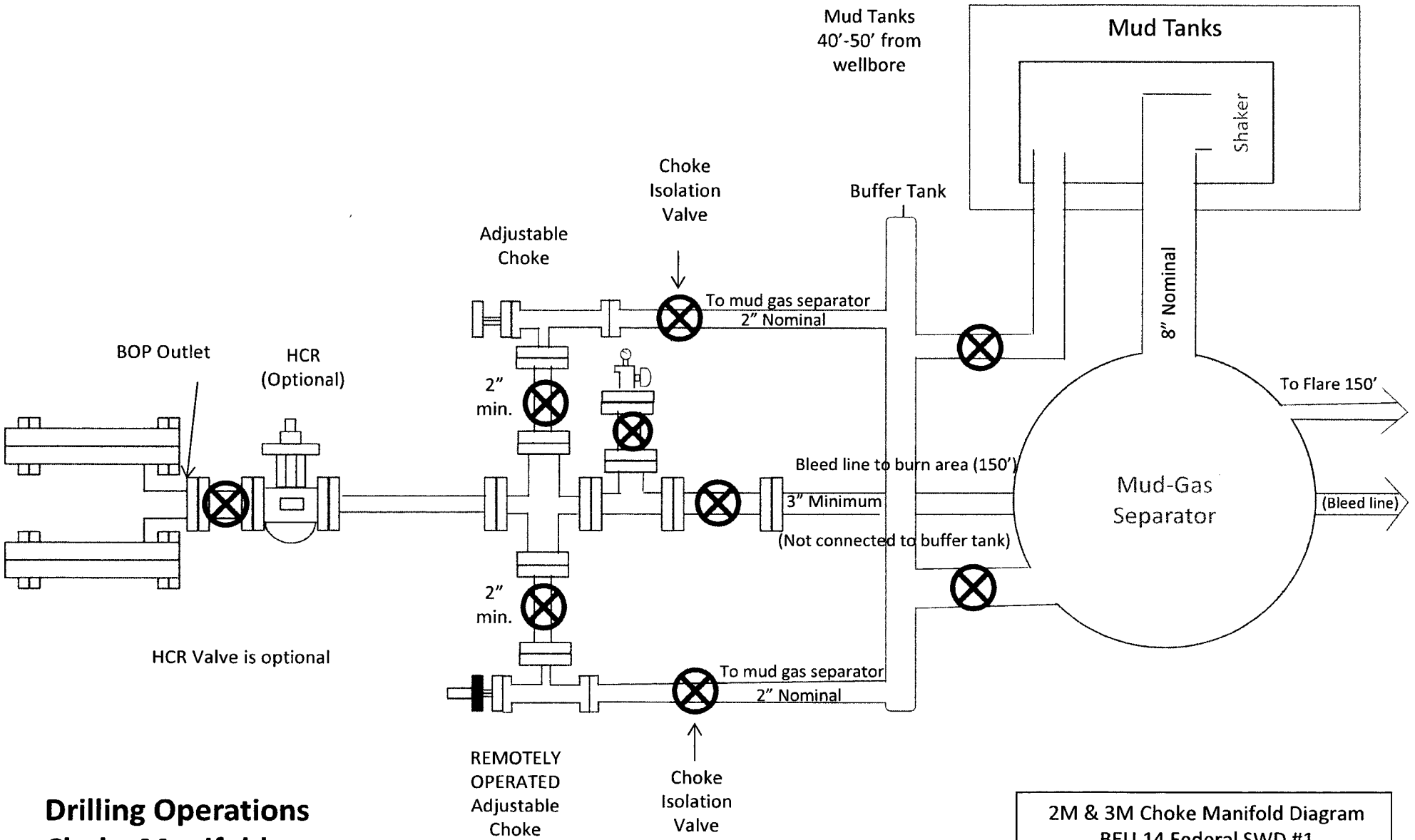
DATE:	1-15-2018
DRAWN BY:	AW
CHECKED BY:	DH
FIELD CREW:	RE/KN/CD
PROJECT NO:	2017081251
SCALE:	1"= 10,000'
SHEET:	1 OF 1
REVISION:	NO



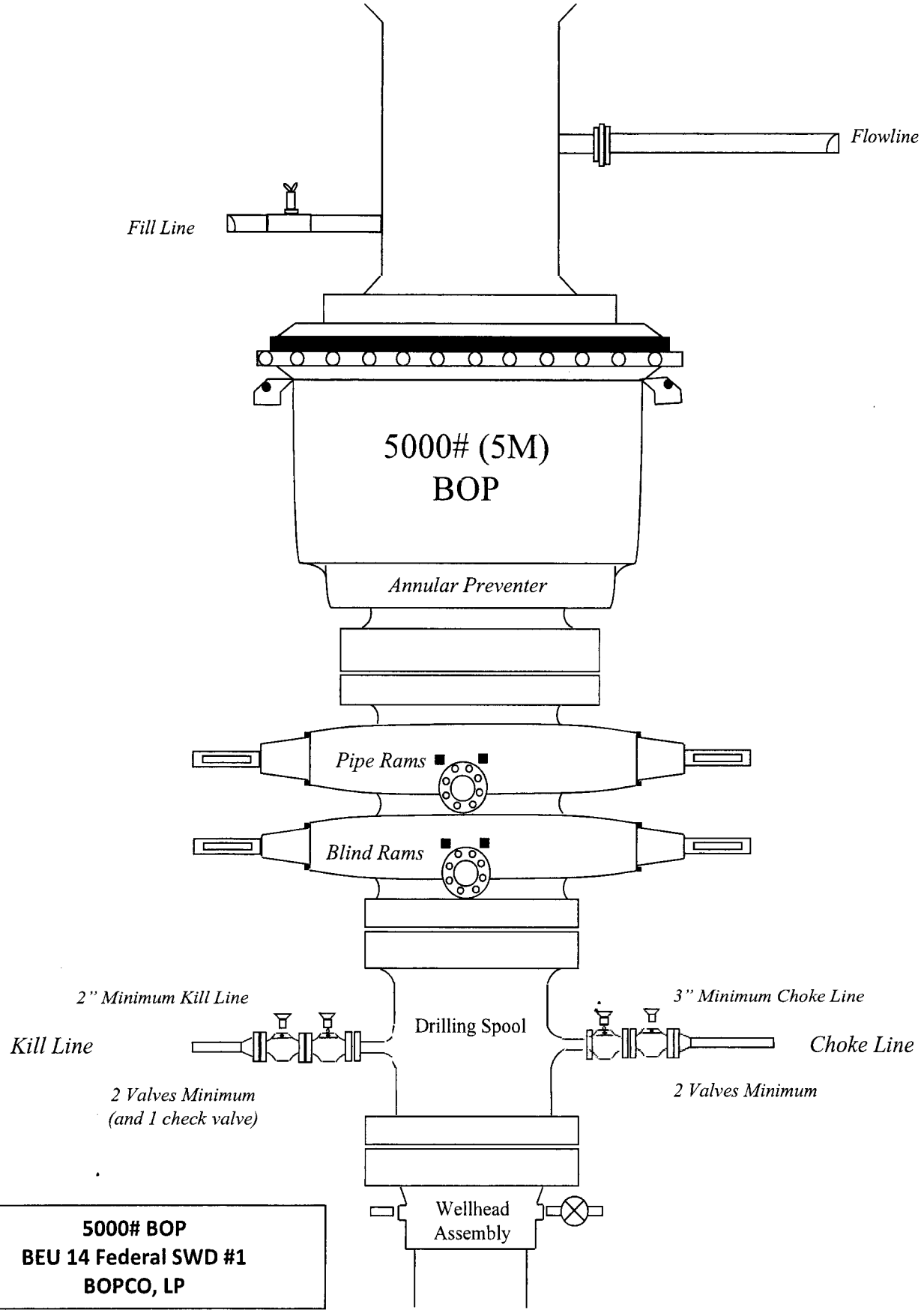
SRR & A

2000# BOP
BEU 14 Federal SWD #1
BOPCO

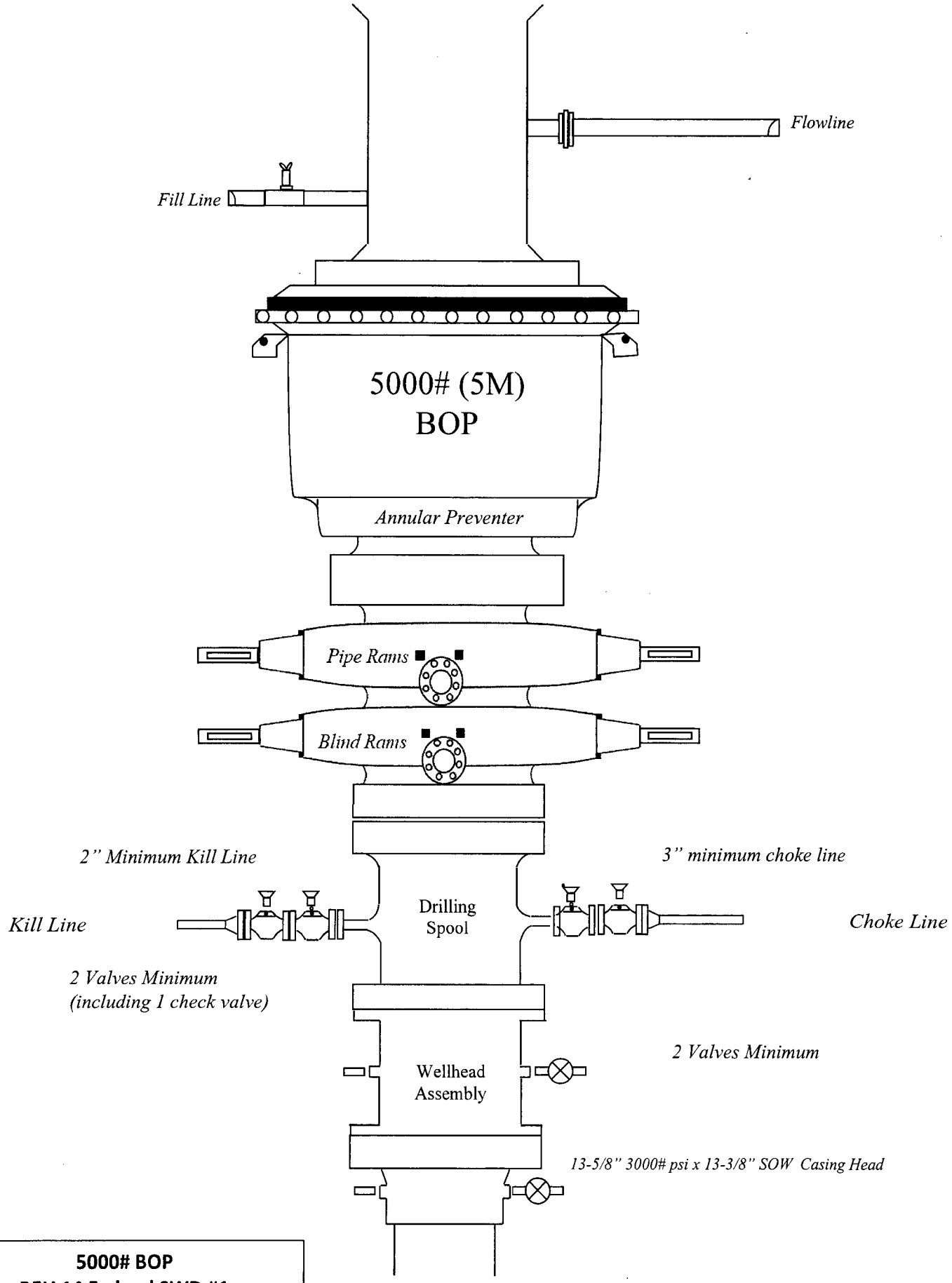


Drilling Operations
Choke Manifold
2M & 3M Service

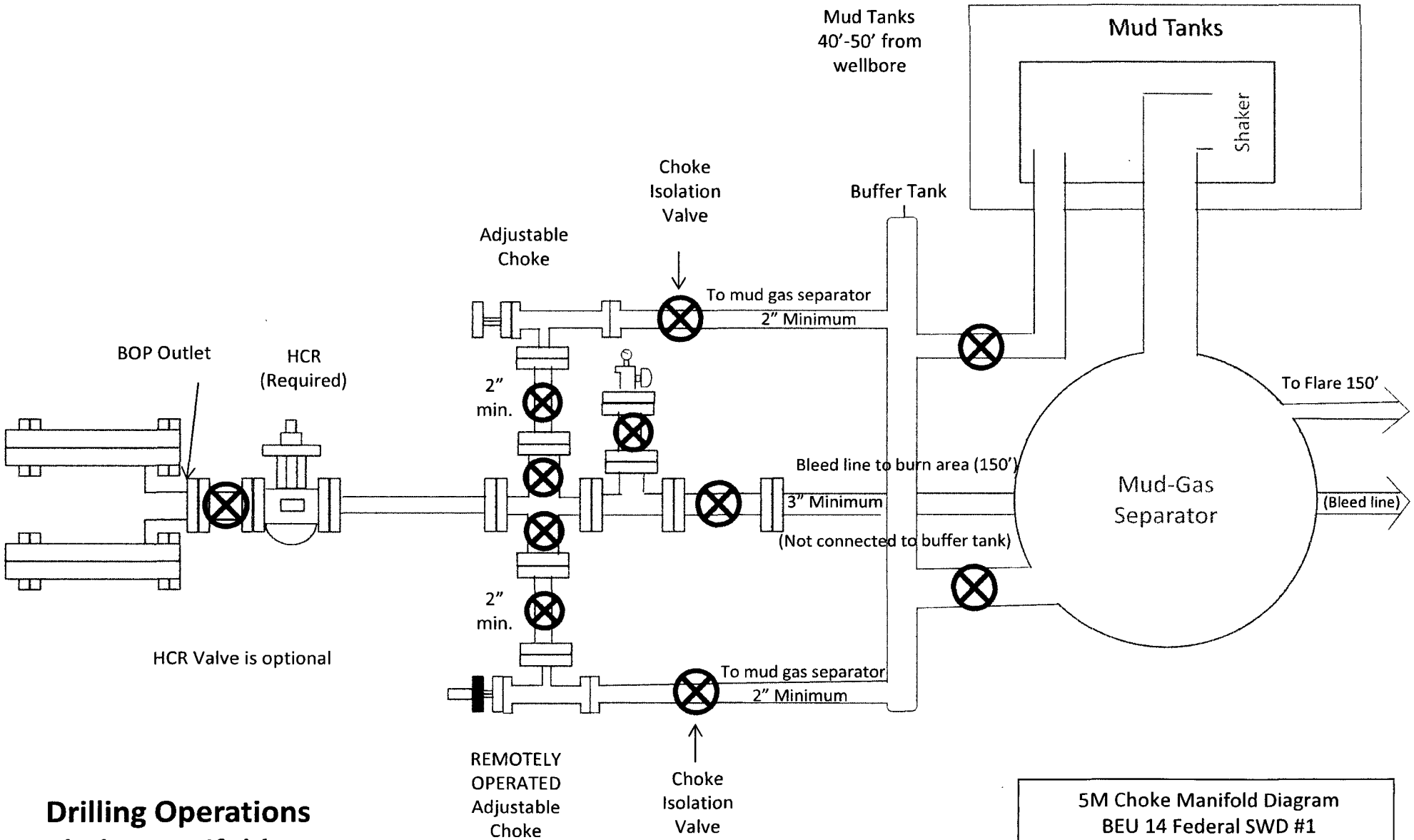
2M & 3M Choke Manifold Diagram
BEU 14 Federal SWD #1
BOPCO, LP



5000# BOP
BEU 14 Federal SWD #1
BOPCO, LP

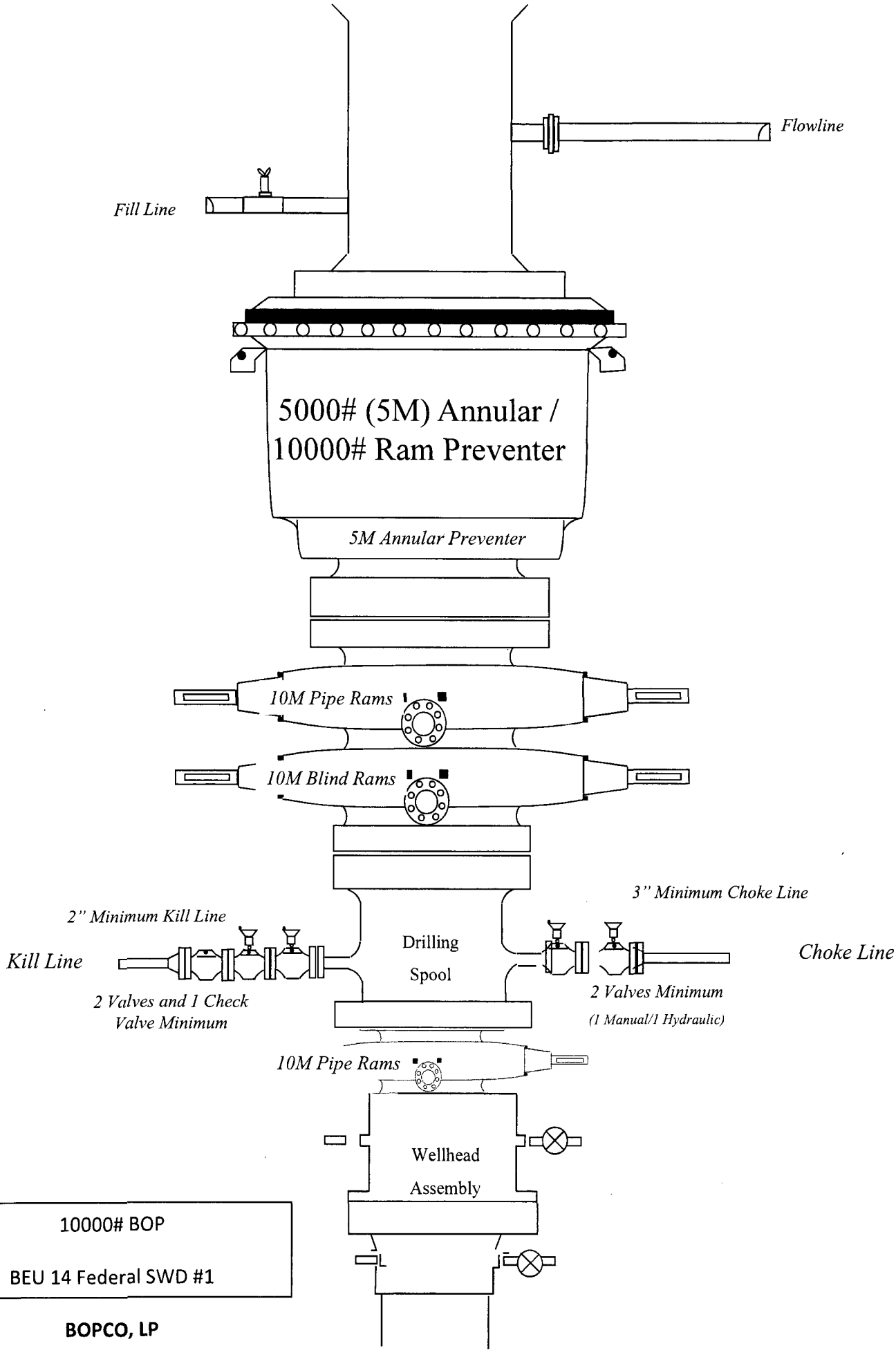


5000# BOP
BEU 14 Federal SWD #1
BOPCO, LP



Drilling Operations
Choke Manifold
5M Service

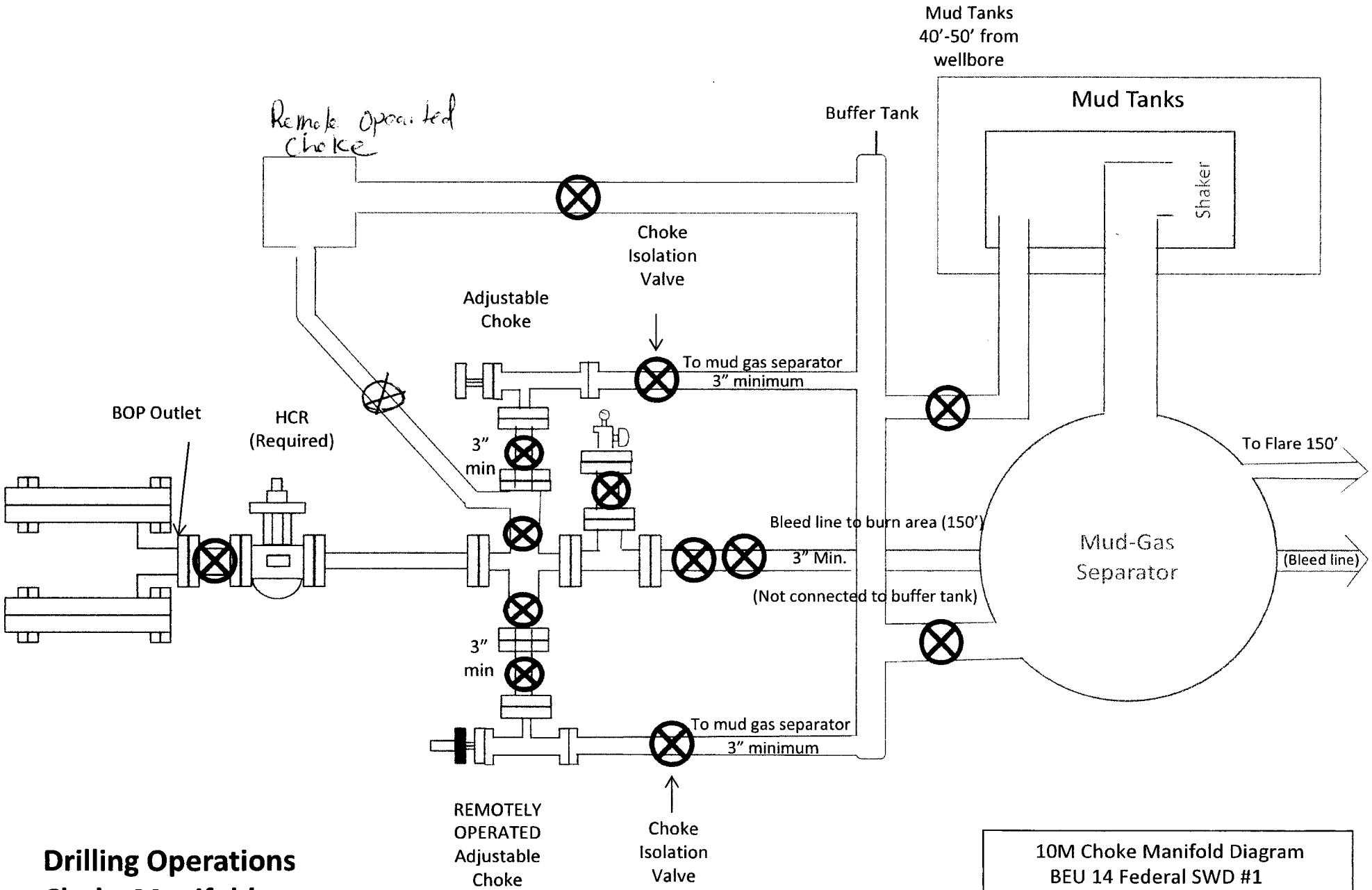
5M Choke Manifold Diagram
BEU 14 Federal SWD #1
BOPCO, LP



10000# BOP

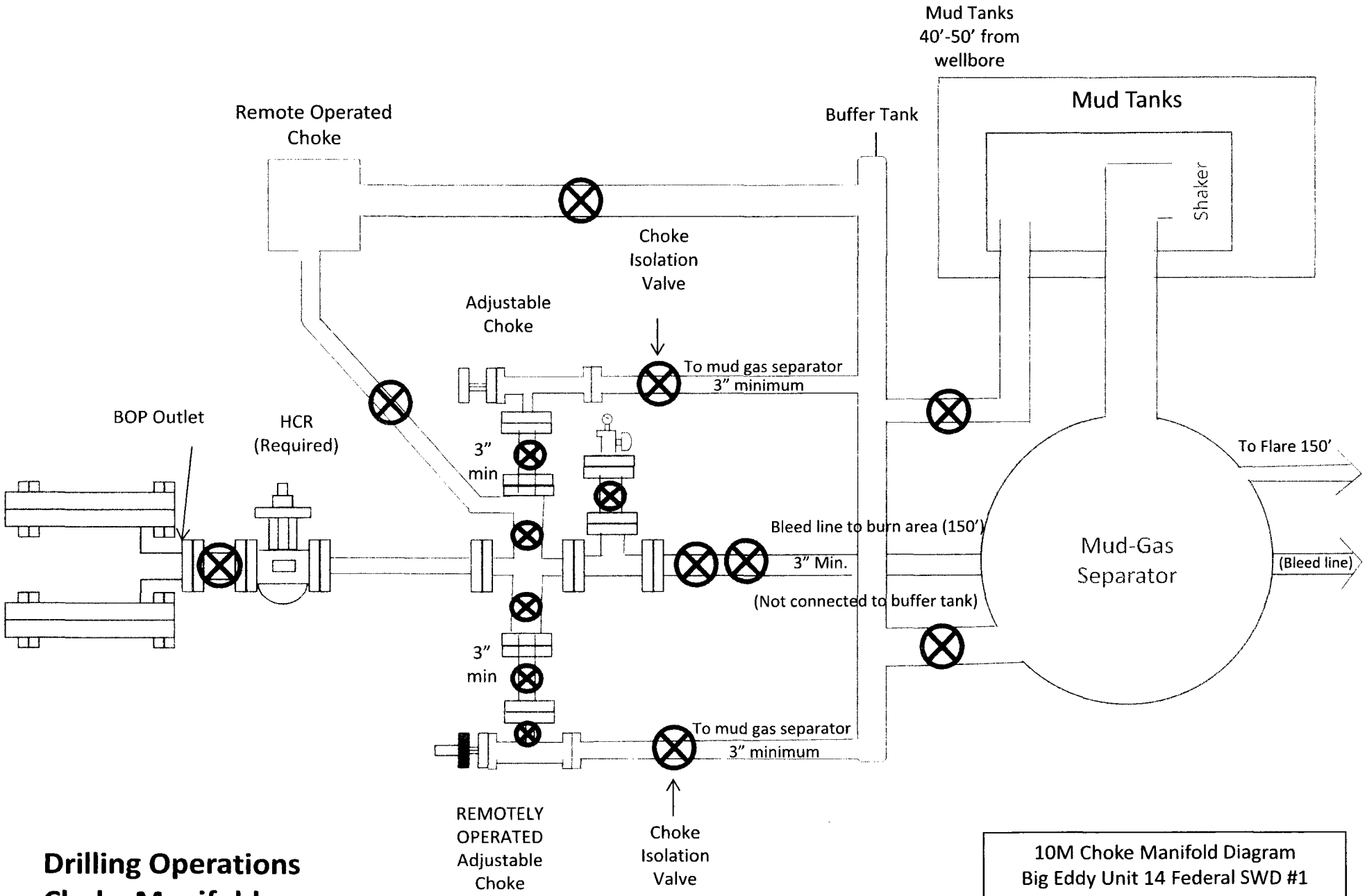
BEU 14 Federal SWD #1

BOPCO, LP



Drilling Operations
Choke Manifold
10M Service

10M Choke Manifold Diagram
BEU 14 Federal SWD #1
BOPCO



Drilling Operations
Choke Manifold
10M Service

10M Choke Manifold Diagram
Big Eddy Unit 14 Federal SWD #1
BOPCO, L.P.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**BOPCO, LP**
LEASE NO.:	**NMLC063667**
WELL NAME & NO.:	**BIG EDDY UNIT 14 FEDERAL SWD 1**
SURFACE HOLE FOOTAGE:	**1110' FSL & 250' FWL**
BOTTOM HOLE FOOTAGE	**' F L & ' F L**
LOCATION:	**Section 14, T. 21 S., R 31 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

COA

All COAs still apply expect the following:

H2S	◉ Yes	○ No	
Potash	○ None	○ Secretary	◉ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	◉ Conventional	○ Multibowl	○ Both
Other	☐ 4 String Area	☑ Capitan Reef	☐ WIPP

A. Hydrogen Sulfide

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **RUSTLER** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **18 5/8** inch surface casing shall be set at approximately **850** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **13-3/8** inch **1st** intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the capitan interval)

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Operator shall filled the 1/3rd casing with fluid while running production casing to maintain collapse safety factor. Operator must pressure test casing per Onshore Order 2.

4. The minimum required fill of cement behind the **7** inch production casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

C. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8 2nd** intermediate casing shoe shall be **5000 (5M)** psi.

D. WELL COMPLETION

A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:

1. **Properly evaluate the injection zone utilizing open hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.**
2. **Restrict the injection fluid to the approved formation.**

If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. **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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.**

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
    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.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

    c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.

    d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE.

If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes. This test shall be performed prior to the test at full stack pressure.

g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

ZS 013118

203114M SUNDRY BIG EDDY UNIT 14 FEDERAL SWD 1 30025 NMLC063667 BOPCO, LP 12-55 401518 01312018 ZS

R111P 4 KFC

18 5/8	surface csg in a	24	inch hole.		Design Factors		SURFACE	
Segment	**#/ft**	**Grade**	**Coupling**	**Joint**	**Collapse**	**Burst**	**Length**	**Weight**
"A"	87.50	J 55	BUTT	17.87	1.43	1.75	850	74,375
"B"							**0**	**0**
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,204			Tail Cmt	does not	circ to sfc.	Totals:	850	74,375

Comparison of Proposed to Minimum Required Cement Volumes

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	**Volume**	**Cmt Sx**	**CuFt Cmt**	**Cu Ft**	**% Excess**	**Mud Wt**	**MASP**	**BOPE**	**Hole-Cplg**
24	1.2496	**1320**	2111	**1218**	73	**10.00**	756	**2M**	12.00

Class 'C' tail cmt yield above 1.35.

13 3/8	casing inside the	18 5/8			Design Factors		INTERMEDIATE	
Segment	**#/ft**	**Grade**	**Coupling**	**Body**	**Collapse**	**Burst**	**Length**	**Weight**
"A"	61.00	J 55	BUTT	6.57	1.2	1.42	2,400	146,400
"B"							**0**	**0**
w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:	2,400	146,400
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		850	overlap.

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	**Volume**	**Cmt Sx**	**CuFt Cmt**	**Cu Ft**	**% Excess**	**Mud Wt**	**MASP**	**BOPE**	**Hole-Cplg**
17 1/2	0.6946	**1820**	3312	**1746**	90	**10.30**	1126	**2M**	1.56

9 5/8	casing inside the	13 3/8			Design Factors		INTERMEDIATE	
Segment	**#/ft**	**Grade**	**Coupling**	**Joint**	**Collapse**	**Burst**	**Length**	**Weight**
"A"	47.00	L 80	LT&C	4.00	2.19	0.85	4,750	223,250
"B"							**0**	**0**
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500						Totals:	4,750	223,250
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		2400	overlap.

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	**Volume**	**Cmt Sx**	**CuFt Cmt**	**Cu Ft**	**% Excess**	**Mud Wt**	**MASP**	**BOPE**	**Hole-Cplg**
12 1/4	0.3132	**look ↘**	0	**1592**		**8.80**	4934	**5M**	0.81
Setting Depths for D V Tool(s):			2820				sum of sx	Σ CuFt	Σ%excess
% excess cmt by stage		93	81				1970	2957	86

MASP is within 10% of 5000psig, need exrta equip?

Burst Frac Gradient(s) for Segment(s): A, B, C, D =
1.45, b, c, d All > 0.70, OK.

7	casing inside the	9 5/8	A Buoyant		Design Factors		PRODUCTION	
Segment	**#/ft**	**Grade**	**Coupling**	**Body**	**Collapse**	**Burst**	**Length**	**Weight**
"A"	32.00	L 80	BUTT	1.87	1.07	1.05	14,250	456,000
"B"							**0**	**0**
w/8.4#/g mud, 30min Sfc Csg Test psig: -296						Totals:	14,250	456,000
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		4750	overlap.

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	**Volume**	**Cmt Sx**	**CuFt Cmt**	**Cu Ft**	**% Excess**	**Mud Wt**	**MASP**	**BOPE**	**Hole-Cplg**
8 3/4	0.1503	**720**	1943	**2120**	-8	**10.90**			0.55

Class 'H' tail cmt yld > 1.20 Capitan Reef est top XXXX. MASP is within 10% of 5000psig, need exrta equip?

ALT. COLLAPSE=1.07*1.5=1.61. CASING PRESSURE TEST SHOULD BE TESTED TO 1500 PSI OR 0.22 PSI/FT WHICH EVER IS GREATER.