

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-8101 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 RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 478-3460 Fax: (505) 478-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025- 43279	Pool Code 98098	Pool Name WC-025 G-09 S243532M; Wolfbone
Property Code 316267	Property Name DEERSTALKER FEDERAL COM	Well Number 1H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3261.8

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	8	25-S	35-E		25'	NORTH	430'	EAST	LEA

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
I	32	24-S	35-E		2310'	SOUTH	380'	EAST	LEA
Dedicated Acres 240.82	Joint or Infill	Consolidation Code	Order No.						

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

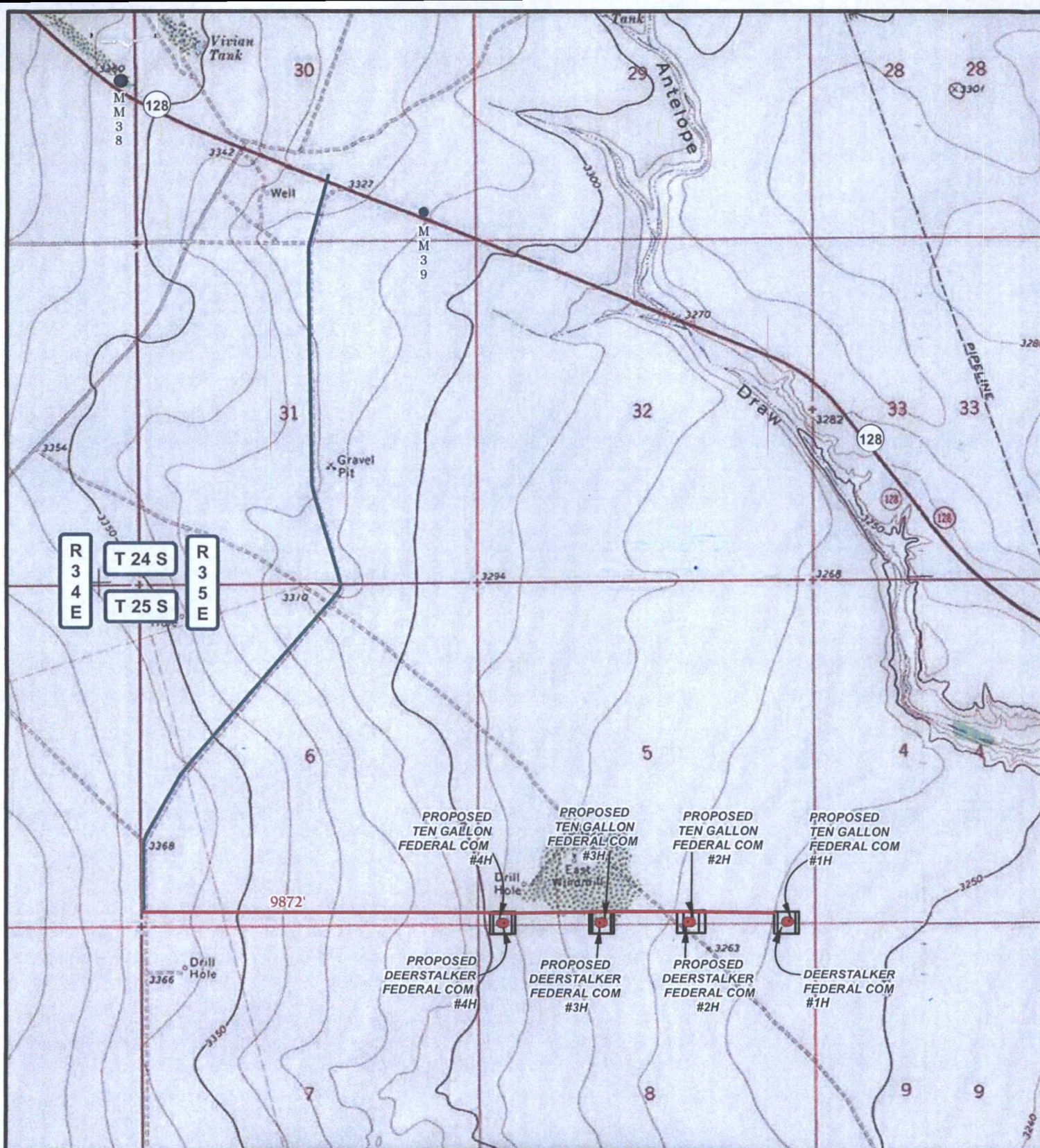
	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Mayte Reyes</i> 4-14-16 Signature Date Mayte Reyes Printed Name mreyes1@concho.com E-mail Address
	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. FEBRUARY 28, 2015 Date of Survey Signature & Seal of Professional Surveyor 3/27/15 Certificate No. CHAD HARCROW 17777 W.O. # 15-204 DRAWN BY: AF

NEW MEXICO



DATE _____

FILE: 16-214



LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #1H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3261.8'

STATE: NEW MEXICO COUNTY: LEA 25' FNL & 430' FEL

W.O. # 15-204 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.125 0.25 0.5 Miles 1 IN = 2,000 FT

LOCATION MAP

TOPO

03/19/2015

A.F

CONCHO
COG OPERATING, LLC

HARCROW SURVEYING, LLC.
2314 W. MAIN ST, ARTESIA, NM 88210
PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com

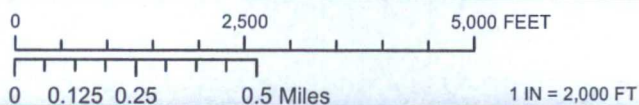


LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #1H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3261.8'
 STATE: NEW MEXICO COUNTY: LEA 25' FNL & 430' FEL
 W.O. # 15-204 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M



LOCATION MAP

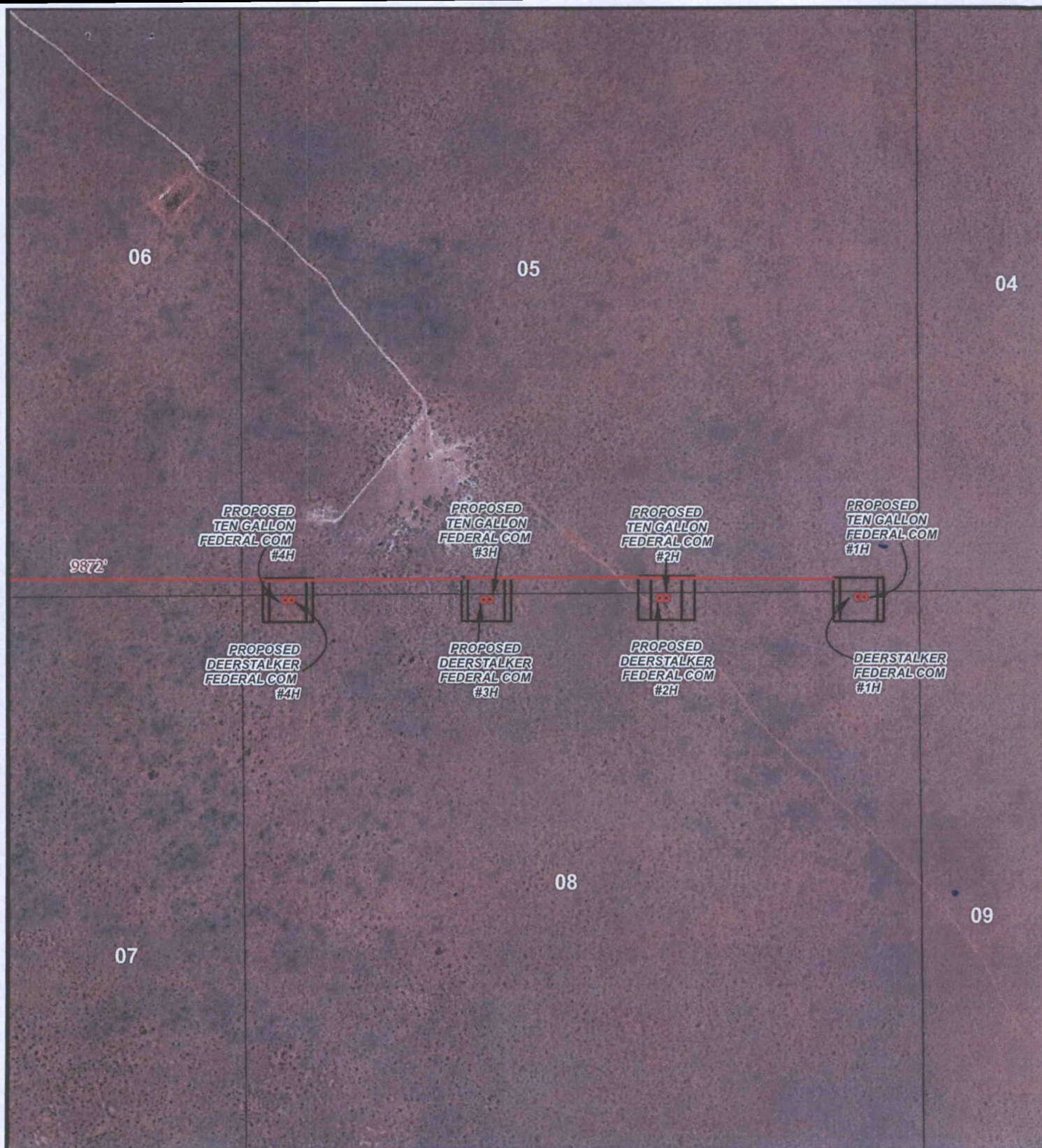
IMAGERY

03/19/2015

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LEGEND

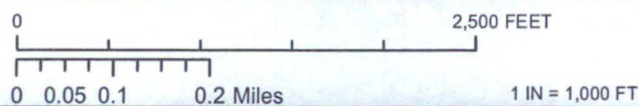
- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #1H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3261.8'

STATE: NEW MEXICO COUNTY: LEA 25' FNL & 430' FEL

W.O. # 15-204 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M



LOCATION MAP

IMAGERY ROAD

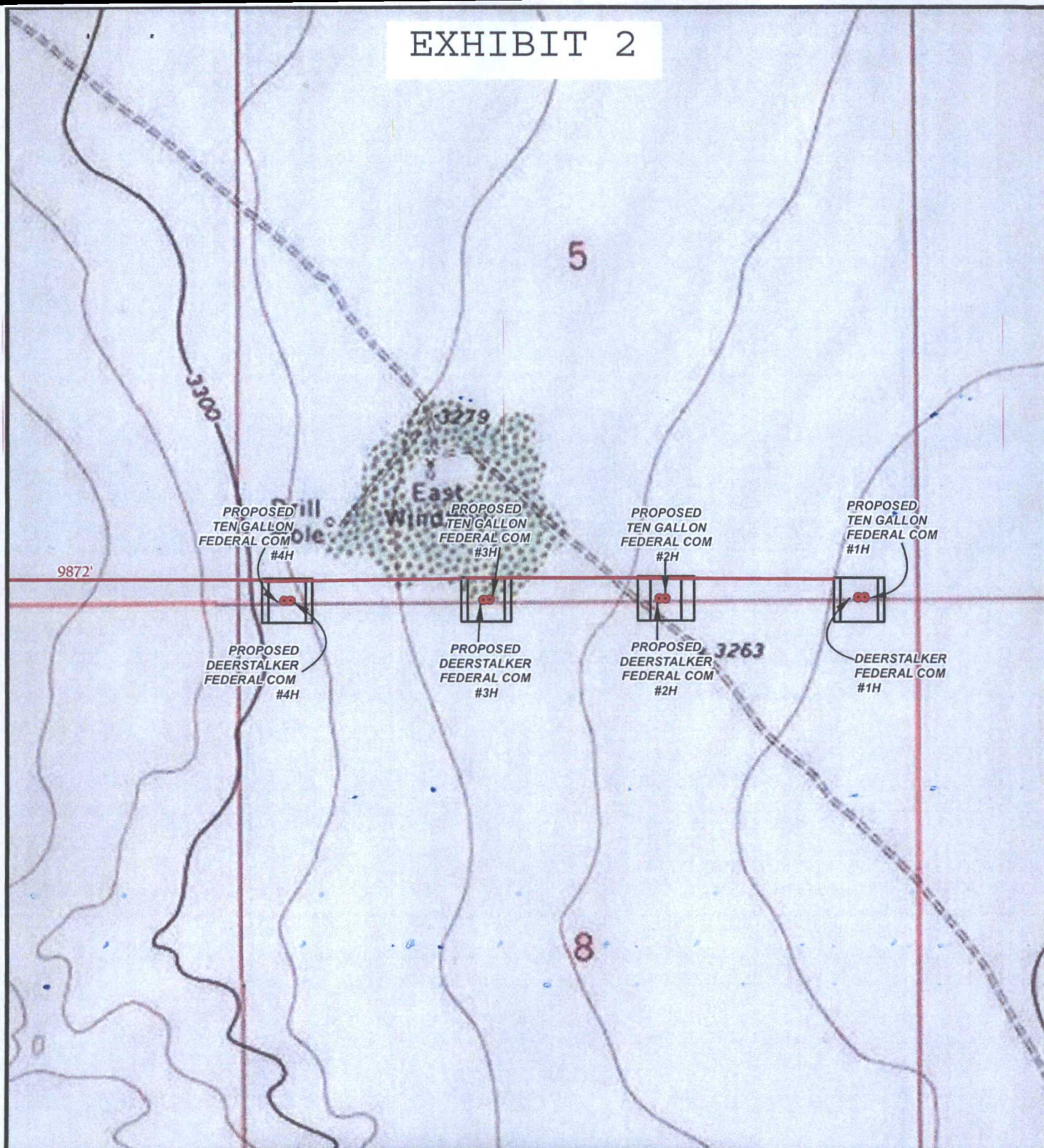
03/19/2015

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EXHIBIT 2

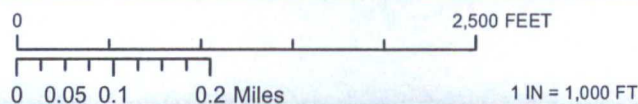


LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #1H

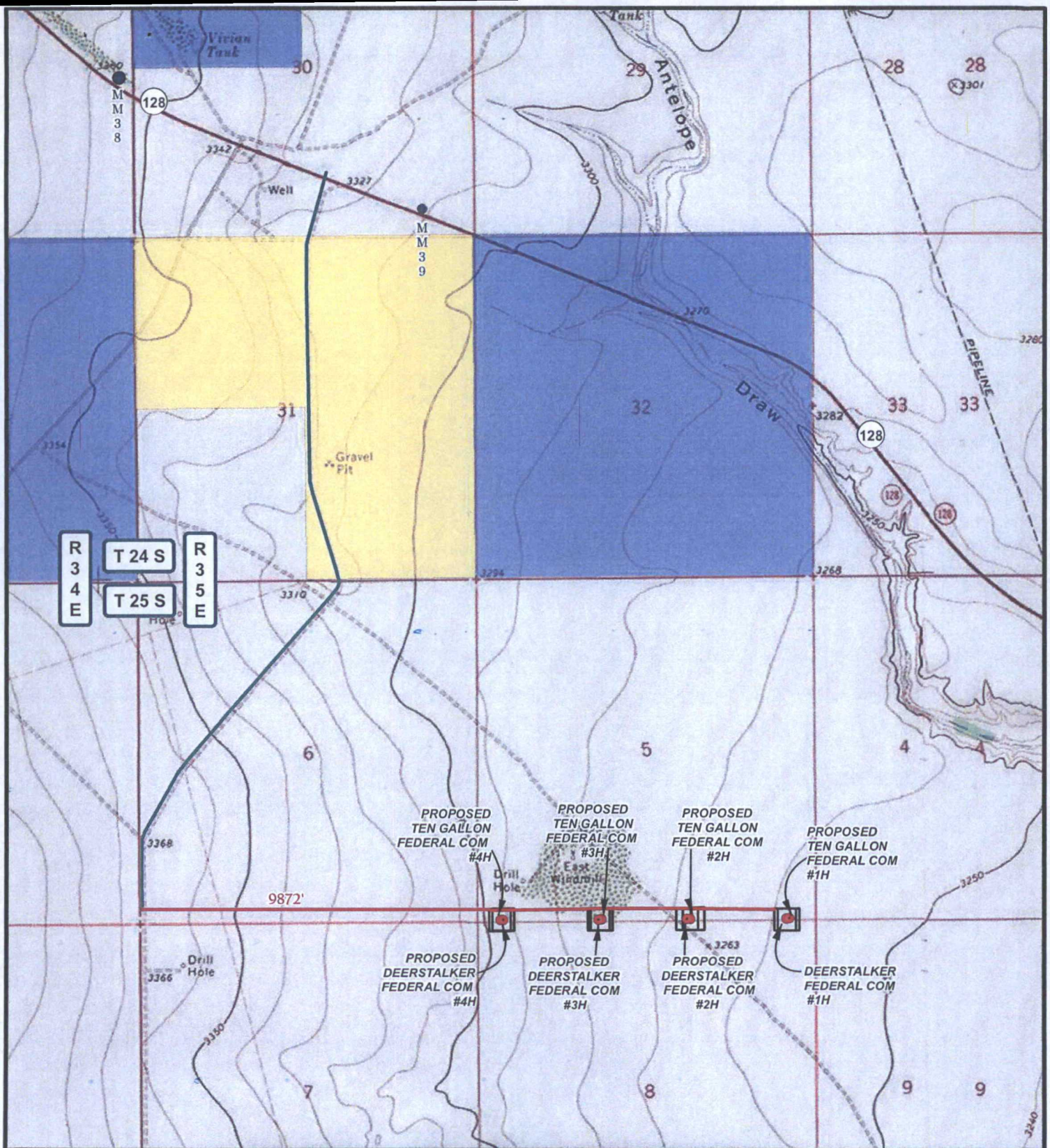
SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3261.8'
 STATE: NEW MEXICO COUNTY: LEA 25' FNL & 430' FEL
 W.O. # 15-204 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M



LOCATION MAP TOPO ROAD 03/19/2015 A.F

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LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD
- PRIVATE
- STATE OF NM
- US BLM

DEERSTALKER FEDERAL COM #1H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3261.8'

STATE: NEW MEXICO COUNTY: LEA 25' FNL & 430' FEL

W.O. # 15-204 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.125 0.25 0.5 Miles 1 IN = 2,000 FT

LOCATION MAP

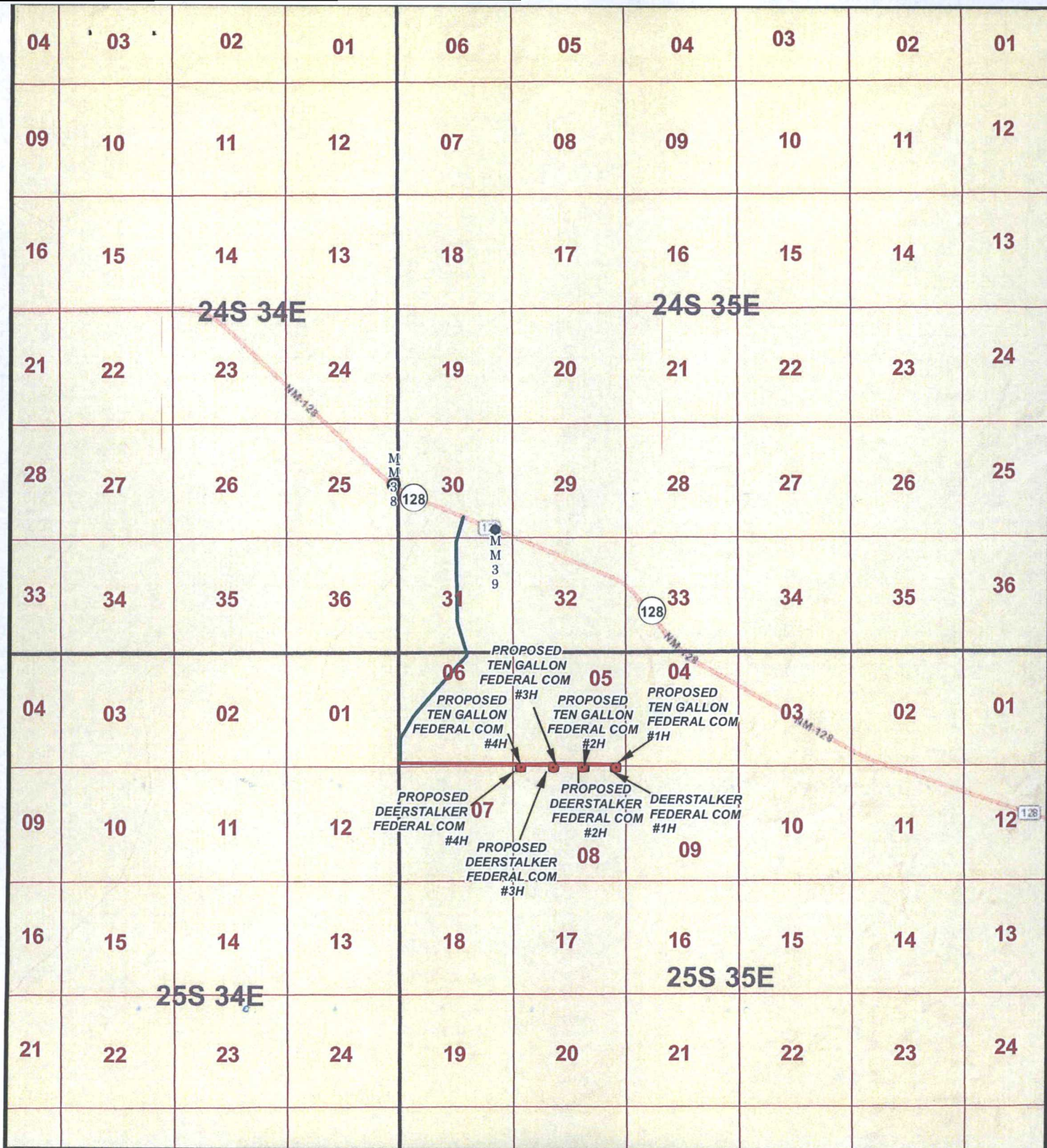
LANDSTATUS

03/19/2015

A.F

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LEGEND

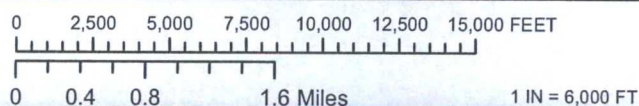
- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #1H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3261.8'

STATE: NEW MEXICO COUNTY: LEA 25' FNL & 430' FEL

W.O. # 15-204 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M



VICINITY MAP

03/19/2015

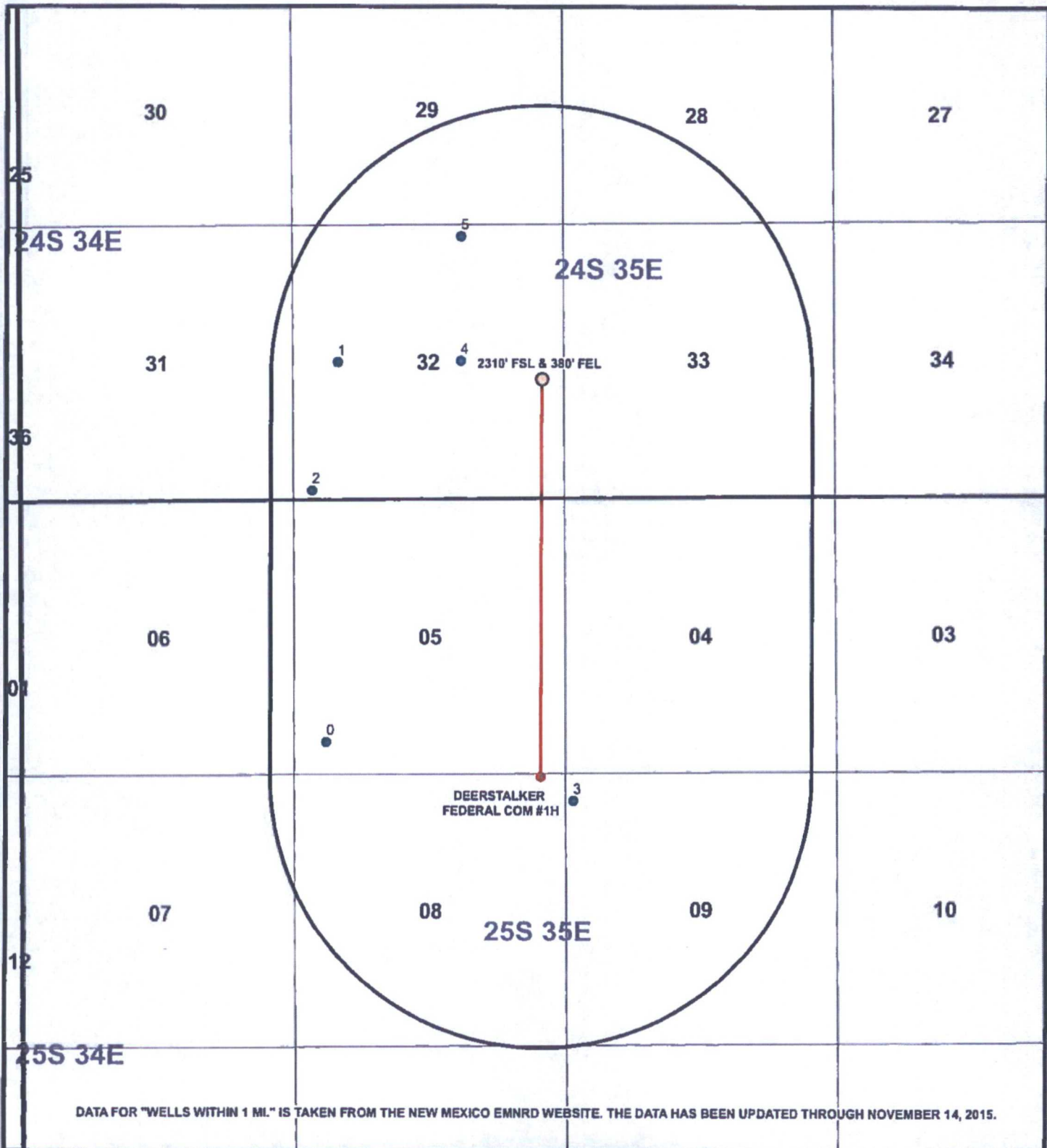
A.F

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Deerstalker Federal Com #1H

FID	Shape *	OPERATOR	WELL_NAME	LATITUDE	LONGITUDE	API	SECTION	TOWNSHIP	RANGE	FTG_NS	NS_CD	FTG_EW	EW_CD	TVD_DEPTH	COMPL_STAT
0	Point	GULF OIL CORP	MOUNSEY B FEDERAL 001	32.153952	-103.395937	3002521255	5	25.0S	35E	660 S		660 W		5600	Plugged
1	Point	ROBERT E. LANDRETH	RAINBOW 16 STATE COM 001	32.128546	-103.370342	3002539719	16	25.0S	35E	1980 S		1980 E		999	Plugged
2	Point	ROBERT E. LANDRETH	RAINBOW 16 STATE 002	32.135799	-103.378855	3002539720	16	25.0S	35E	660 N		660 W		999	Plugged
3	Point	COG OPERATING LLC	FEZ FEE 011H	32.150795	-103.380384	3002542347	9	25.0S	35E	480 N		190 W		0	New (Not drilled or compl)



LEGEND

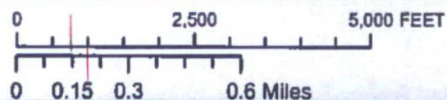
- WELL
- BOTTOMHOLE
- WELLS WITHIN 1 MI.
- 1 MI. BUFFER

DEERSTALKER FEDERAL COM #1H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3261.8'

STATE: NEW MEXICO COUNTY: LEA 25' FNL & 430' FEL

W.O. # 15-204 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M



1 IN = 2,500 FT

1 MILE MAP

12/10/2015

A.F

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COG Operating, LLC

Lea County, NM

Sec 8, T25-S, R35-E

Deerstalker Federal Com #1H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

08 December, 2015



HP Well Planning Report



Database:	Compass	Local Co-ordinate Reference:	Well Deerstalker Federal Com #1H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3287.8usft (Scandril Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3287.8usft (Scandril Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Lea County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Sec 8, T25-S, R35-E		
Site Position:		Northing:	420,291.60 usft
From:	Map	Easting:	792,893.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 9' 7.054 N
		Longitude:	103° 23' 13.040 W
		Grid Convergence:	0.50 °

Well	Deerstalker Federal Com #1H		
Well Position	+N/-S	10.3 usft	Northing: 420,301.90 usft
	+E/-W	1,550.1 usft	Easting: 794,443.10 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 9' 7.021 N
		Longitude:	103° 22' 55.011 W
		Ground Level:	3,261.8 usft

Wellbore	Wellbore #1		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/8/2015	7.03	60.05	48,073

Design	Design #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°) 359.99

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
11,873.5	0.00	0.00	11,873.5	0.0	0.0	0.00	0.00	0.00	0.00	
12,621.0	89.70	359.99	12,351.0	475.0	-0.1	12.00	12.00	0.00	359.99	
19,786.4	89.70	359.99	12,388.0	7,640.3	-1.9	0.00	0.00	0.00	0.00	PBHL Deerstalker F

HP Well Planning Report



Database:	Compass	Local Co-ordinate Reference:	Well Deerstalker Federal Com #1H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3287.8usft (Scandrift Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3287.8usft (Scandrift Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

HP Well Planning Report



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Project:	Lea County, NM	MD Reference:	WELL @ 3287.8usft (Scandril Freedom)
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Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,200.0	0.0	0.0	0.0	0.00	0.00	0.00
10,300.0	0.00	0.00	10,300.0	0.0	0.0	0.0	0.00	0.00	0.00
10,400.0	0.00	0.00	10,400.0	0.0	0.0	0.0	0.00	0.00	0.00
10,500.0	0.00	0.00	10,500.0	0.0	0.0	0.0	0.00	0.00	0.00
10,600.0	0.00	0.00	10,600.0	0.0	0.0	0.0	0.00	0.00	0.00
10,700.0	0.00	0.00	10,700.0	0.0	0.0	0.0	0.00	0.00	0.00

HP Well Planning Report



Database:	Compass	Local Co-ordinate Reference:	Well Deerstalker Federal Com #1H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3287.8usft (Scandrift Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3287.8usft (Scandrift Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,800.0	0.00	0.00	10,800.0	0.0	0.0	0.0	0.00	0.00	0.00
10,900.0	0.00	0.00	10,900.0	0.0	0.0	0.0	0.00	0.00	0.00
11,000.0	0.00	0.00	11,000.0	0.0	0.0	0.0	0.00	0.00	0.00
11,100.0	0.00	0.00	11,100.0	0.0	0.0	0.0	0.00	0.00	0.00
11,200.0	0.00	0.00	11,200.0	0.0	0.0	0.0	0.00	0.00	0.00
11,300.0	0.00	0.00	11,300.0	0.0	0.0	0.0	0.00	0.00	0.00
11,400.0	0.00	0.00	11,400.0	0.0	0.0	0.0	0.00	0.00	0.00
11,500.0	0.00	0.00	11,500.0	0.0	0.0	0.0	0.00	0.00	0.00
11,600.0	0.00	0.00	11,600.0	0.0	0.0	0.0	0.00	0.00	0.00
11,700.0	0.00	0.00	11,700.0	0.0	0.0	0.0	0.00	0.00	0.00
11,800.0	0.00	0.00	11,800.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 12°/100'									
11,873.5	0.00	0.00	11,873.5	0.0	0.0	0.0	0.00	0.00	0.00
11,900.0	3.18	359.99	11,900.0	0.7	0.0	0.7	12.00	12.00	0.00
12,000.0	15.18	359.99	11,998.5	16.7	0.0	16.7	12.00	12.00	0.00
12,100.0	27.18	359.99	12,091.6	52.7	0.0	52.7	12.00	12.00	0.00
12,200.0	39.18	359.99	12,175.1	107.4	0.0	107.4	12.00	12.00	0.00
12,300.0	51.18	359.99	12,245.5	178.2	0.0	178.2	12.00	12.00	0.00
12,400.0	63.18	359.99	12,299.6	262.0	-0.1	262.0	12.00	12.00	0.00
12,500.0	75.18	359.99	12,335.1	355.3	-0.1	355.3	12.00	12.00	0.00
12,600.0	87.18	359.99	12,350.4	454.0	-0.1	454.0	12.00	12.00	0.00
EOB @ 89.7° Inc / 359.99° Azm / 12351' TVD									
12,621.0	89.70	359.99	12,351.0	475.0	-0.1	475.0	12.00	12.00	0.00
12,700.0	89.70	359.99	12,351.4	554.0	-0.1	554.0	0.00	0.00	0.00
12,800.0	89.70	359.99	12,351.9	654.0	-0.2	654.0	0.00	0.00	0.00
12,900.0	89.70	359.99	12,352.4	754.0	-0.2	754.0	0.00	0.00	0.00
13,000.0	89.70	359.99	12,352.9	854.0	-0.2	854.0	0.00	0.00	0.00
13,100.0	89.70	359.99	12,353.4	954.0	-0.2	954.0	0.00	0.00	0.00
13,200.0	89.70	359.99	12,354.0	1,054.0	-0.3	1,054.0	0.00	0.00	0.00
13,300.0	89.70	359.99	12,354.5	1,154.0	-0.3	1,154.0	0.00	0.00	0.00
13,400.0	89.70	359.99	12,355.0	1,254.0	-0.3	1,254.0	0.00	0.00	0.00
13,500.0	89.70	359.99	12,355.5	1,354.0	-0.3	1,354.0	0.00	0.00	0.00
13,600.0	89.70	359.99	12,356.0	1,454.0	-0.4	1,454.0	0.00	0.00	0.00
13,700.0	89.70	359.99	12,356.5	1,554.0	-0.4	1,554.0	0.00	0.00	0.00
13,800.0	89.70	359.99	12,357.1	1,653.9	-0.4	1,653.9	0.00	0.00	0.00
13,900.0	89.70	359.99	12,357.6	1,753.9	-0.4	1,753.9	0.00	0.00	0.00
14,000.0	89.70	359.99	12,358.1	1,853.9	-0.5	1,853.9	0.00	0.00	0.00
14,100.0	89.70	359.99	12,358.6	1,953.9	-0.5	1,953.9	0.00	0.00	0.00
14,200.0	89.70	359.99	12,359.1	2,053.9	-0.5	2,053.9	0.00	0.00	0.00
14,300.0	89.70	359.99	12,359.6	2,153.9	-0.5	2,153.9	0.00	0.00	0.00
14,400.0	89.70	359.99	12,360.2	2,253.9	-0.6	2,253.9	0.00	0.00	0.00
14,500.0	89.70	359.99	12,360.7	2,353.9	-0.6	2,353.9	0.00	0.00	0.00
14,600.0	89.70	359.99	12,361.2	2,453.9	-0.6	2,453.9	0.00	0.00	0.00
14,700.0	89.70	359.99	12,361.7	2,553.9	-0.6	2,553.9	0.00	0.00	0.00
14,800.0	89.70	359.99	12,362.2	2,653.9	-0.7	2,653.9	0.00	0.00	0.00
14,900.0	89.70	359.99	12,362.7	2,753.9	-0.7	2,753.9	0.00	0.00	0.00
15,000.0	89.70	359.99	12,363.3	2,853.9	-0.7	2,853.9	0.00	0.00	0.00
15,100.0	89.70	359.99	12,363.8	2,953.9	-0.7	2,953.9	0.00	0.00	0.00
15,200.0	89.70	359.99	12,364.3	3,053.9	-0.8	3,053.9	0.00	0.00	0.00
15,300.0	89.70	359.99	12,364.8	3,153.9	-0.8	3,153.9	0.00	0.00	0.00
15,400.0	89.70	359.99	12,365.3	3,253.9	-0.8	3,253.9	0.00	0.00	0.00
15,500.0	89.70	359.99	12,365.8	3,353.9	-0.8	3,353.9	0.00	0.00	0.00
15,600.0	89.70	359.99	12,366.4	3,453.9	-0.9	3,453.9	0.00	0.00	0.00
15,700.0	89.70	359.99	12,366.9	3,553.9	-0.9	3,553.9	0.00	0.00	0.00

HP Well Planning Report



Database:	Compass	Local Co-ordinate Reference:	Well Deerstalker Federal Com #1H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3287.8usft (Scandril Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3287.8usft (Scandril Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,800.0	89.70	359.99	12,367.4	3,653.9	-0.9	3,653.9	0.00	0.00	0.00
15,900.0	89.70	359.99	12,367.9	3,753.9	-0.9	3,753.9	0.00	0.00	0.00
16,000.0	89.70	359.99	12,368.4	3,853.9	-1.0	3,853.9	0.00	0.00	0.00
16,100.0	89.70	359.99	12,368.9	3,953.9	-1.0	3,953.9	0.00	0.00	0.00
16,200.0	89.70	359.99	12,369.5	4,053.9	-1.0	4,053.9	0.00	0.00	0.00
16,300.0	89.70	359.99	12,370.0	4,153.9	-1.0	4,153.9	0.00	0.00	0.00
16,400.0	89.70	359.99	12,370.5	4,253.9	-1.1	4,253.9	0.00	0.00	0.00
16,500.0	89.70	359.99	12,371.0	4,353.9	-1.1	4,353.9	0.00	0.00	0.00
16,600.0	89.70	359.99	12,371.5	4,453.9	-1.1	4,453.9	0.00	0.00	0.00
16,700.0	89.70	359.99	12,372.0	4,553.9	-1.1	4,553.9	0.00	0.00	0.00
16,800.0	89.70	359.99	12,372.6	4,653.9	-1.2	4,653.9	0.00	0.00	0.00
16,900.0	89.70	359.99	12,373.1	4,753.9	-1.2	4,753.9	0.00	0.00	0.00
17,000.0	89.70	359.99	12,373.6	4,853.9	-1.2	4,853.9	0.00	0.00	0.00
17,100.0	89.70	359.99	12,374.1	4,953.9	-1.2	4,953.9	0.00	0.00	0.00
17,200.0	89.70	359.99	12,374.6	5,053.9	-1.3	5,053.9	0.00	0.00	0.00
17,300.0	89.70	359.99	12,375.1	5,153.9	-1.3	5,153.9	0.00	0.00	0.00
17,400.0	89.70	359.99	12,375.7	5,253.9	-1.3	5,253.9	0.00	0.00	0.00
17,500.0	89.70	359.99	12,376.2	5,353.9	-1.3	5,353.9	0.00	0.00	0.00
17,600.0	89.70	359.99	12,376.7	5,453.9	-1.4	5,453.9	0.00	0.00	0.00
17,700.0	89.70	359.99	12,377.2	5,553.9	-1.4	5,553.9	0.00	0.00	0.00
17,800.0	89.70	359.99	12,377.7	5,653.9	-1.4	5,653.9	0.00	0.00	0.00
17,900.0	89.70	359.99	12,378.2	5,753.9	-1.4	5,753.9	0.00	0.00	0.00
18,000.0	89.70	359.99	12,378.8	5,853.9	-1.5	5,853.9	0.00	0.00	0.00
18,100.0	89.70	359.99	12,379.3	5,953.9	-1.5	5,953.9	0.00	0.00	0.00
18,200.0	89.70	359.99	12,379.8	6,053.9	-1.5	6,053.9	0.00	0.00	0.00
18,300.0	89.70	359.99	12,380.3	6,153.9	-1.5	6,153.9	0.00	0.00	0.00
18,400.0	89.70	359.99	12,380.8	6,253.9	-1.6	6,253.9	0.00	0.00	0.00
18,500.0	89.70	359.99	12,381.3	6,353.9	-1.6	6,353.9	0.00	0.00	0.00
18,600.0	89.70	359.99	12,381.9	6,453.9	-1.6	6,453.9	0.00	0.00	0.00
18,700.0	89.70	359.99	12,382.4	6,553.9	-1.6	6,553.9	0.00	0.00	0.00
18,800.0	89.70	359.99	12,382.9	6,653.9	-1.7	6,653.9	0.00	0.00	0.00
18,900.0	89.70	359.99	12,383.4	6,753.9	-1.7	6,753.9	0.00	0.00	0.00
19,000.0	89.70	359.99	12,383.9	6,853.9	-1.7	6,853.9	0.00	0.00	0.00
19,100.0	89.70	359.99	12,384.5	6,953.9	-1.7	6,953.9	0.00	0.00	0.00
19,200.0	89.70	359.99	12,385.0	7,053.9	-1.8	7,053.9	0.00	0.00	0.00
19,300.0	89.70	359.99	12,385.5	7,153.9	-1.8	7,153.9	0.00	0.00	0.00
19,400.0	89.70	359.99	12,386.0	7,253.9	-1.8	7,253.9	0.00	0.00	0.00
19,500.0	89.70	359.99	12,386.5	7,353.9	-1.8	7,353.9	0.00	0.00	0.00
19,600.0	89.70	359.99	12,387.0	7,453.9	-1.9	7,453.9	0.00	0.00	0.00
19,700.0	89.70	359.99	12,387.6	7,553.9	-1.9	7,553.9	0.00	0.00	0.00
TD @ 19786' MD / 12388' TVD									
19,786.4	89.70	359.99	12,388.0	7,640.3	-1.9	7,640.3	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL Deerstalker Fec	0.00	0.00	12,388.0	7,640.3	-1.9	427,942.20	794,441.20	32° 10' 22.623 N	103° 22' 54.247 W
- plan hits target center									
- Point									

HP Well Planning Report



Database:	Compass	Local Co-ordinate Reference:	Well Deerstalker Federal Com #1H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3287.8usft (Scandril Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3287.8usft (Scandril Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

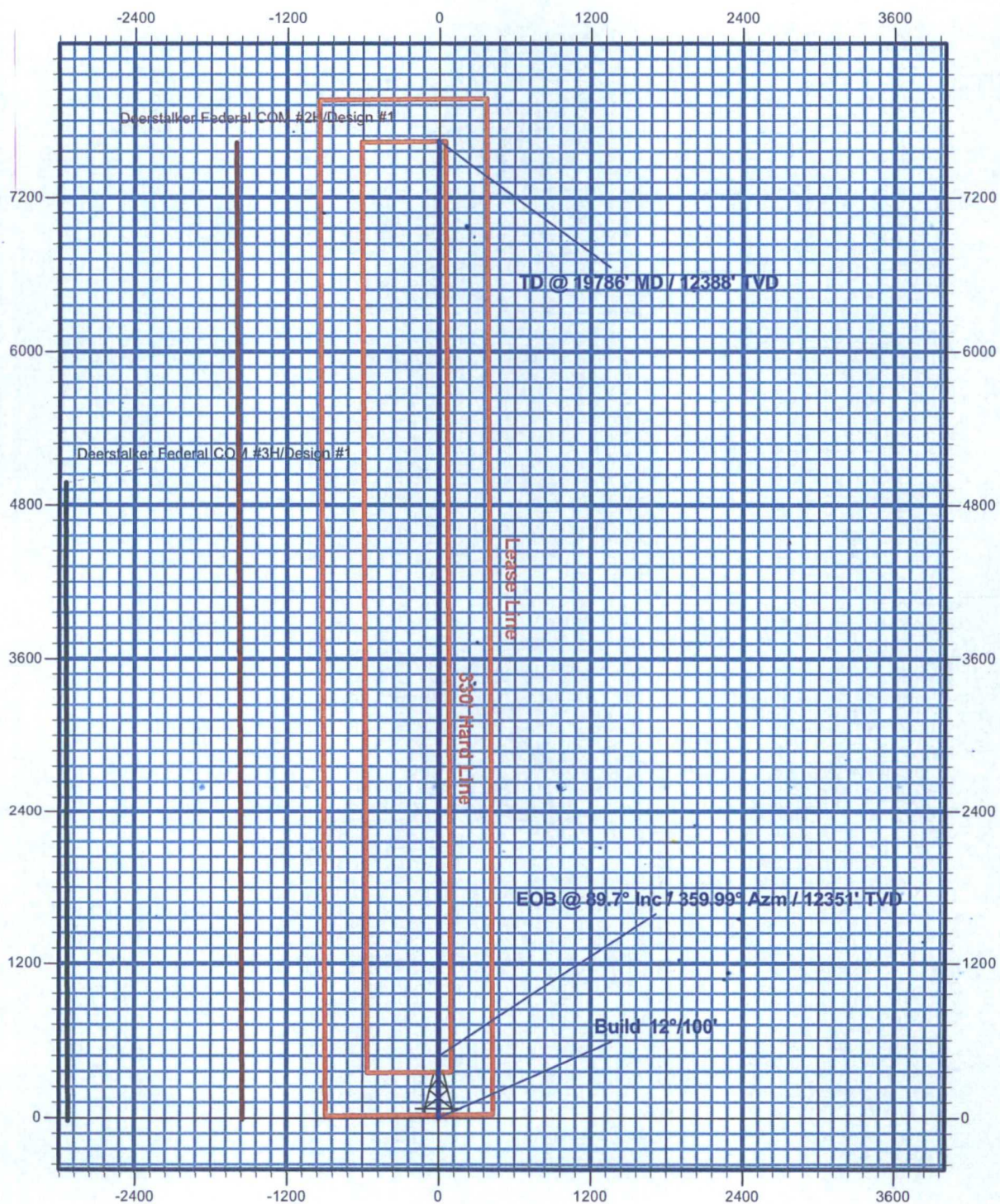
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,873.5	11,873.5	0.0	0.0	Build 12"/100'
12,621.0	12,351.0	475.0	-0.1	EOB @ 89.7° Inc / 359.99° Azm / 12351' TVD
19,786.4	12,388.0	7,640.3	-1.9	TD @ 19786' MD / 12388' TVD

Lea County, NM

Deerstalker Federal Com #1H

Design #1

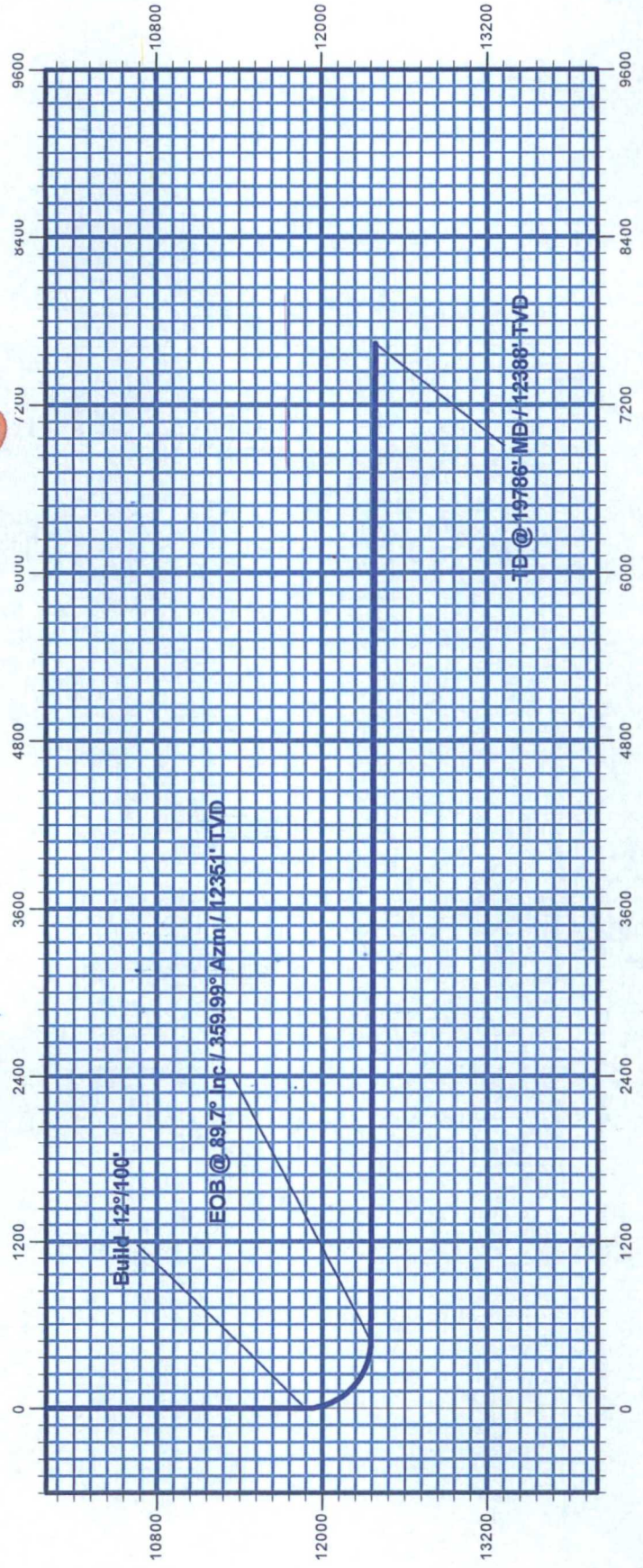




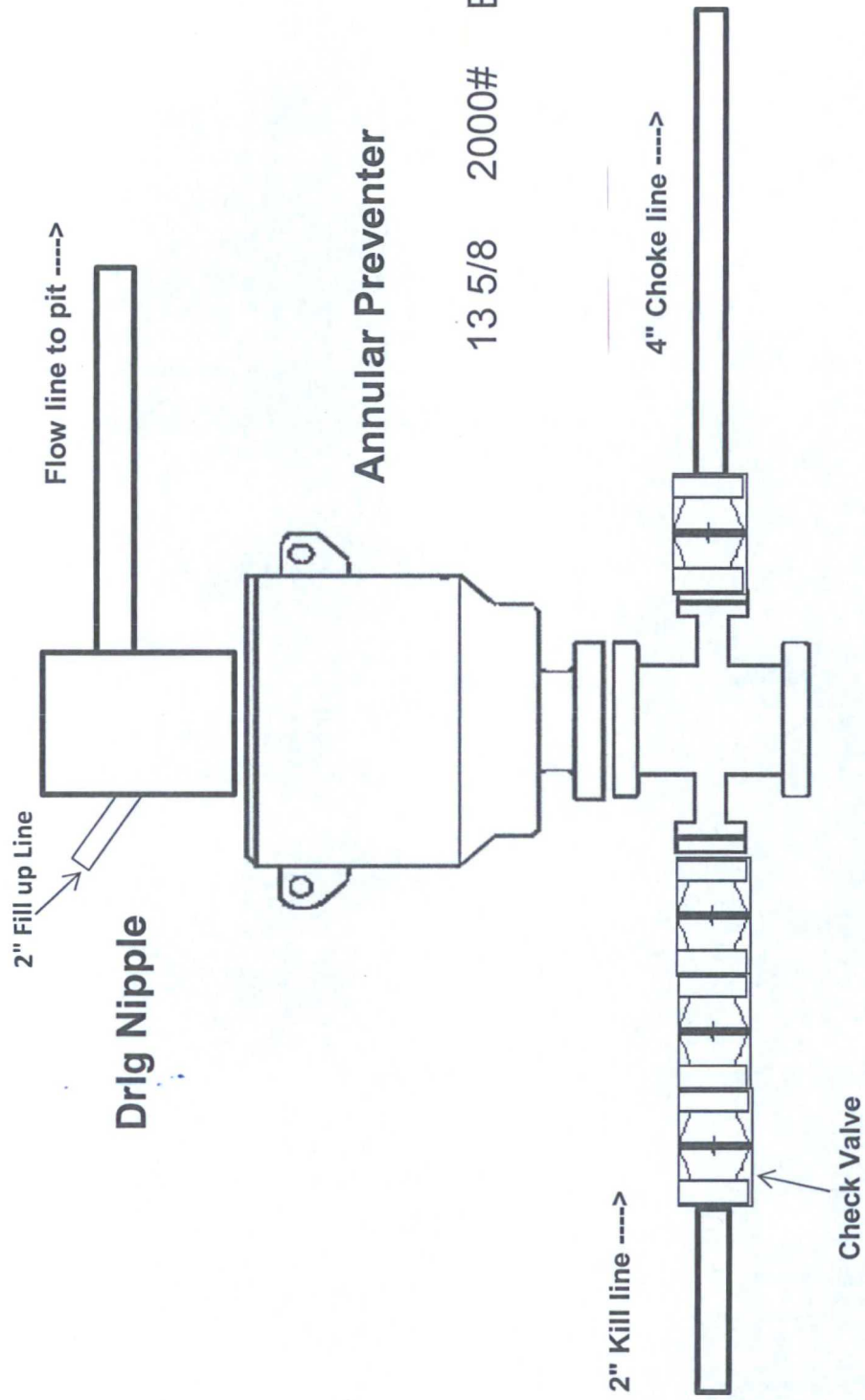
Lea County, NM

Deerstalker Federal Com #1H

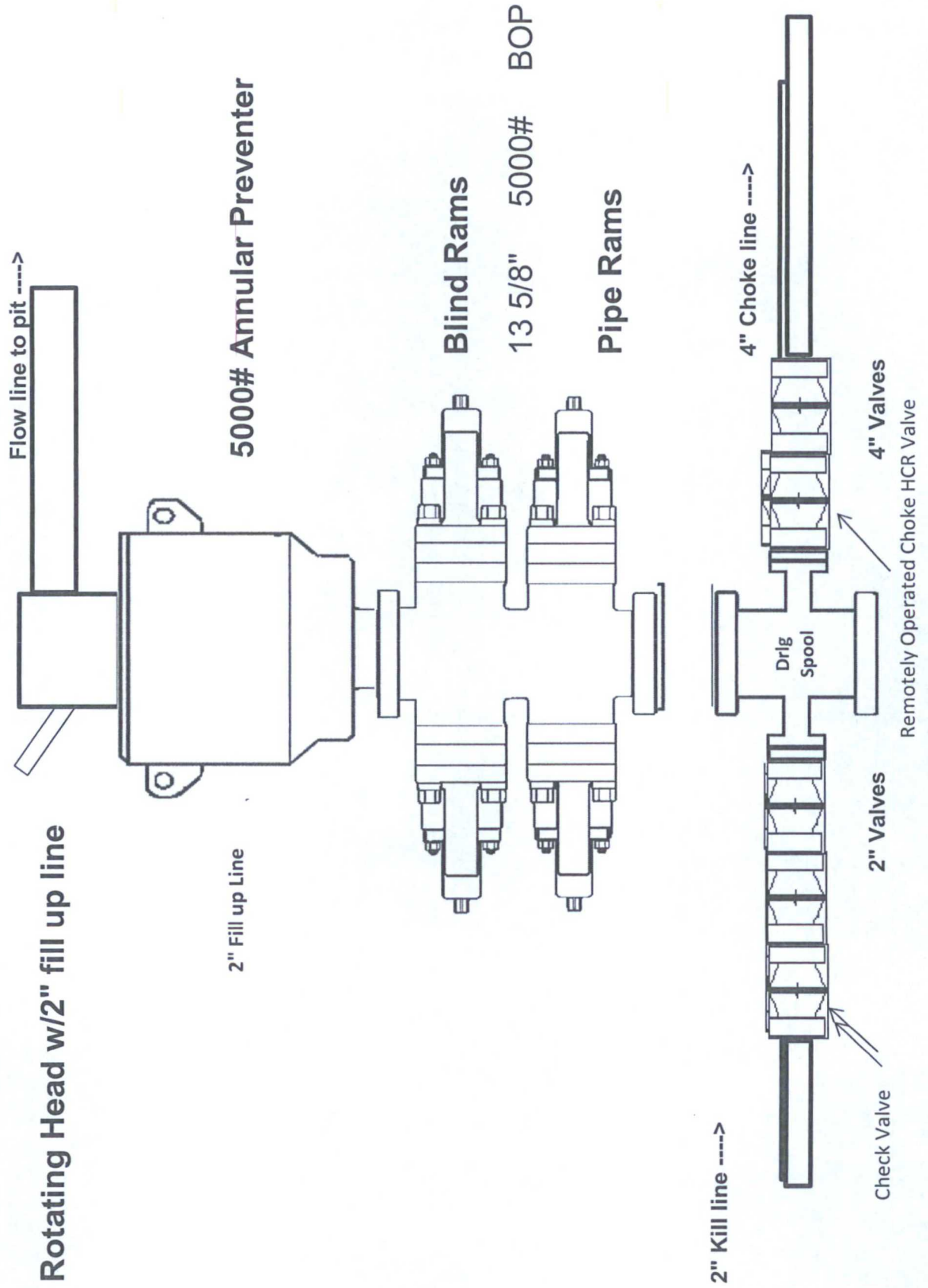
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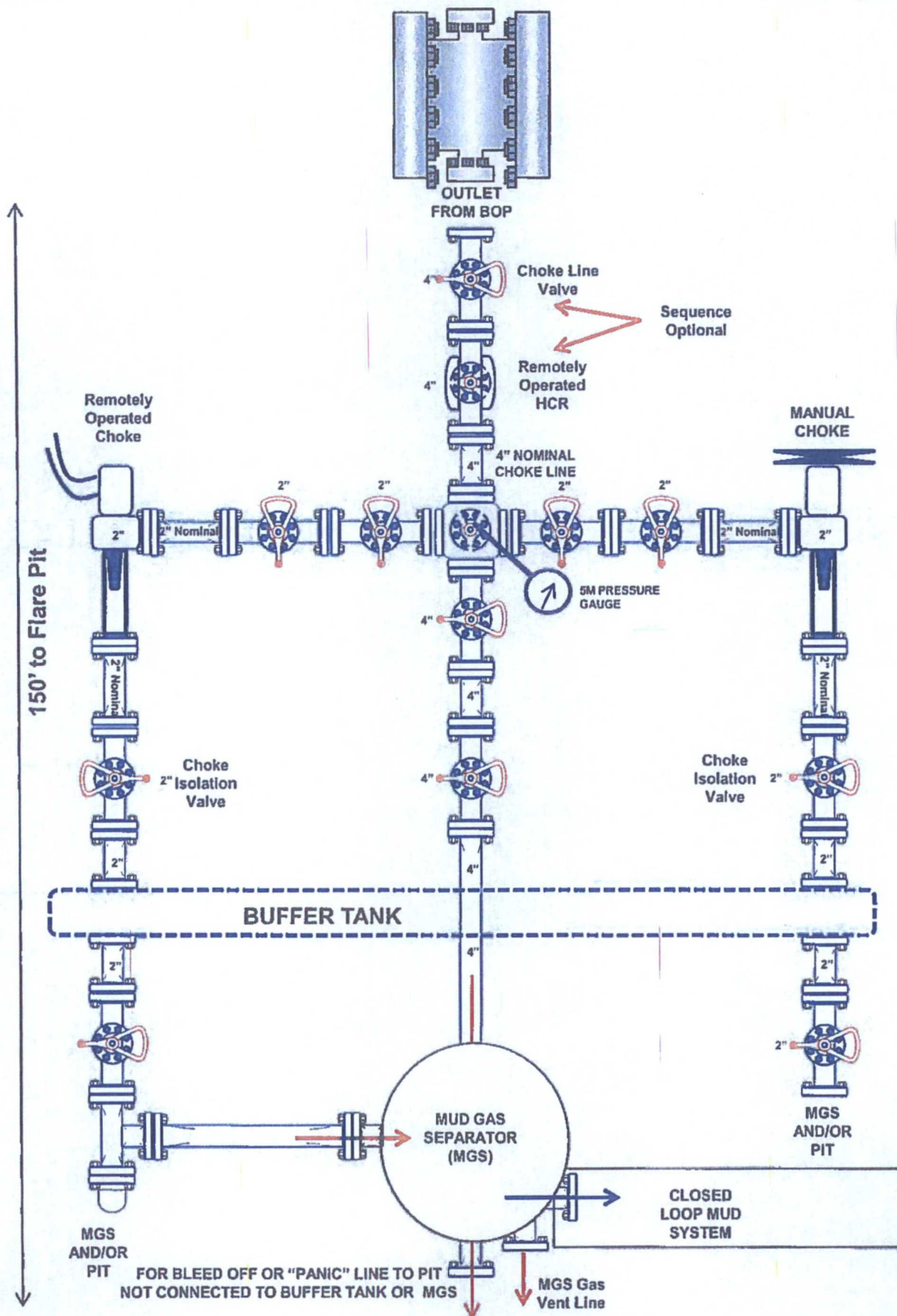
2,000 psi BOP Schematic



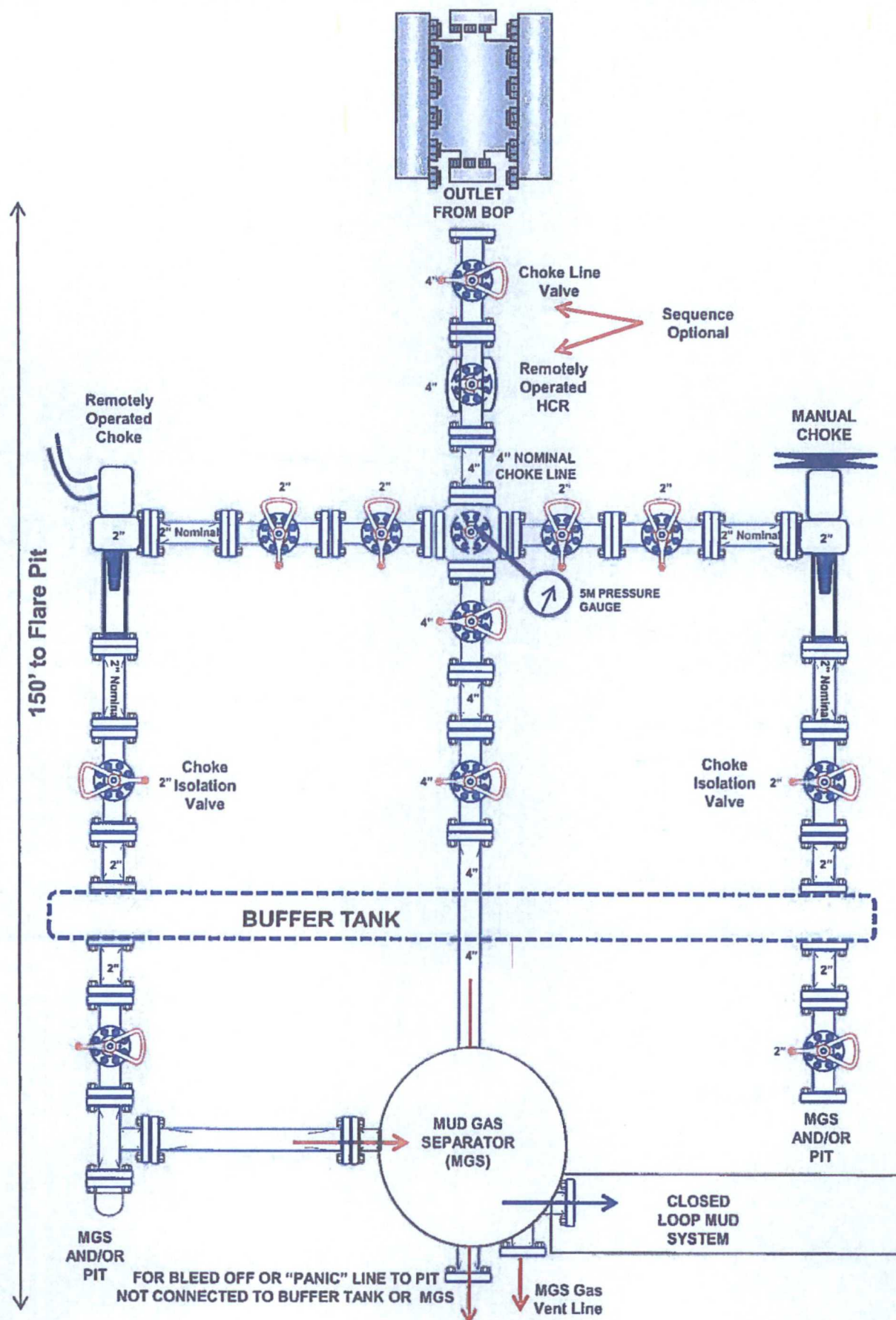
5,000 psi BOP Schematic



2M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)



5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)



COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram

Well pad will be 340' X 370'
with cellar in center of pad

Flare Lines will be from both Choke
Manifold & Separator to edge of
location.

NORTH

Centrifuge or
Solids Sep.

Transfer Pump

Drlg Separator

Shakers

Flow line

Steel pits

Mud Pumps

Water Tanks

Cellar

Choke Manifold

Pipe Racks

Trailer

180'

190'

150'

190'

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 370' with cellar in center of pad

