

DISTRICT I
1625 N. FRENCH DR., HOBBBS, NM 88240
Phone: (505) 393-8181 Fax: (505) 393-0720

DISTRICT II
511 S. FIRST ST., ARTESIA, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-8178 Fax: (505) 334-8170

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, 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-	Pool Code 98098	Pool Name WC-025 G-09 S243532M; Wolfbone
Property Code 316267	Property Name DEERSTALKER FEDERAL COM	Well Number 4H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3293.8'

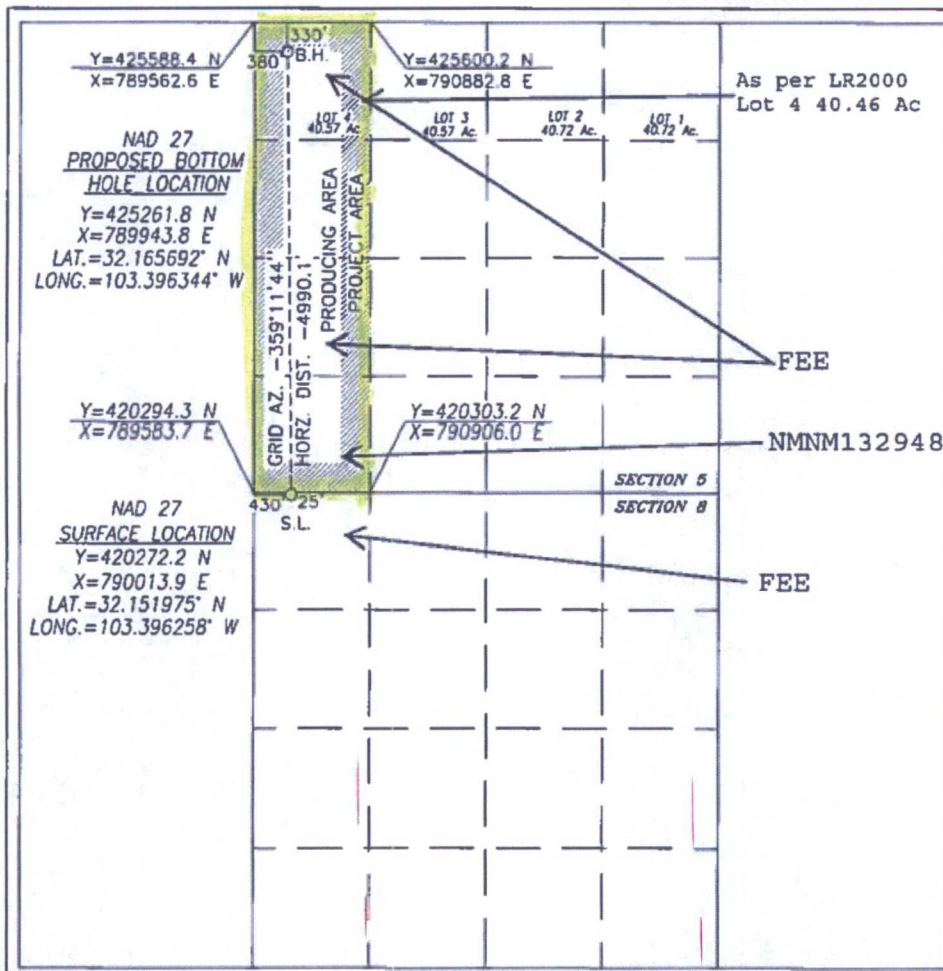
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	8	25-S	35-E		25'	NORTH	430'	WEST	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
4	5	25-S	35-E		330'	NORTH	380'	WEST	LEA
Dedicated Acres 160.46	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.

Signature Mayte Reyes Date 4-17-16

Printed Name
Mayte Reyes

E-mail Address
mreyes1@concho.com

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

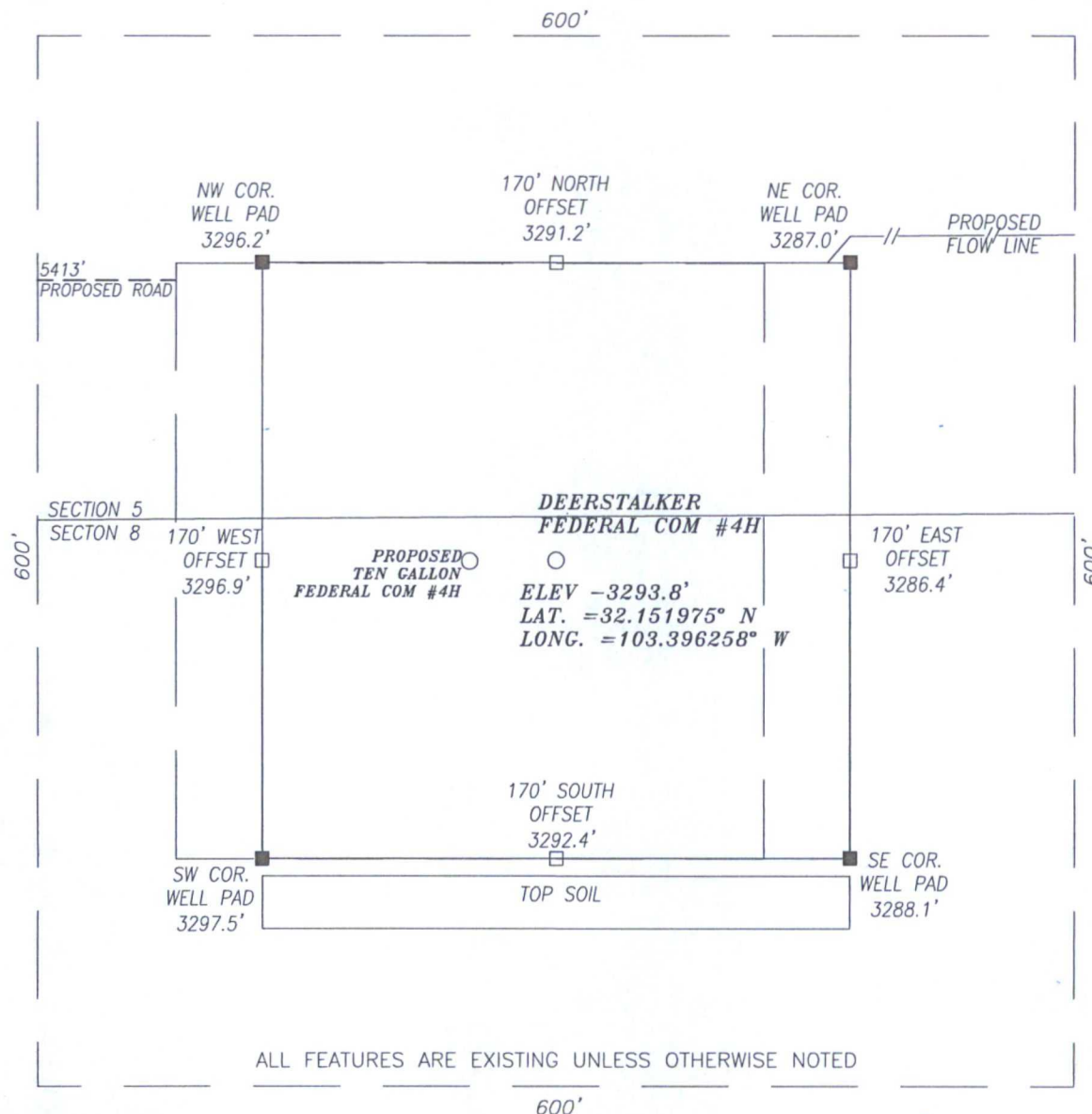
Date of Survey

Signature & Seal of Professional Surveyor



Certificate No. CHAD HARCROW 17777
W.O. # 15-207 DRAWN BY: AF

SECTION 8, TOWNSHIP 25 SOUTH, RANGE 35 EAST, N.M.P.M.,
LEA COUNTY NEW MEXICO



DIRECTIONS TO LOCATION

HEADING SOUTH EAST ON HWY 128 TURN RIGHT (SOUTH) APPROX. 0.6 MILES PAST MM 38 AND GO APPROX. 1.2 MILES; THEN TURN RIGHT (SOUTHWEST) AND GO APPROX. 1 MILE; THEN TURN LEFT (SOUTH) AND GO APPROX. 0.2 MILES TO PROPOSED ROAD ON THE LEFT (EAST); PROPOSED WELL IS APPROX. 1.3 MILES EAST.

CERTIFICATION

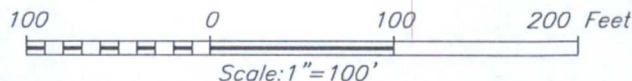
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.



Chad Harcrow
CHAD HARCROW N.M.P.S. NO. 17777

3/30/16
DATE

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



COG OPERATING, LLC

DEERSTALKER FEDERAL COM #4H WELL
LOCATED 25 FEET FROM THE NORTH LINE
AND 430 FEET FROM THE WEST LINE OF SECTION 8,
TOWNSHIP 25 SOUTH, RANGE 35 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO

SURVEY DATE: 02/28/2015

PAGE: 1 OF 1

DRAFTING DATE: 03/19/2015

APPROVED BY: CH

DRAWN BY: AF

FILE: 16-216



LEGEND

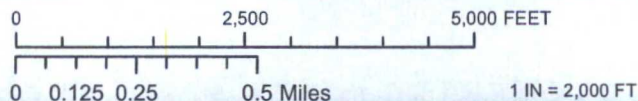
- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #4H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3293.8'

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

W.O. # 15-207 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M



LOCATION MAP

IMAGERY

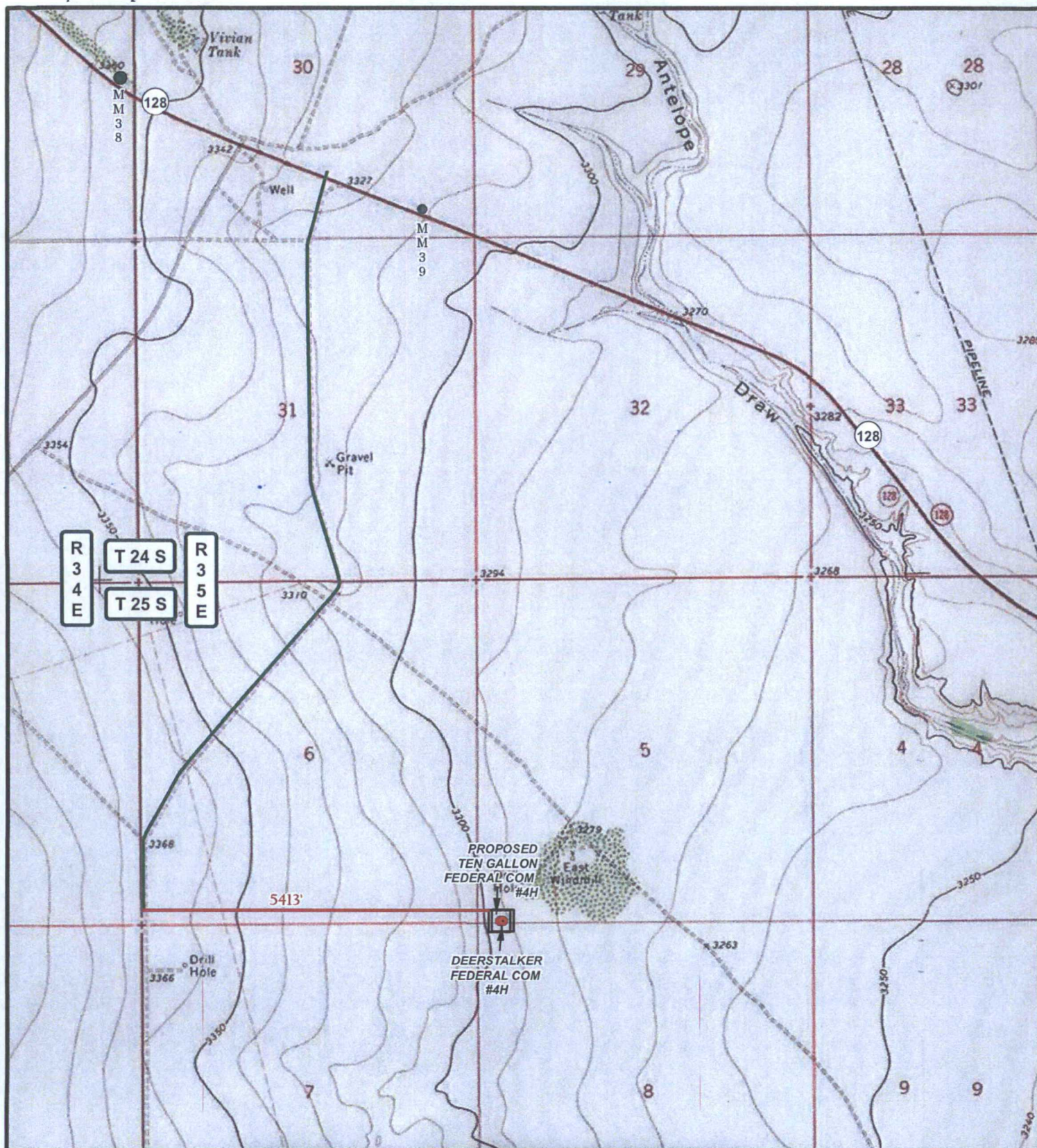
03/19/2015

A.F

CONCHO
COG OPERATING, LLC



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LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #4H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3293.8'

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

W.O. # 15-207 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

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LEGEND

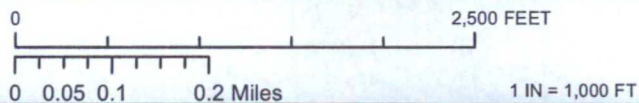
- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #4H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3293.8'

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

W.O. # 15-207 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M



LOCATION MAP

IMAGERY ROAD

03/19/2015

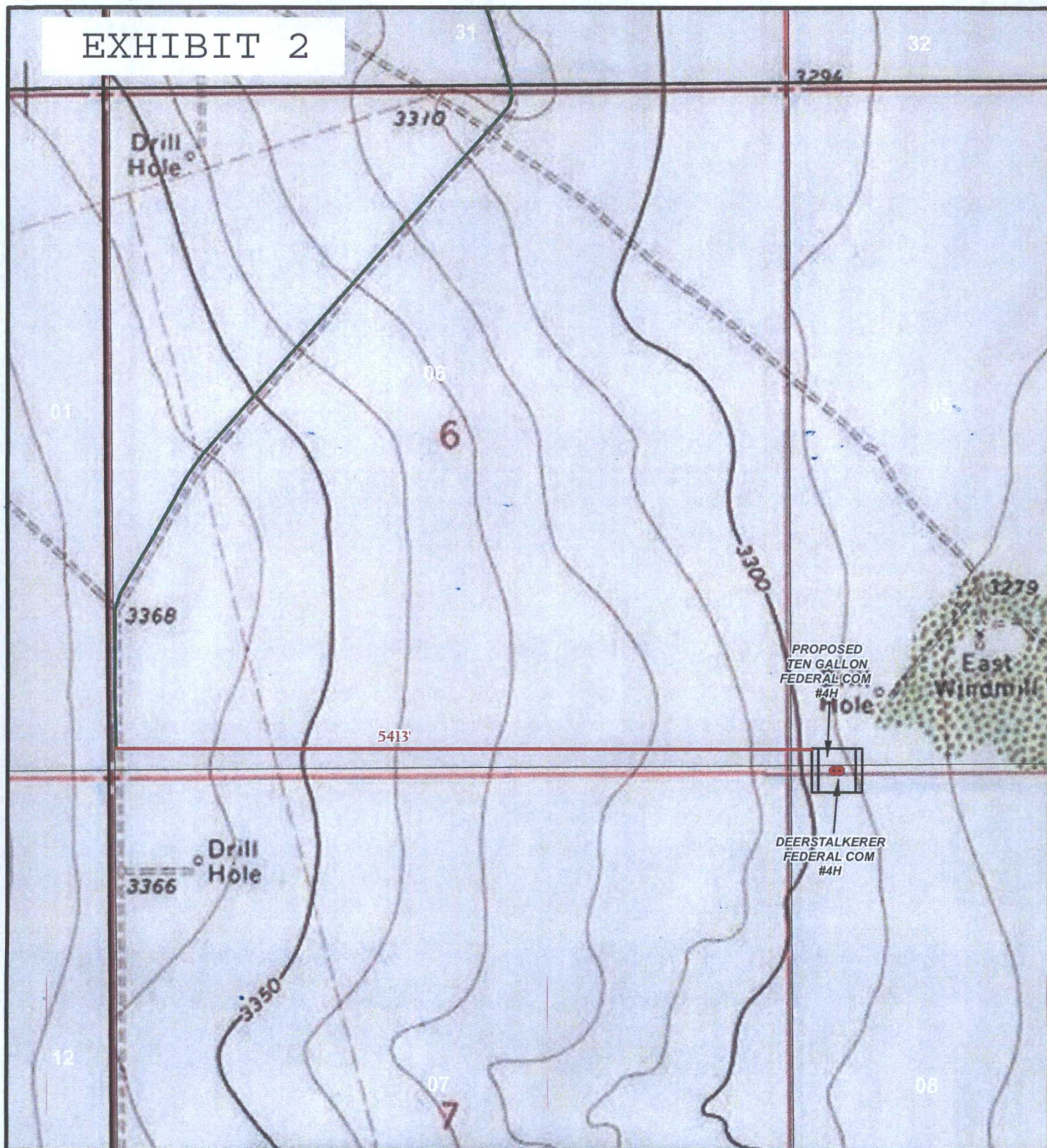
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EXHIBIT 2

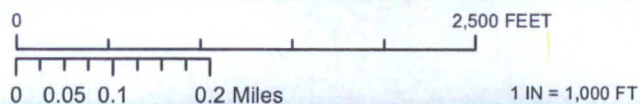


LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #4H

SEC: 08 TWP: 25 S. RGE: 28 E. ELEVATION: 3293.8'
 STATE: NEW MEXICO COUNTY: LEA 25' FNL & 430' FWL
 W.O. # 15-207 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M



LOCATION MAP

TOPO ROAD

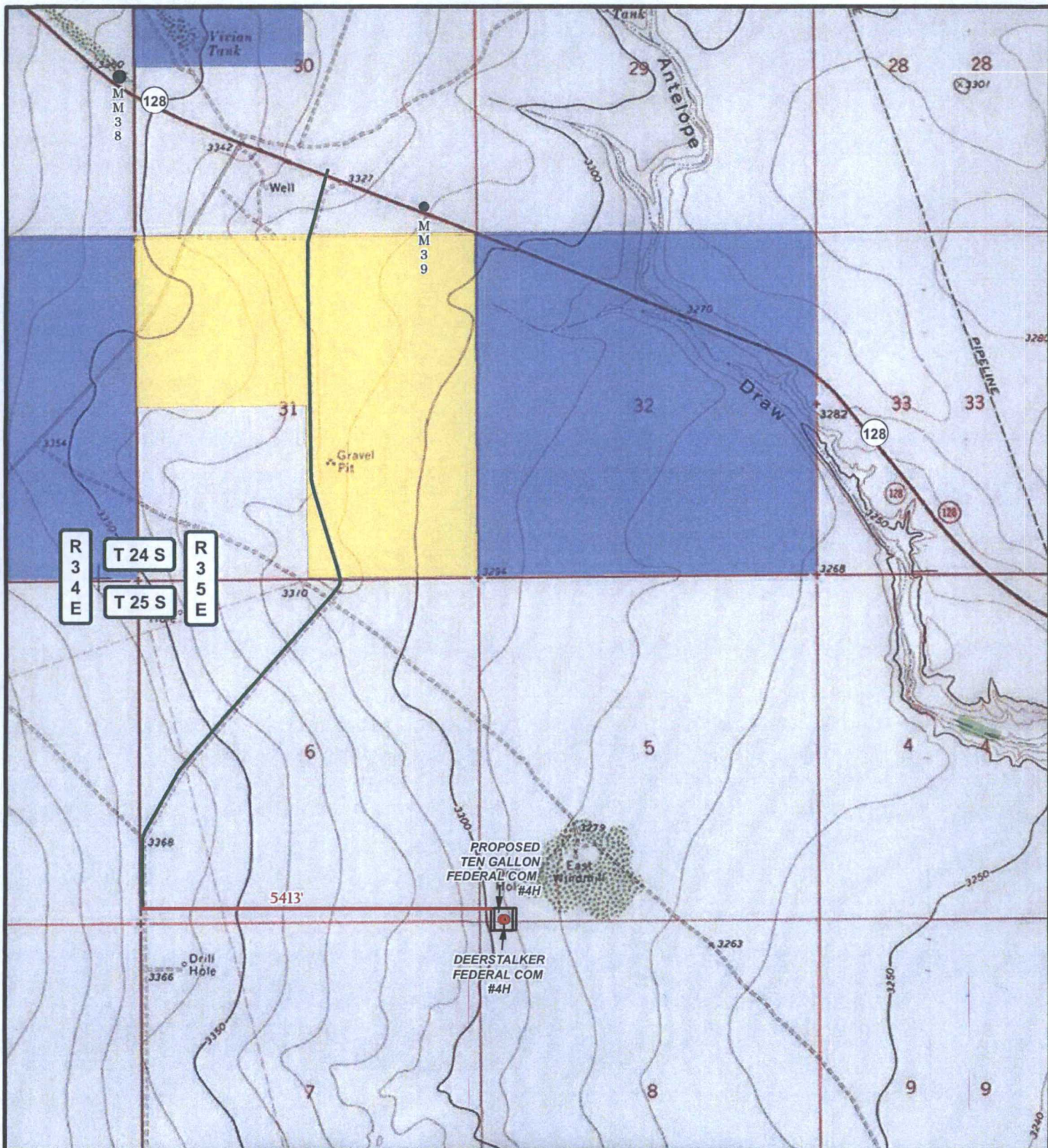
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LEGEND

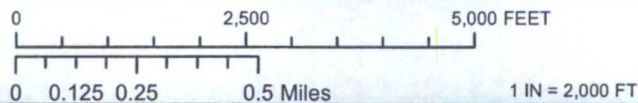
- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD
- PRIVATE
- STATE OF NM
- US BLM

DEERSTALKER FEDERAL COM #4H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3293.8'

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

W.O. # 15-207 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M



LOCATION MAP LANDSTATUS 03/19/2015 A.F

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LEGEND

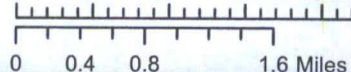
-  WELL
 WELLPAD
 EXISTING ROAD
 PROPOSED ROAD

DEERSTALKER FEDERAL COM #4H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3293.8'

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

W.O. # 15-207 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M


$$1 \text{ IN} = 6,000 \text{ FT}$$

VICINITY MAP

03/19/2015

A.F

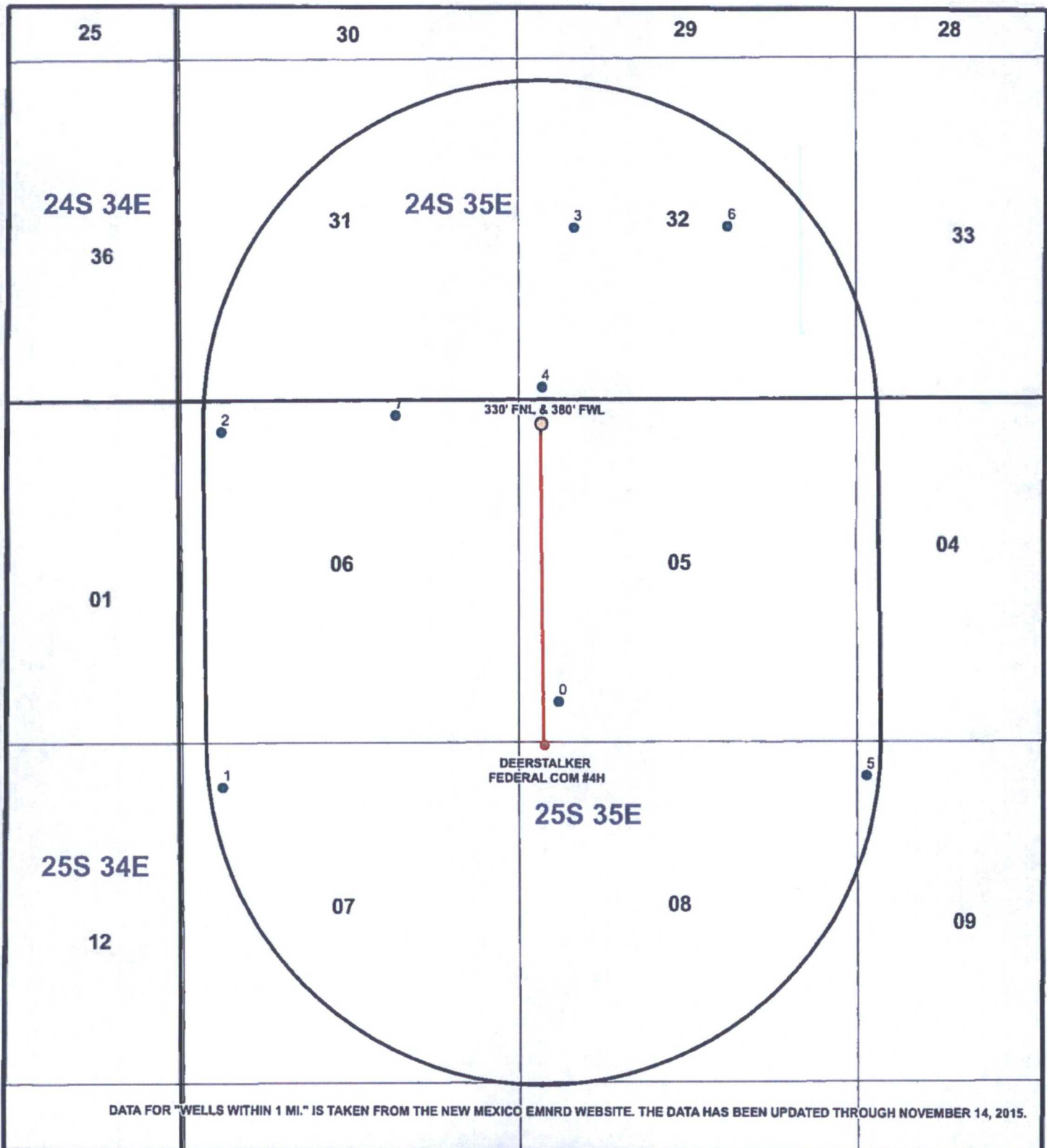


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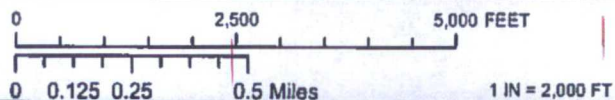
DATA FOR "WELLS WITHIN 1 MI." IS TAKEN FROM THE NEW MEXICO EMNRD WEBSITE. THE DATA HAS BEEN UPDATED THROUGH NOVEMBER 14, 2015.

LEGEND

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

DEERSTALKER FEDERAL COM #4H

SEC: 08	TWP: 25 S.	RGE: 35 E.	ELEVATION: 3293.8'
STATE: NEW MEXICO	COUNTY: LEA	25' FNL & 430' FWL	
W.O. # 15-207 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M			



VICINITY MAP

12/10/2015

A.F

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Deerstalker Federal Com #4H															
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	GULF OIL CORP	MOUNSEY A FEDERAL 001	32.150357	-103.412972	3002521633	7	25.0S	35E	660	N	660	W	5664	Plugged
2	Point	GULF OIL CORP	MOUNSEY FEDERAL 001	32.165429	-103.412981	3002521635	6	25.0S	35E	460	N	660	W	5673	Plugged
3	Point	COG OPERATING LLC	SKULL CAP STATE 004H	32.167204	-103.396781	3002542179	32	24.0S	35E	190	S	380	W	0	New (Not drilled or compl)
4	Point	COG OPERATING LLC	SKULL CAP STATE 005	32.174037	-103.395164	3002542178	32	24.0S	35E	2610	N	880	W	0	New (Not drilled or compl)
5	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)

COG Operating, LLC

Lea County, NM

Sec 8, T25-S, R35-E

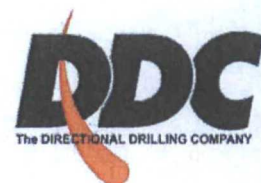
Deerstalker Federal Com #4H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

07 December, 2015



HP Well Planning Report



Database:	Compass	Local Co-ordinate Reference:	Well Deerstalker Federal Com #4H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3319.8usft (Scandrill Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3319.8usft (Scandrill Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal Com #4H	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 #4H		
Well Position	+N/-S	-19.4 usft	Northing: 420,272.20 usft
	+E/-W	-2,879.1 usft	Easting: 790,013.90 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 9' 7.111 N
		Longitude:	103° 23' 46.528 W
		Ground Level:	3,293.8 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	12/7/2015	7.03
			Dip Angle (°)
			60.04
			Field Strength (nT)
			48,072

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 (°)
			359.20

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	
12,031.5	0.00	0.00	12,031.5	0.0	0.0	0.00	0.00	0.00	0.00	
12,781.3	89.97	359.20	12,509.0	477.2	-6.7	12.00	12.00	-0.11	359.20	
17,294.1	89.97	359.20	12,511.0	4,989.6	-70.1	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 #4H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3319.8usft (Scandril Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3319.8usft (Scandril Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal Com #4H	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



Database:	Compass	Local Co-ordinate Reference:	Well Deerstalker Federal Com #4H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3319.8usft (Scandriil Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3319.8usft (Scandriil Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal Com #4H	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)
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 #4H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3319.8usft (Scandril Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3319.8usft (Scandril Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal Com #4H	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
11,900.0	0.00	0.00	11,900.0	0.0	0.0	0.0	0.00	0.00	0.00
12,000.0	0.00	0.00	12,000.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 12°/100'									
12,031.5	0.00	0.00	12,031.5	0.0	0.0	0.0	0.00	0.00	0.00
12,100.0	8.22	359.20	12,099.8	4.9	-0.1	4.9	12.00	12.00	0.00
12,200.0	20.22	359.20	12,196.5	29.4	-0.4	29.4	12.00	12.00	0.00
12,300.0	32.22	359.20	12,286.1	73.5	-1.0	73.5	12.00	12.00	0.00
12,400.0	44.22	359.20	12,364.5	135.3	-1.9	135.3	12.00	12.00	0.00
12,500.0	56.22	359.20	12,428.4	212.0	-3.0	212.0	12.00	12.00	0.00
12,600.0	68.22	359.20	12,474.9	300.3	-4.2	300.3	12.00	12.00	0.00
12,700.0	80.22	359.20	12,502.0	396.3	-5.6	396.4	12.00	12.00	0.00
EOB @ 89.97° Inc / 359.20° Azm / 12509' TVD									
12,781.3	89.97	359.20	12,509.0	477.2	-6.7	477.2	12.00	12.00	0.00
12,800.0	89.97	359.20	12,509.0	495.9	-7.0	496.0	0.00	0.00	0.00
12,900.0	89.97	359.20	12,509.0	595.9	-8.4	596.0	0.00	0.00	0.00
13,000.0	89.97	359.20	12,509.1	695.9	-9.8	696.0	0.00	0.00	0.00
13,100.0	89.97	359.20	12,509.1	795.9	-11.2	796.0	0.00	0.00	0.00
13,200.0	89.97	359.20	12,509.2	895.9	-12.6	896.0	0.00	0.00	0.00
13,300.0	89.97	359.20	12,509.2	995.9	-14.0	996.0	0.00	0.00	0.00
13,400.0	89.97	359.20	12,509.2	1,095.9	-15.4	1,096.0	0.00	0.00	0.00
13,500.0	89.97	359.20	12,509.3	1,195.8	-16.8	1,196.0	0.00	0.00	0.00
13,600.0	89.97	359.20	12,509.3	1,295.8	-18.2	1,296.0	0.00	0.00	0.00
13,700.0	89.97	359.20	12,509.4	1,395.8	-19.6	1,396.0	0.00	0.00	0.00
13,800.0	89.97	359.20	12,509.4	1,495.8	-21.0	1,496.0	0.00	0.00	0.00
13,900.0	89.97	359.20	12,509.5	1,595.8	-22.4	1,596.0	0.00	0.00	0.00
14,000.0	89.97	359.20	12,509.5	1,695.8	-23.8	1,696.0	0.00	0.00	0.00
14,100.0	89.97	359.20	12,509.6	1,795.8	-25.2	1,796.0	0.00	0.00	0.00
14,200.0	89.97	359.20	12,509.6	1,895.8	-26.6	1,896.0	0.00	0.00	0.00
14,300.0	89.97	359.20	12,509.6	1,995.8	-28.0	1,996.0	0.00	0.00	0.00
14,400.0	89.97	359.20	12,509.7	2,095.8	-29.4	2,096.0	0.00	0.00	0.00
14,500.0	89.97	359.20	12,509.7	2,195.7	-30.8	2,196.0	0.00	0.00	0.00
14,600.0	89.97	359.20	12,509.8	2,295.7	-32.3	2,296.0	0.00	0.00	0.00
14,700.0	89.97	359.20	12,509.8	2,395.7	-33.7	2,396.0	0.00	0.00	0.00
14,800.0	89.97	359.20	12,509.9	2,495.7	-35.1	2,496.0	0.00	0.00	0.00
14,900.0	89.97	359.20	12,509.9	2,595.7	-36.5	2,596.0	0.00	0.00	0.00
15,000.0	89.97	359.20	12,510.0	2,695.7	-37.9	2,696.0	0.00	0.00	0.00
15,100.0	89.97	359.20	12,510.0	2,795.7	-39.3	2,796.0	0.00	0.00	0.00
15,200.0	89.97	359.20	12,510.1	2,895.7	-40.7	2,896.0	0.00	0.00	0.00
15,300.0	89.97	359.20	12,510.1	2,995.7	-42.1	2,996.0	0.00	0.00	0.00
15,400.0	89.97	359.20	12,510.1	3,095.7	-43.5	3,096.0	0.00	0.00	0.00
15,500.0	89.97	359.20	12,510.2	3,195.6	-44.9	3,196.0	0.00	0.00	0.00
15,600.0	89.97	359.20	12,510.2	3,295.6	-46.3	3,296.0	0.00	0.00	0.00
15,700.0	89.97	359.20	12,510.3	3,395.6	-47.7	3,396.0	0.00	0.00	0.00

HP Well Planning Report



Database:	Compass	Local Co-ordinate Reference:	Well Deerstalker Federal Com #4H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3319.8usft (Scandril Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3319.8usft (Scandril Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal Com #4H	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	89.97	359.20	12,510.3	3,495.6	-49.1	3,496.0	0.00	0.00	0.00
15,900.0	89.97	359.20	12,510.4	3,595.6	-50.5	3,596.0	0.00	0.00	0.00
16,000.0	89.97	359.20	12,510.4	3,695.6	-51.9	3,696.0	0.00	0.00	0.00
16,100.0	89.97	359.20	12,510.5	3,795.6	-53.3	3,796.0	0.00	0.00	0.00
16,200.0	89.97	359.20	12,510.5	3,895.6	-54.7	3,896.0	0.00	0.00	0.00
16,300.0	89.97	359.20	12,510.6	3,995.6	-56.1	3,996.0	0.00	0.00	0.00
16,400.0	89.97	359.20	12,510.6	4,095.6	-57.5	4,096.0	0.00	0.00	0.00
16,500.0	89.97	359.20	12,510.6	4,195.6	-58.9	4,196.0	0.00	0.00	0.00
16,600.0	89.97	359.20	12,510.7	4,295.5	-60.3	4,296.0	0.00	0.00	0.00
16,700.0	89.97	359.20	12,510.7	4,395.5	-61.8	4,396.0	0.00	0.00	0.00
16,800.0	89.97	359.20	12,510.8	4,495.5	-63.2	4,496.0	0.00	0.00	0.00
16,900.0	89.97	359.20	12,510.8	4,595.5	-64.6	4,596.0	0.00	0.00	0.00
17,000.0	89.97	359.20	12,510.9	4,695.5	-66.0	4,696.0	0.00	0.00	0.00
17,100.0	89.97	359.20	12,510.9	4,795.5	-67.4	4,796.0	0.00	0.00	0.00
17,200.0	89.97	359.20	12,511.0	4,895.5	-68.8	4,896.0	0.00	0.00	0.00
TD @ 17294' MD / 12511' TVD									
17,294.1	89.97	359.20	12,511.0	4,989.6	-70.1	4,990.1	0.00	0.00	0.00

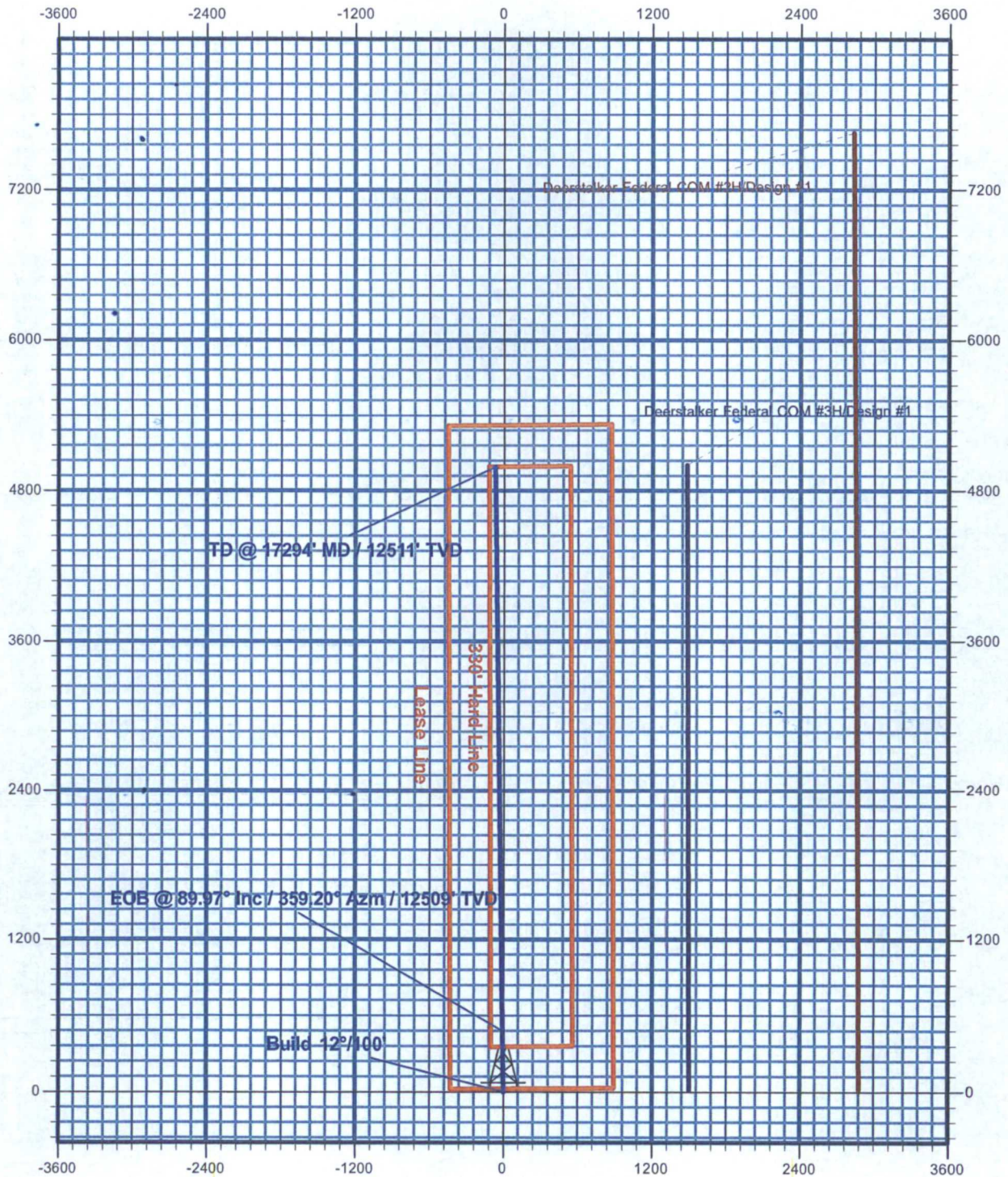
Design Targets

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 Fer	0.00	0.00	12,511.0	4,989.6	-70.1	425,261.80	789,943.80	32° 9' 56.490 N	103° 23' 46.839 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,031.5	12,031.5	0.0	0.0	Build 12°/100'
12,781.3	12,509.0	477.2	-6.7	EOB @ 89.97° Inc / 359.20° Azm / 12509' TVD
17,294.1	12,511.0	4,989.6	-70.1	TD @ 17294' MD / 12511' TVD

Lea County, NM
Deerstalker Federal Com #4H
Design #1

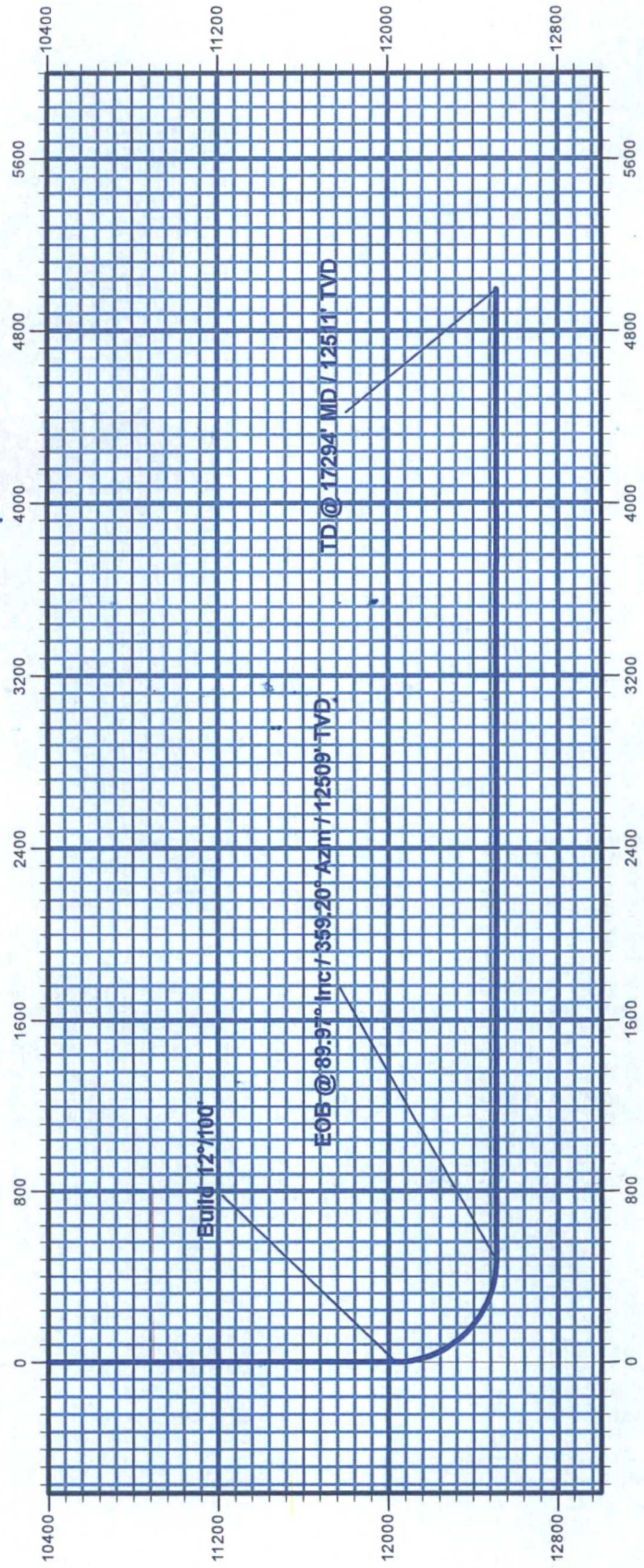




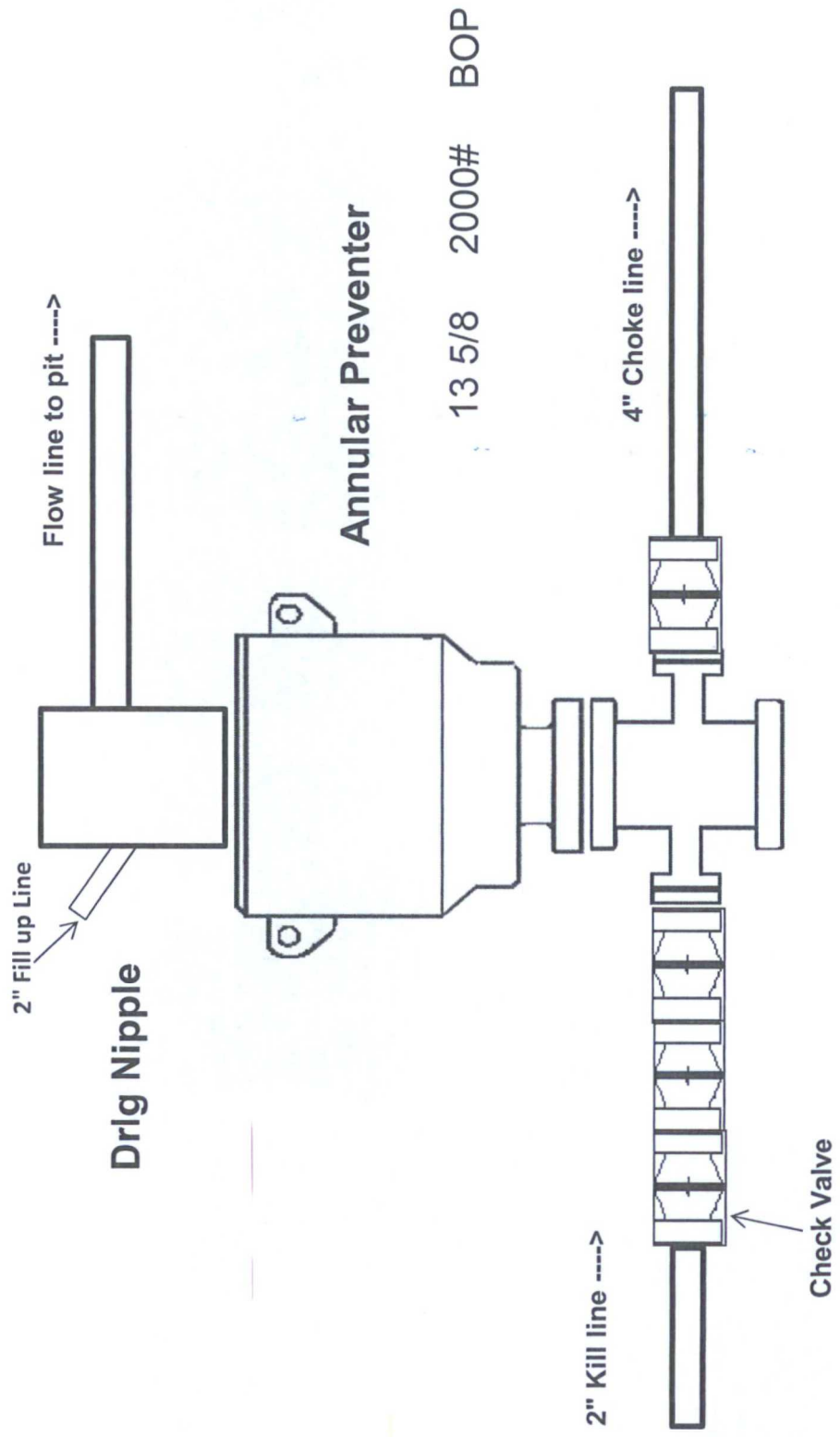
Lea County, NM

Deerstalker Federal Com #4H

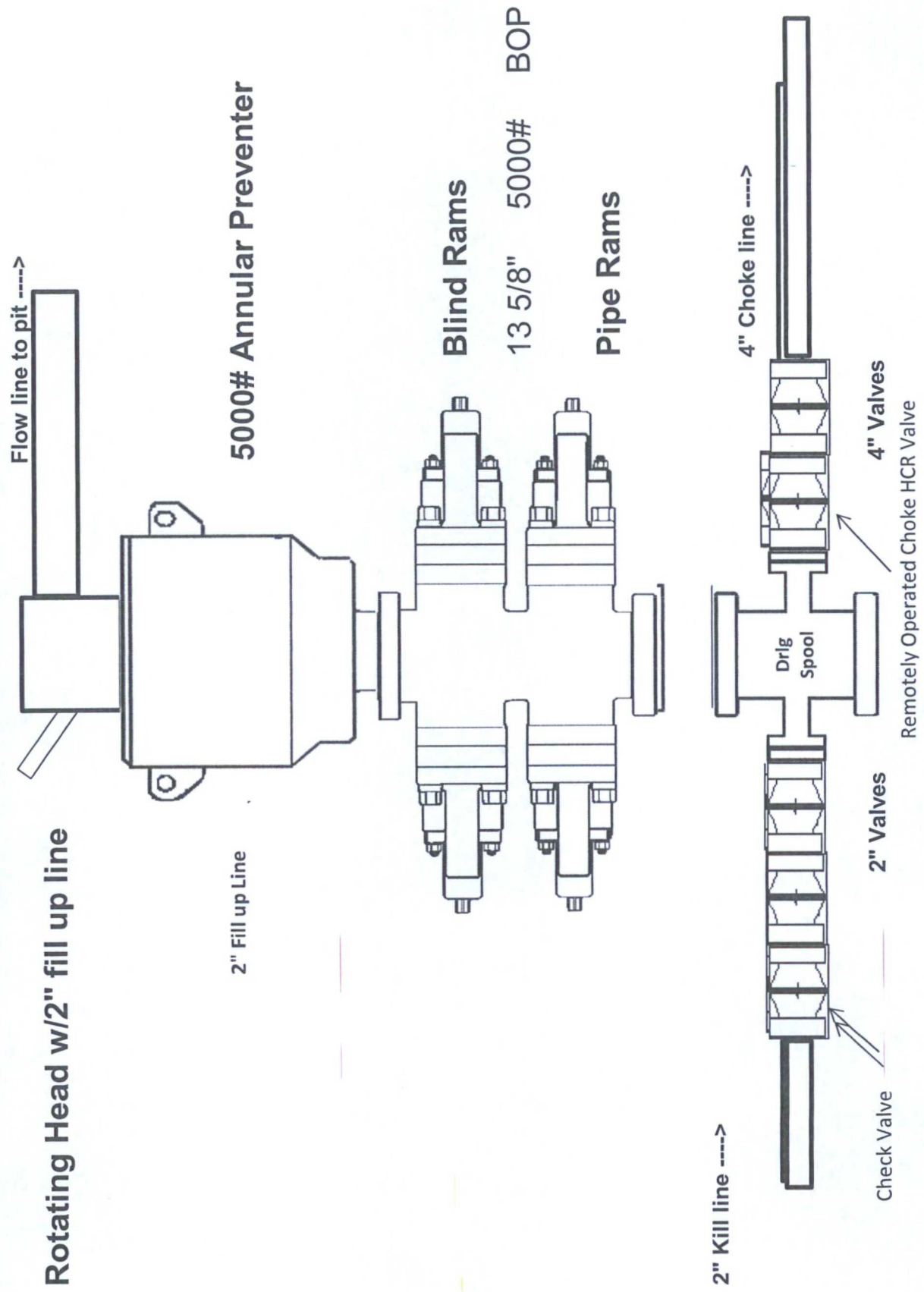
Design #1



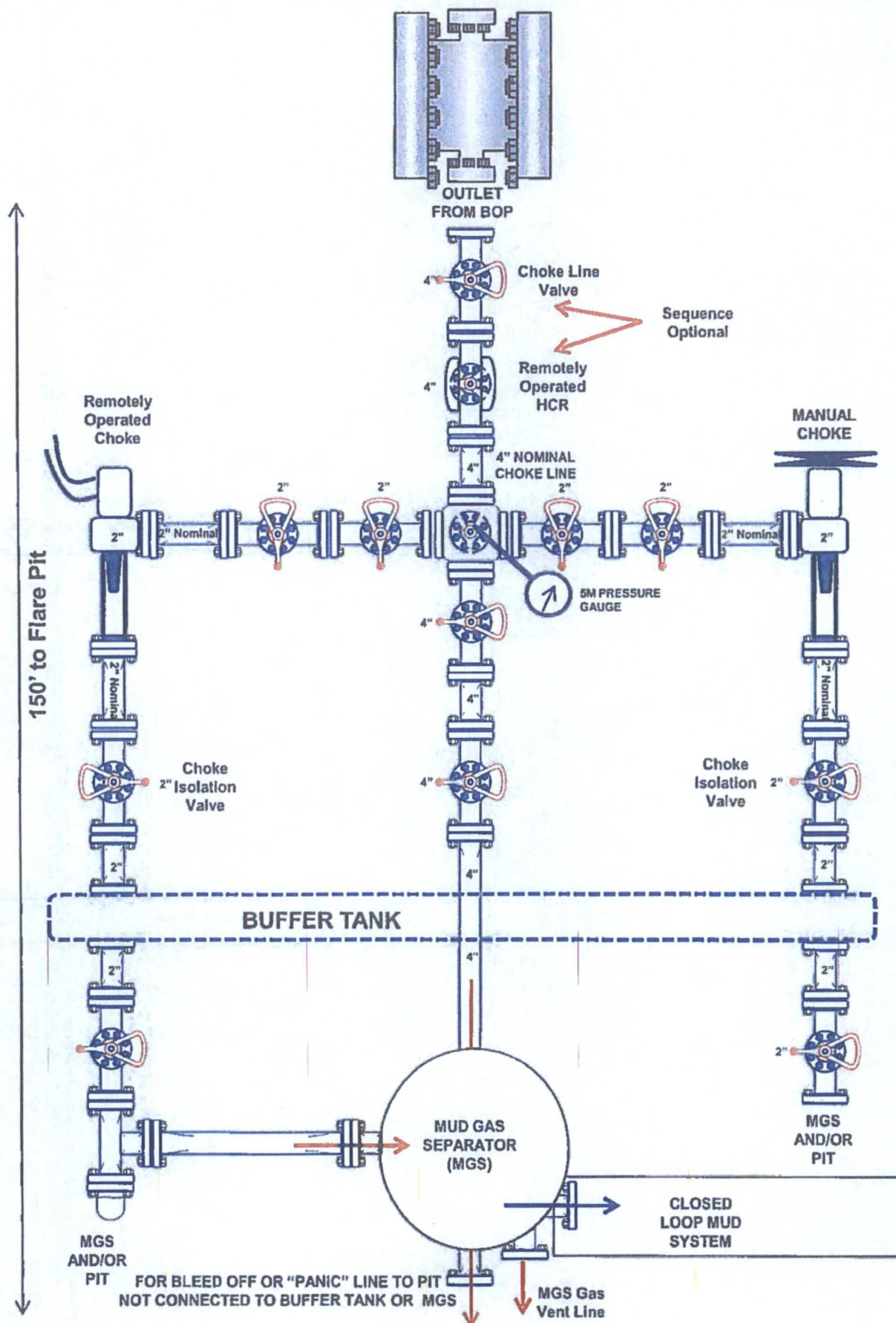
2,000 psi BOP Schematic



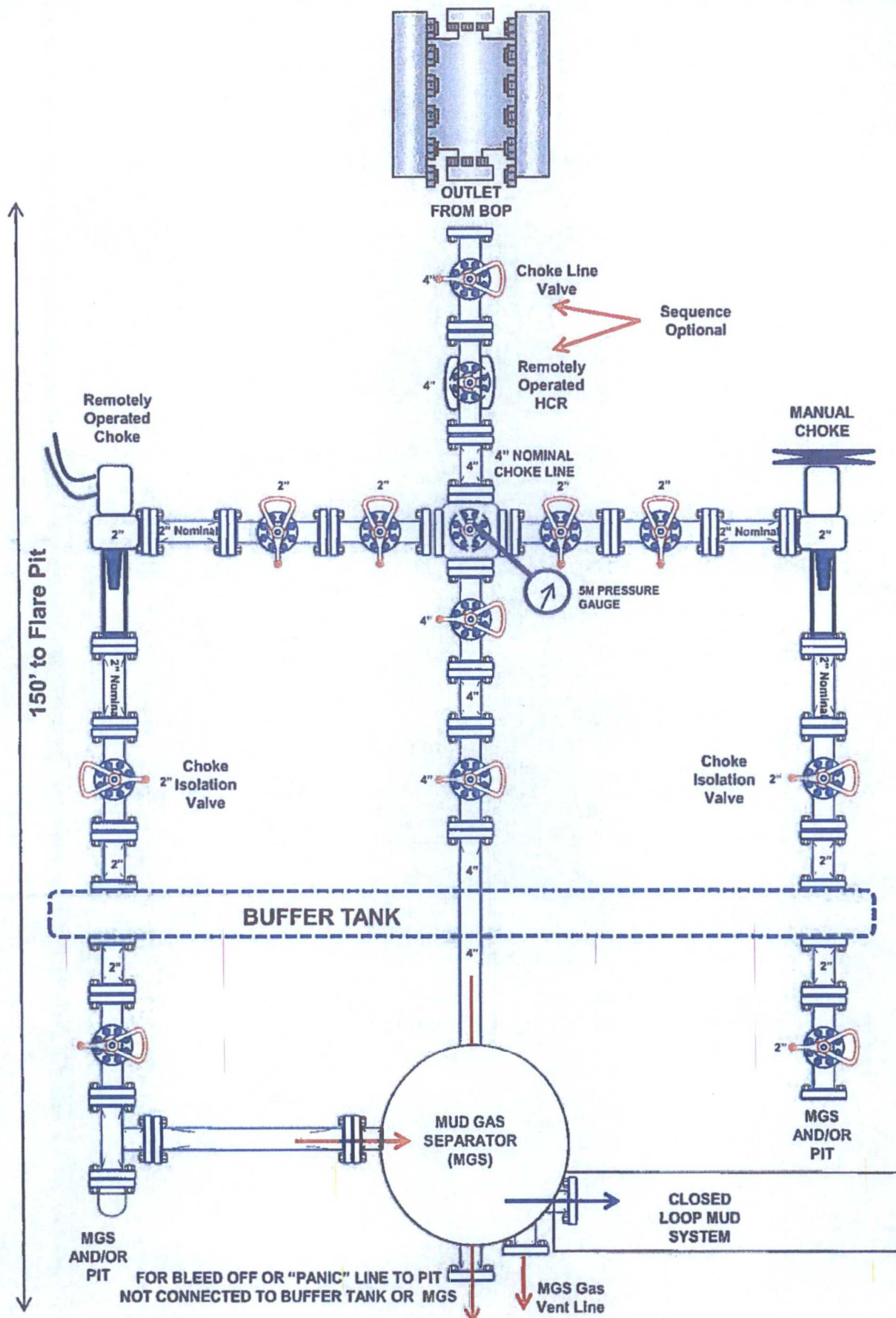
5,000 psi BOP Schematic



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

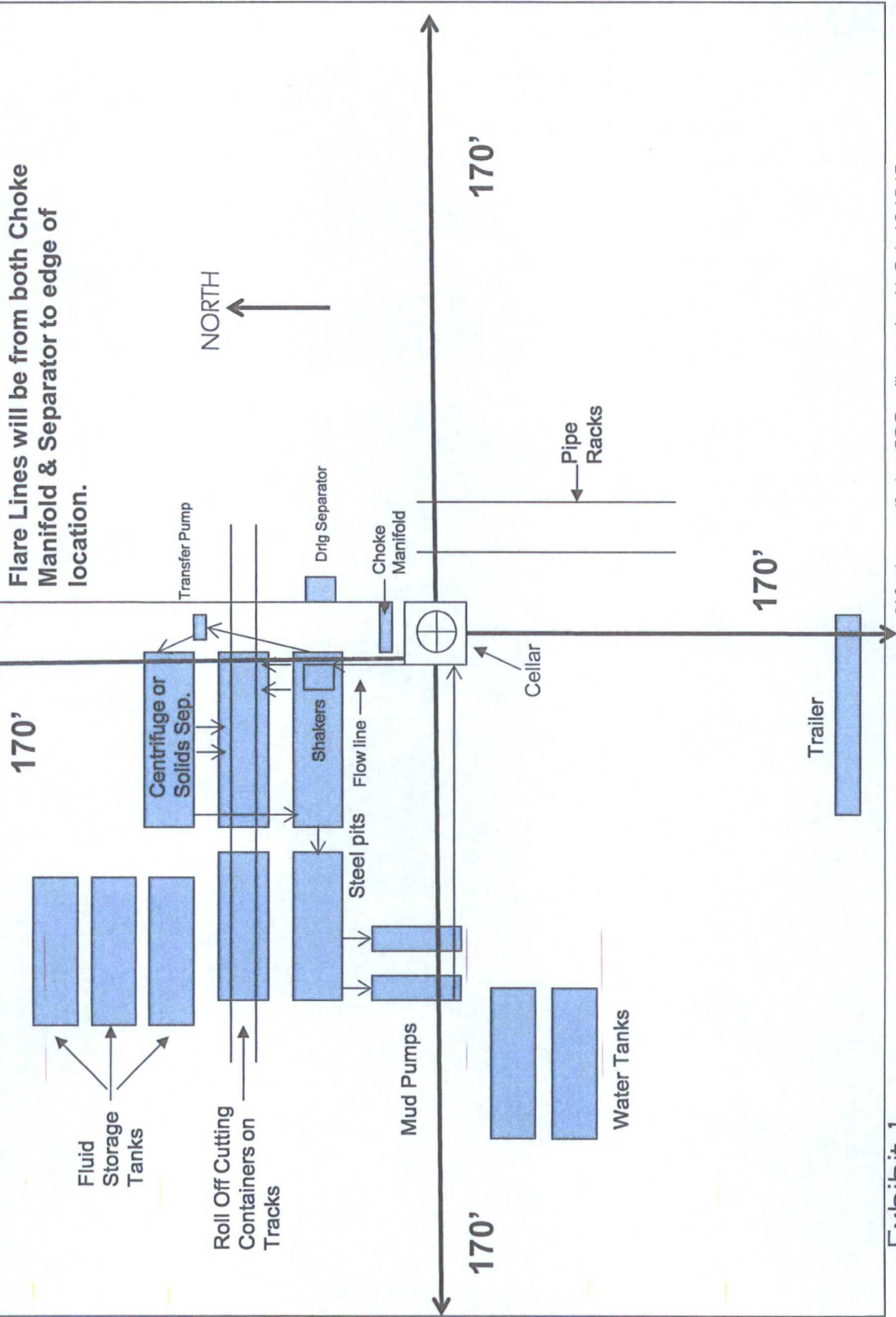


5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)



COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram



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

**COG Operating LLC
H₂S Equipment Schematic
Terrain: Shinnery sand hills.**

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

