

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (505) 393-8101 Fax: (505) 393-9720

DISTRICT II
811 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) 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- 43280	Pool Code 98098	Pool Name WC-025 G-09 S243532M; Wolfbone
Property Code 316267	Property Name DEERSTALKER FEDERAL COM	Well Number 3H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3276.2

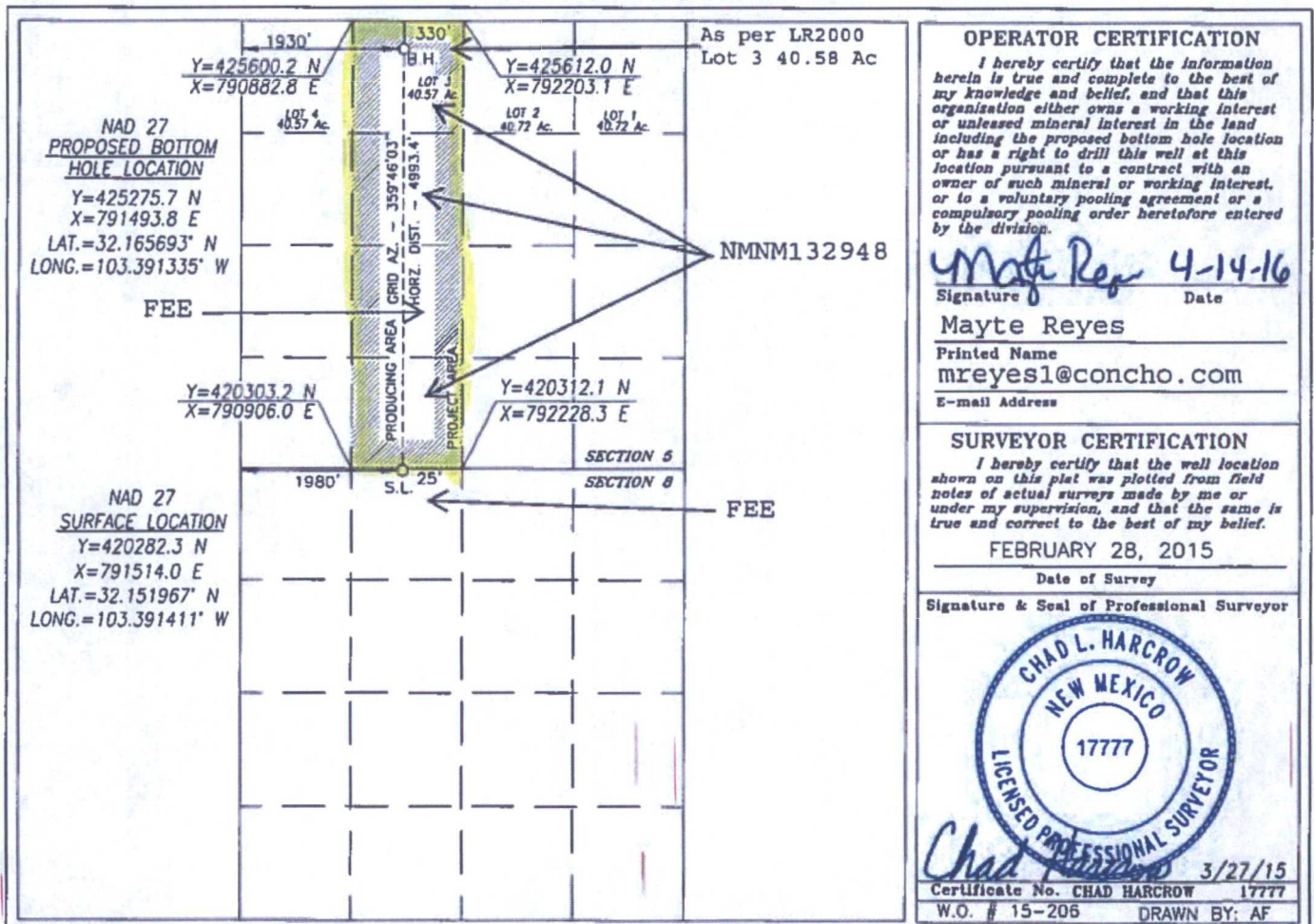
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	8	25-S	35-E		25'	NORTH	1930'	WEST	LEA

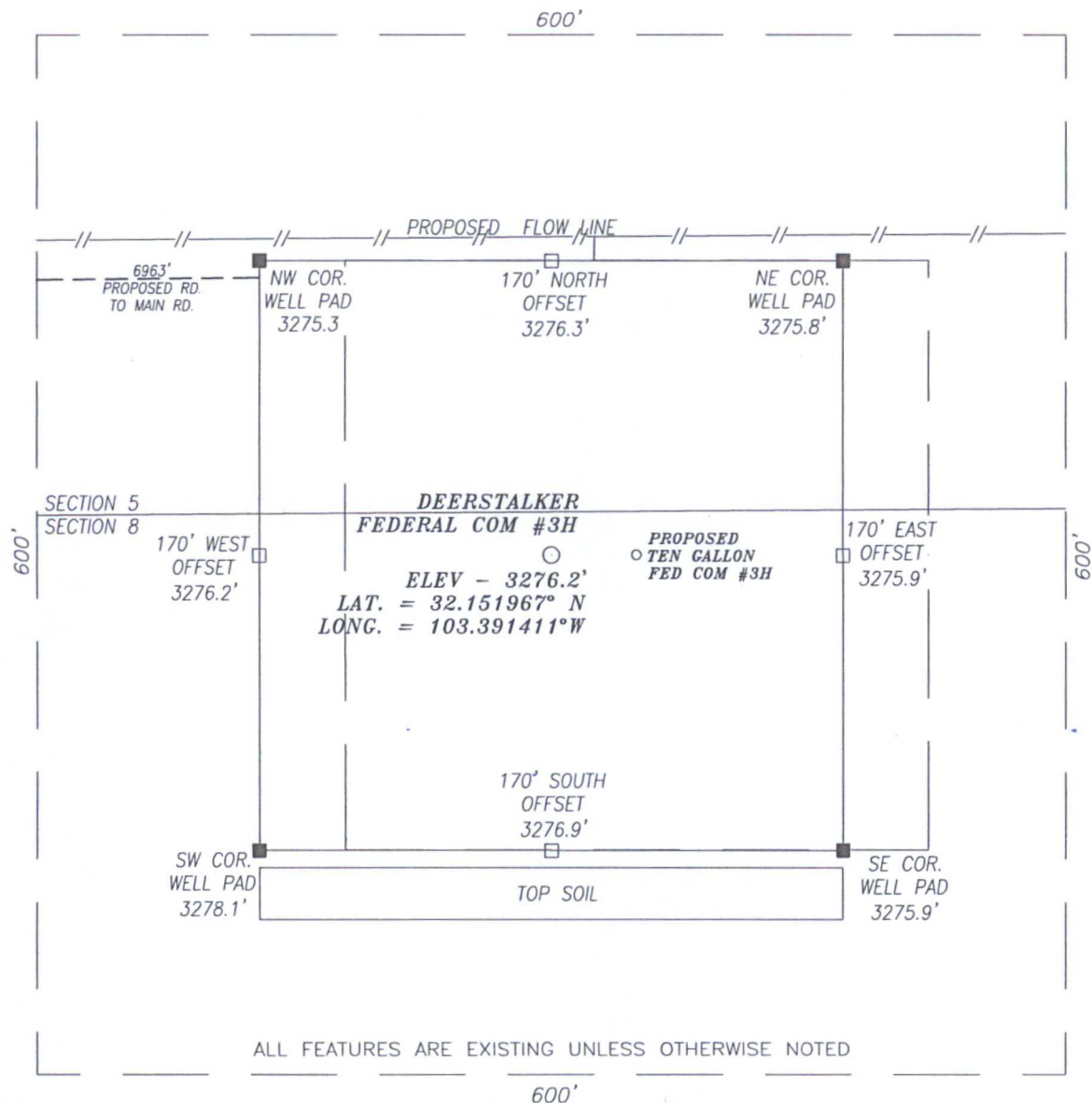
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
3	5	25-S	35-E		330'	NORTH	1930'	WEST	LEA
Dedicated Acres 160.58	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



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. .6 MILES PAST MM 38 AND GO APPROX. 1.2 MILES THEN TURN RIGHT (SOUTHWEST) AND GO APPROX. 1 MILES; THEN TURN LEFT (SOUTH) AND GO APPROX. 0.2 MILES TO PROPOSED ROAD ON THE LEFT (WEST); PROPOSED WELL IS APPROX. 1.3 MILES WEST.

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



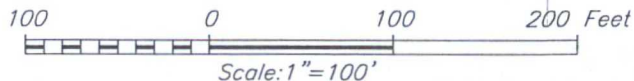
CERTIFICATION

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



COG OPERATING, LLC

**DEERSTALKER FEDERAL COM #3H WELL
LOCATED 25 FEET FROM THE NORTH LINE
AND 1930 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: 03/18/2015	
APPROVED BY: CH	DRAWN BY: AF
FILE: 16-215	

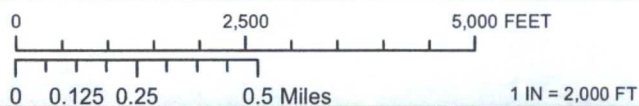


LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #3H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3276.2'
 STATE: NEW MEXICO COUNTY: LEA 25' FNL & 1930' FWL
 W.O. # 15-206 LEASE: TEN GALLON FED COM SURVEY: N.M.P.M



LOCATION MAP IMAGERY 03/19/2015 A.F

CONCHO
 COG OPERATING, LLC

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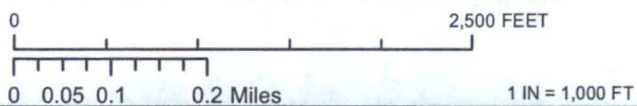


LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #3H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3276.2'
 STATE: NEW MEXICO COUNTY: LEA 25' FNL & 1930' FWL
 W.O. # 15-206 DEERSTALKER FED COM SURVEY: N.M.P.M

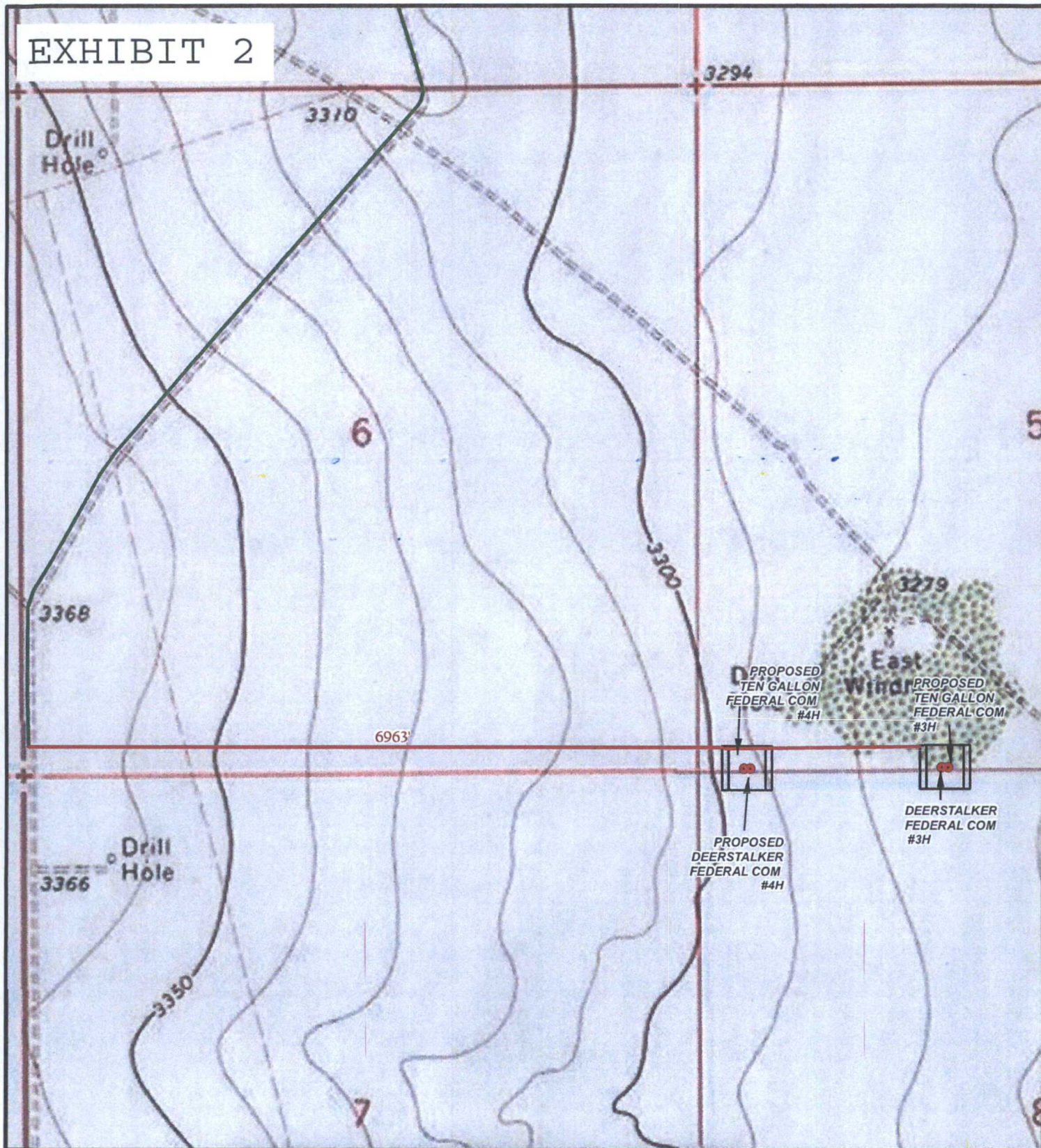


LOCATION MAP IMAGERY ROAD 03/19/2015 A.F

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EXHIBIT 2



LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #3H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3276.2'
 STATE: NEW MEXICO COUNTY: LEA 25' FNL & 1930' FWL
 W.O. # 15-206 DEERSTALKER FED COM SURVEY: N.M.P.M

0 2,500 FEET

0 0.05 0.1 0.2 Miles

1 IN = 1,000 FT

LOCATION MAP

TOPO ROAD

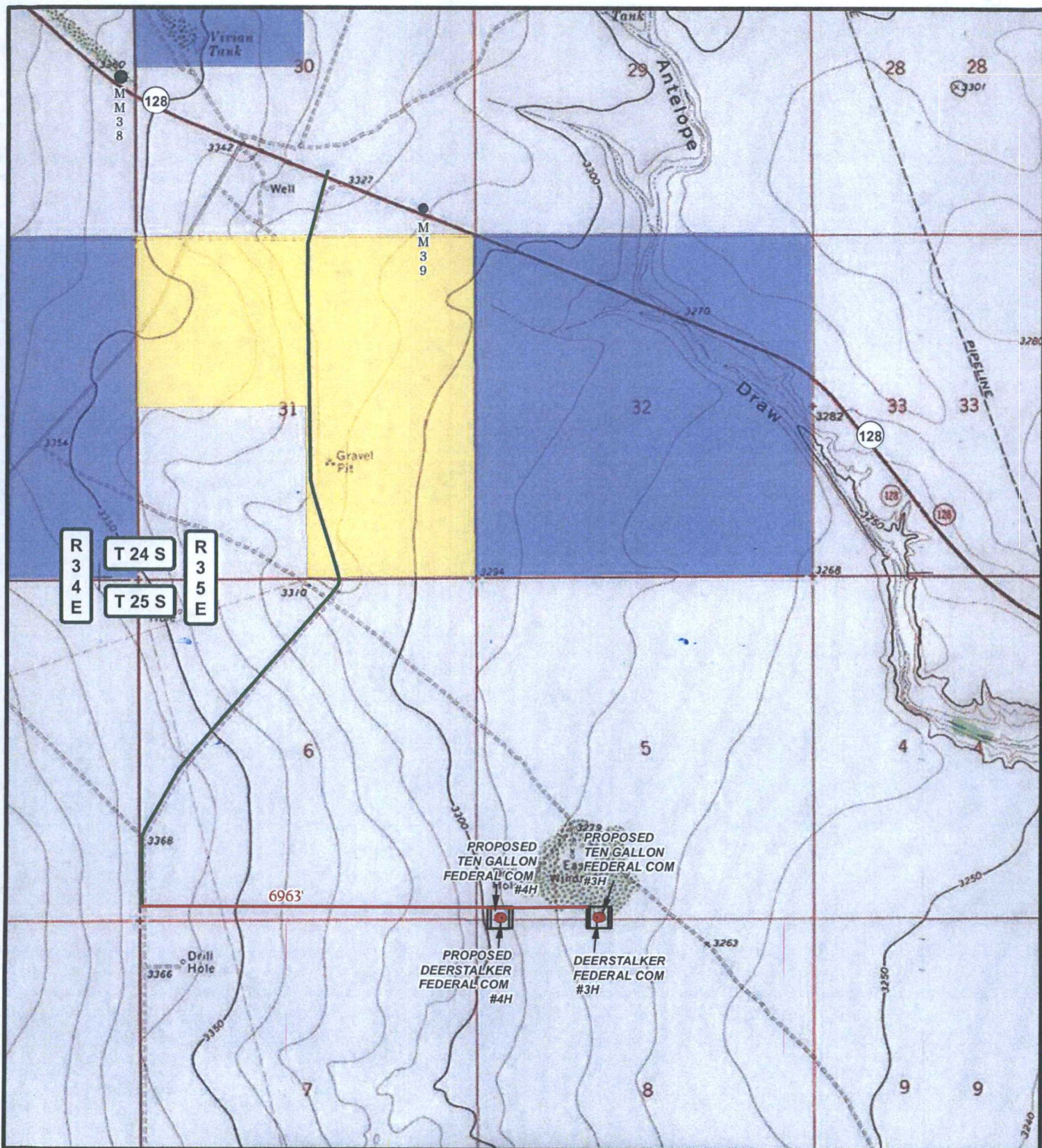
03/19/2015

A.F

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LEGEND

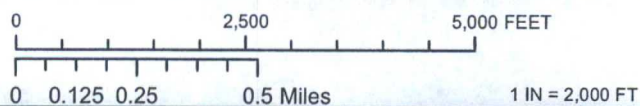
- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD
- PRIVATE
- STATE OF NM
- US BLM

DEERSTALKER FEDERAL COM #3H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3276.2'

STATE: NEW MEXICO COUNTY: LEA 25' FNL & 1930' FWL

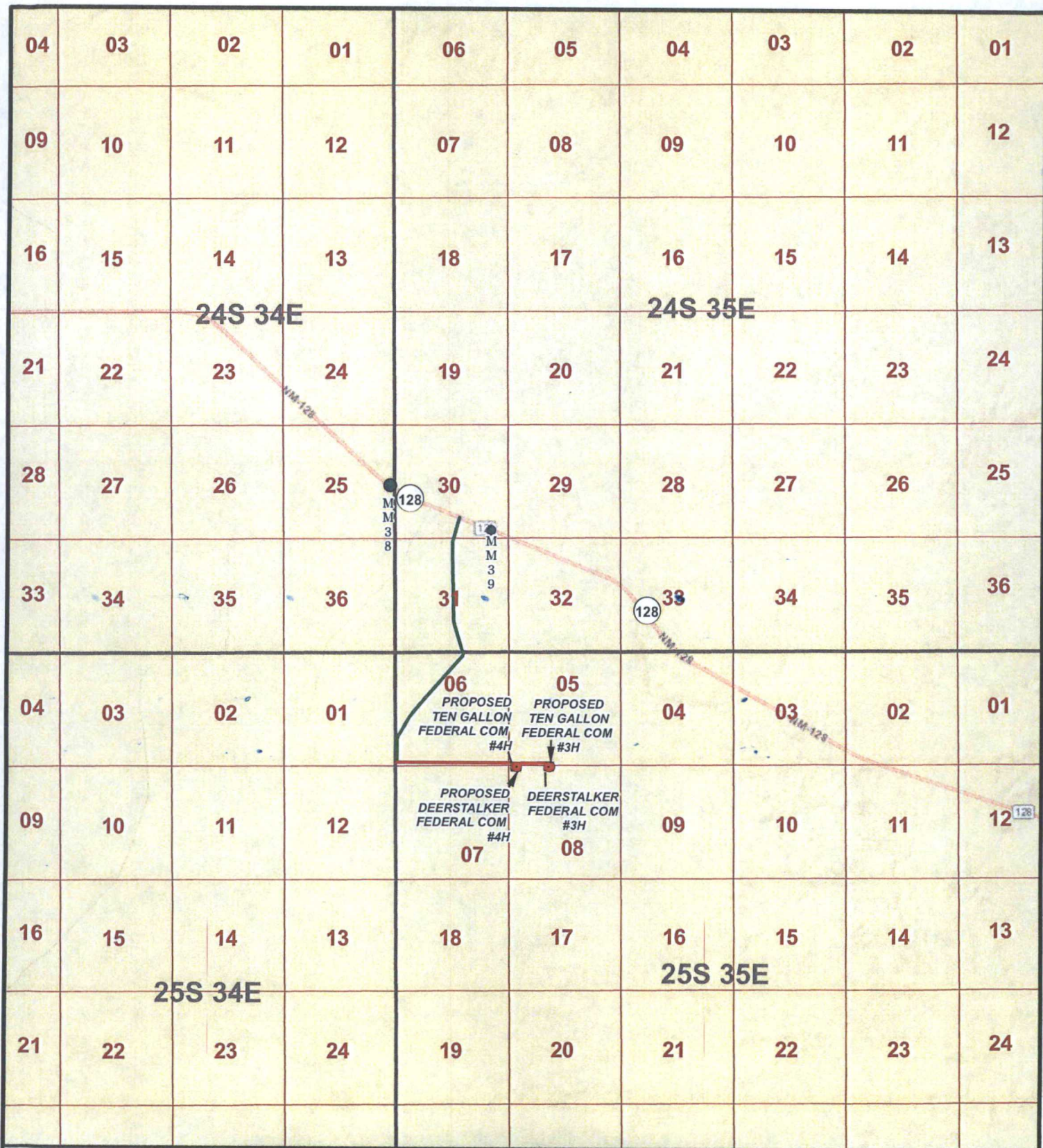
W.O. # 15-206 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M



LOCATION MAP LANDSTATUS 03/19/2015 A.F

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LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

DEERSTALKER FEDERAL COM #3H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3276.2'

STATE: NEW MEXICO COUNTY: LEA 25' FNL & 1880' FWL

W.O. # 15-206 LEASE: DEERSTALKER FED COM SURVEY: N.M.P.M

0 2,500 5,000 7,500 10,000 12,500 15,000 FEET

0 0.4 0.8 1.6 Miles

1 IN = 6,000 FT

VICINITY MAP

03/19/2015

A.F



COG OPERATING, LLC

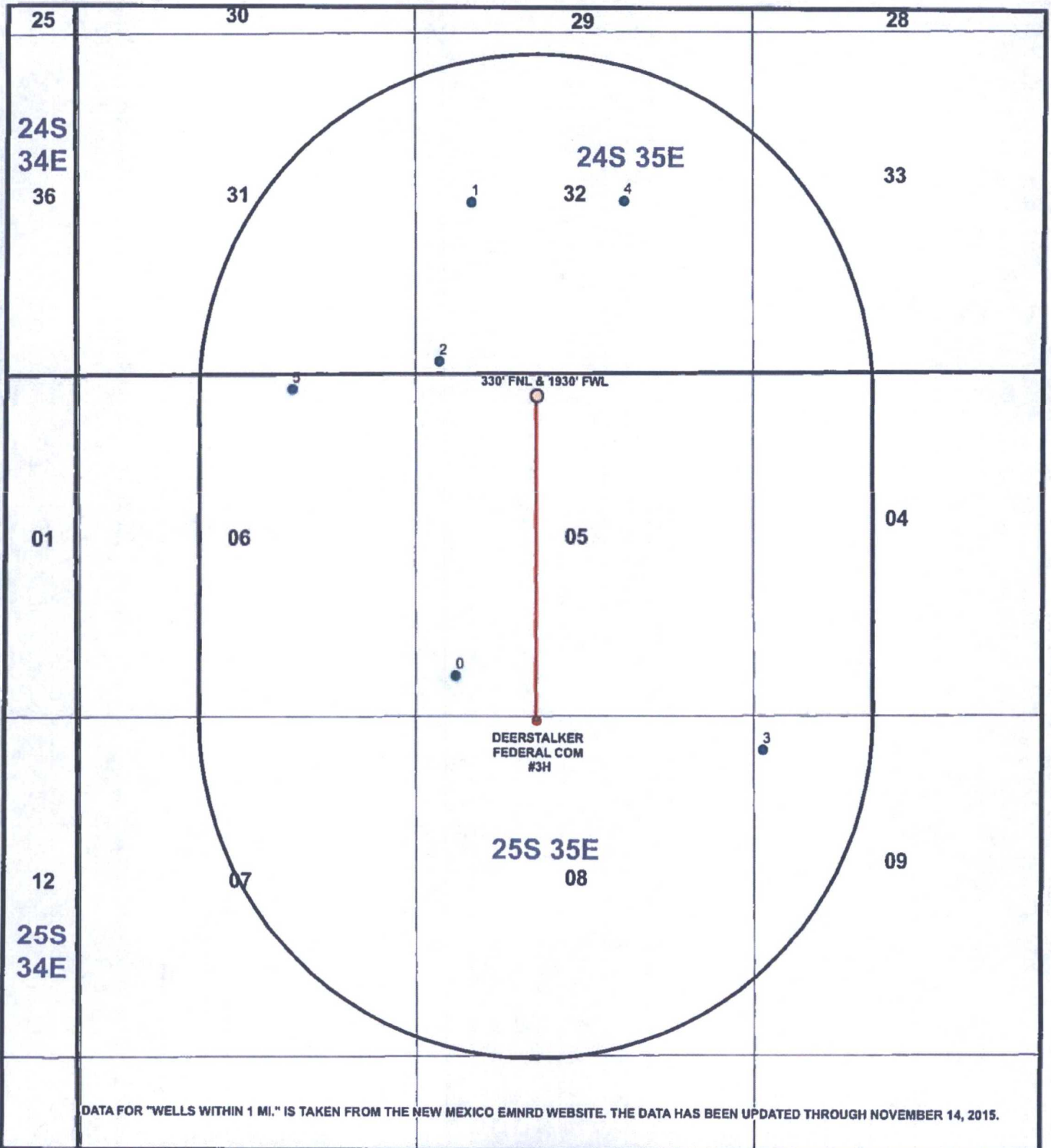


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LEGEND

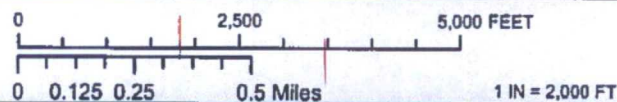
- WELL
- BOTTOMHOLE
- WELLS WITHIN 1 MI.
- 1 MI. BUFFER

DEERSTALKER FEDERAL COM #3H

SEC: 08 TWP: 25 S. RGE: 35 E. ELEVATION: 3276.2'

STATE: NEW MEXICO COUNTY: LEA 25' FNL & 1930' FWL

W.O. # 15-206 LEASE: TEN GALLON FED COM SURVEY: N.M.P.M.



LOCATION MAP

IMAGERY

12/10/2015

A.F

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COG OPERATING, LLC

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charcrow@harcrowsurveying.com

Deerstalker Federal Com #3H

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	25.05	35E	660 S	660 S	660 W		5600	Plugged
	1 Point	COG OPERATING LLC	SKULL CAP STATE 004H	32.167204	-103.396781	3002542179	32	24.05	35E	190 S	190 S	380 W		0	New (Not drilled or compl)
	2 Point	COG OPERATING LLC	SKULL CAP STATE 005	32.174037	-103.395164	3002542178	32	24.05	35E	2610 N	2610 N	880 W		0	
	3 Point	COG OPERATING LLC	FEZ FEE 011H	32.150795	-103.380384	3002542347	9	25.05	35E	480 N	480 N	190 W		0	New (Not drilled or compl)

COG Operating, LLC

Lea County, NM

Sec 8, T25-S, R35-E

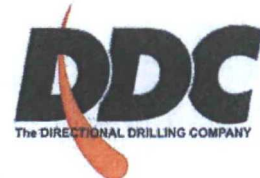
Deerstalker Federal COM #3H

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 #3H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3302.2usft (Scandril Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3302.2usft (Scandril Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal COM #3H	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 #3H		
Well Position	+N/-S	-9.3 usft	Northing: 420,282.30 usft
	+E/-W	-1,379.0 usft	Easting: 791,514.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 9' 7.082 N
		Longitude:	103° 23' 29.080 W
		Ground Level:	3,276.2 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	12/7/2015	7.03
			Dip Angle (°)
			60.05
			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 (°)
			359.77

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	
11,972.5	0.00	0.00	11,972.5	0.0	0.0	0.00	0.00	0.00	0.00	
12,721.3	89.86	359.77	12,450.0	476.3	-1.9	12.00	12.00	-0.03	359.77	
17,238.5	89.86	359.77	12,461.0	4,993.4	-20.2	0.00	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 #3H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3302.2usft (Scandril Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3302.2usft (Scandril Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal COM #3H	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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Company:	COG Operating, LLC	TVD Reference:	WELL @ 3302.2usft (Scandriil Freedom)
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Well:	Deerstalker Federal COM #3H	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 #3H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3302.2usft (Scandril Freedom)
Project:	Lea County, NM	MD Reference:	WELL @ 3302.2usft (Scandril Freedom)
Site:	Sec 8, T25-S, R35-E	North Reference:	Grid
Well:	Deerstalker Federal COM #3H	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	
Build 12°/100'										
11,972.5	0.00	0.00	11,972.5	0.0	0.0	0.0	0.00	0.00	0.00	
12,000.0	3.30	359.77	12,000.0	0.8	0.0	0.8	12.00	12.00	0.00	
12,100.0	15.30	359.77	12,098.5	16.9	-0.1	16.9	12.00	12.00	0.00	
12,200.0	27.30	359.77	12,191.5	53.2	-0.2	53.2	12.00	12.00	0.00	
12,300.0	39.30	359.77	12,274.9	108.0	-0.4	108.0	12.00	12.00	0.00	
12,400.0	51.30	359.77	12,345.1	178.9	-0.7	178.9	12.00	12.00	0.00	
12,500.0	63.30	359.77	12,399.1	262.9	-1.1	262.9	12.00	12.00	0.00	
12,600.0	75.30	359.77	12,434.3	356.3	-1.4	356.3	12.00	12.00	0.00	
12,700.0	87.30	359.77	12,449.4	455.0	-1.8	455.0	12.00	12.00	0.00	
EOB @ 89.86° Inc / 359.77° Azm / 12450' TVD										
12,721.3	89.86	359.77	12,450.0	476.3	-1.9	476.3	12.00	12.00	0.00	
12,800.0	89.86	359.77	12,450.2	555.0	-2.2	555.0	0.00	0.00	0.00	
12,900.0	89.86	359.77	12,450.4	655.0	-2.6	655.0	0.00	0.00	0.00	
13,000.0	89.86	359.77	12,450.6	755.0	-3.1	755.0	0.00	0.00	0.00	
13,100.0	89.86	359.77	12,450.9	855.0	-3.5	855.0	0.00	0.00	0.00	
13,200.0	89.86	359.77	12,451.1	955.0	-3.9	955.0	0.00	0.00	0.00	
13,300.0	89.86	359.77	12,451.4	1,055.0	-4.3	1,055.0	0.00	0.00	0.00	
13,400.0	89.86	359.77	12,451.6	1,155.0	-4.7	1,155.0	0.00	0.00	0.00	
13,500.0	89.86	359.77	12,451.9	1,255.0	-5.1	1,255.0	0.00	0.00	0.00	
13,600.0	89.86	359.77	12,452.1	1,355.0	-5.5	1,355.0	0.00	0.00	0.00	
13,700.0	89.86	359.77	12,452.4	1,454.9	-5.9	1,455.0	0.00	0.00	0.00	
13,800.0	89.86	359.77	12,452.6	1,554.9	-6.3	1,555.0	0.00	0.00	0.00	
13,900.0	89.86	359.77	12,452.8	1,654.9	-6.7	1,655.0	0.00	0.00	0.00	
14,000.0	89.86	359.77	12,453.1	1,754.9	-7.1	1,755.0	0.00	0.00	0.00	
14,100.0	89.86	359.77	12,453.3	1,854.9	-7.5	1,855.0	0.00	0.00	0.00	
14,200.0	89.86	359.77	12,453.6	1,954.9	-7.9	1,955.0	0.00	0.00	0.00	
14,300.0	89.86	359.77	12,453.8	2,054.9	-8.3	2,055.0	0.00	0.00	0.00	
14,400.0	89.86	359.77	12,454.1	2,154.9	-8.7	2,155.0	0.00	0.00	0.00	
14,500.0	89.86	359.77	12,454.3	2,254.9	-9.1	2,255.0	0.00	0.00	0.00	
14,600.0	89.86	359.77	12,454.6	2,354.9	-9.5	2,355.0	0.00	0.00	0.00	
14,700.0	89.86	359.77	12,454.8	2,454.9	-9.9	2,455.0	0.00	0.00	0.00	
14,800.0	89.86	359.77	12,455.0	2,554.9	-10.3	2,555.0	0.00	0.00	0.00	
14,900.0	89.86	359.77	12,455.3	2,654.9	-10.7	2,655.0	0.00	0.00	0.00	
15,000.0	89.86	359.77	12,455.5	2,754.9	-11.1	2,755.0	0.00	0.00	0.00	
15,100.0	89.86	359.77	12,455.8	2,854.9	-11.5	2,855.0	0.00	0.00	0.00	
15,200.0	89.86	359.77	12,456.0	2,954.9	-12.0	2,955.0	0.00	0.00	0.00	
15,300.0	89.86	359.77	12,456.3	3,054.9	-12.4	3,055.0	0.00	0.00	0.00	
15,400.0	89.86	359.77	12,456.5	3,154.9	-12.8	3,155.0	0.00	0.00	0.00	
15,500.0	89.86	359.77	12,456.8	3,254.9	-13.2	3,255.0	0.00	0.00	0.00	
15,600.0	89.86	359.77	12,457.0	3,354.9	-13.6	3,355.0	0.00	0.00	0.00	
15,700.0	89.86	359.77	12,457.2	3,454.9	-14.0	3,455.0	0.00	0.00	0.00	

HP Well Planning Report



Database: Compass
Company: COG Operating, LLC
Project: Lea County, NM
Site: Sec 8, T25-S, R35-E
Well: Deerstalker Federal COM #3H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Deerstalker Federal COM #3H
TVD Reference: WELL @ 3302.2usft (Scandril Freedom)
MD Reference: WELL @ 3302.2usft (Scandril Freedom)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

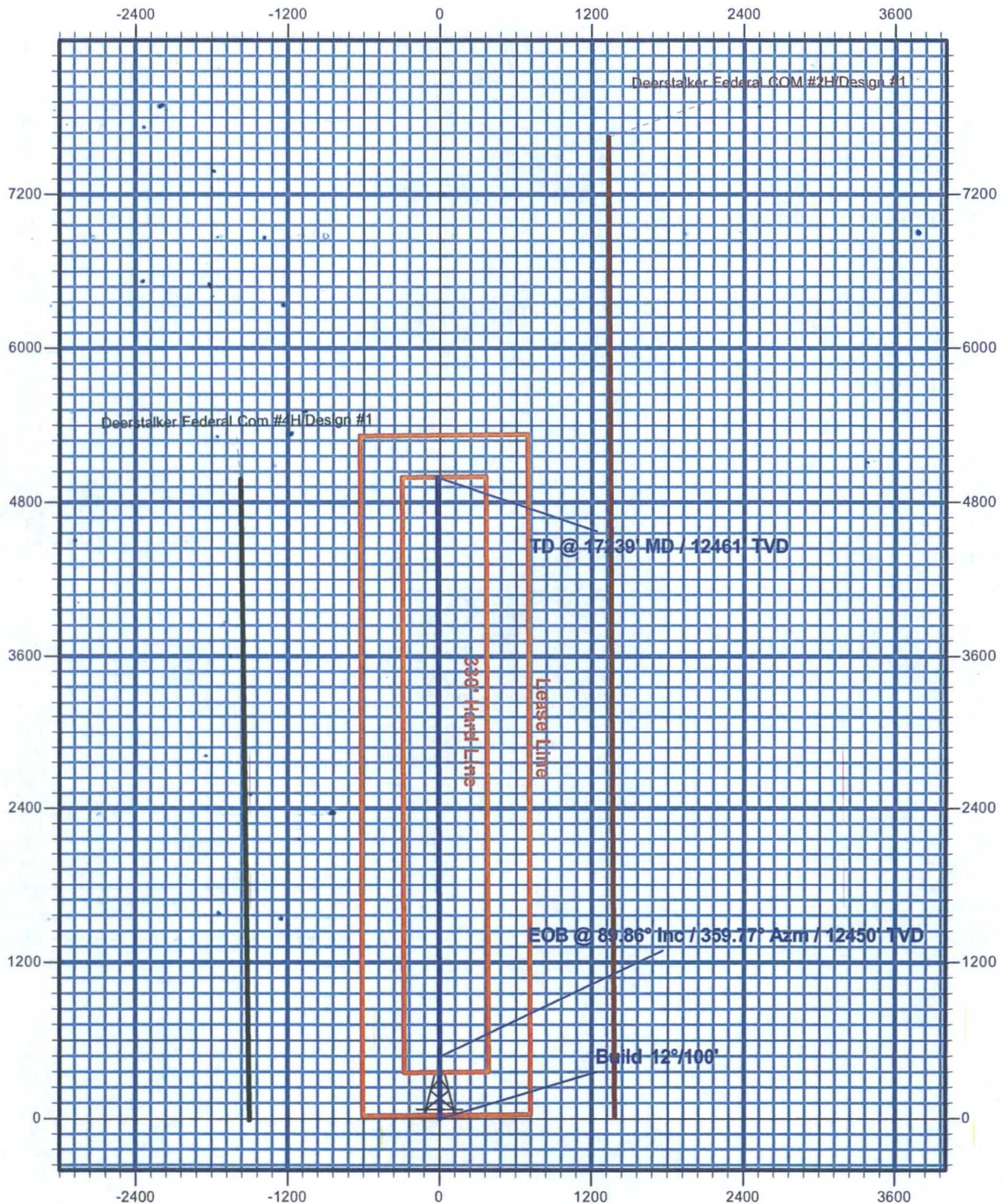
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,800.0	89.86	359.77	12,457.5	3,554.9	-14.4	3,555.0	0.00	0.00	0.00
15,900.0	89.86	359.77	12,457.7	3,654.9	-14.8	3,655.0	0.00	0.00	0.00
16,000.0	89.86	359.77	12,458.0	3,754.9	-15.2	3,755.0	0.00	0.00	0.00
16,100.0	89.86	359.77	12,458.2	3,854.9	-15.6	3,855.0	0.00	0.00	0.00
16,200.0	89.86	359.77	12,458.5	3,954.9	-16.0	3,955.0	0.00	0.00	0.00
16,300.0	89.86	359.77	12,458.7	4,054.9	-16.4	4,055.0	0.00	0.00	0.00
16,400.0	89.86	359.77	12,459.0	4,154.9	-16.8	4,155.0	0.00	0.00	0.00
16,500.0	89.86	359.77	12,459.2	4,254.9	-17.2	4,255.0	0.00	0.00	0.00
16,600.0	89.86	359.77	12,459.4	4,354.9	-17.6	4,355.0	0.00	0.00	0.00
16,700.0	89.86	359.77	12,459.7	4,454.9	-18.0	4,455.0	0.00	0.00	0.00
16,800.0	89.86	359.77	12,459.9	4,554.9	-18.4	4,555.0	0.00	0.00	0.00
16,900.0	89.86	359.77	12,460.2	4,654.9	-18.8	4,655.0	0.00	0.00	0.00
17,000.0	89.86	359.77	12,460.4	4,754.9	-19.2	4,755.0	0.00	0.00	0.00
17,100.0	89.86	359.77	12,460.7	4,854.9	-19.6	4,855.0	0.00	0.00	0.00
17,200.0	89.86	359.77	12,460.9	4,954.9	-20.0	4,955.0	0.00	0.00	0.00
TD @ 17239' MD / 12461' TVD									
17,238.5	89.86	359.77	12,461.0	4,993.4	-20.2	4,993.4	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 Fed	0.00	0.00	12,461.0	4,993.4	-20.2	425,275.70	791,493.80	32° 9' 56.494 N	103° 23' 28.807 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,972.5	11,972.5	0.0	0.0	Build 12°/100'
12,721.3	12,450.0	476.3	-1.9	EOB @ 89.86° Inc / 359.77° Azm / 12450' TVD
17,238.5	12,461.0	4,993.4	-20.2	TD @ 17239' MD / 12461' TVD

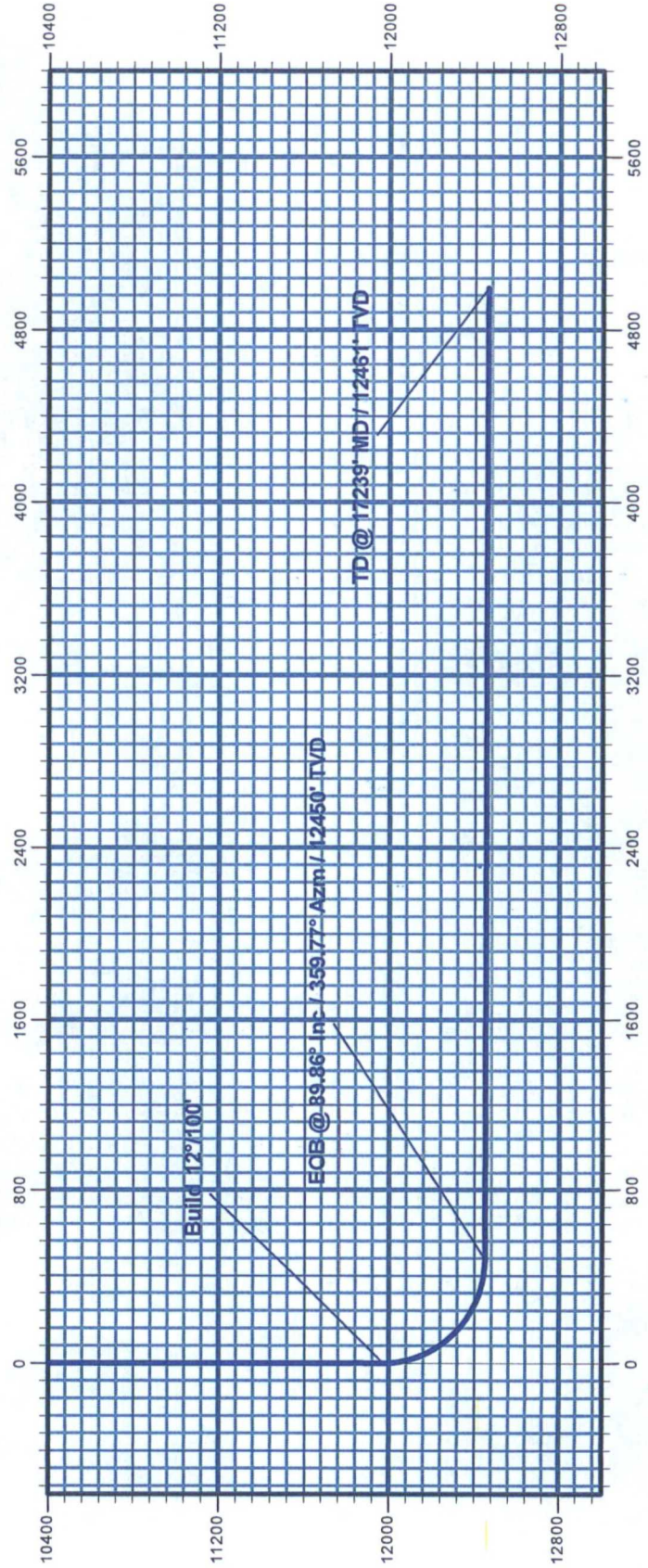




Lea County, NM

Deerstalker Federal COM #3H

Design #1



Run Time: 07:35 AM

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTRun Date: 12/10/2015
Page 1 of 1

LLD ACREAGE REPORT

Admin State: NM

Geo State: NM

MTR: 23 0250S 0350E

Section: 005

<u>Sur Type</u>	<u>Sur No</u>	<u>Lld Suff</u>	<u>NE</u> <u>NW</u> <u>SW</u> <u>SE</u> <u>NNSS</u> <u>NNSS</u> <u>NNSS</u> <u>NNSS</u> <u>EWWE</u> <u>EWWE</u> <u>EWWE</u> <u>EWWE</u>	<u>Sur Note</u>	<u>Dup</u> <u>Flg</u>	<u>Sub</u> <u>Surf</u>	<u>Acreage</u>
A			--XX --XX XXXX XXXX				480.000
L	1		X---				40.820
L	2		-X--				40.700
L	3		----	X---			40.580
L	4		----	-X--			40.460

Section 005 Total: 642.560

MTR Total Excluding Survey Notes C/D/R
and Sub Surf = Y 642.560Grand Total Excluding Survey Notes C/D/R
and Sub Surf = Y: 642.560



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(R=POD has been replaced,
O=orphaned,

C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 02296	CUB	LE		1	3	2	18	25S	35E	650398	3556305*	300	230	70
C 02297	CUB	LE		2	2	1	21	25S	35E	653436	3555140*	300	230	70
C 02298	CUB	LE		2	2	1	21	25S	35E	653436	3555140*	250	205	45
C 02388		LE					3 05	25S	35E	651467	3558832*	180	165	15
CP 00178		LE		2	1	1	24	25S	35E	657867	3555206*	240		
CP 00183		LE		4	2	3	13	25S	35E	658256	3555818*	240		

Average Depth to Water: **207 feet**

Minimum Depth: **165 feet**

Maximum Depth: **230 feet**

Record Count: 6

PLSS Search:

Township: 25S

Range: 35E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



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

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

(R=POD has
been replaced,

O=orphaned,

C=the file is (quarters are 1=NW 2=NE 3=SW 4=SE)

closed) (quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD		Q Q Q						X	Y	Depth Well	Depth Water	Water Column	
	Sub-Code	basin	County	64	16	4	Sec	Tws						Rng
C 02388			LE			3	05	25S	35E	651467	3558832*	180	165	15

Average Depth to Water: **165 feet**

Minimum Depth: **165 feet**

Maximum Depth: **165 feet**

Record Count: 1

PLSS Search:

Section(s): 5

Township: 25S

Range: 35E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



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

No records found.

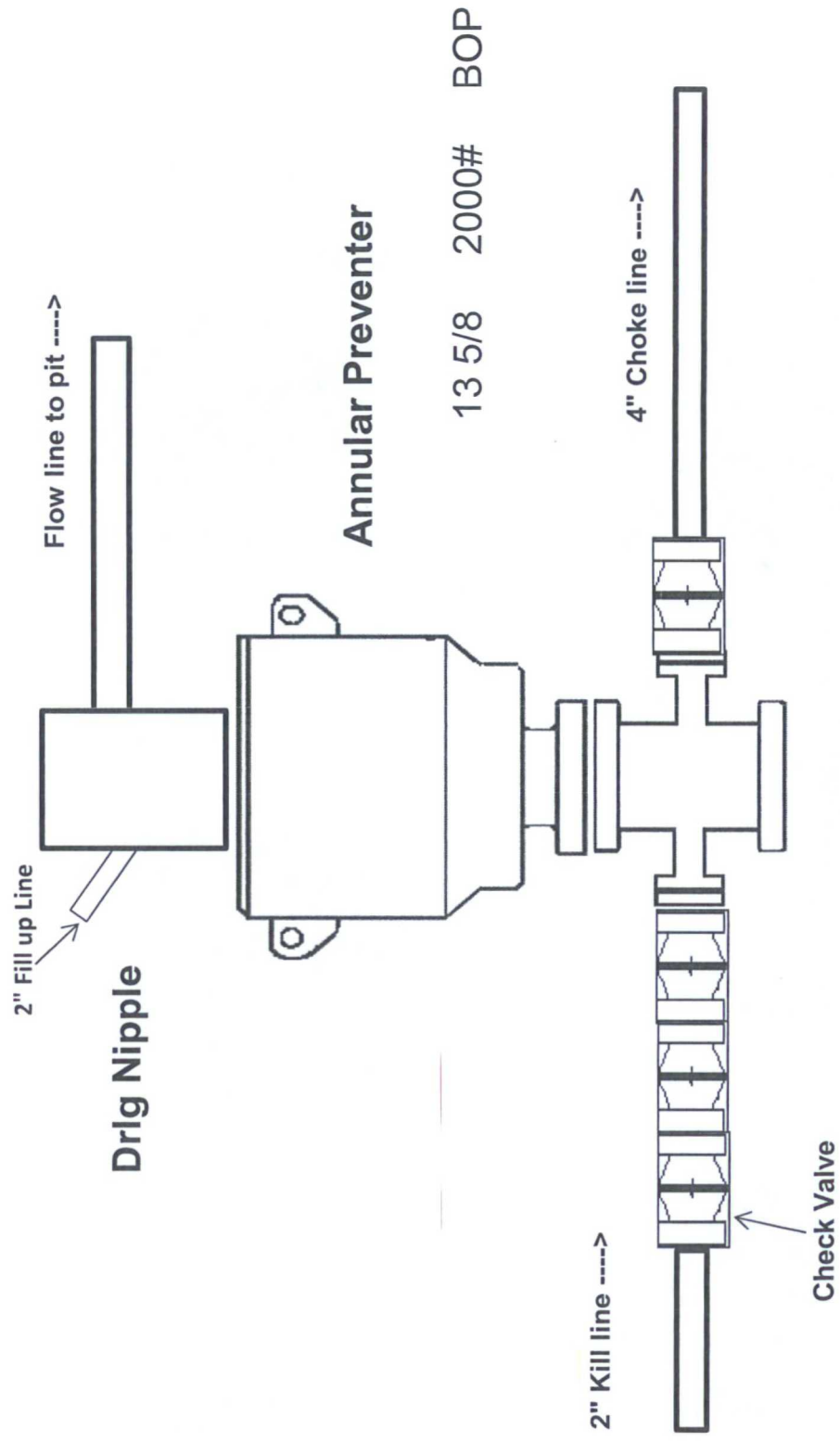
PLSS Search:

Section(s): 8

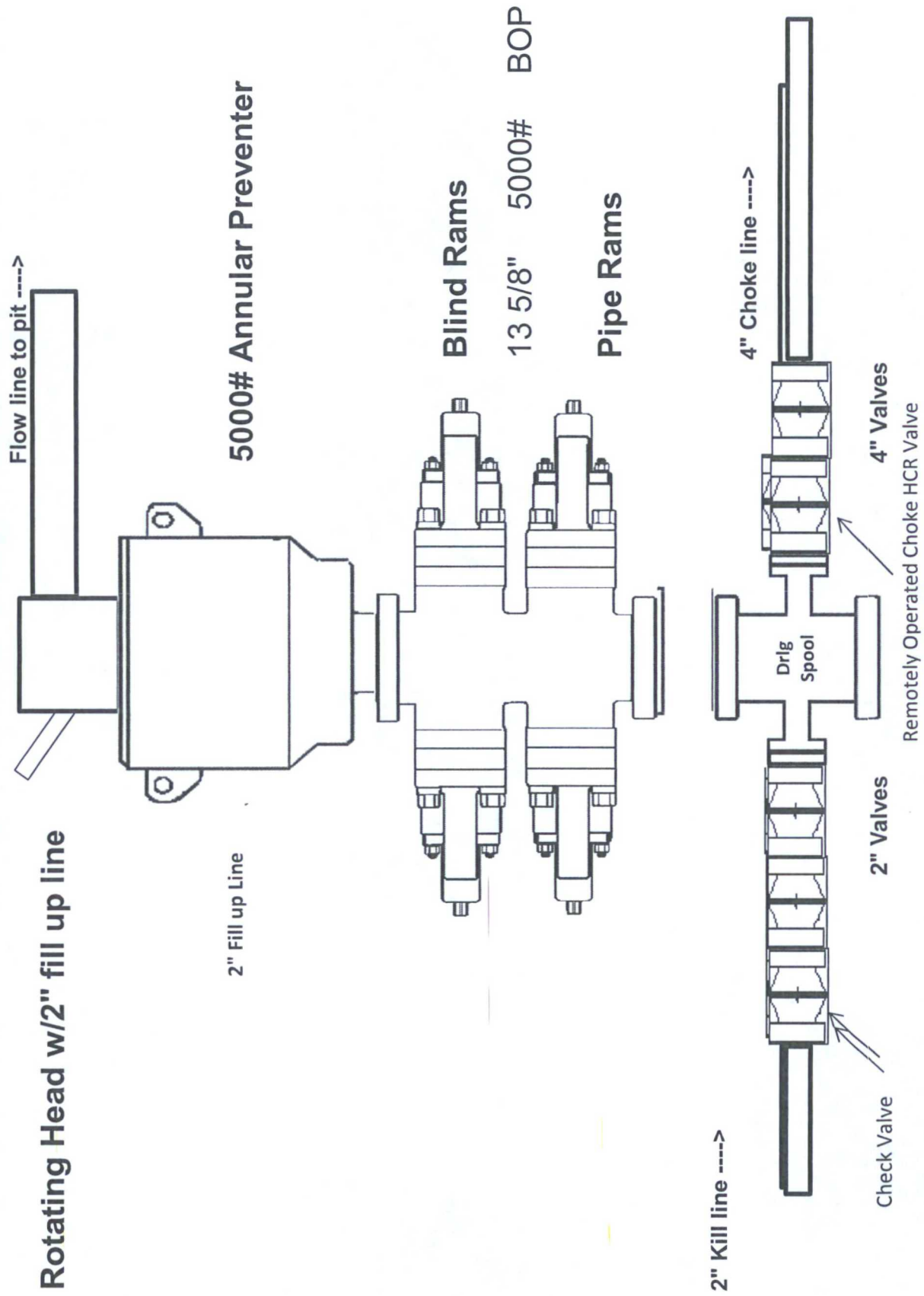
Township: 25S

Range: 35E

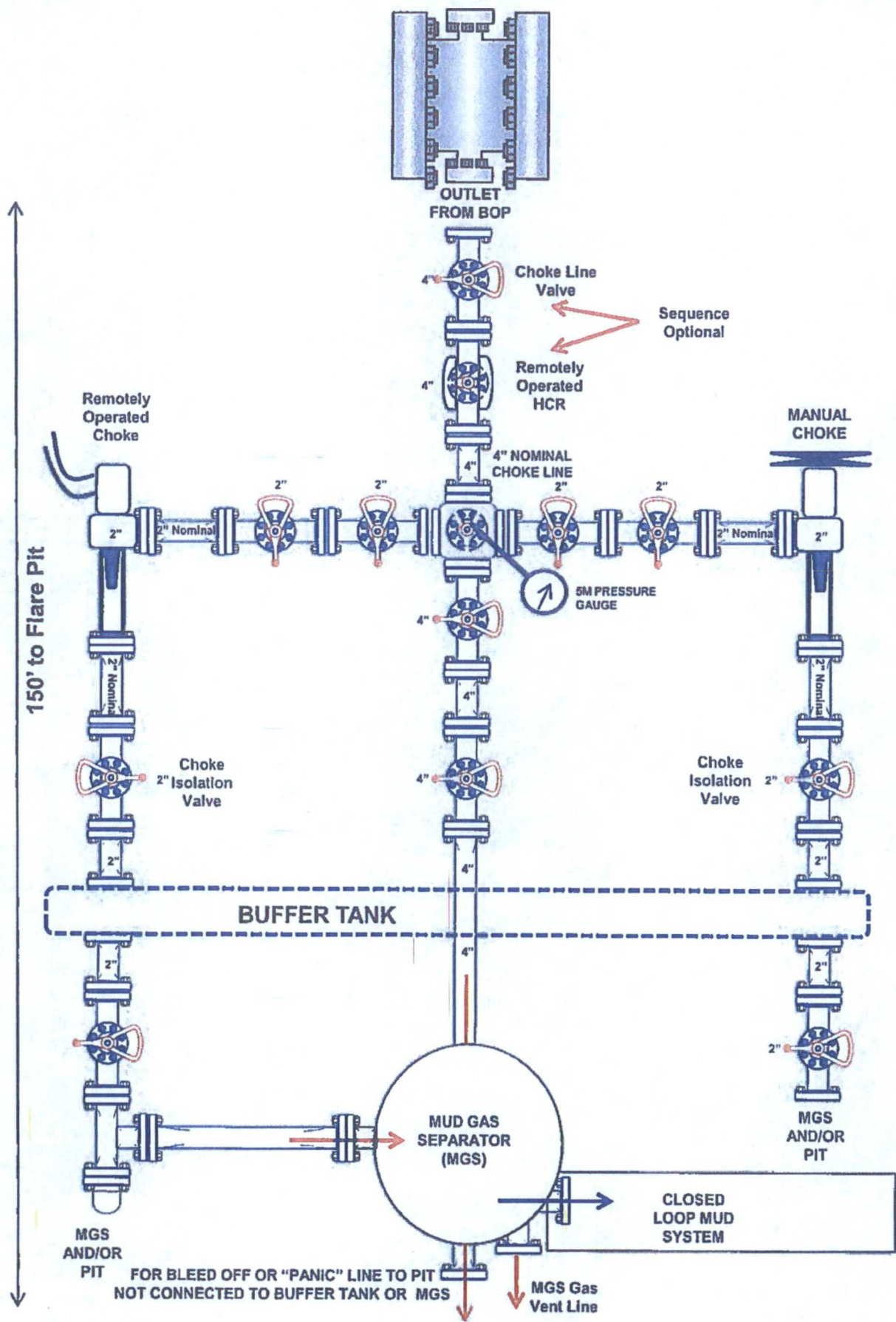
2,000 psi BOP Schematic



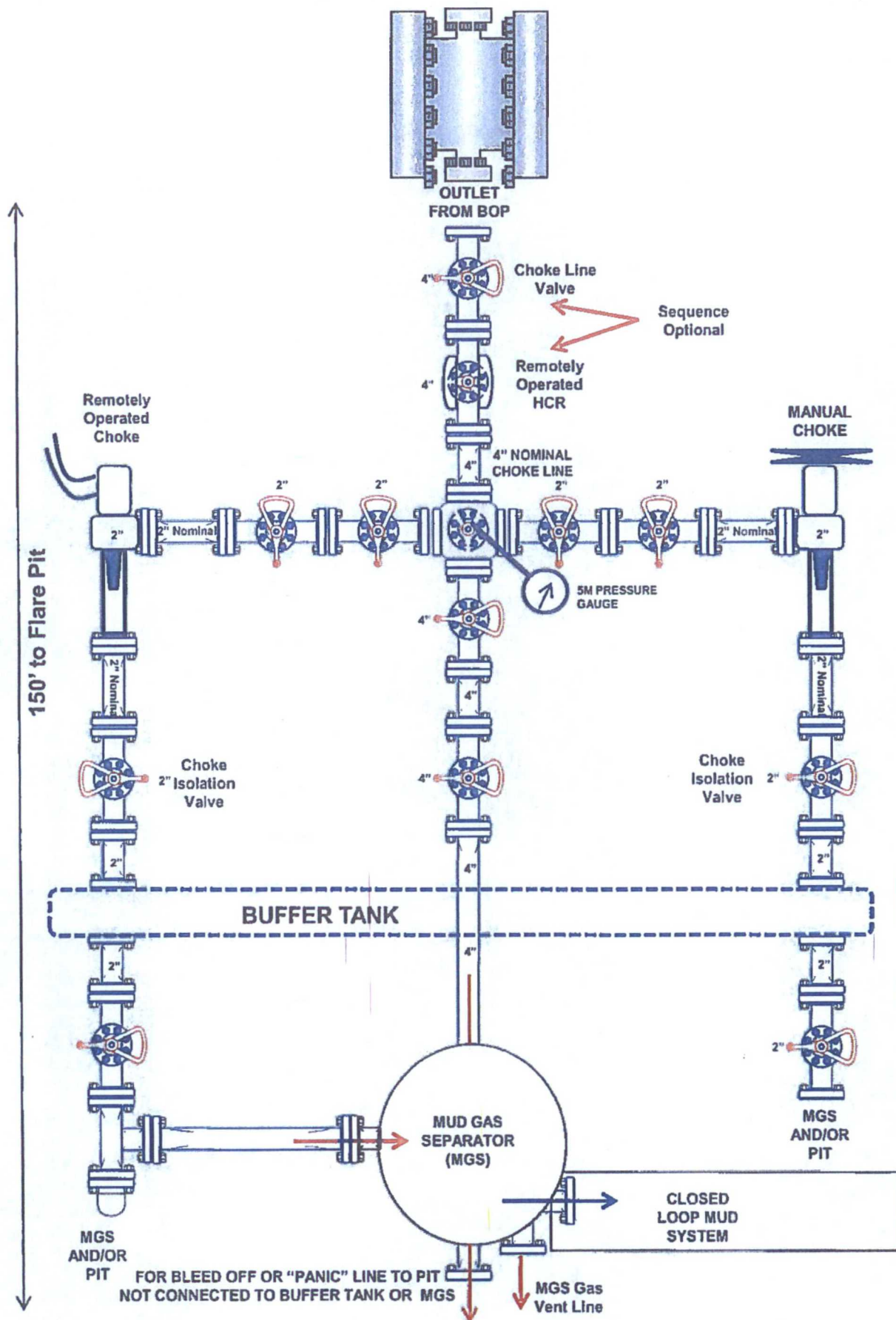
5,000 psi BOP Schematic



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



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

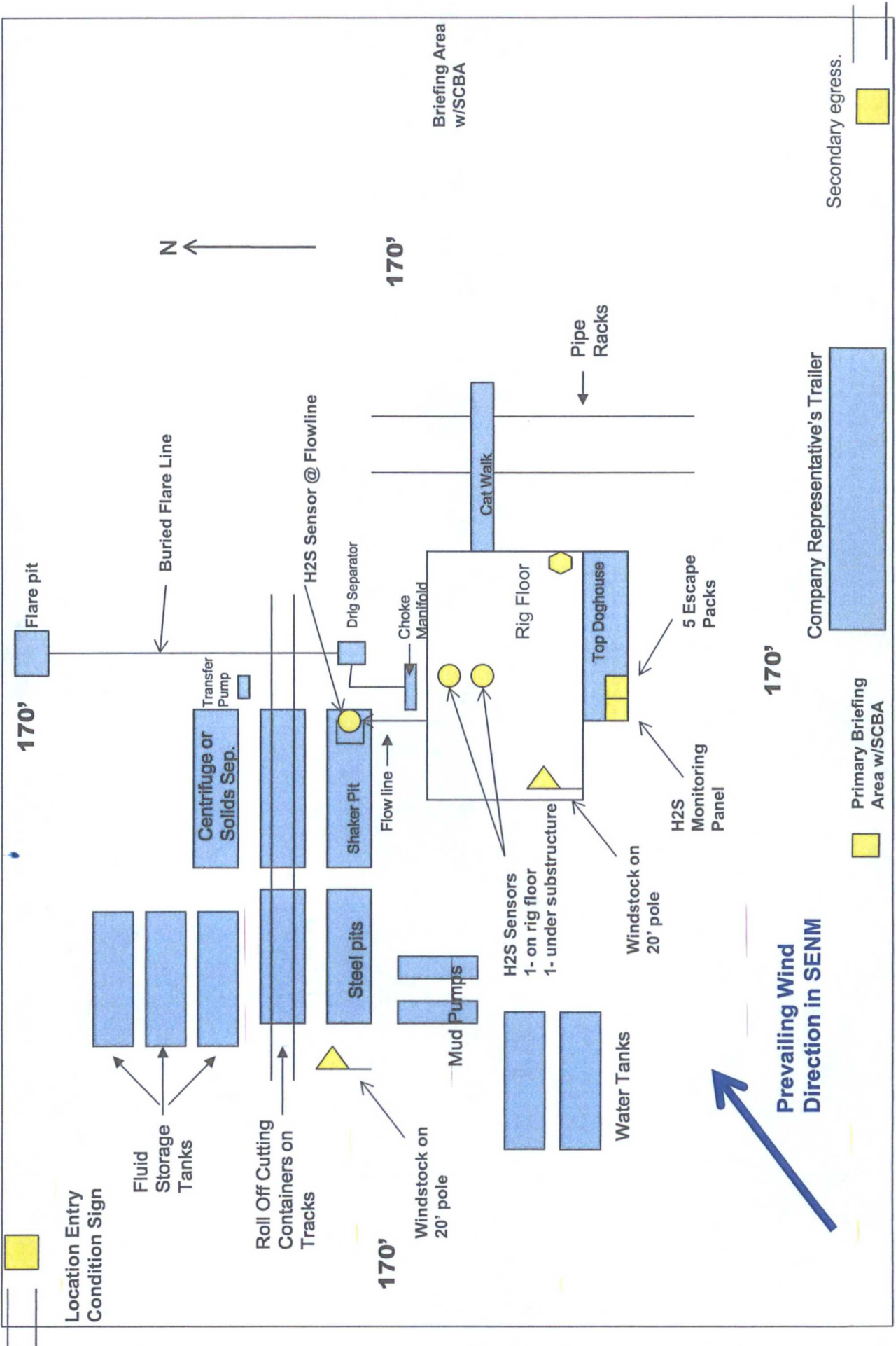


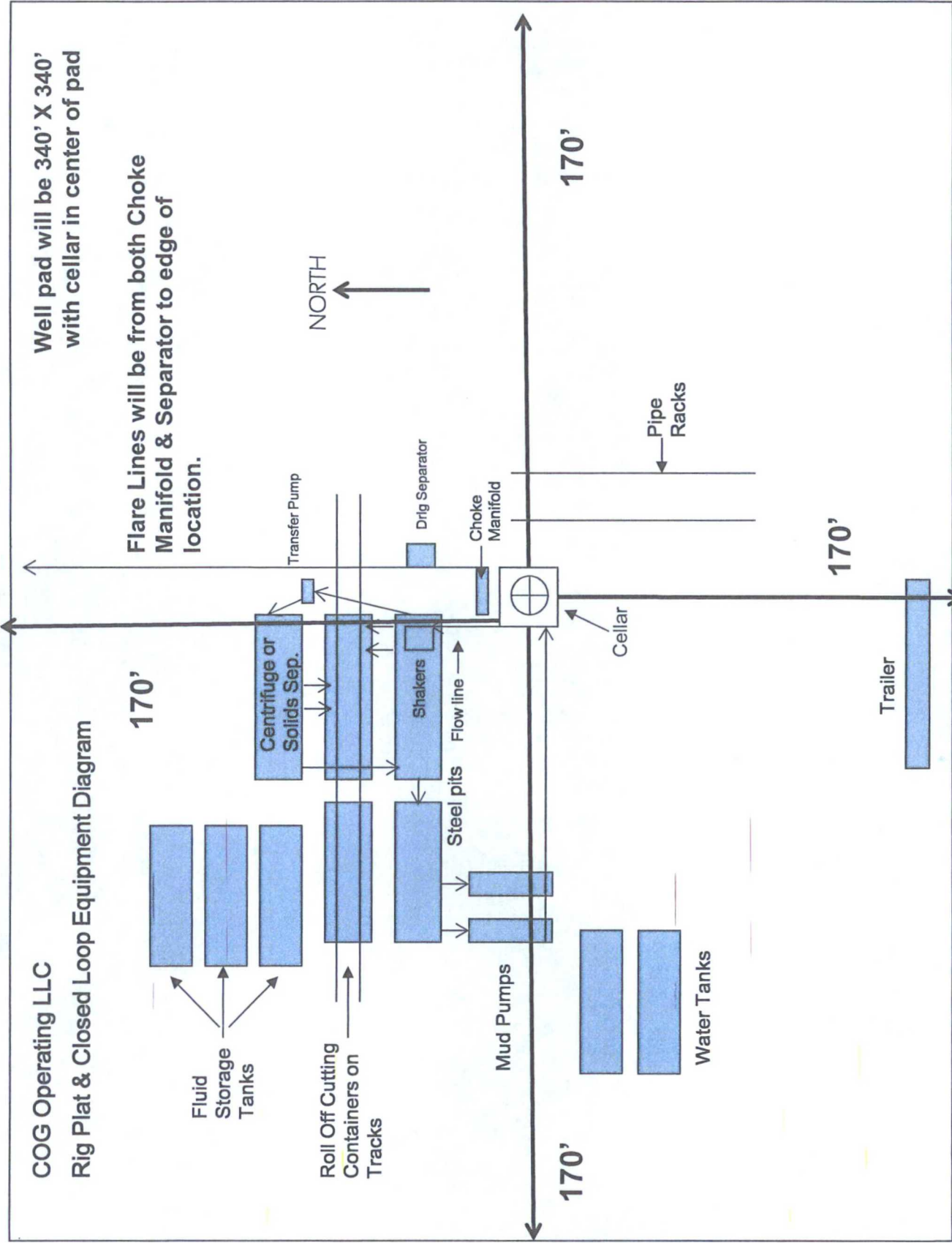
COG Operating LLC

H₂S Equipment Schematic

Terrain: Shinnery sand hills.

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





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