ATS-12-820

Form 3160-3
(August 2007)

RECEIVED
DEC 27 2012
NMOCD ARTESIA
OCD Artesia

FORM APPROVED
OMB No. 1004-013
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM 014778

6. If Indian, Allotee or Tribe Name: TES 1/2/2013

1a. Type of Work: [✓] DRILL [ ] REENTER

7. If Unit or CA Agreement, Name and No.:

1b. Type of Well: [✓] Oil Well [ ] Gas Well [ ] Other [✓] Single Zone [ ] Multiple Zone

8. Lease Name and Well No. <39607>: Mescal 22 Federal #3H

2. Name of Operator: COG Production LLC. <229137>

9. API Well No.: 30-015-40929

3a. Address: 2208 West Main Street, Artesia, NM 88210

3b. Phone No. *(include area code)*: 575-748-6940

10. Field and Pool, or Exploratory <96217>: Willow Lake; Bone Spring SE

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: 380 FNL & 190' FEL Unit Letter A (NENE) Section 22-T25S-R29E

At proposed prod. Zone: 380' FNL & 330' FWL Unit Letter D (NWNW) Section 22-T25S-R29E

11. Sec., T.R.M. or Blk and Survey or Area: Section 22-T25S-R29E

14. Distance in miles and direction from nearest town or post office*: About 7 miles from Malaga

12. County or Parish: Eddy

13. State: New Mexico

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. Unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
190'	1280	160
18. Distance from location* to nearest well, drilling, completed, applied for, on this lease, ft.		**20. BLM/BIA Bond No. on file**
710'	TVD: 7740' MD: 12334'	NMB000845 & NMB000860 ~~NMB000970~~
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3089'	12/27/2012	30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name *(Printed/Typed)*	Date
Mayte Reyes	Mayte Reyes	7/24/2012

Title: Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Don Peterson		DEC 21 2012
Title	**Office**	
FIELD MANAGER	CARLSBAD FIELD OFFICE	

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

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

COG Operating LLC
Mescal 22 Federal #3H
Section 22-T25S-R29E

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in the APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 15th day of October, 2012

Signed: Melanie Parker

Name : Melanie Parker

Position Title: Regulatory Coordinator

Address: 2208 West Main Street, Artesia, NM 88210

Telephone: 575-748-6940

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Date: July 24, 2012

Lease #: SHL: NMNM014778
Mescal 22 Federal #3H

Legal Description: Sec. 22– T25S – R29E
Eddy County, New Mexico

Formation(s): Lower Avalon Shale

Bond Coverage: Statewide

BLM Bond File #: ~~NMB006970~~ see Front page

COG PRODUCTION LLC

Mayte Reyes

Mayte Reyes

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 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) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and 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	Pool Code	Pool Name
30-015-40929	96217	Willow Lake; Bone Spring, SE

Property Code	Property Name	Well Number
39607	MESCAL 22 FEDERAL	3H

OGRID No.	Operator Name	Elevation
229137	COG OPERATING, LLC	3089'

Surface Location

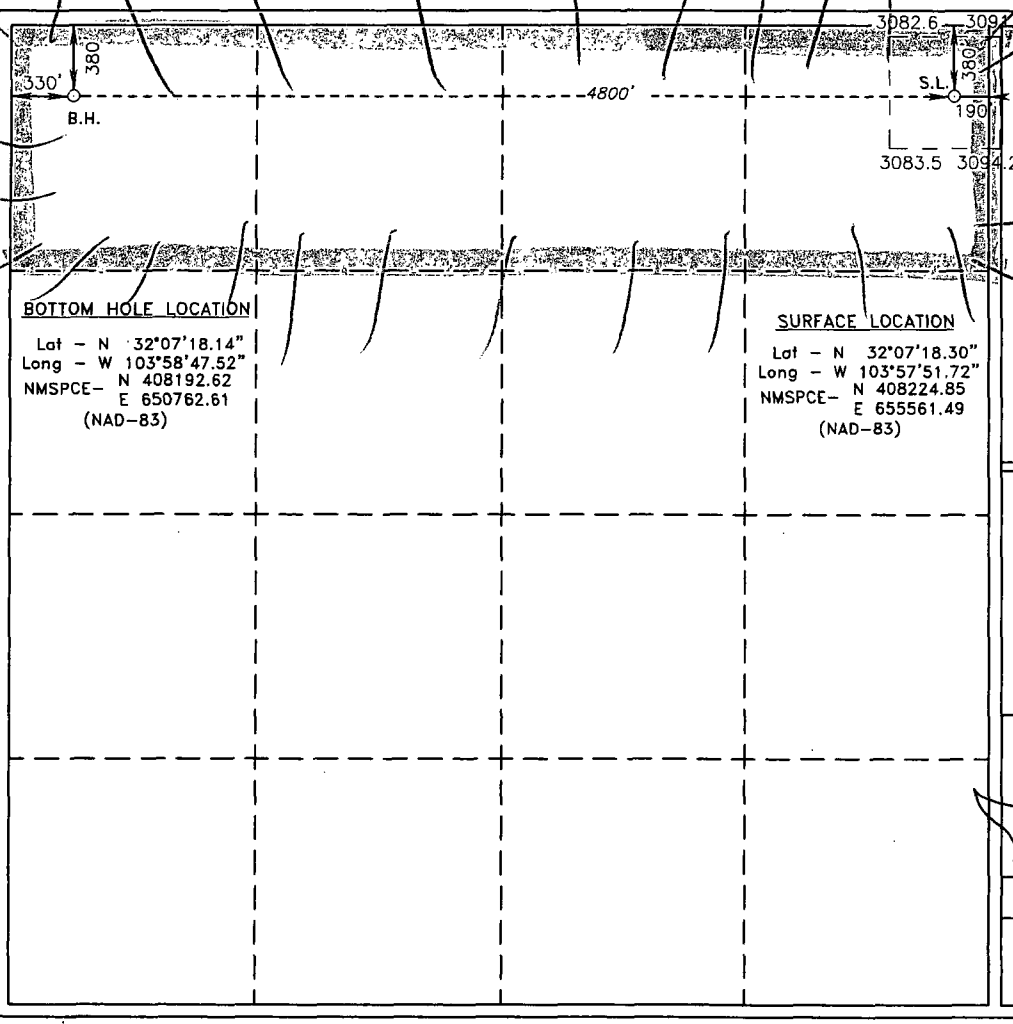
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	22	25 S	29 E		380	NORTH	190	EAST	EDDY

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
D	22	25 S	29 E		380	NORTH	330	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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 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 7-24-12 Date

Printed Name

Email 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 supervison, and that the same is true and correct to the best of my belief.

MAY 22, 2012

Date Surveyed

Signature & Seal of Professional Surveyor

NEW MEXICO 7977 REGISTERED PROFESSIONAL SURVEYOR

W.O. No. 26790

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 26790

COG Operating LLC
DRILLING AND OPERATIONS PROGRAM
Mescal 22 Fed #3H
SHL: 380' FNL & 190' FEL of Section 22
BHL: 380' FNL & 330' FWL of Section 22
Section 22 T25S R29E
Eddy County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill subject well, COG Operating LLC submits the following eleven items of pertinent information in accordance with BLM requirements.

1. Geological surface formation: Permian
2. The estimated tops of geologic markers & estimated depths at which anticipated water, oil or gas formations are expected to be encountered are as follows:

Water	60'	
Rustler	190'	
Top of Salt	1,690'	
Base of Salt	3,001'	
Delaware	3,201'	Oil
Bone Spring	6,963'	Oil
L Avalon Shale	7,557'	Oil
1st Bone Spring	7,885'	Oil
TD TVD	7,740'	
TD MD	12,334'	

No other formations are expected to give up oil, gas or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13-3/8" casing at ~~450'~~ and circulating cement back to surface. All intervals will be isolated by setting 5 ½" casing to total depth and tying back cement to a minimum of 500' into 9-5/8" csg.

3. Proposed Casing Program: All casing is new and API approved

Hole Size	Depths See COA	Section	OD Casing	New/ Used	Wt	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 ½"	0' - ~~450'~~ 695	Surface	13 3/8"	New	48#	STC	J-55	1.125	1.125	1.6
12 ¼"	0' – 3,215'	Intrmd	9 5/8"	New	36#	LTC	J-55	1.125	1.125	1.6
7 7/8"	0' – 12,334'	Production Curve & Lateral	5 ½"	New	17#	LTC	P-110	1.125	1.125	1.6

- While running all casing strings, the pipe will be kept a minimum of 1/3 full at all times to avoid approaching the collapse pressure of casing.

4. Proposed Cement Program

See COA

a. 13-3/8" Surface — Slurry: 350 sx Class C + 2% $CaCl_2$ (14.8 ppg / 1.34 cuft/sx) **Calculated w/50% excess on OH volumes

b. 9 5/8" Intermediate:
Lead: 575 sx Class C + 4% Gel + 2% $CaCl_2$ (13.5 ppg /1.75 cuft/sx)
Tail: 250 sx Class C + 2% $CaCl_2$ (14.8 ppg / 1.34 cuft/sx)
**Calculated w/35% excess on OH volumes

d. 5 ½" Production
Lead: 425 sx 50:50:10 H + Salt+Gilsonite+CFR-3+ HR601 (11.8 ppg / 2.5 cuft/sx)
Tail: 950 sx 50:50:2 H +Salt+GasStop +HR601 +CFR-3 (14.4 ppg /1.25 cuft/sx)
**Calculated w/35% excess on OH volumes

- The above cement volumes could be revised pending the caliper measurement from the open hole logs.
- The 9-5/8" intermediate string is designed to circulate to surface.
- The production string will at least tie back 500' into 9-5/8" shoe

5. Minimum Specifications for Pressure Control:

Nipple up on 13 3/8 with annular preventer tested to 50% of rating working pressure by independent tester and the rest of the 2M system tested to 2000 psi.
Nipple up on 9 5/8 with 3M system tested 3000 psi to by independent tester.
Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and a minimum 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

6. Estimated BHP:

Lateral TD = 3344 psi4

7. Mud Program: The applicable depths and properties of this system are as follows:

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' – ~~450'~~ 695	Fresh Water	8.4	29	N.C.
~~450'~~ – 3215'	Brine	10	29	N.C.
3215' – 12,334' (Lateral)	Cut Brine	8.8 – 9.2	29	N.C.

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

8. 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 the appropriate connections will be on the rig floor at all times.
c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 ½" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

9. Testing, Logging and Coring Program: See COA

a. Drill stem tests will be based on geological sample shows.
b. If open hole electrical logging is preformed, the program will be:
   i. Total Depth to Intermediate Casing: Dual Laterolog-Micro Laterolog and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
   ii. Total Depth to Surface: Compensated Neutron with Gamma Ray
   iii. No coring program is planned
   iv. Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

10. Potential Hazards:

a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. No H2S is anticipated to be encountered.

11. Anticipated starting date and Duration of Operations:

a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days.

COG Operating LLC

Eddy County, NM (NAD 83)
Mescal 22 Federal 3H
Mescal 22 Federal 3H

Wellbore #1

Plan: Plan #1

Standard Planning Report

12 July, 2012

Database:	Houston R5000 Database	**Local Co-ordinate Reference:**	Site Mescal 22 Federal 3H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3106.50ft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	WELL @ 3106.50ft (Original Well Elev)
Site:	Mescal 22 Federal 3H	**North Reference:**	Grid
Well:	Mescal 22 Federal 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project Eddy County, NM (NAD 83)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Mescal 22 Federal 3H

Site Position:		**Northing:**	408,224.85 ft	**Latitude:**	32.12174933
From:	Map	**Easting:**	655,561.49 ft	**Longitude:**	-103.96437163
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.20 °

Well Mescal 22 Federal 3H

Well Position	**+N/-S**	0.00 ft	**Northing:**	408,224.85 ft	**Latitude:**	32.12174933
	+E/-W	0.00 ft	**Easting:**	655,561.49 ft	**Longitude:**	-103.96437163
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	3,089.00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/12/2012	7.62	60.02	48,448

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	269.62

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,262.54	0.00	0.00	7,262.54	0.00	0.00	0.00	0.00	0.00	0.00	
8,015.86	90.40	269.62	7,740.00	-3.23	-480.77	12.00	12.00	0.00	269.62	
12,334.17	90.40	269.62	7,710.00	-32.23	-4,798.88	0.00	0.00	0.00	0.00	PBHL (Mescal 22 Fed

Database:	Houston R5000 Database	**Local Co-ordinate Reference:**	Site Mescal 22 Federal 3H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3106.50ft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	WELL @ 3106.50ft (Original Well Elev)
Site:	Mescal 22 Federal 3H	**North Reference:**	Grid
Well:	Mescal 22 Federal 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,262.54	0.00	0.00	7,262.54	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Start Build @ 12.00°/100'									
7,300.00	4.49	269.62	7,299.96	-0.01	-1.47	1.47	12.00	12.00	0.00
7,400.00	16.49	269.62	7,398.11	-0.13	-19.65	19.65	12.00	12.00	0.00
7,500.00	28.49	269.62	7,490.33	-0.39	-57.84	57.84	12.00	12.00	0.00
7,600.00	40.49	269.62	7,572.60	-0.77	-114.37	114.37	12.00	12.00	0.00
7,637.77	45.03	269.62	7,600.32	-0.94	-140.00	140.01	12.00	12.00	0.00
PP @ 7637.77 MD, 7600.32 TVD, 45.03 INC, 269.62 AZ, 140.01 VS									
7,700.00	52.49	269.62	7,641.32	-1.25	-186.76	186.77	12.00	12.00	0.00
7,800.00	64.49	269.62	7,693.48	-1.83	-271.87	271.87	12.00	12.00	0.00
7,900.00	76.49	269.62	7,726.81	-2.46	-365.95	365.96	12.00	12.00	0.00
8,000.00	88.49	269.62	7,739.84	-3.12	-464.91	464.92	12.00	12.00	0.00
8,015.86	90.40	269.62	7,740.00	-3.23	-480.77	480.78	12.00	12.00	0.00
Landing Point - Hold @ 90.40° INC, 269.62° AZ									
8,100.00	90.40	269.62	7,739.41	-3.79	-564.91	564.92	0.00	0.00	0.00
8,200.00	90.40	269.62	7,738.72	-4.47	-664.90	664.92	0.00	0.00	0.00
8,300.00	90.40	269.62	7,738.02	-5.14	-764.90	764.91	0.00	0.00	0.00
8,400.00	90.40	269.62	7,737.33	-5.81	-864.89	864.91	0.00	0.00	0.00
8,500.00	90.40	269.62	7,736.63	-6.48	-964.89	964.91	0.00	0.00	0.00
8,600.00	90.40	269.62	7,735.94	-7.15	-1,064.88	1,064.91	0.00	0.00	0.00
8,700.00	90.40	269.62	7,735.24	-7.82	-1,164.88	1,164.91	0.00	0.00	0.00
8,800.00	90.40	269.62	7,734.55	-8.50	-1,264.87	1,264.90	0.00	0.00	0.00
8,900.00	90.40	269.62	7,733.86	-9.17	-1,364.87	1,364.90	0.00	0.00	0.00
9,000.00	90.40	269.62	7,733.16	-9.84	-1,464.86	1,464.90	0.00	0.00	0.00
9,100.00	90.40	269.62	7,732.47	-10.51	-1,564.86	1,564.90	0.00	0.00	0.00
9,200.00	90.40	269.62	7,731.77	-11.18	-1,664.86	1,664.89	0.00	0.00	0.00
9,300.00	90.40	269.62	7,731.08	-11.85	-1,764.85	1,764.89	0.00	0.00	0.00
9,400.00	90.40	269.62	7,730.38	-12.52	-1,864.85	1,864.89	0.00	0.00	0.00
9,500.00	90.40	269.62	7,729.69	-13.20	-1,964.84	1,964.89	0.00	0.00	0.00
9,600.00	90.40	269.62	7,728.99	-13.87	-2,064.84	2,064.88	0.00	0.00	0.00
9,700.00	90.40	269.62	7,728.30	-14.54	-2,164.83	2,164.88	0.00	0.00	0.00
9,800.00	90.40	269.62	7,727.60	-15.21	-2,264.83	2,264.88	0.00	0.00	0.00
9,900.00	90.40	269.62	7,726.91	-15.88	-2,364.82	2,364.88	0.00	0.00	0.00
10,000.00	90.40	269.62	7,726.21	-16.55	-2,464.82	2,464.87	0.00	0.00	0.00
10,100.00	90.40	269.62	7,725.52	-17.23	-2,564.81	2,564.87	0.00	0.00	0.00
10,200.00	90.40	269.62	7,724.82	-17.90	-2,664.81	2,664.87	0.00	0.00	0.00
10,300.00	90.40	269.62	7,724.13	-18.57	-2,764.80	2,764.87	0.00	0.00	0.00
10,400.00	90.40	269.62	7,723.44	-19.24	-2,864.80	2,864.86	0.00	0.00	0.00
10,500.00	90.40	269.62	7,722.74	-19.91	-2,964.79	2,964.86	0.00	0.00	0.00
10,600.00	90.40	269.62	7,722.05	-20.58	-3,064.79	3,064.86	0.00	0.00	0.00
10,700.00	90.40	269.62	7,721.35	-21.26	-3,164.79	3,164.86	0.00	0.00	0.00
10,800.00	90.40	269.62	7,720.66	-21.93	-3,264.78	3,264.85	0.00	0.00	0.00
10,900.00	90.40	269.62	7,719.96	-22.60	-3,364.78	3,364.85	0.00	0.00	0.00
11,000.00	90.40	269.62	7,719.27	-23.27	-3,464.77	3,464.85	0.00	0.00	0.00
11,100.00	90.40	269.62	7,718.57	-23.94	-3,564.77	3,564.85	0.00	0.00	0.00
11,200.00	90.40	269.62	7,717.88	-24.61	-3,664.76	3,664.84	0.00	0.00	0.00
11,300.00	90.40	269.62	7,717.18	-25.28	-3,764.76	3,764.84	0.00	0.00	0.00
11,400.00	90.40	269.62	7,716.49	-25.96	-3,864.75	3,864.84	0.00	0.00	0.00
11,500.00	90.40	269.62	7,715.79	-26.63	-3,964.75	3,964.84	0.00	0.00	0.00
11,600.00	90.40	269.62	7,715.10	-27.30	-4,064.74	4,064.84	0.00	0.00	0.00
11,700.00	90.40	269.62	7,714.41	-27.97	-4,164.74	4,164.83	0.00	0.00	0.00
11,800.00	90.40	269.62	7,713.71	-28.64	-4,264.73	4,264.83	0.00	0.00	0.00
11,900.00	90.40	269.62	7,713.02	-29.31	-4,364.73	4,364.83	0.00	0.00	0.00

Planning Report

Database:	Houston R5000 Database	**Local Co-ordinate Reference:**	Site Mescal 22 Federal 3H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3106.50ft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	WELL @ 3106.50ft (Original Well Elev)
Site:	Mescal 22 Federal 3H	**North Reference:**	Grid
Well:	Mescal 22 Federal 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,000.00	90.40	269.62	7,712.32	-29.99	-4,464.72	4,464.83	0.00	0.00	0.00
12,100.00	90.40	269.62	7,711.63	-30.66	-4,564.72	4,564.82	0.00	0.00	0.00
12,200.00	90.40	269.62	7,710.93	-31.33	-4,664.72	4,664.82	0.00	0.00	0.00
12,300.00	90.40	269.62	7,710.24	-32.00	-4,764.71	4,764.82	0.00	0.00	0.00
12,334.17	90.40	269.62	7,710.00	-32.23	-4,798.88	4,798.99	0.00	0.00	0.00
TD @ 12334.17' MD, 7710.00' TVD - PBHL (Mescal 22 Federal 3H Plan 1)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL (Mescal 22 Federa - plan hits target center - Point	0.00	0.00	7,710.00	-32.23	-4,798.88	408,192.62	650,762.61	32.12170496	-103.97987301

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
7,262.54	7,262.54	0.00	0.00	KOP - Start Build @ 12.00°/100'
7,637.77	7,600.32	-0.94	-140.00	PP @ 7637.77 MD, 7600.32 TVD, 45.03 INC, 269.62 AZ, 140.01 VS
8,015.86	7,740.00	-3.23	-480.77	Landing Point - Hold @ 90.40° INC, 269.62° AZ
12,334.17	7,710.00	-32.23	-4,798.88	TD @ 12334.17' MD, 7710.00' TVD

CRESCENT DIRECTIONAL DRILLING

COG Operating LLC
Mescal 22 Federal 3H
Eddy County, NM (NAD 83)
Plan #1

CONCHO

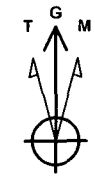
Surface Location		Ground Elev: 3089.00 WELL @ 3106.50ft (Original Well Elev)			
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	408224.85	655561.49	32.12174934	-103.96437163

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (Mescal 22 Federal 3H Plan 1)	7710.00	-32.23	-4798.88	408192.62	650762.61	32.12170496	-103.97987301

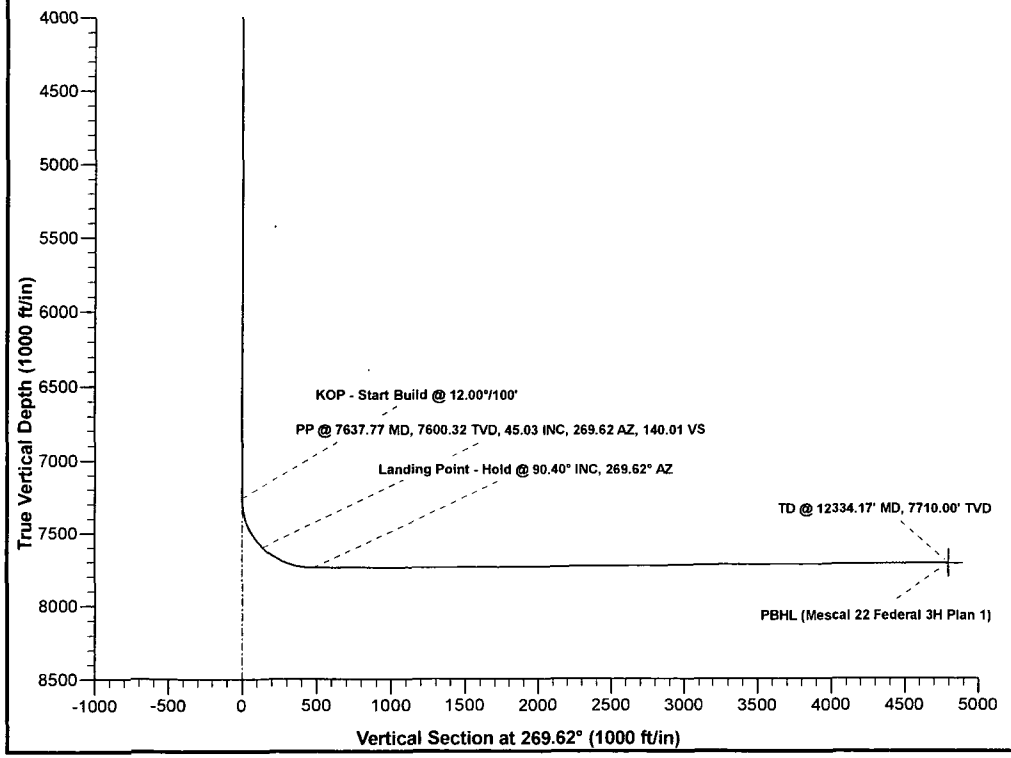
SECTION DETAILS

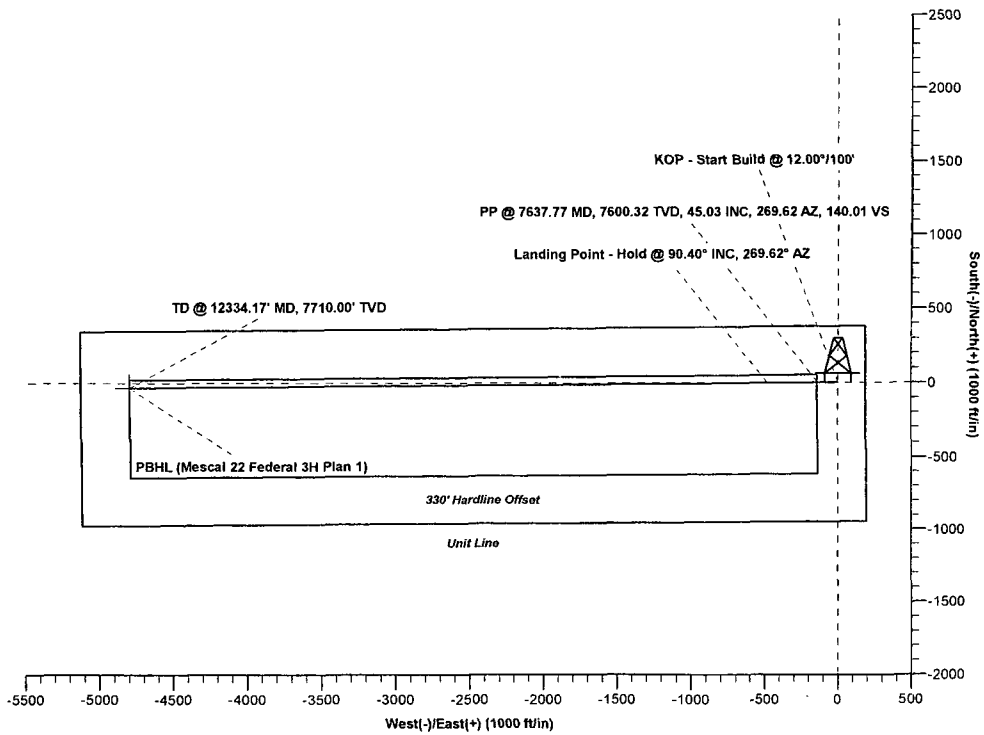
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	7262.54	0.00	0.00	7262.54	0.00	0.00	0.00	0.00	0.00	KOP - Start Build @ 12.00°/100'
3	8015.86	90.40	269.62	7740.00	-3.23	-480.77	12.00	269.62	480.78	Landing Point - Hold @ 90.40° INC, 269.62° AZ
4	12334.17	90.40	269.62	7710.00	-32.23	-4798.88	0.00	0.00	4798.99	TD @ 12334.17' MD, 7710.00' TVD



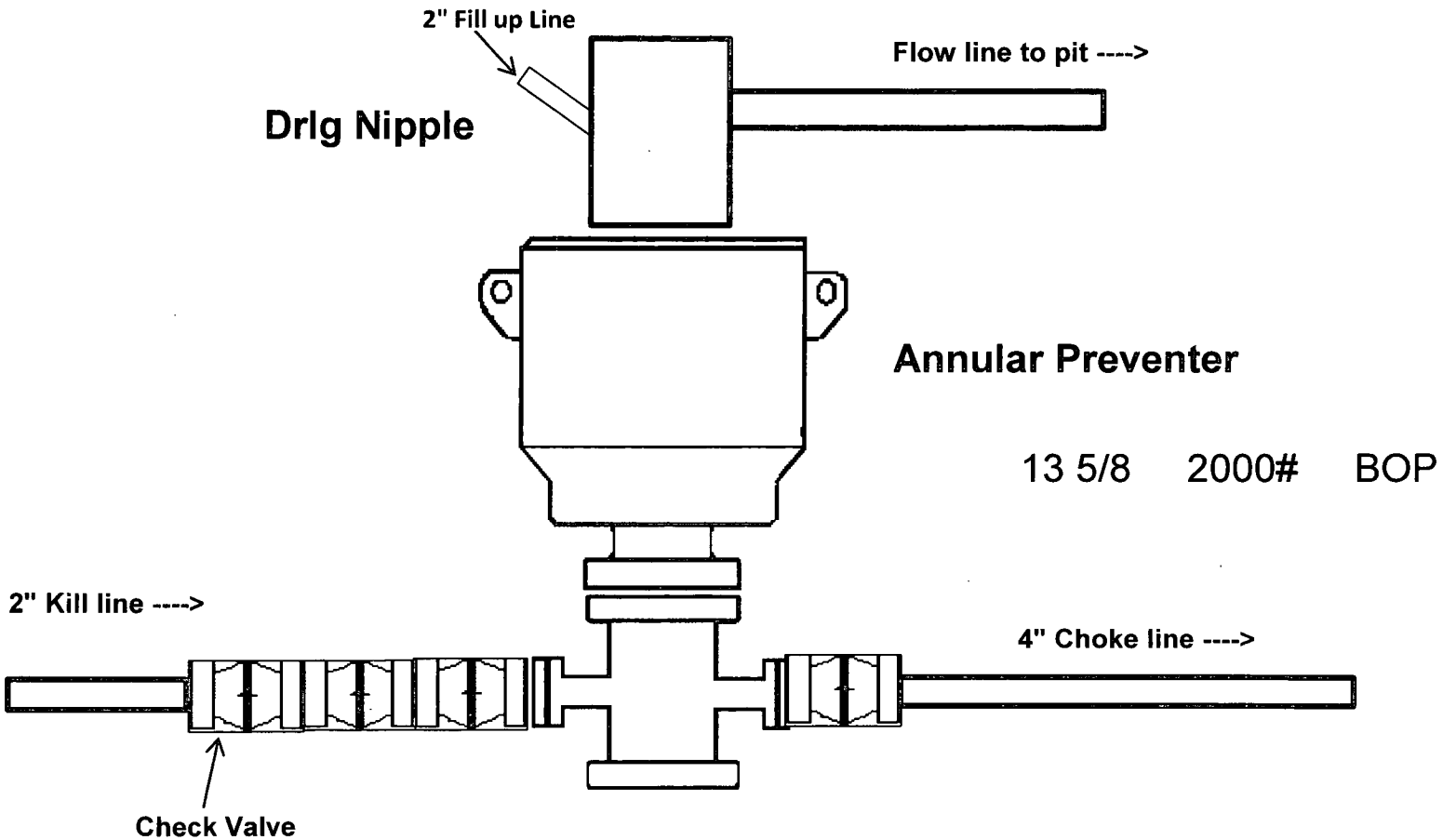
Azimuths to Grid North
True North: -0.20°
Magnetic North: 7.42°

Magnetic Field
Strength: 48448.0snT
Dip Angle: 60.02°
Date: 7/12/2012
Model: IGRF200510

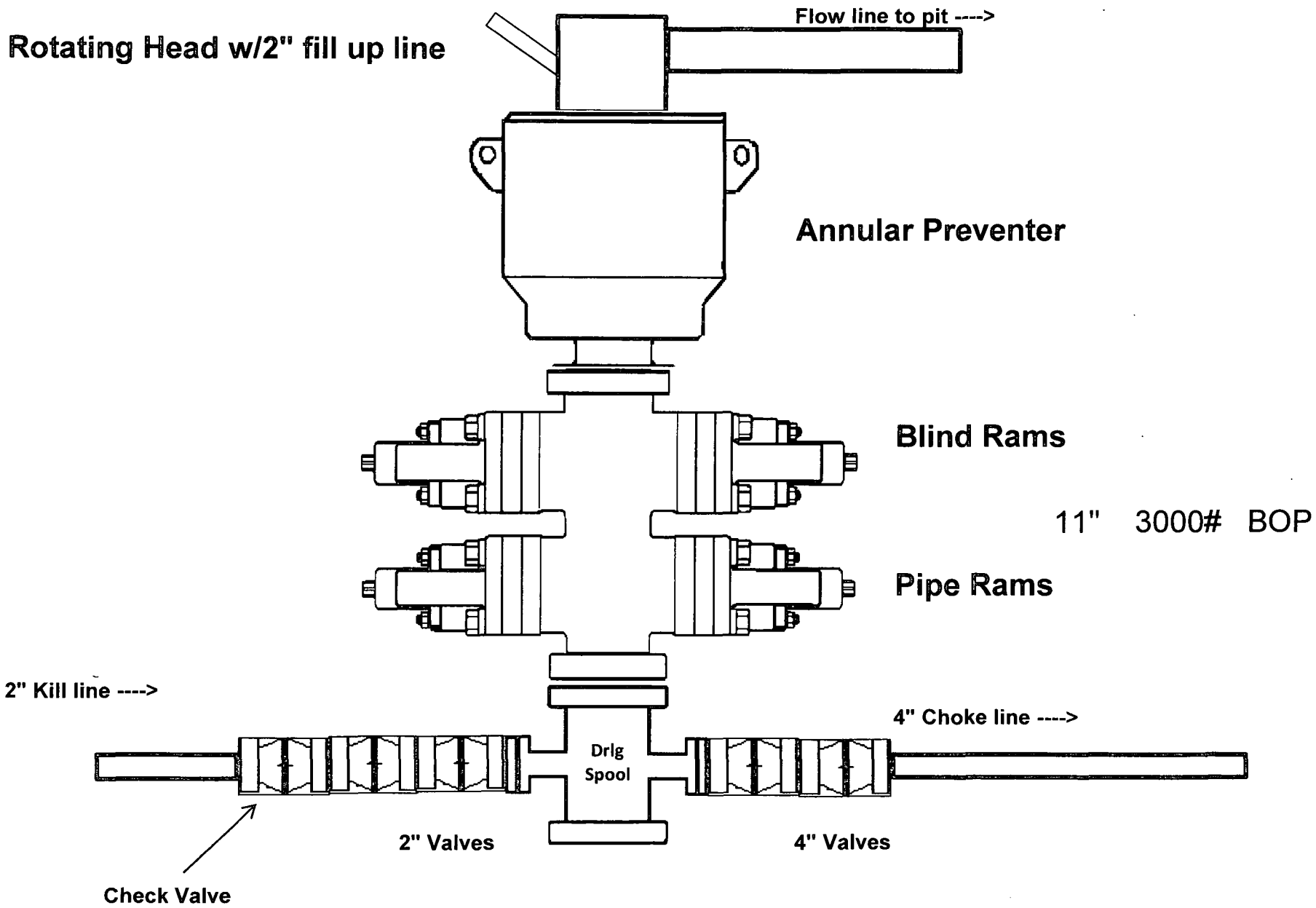




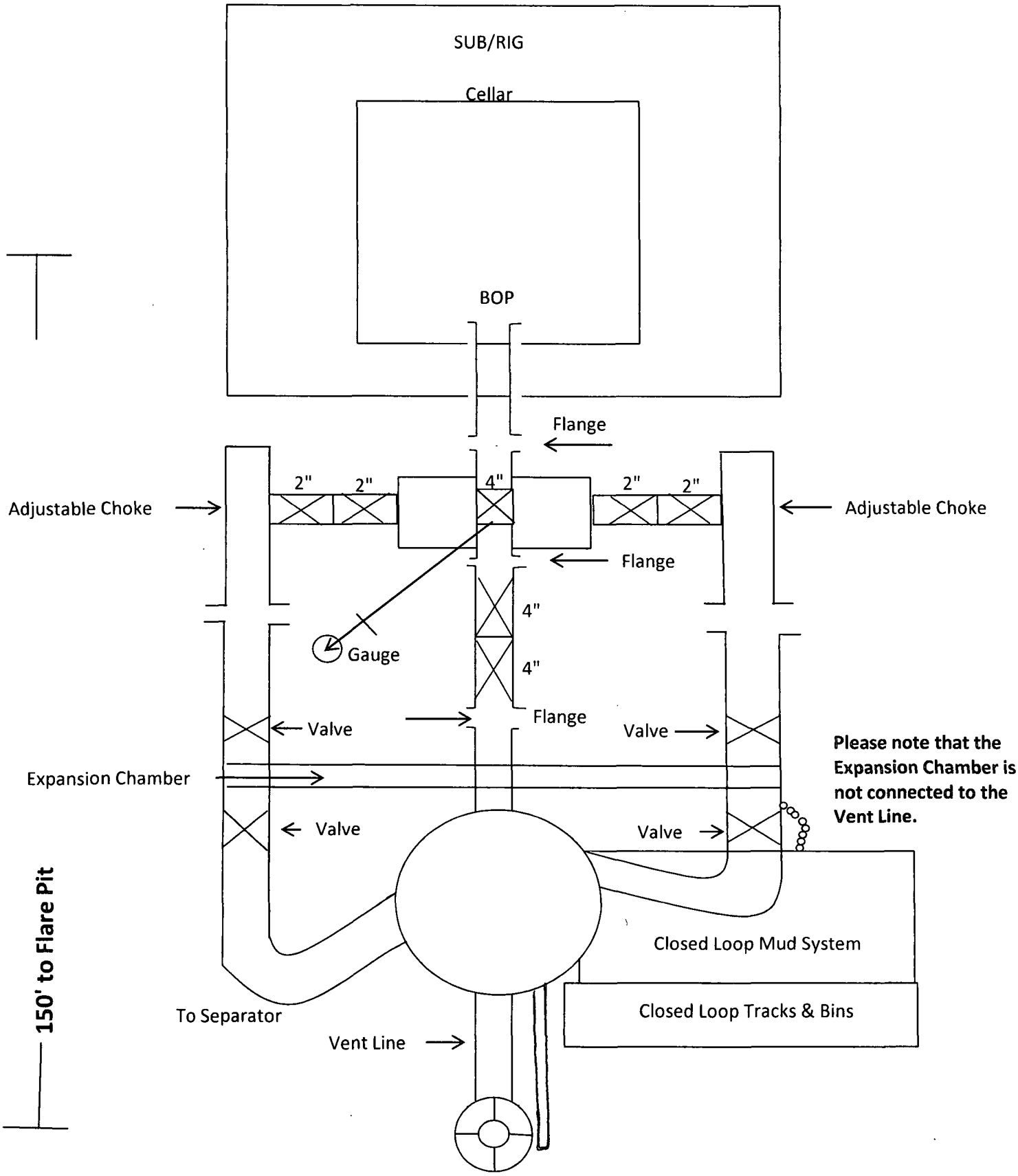
2,000 psi BOP Schematic



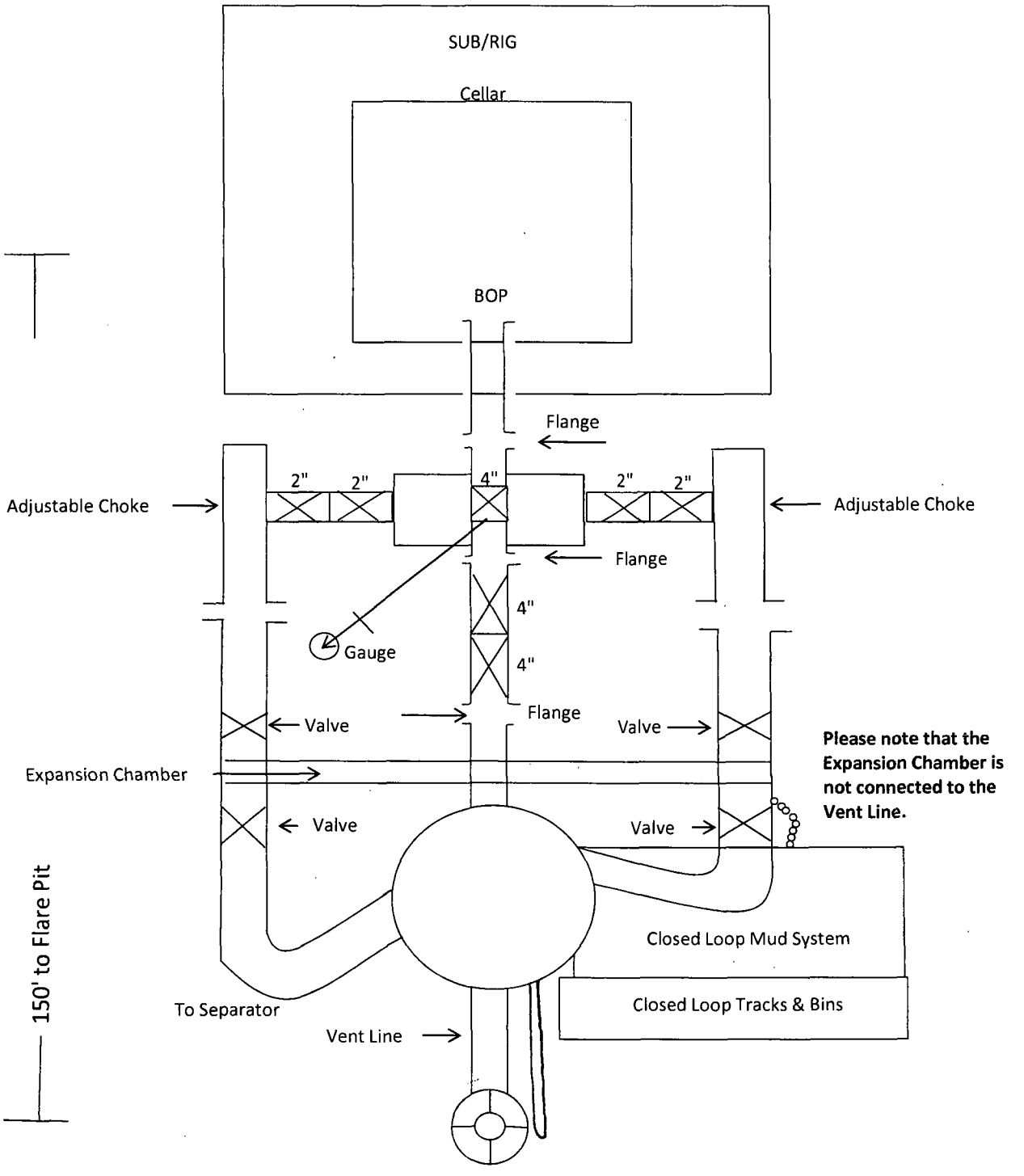
3,000 psi BOP Schematic



2M Choke Manifold Equipment



3M Choke Manifold Equipment



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

No records found.

PLSS Search:

Section(s): 22 **Township:** 25S **Range:** 29E

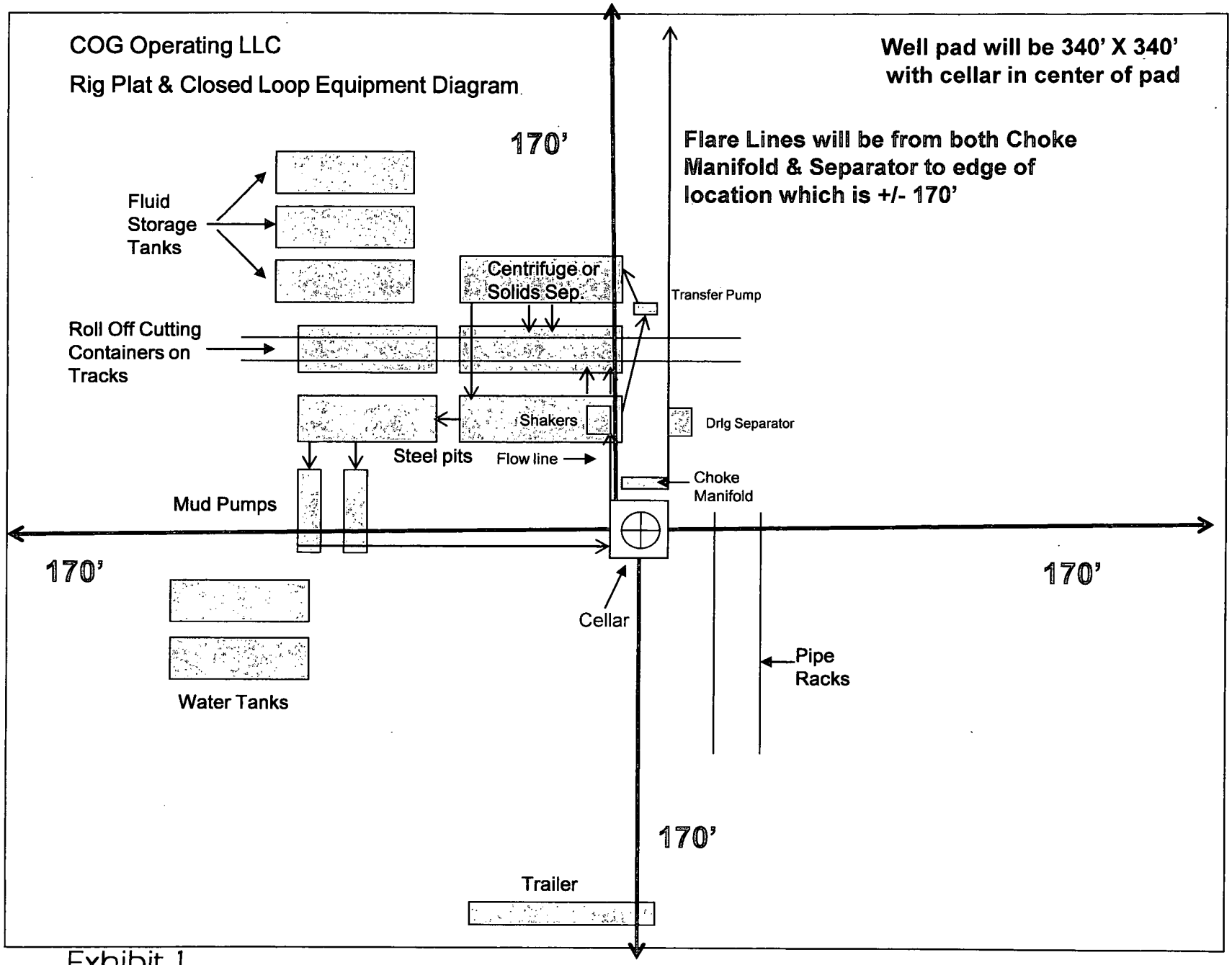

COG Operating LLC
Rig Plat & Closed Loop Equipment Diagram
Well pad will be 340' X 340'
with cellar in center of pad
170'
Flare Lines will be from both Choke Manifold & Separator to edge of location which is +/- 170'
Fluid Storage Tanks
Centrifuge or Solids Sep.
Transfer Pump
Roll Off Cutting Containers on Tracks
Shakers
Drlg Separator
Steel pits
Flow line
Choke Manifold
Mud Pumps
170'
170'
Cellar
Pipe Racks
Water Tanks
170'
Trailer

Exhibit 1

COG PRODUCTION LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

A. The hazards and characteristics of hydrogen sulfide (H_2S).

B. The proper use and maintenance of personal protective equipment and life support systems.

C. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.

D. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

A. The effects of H_2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.

B. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.

C. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S.

A. Well Control Equipment:

Flare line.

Choke manifold.

Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

B. Protective equipment for essential personnel:

Mark II Surviveair 30-minute units located in the dog house and at briefing areas.

C. H_2S detection and monitoring equipment:

2 - portable H_2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S levels of 20 ppm are reached.

D. Visual warning systems:

Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

E. Mud Program:

The mud program has been designed to minimize the volume of H_2S circulated to the surface.

F. Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H_2S service.

G. Communication:

Company vehicles equipped with cellular telephone.

COG Production LLC has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore, we do not believe that an H2S contingency plan is necessary.

WARNING

YOU ARE ENTERING AN H_2S AREA
AUTHORIZED PERSONNEL ONLY

1. ***BEARDS OR CONTACT LENSES NOT ALLOWED***
2. ***HARD HATS REQUIRED***
3. ***SMOKING IN DESIGNATED AREAS ONLY***
4. ***BE WIND CONSCIOUS AT ALL TIMES***
5. ***CK WITH COG PRODUCTION LLC FOREMAN AT MAIN OFFICE***

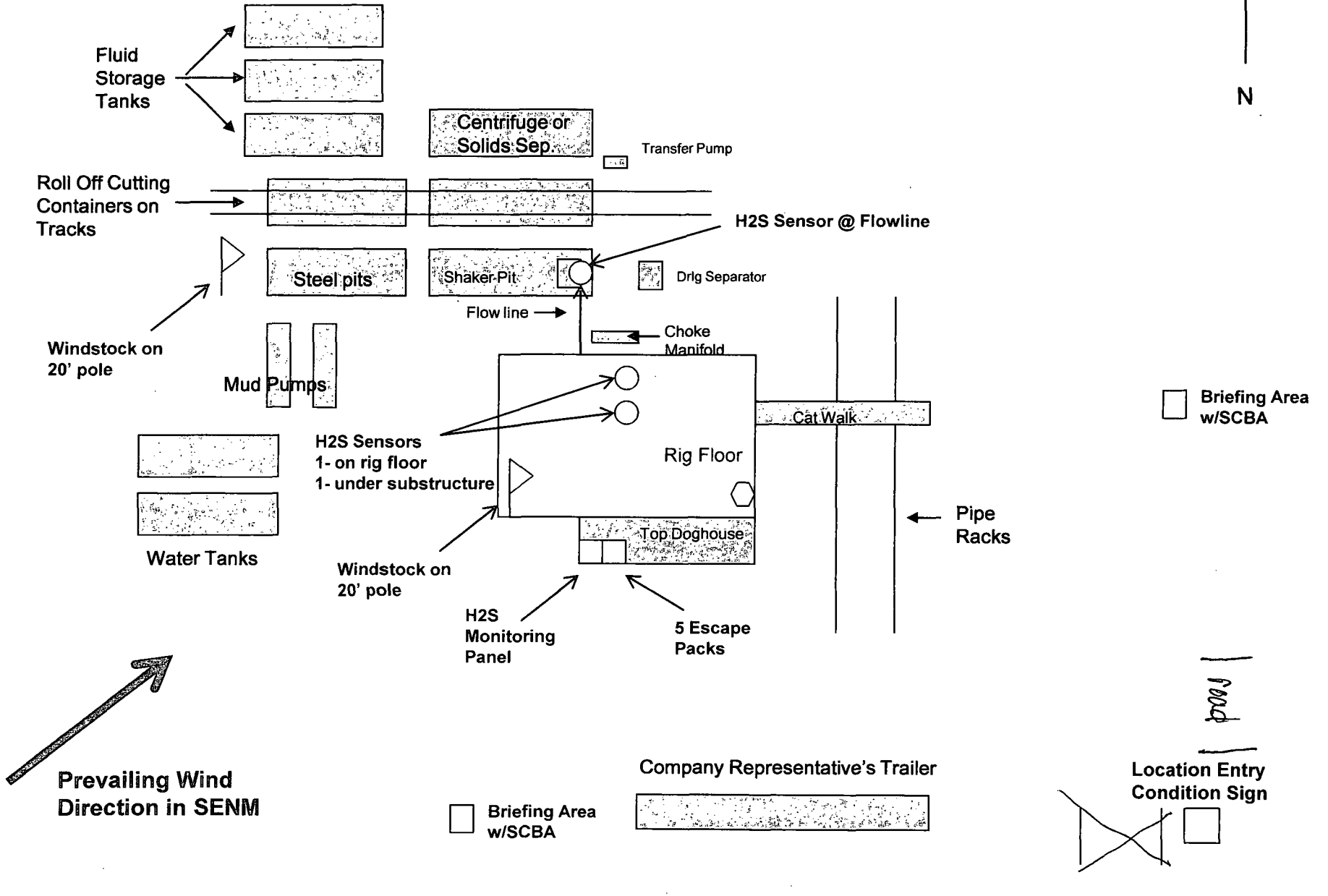
COG PRODUCTION LLC

1-575-748-6940

COG Operating LLC

H_2S Equipment Schematic

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



EMERGENCY CALL LIST

	OFFICE	MOBILE	HOME
COG OPERATING LLC OFFICE	575-748-6940		
SHERYL BAKER	575-748-6940	432-934-1873	575-748-2396
RON BEASLEY	575-746-2010	432-254-9883	
SETH WILD	575-748-6940	432-528-3633	
DEAN CHUMBLEY	575-748-3303	575-748-5988	575-748-2426

EMERGENCY RESPONSE NUMBERS

	OFFICE
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

CONCHO

COG Operating LLC
2208 West Main
Artesia, NM 88210

Production Facility Layout

Mescal 22 Federal #3H

Section 22 -T25S-R29E

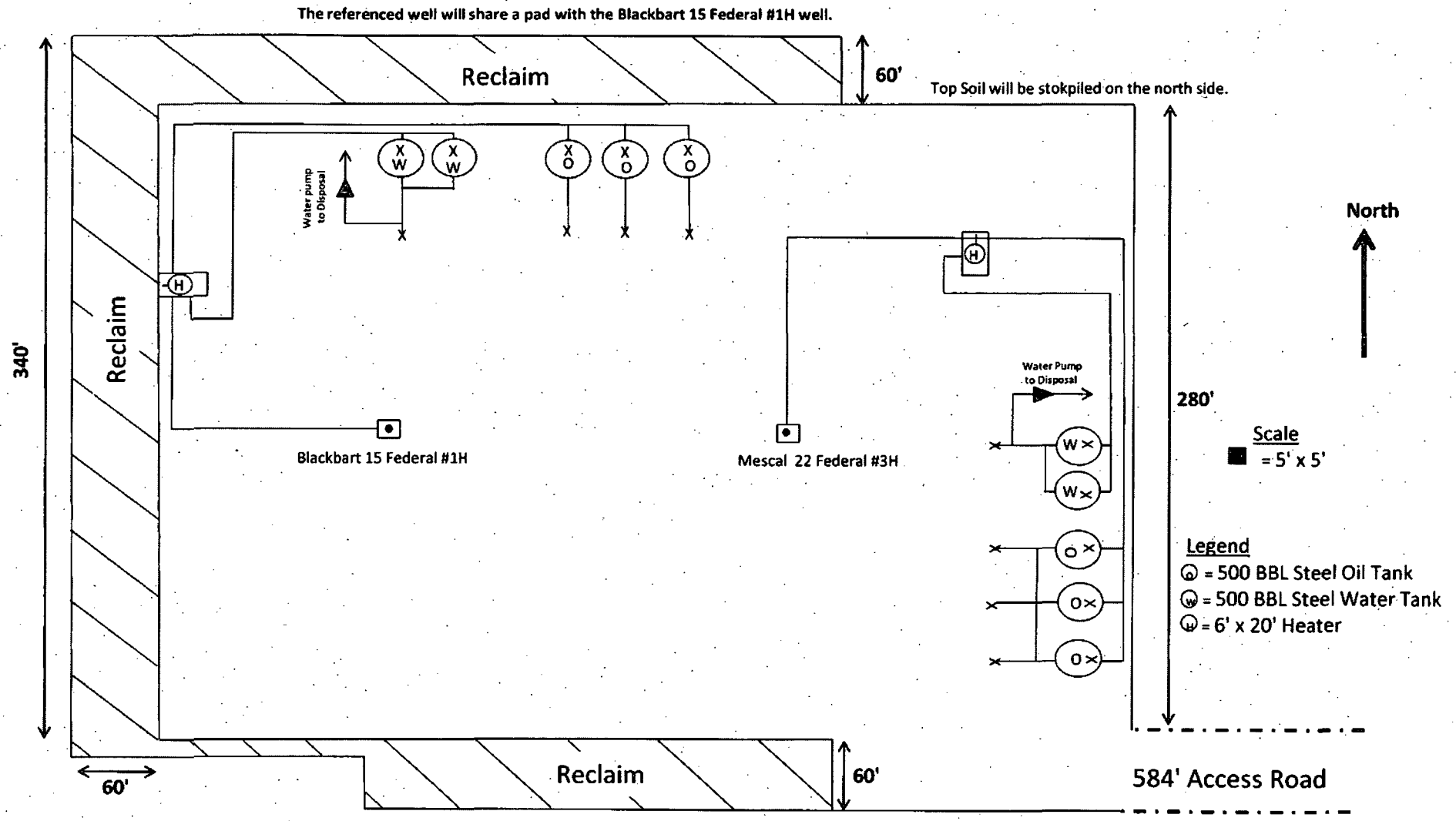


Exhibit 3

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Production
LEASE NO.:	NM14778
WELL NAME & NO.:	3H Mescal 22 Federal
SURFACE HOLE FOOTAGE:	380' FNL & 190' FEL
BOTTOM HOLE FOOTAGE	380' FNL & 330' FWL
LOCATION:	Section 22, T.25 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Watershed Protection Requirement:

1. The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
   - The berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
   - No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
   - The topsoil stockpile shall be located outside the bermed well pad.
   - Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
   - No storm drains, tubing or openings shall be placed in the berm.
   - If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
   - The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and after interim reclamation has been completed.
   - Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)
2. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.
3. No portion of the well pad fill or the access road shall be pushed into the drainage to the south. No portion of the well pad or proposed access road shall impede natural water flow.

Livestock Watering Systems Requirement:

If damage were to occur to livestock or the livestock watering systems, it shall be repaired or remediated immediately.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-6235 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty (20) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

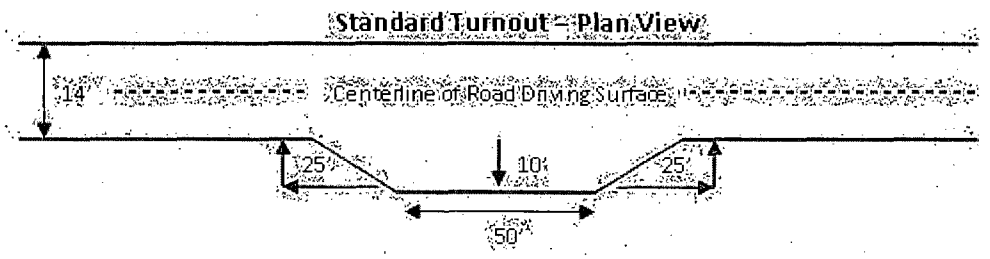
Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

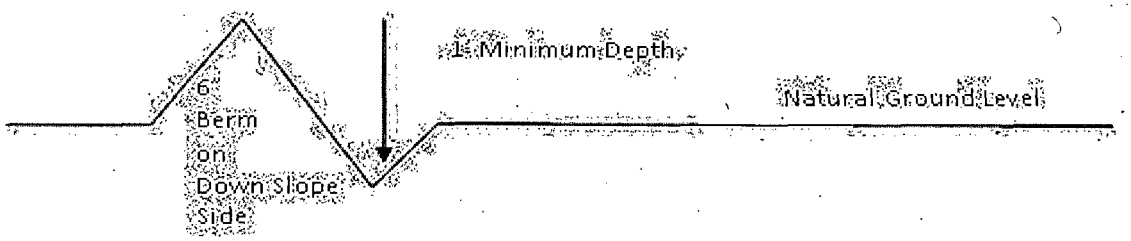
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

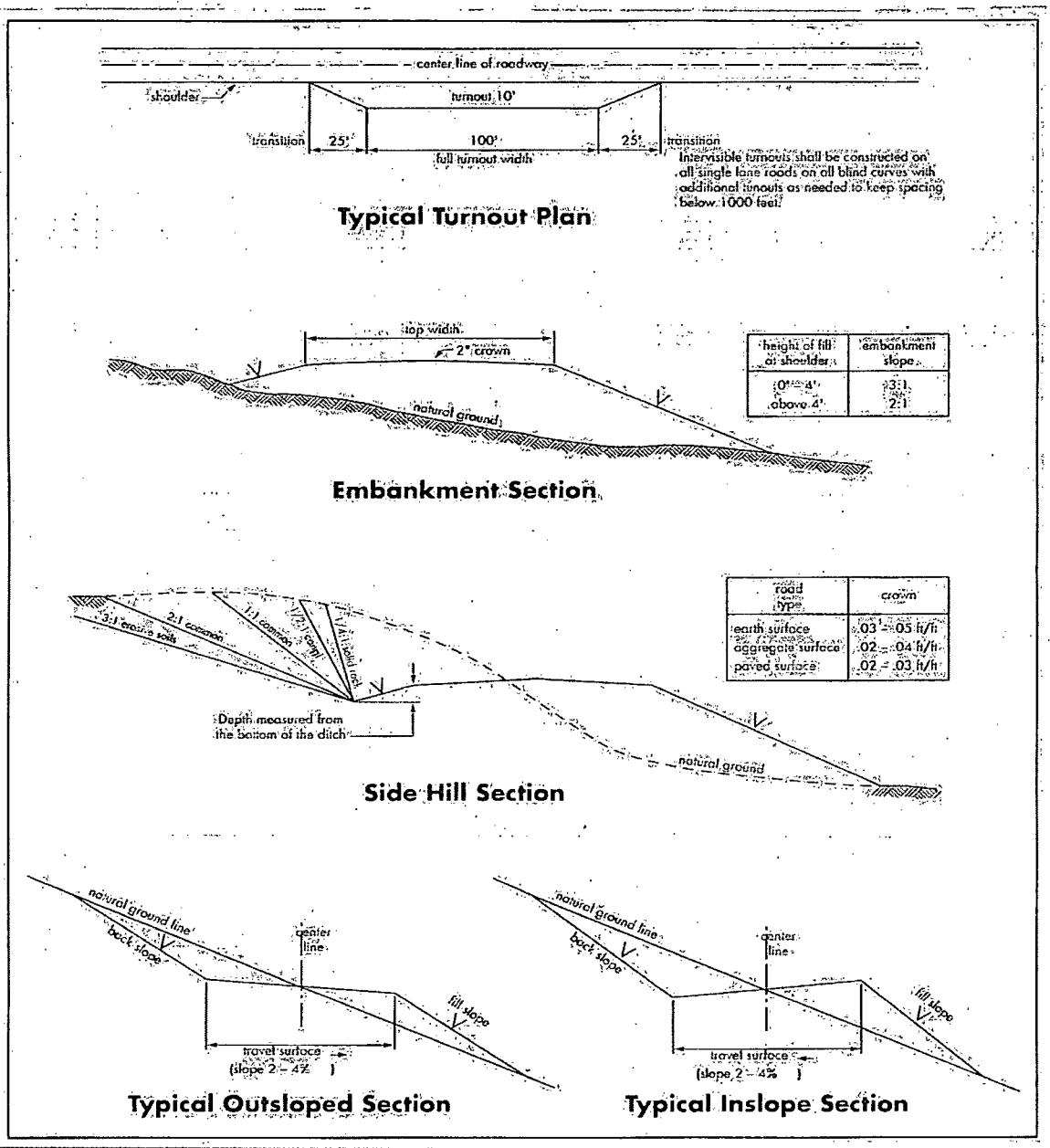
Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. 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 is located, this does not include the dog house or stairway area.

4. **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 top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. 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.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

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

Medium cave/karst.
Possible lost circulation in the Delaware.

1. The **13-3/8** inch surface casing shall be set at approximately **695** feet and cemented to the surface. **If the salt is encountered, casing shall be set 25 feet above the salt. Additional cement may be required – excess calculates to -12%.**

    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 is to include the lead cement slurry.

    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 **9-5/8** inch 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.**

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing shall come to surface.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement should tie-back at least **500** feet into previous casing string. Operator shall provide method of verification.

4. 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.

C. 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. 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.

   a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8"** intermediate casing shoe shall be **3000 (3M)** psi.

4. 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. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

c. The results of the test shall be reported to the appropriate BLM office.

d. 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.**

e. 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 if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. 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.

CRW 121812

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed