

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENT

5. Lease Serial No. **70**
NM-12559

6. If Indian, Allottee or Tribe

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

8. Lease Name and Well No. **C**
BABY. BUDDAH "13" FEDE #11

9. API Well No.
0-015-035
10. Field and Pool, or Exploratory **30215**
-BONE SPRING

or Blk. and Survey or Area

SECTION 13 T26S-R28E

12. County or Parish
EDDY CO.
13. State
NM

1a. Type of work: ☒ DRILL

☐ REENTER

LOCATION

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other

☒ Single Zone ☐ Multiple Zone

2. Name of Operator
COG PRODUCTION LLC.

3a. Address 2208 WEST MAIN STREET
ARTESIA, NEW MEXICO 88210

3b. Phone No. (include area code)
575-748-6968

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

At surface 2310' FSL & 190' FWL SECTION 13 T26S-R28E EDDY CO.

At proposed prod. zone BHL 2190' FSL & 330' FEL SRCTION 13 T26S-R28E

14. Distance in miles and direction from nearest town or post office*

Approximately 20 miles South of Carlsbad New Mexico

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any).

190'

16. No. of acres in lease

1400

17. Spacing Unit dedicated to this well

160

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

NA

19. Proposed Depth
TVD-8180
PILOT HOLE 9000'

20. BLM/BIA Bond No. on file
NMB-000845
NMB-000860

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
2948' GL

22. Approximate date work will start*
WHEN APPROVED

23. Estimated duration
30 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must 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
BLM.

25. Signature

Name (Printed/Typed)

Date

Joe T. Janica

08/17/12

Title

Permit Eng.

Approved by (Signature)

/s/ Don Peterson

Name (Printed/Typed)

/s/ Don Peterson

Date

SEP 19 2012

Title

FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

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

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

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 13, 2012

Lease #: SHL: NMNM12559
Baby Buddah 13 Federal #1H

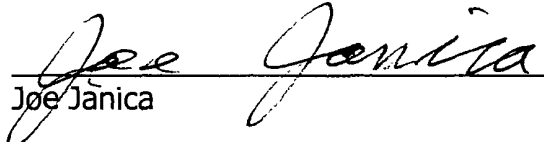
Legal Description: Sec. 13- T26S - R28E
Eddy County, New Mexico

Formation(s): 2nd Bone Spring Sand

Bond Coverage: Statewide

BLM Bond File #: NMB006970

COG PRODUCTION LLC


Joe Janica

CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by COG Production LLC and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

7-20-12
Date

COG PRODUCTION LLC

Joe Janica
Joe Janica - Contractor

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) 476-3480 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-40735	Pool Code 16800	Pool Name HAY Hollow DELAWARE RIVER-BONE SPRING
Property Code 39464	Property Name BABY BUDDAH 13 FEDERAL	Well Number 1H
OGRID No. 217955	Operator Name COG PRODUCTION LLC	Elevation 2948'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	13	26 S	28 E		2350	SOUTH	190	WEST	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
I	13	26 S	28 E		2190	SOUTH	330	EAST	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

	<p>OPERATOR CERTIFICATION</p> <p>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.</p> <p>Signature: <i>Joe T. Janica</i> Date: 07/20/12</p> <p>Printed Name: Joe T. Janica</p> <p>Email Address: joejanica@valornet.com</p> <hr/> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Date Surveyed: MAY 22, 2012</p> <p>Signature & Seal of Professional Surveyor: <i>[Signature]</i></p> <p>W.O. No. 26852</p> <p>Certificate No. Gary L. Jones 7977</p> <p>Basin Surveys 26852</p>
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**COG PRODUCTION LLC Pre-Drill Geological Prognosis
2nd Bone Spring Sand Single Lateral w/ Pilot Hole
Delaware River (Bone Spring) Field**

2BS	+PH
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Baby Buddha 13 Fed #1H
Enter API#

Rig:	Silver Oak #7
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Target Zone: 2nd Bone Spring Sand					
Regular section		FNL	FSL	FEL	FWL
§-T-R (SHL)	13-26S-28E		2350		190
§-T-R (BHL)	13-26S-28E		2190	330	

GL:	2948	actual
KB:	2966	actual

PROPOSED WELL					REFERENCE WELL			
COG PRODUCTION LLC					Concho			
Baby Buddha 13 Fed #1H					Cottonmouth 23 Fed Com #1H			
13-26S-28E					23-26S-28E			
Eddy Co., NM					Eddy Co., NM			
KB:	2966	Est. MD:	12500	PH-TD:	9000'	KB: 2963		

Formations	TVD	Subsea	Iso to Tgt	Lith	Hazards/Misc	TVD	Subsea	Iso
Rustler	69	2897		Mixed lithologies		20	2943	740
TOS	809	2157		Salt		760	2203	1607
BOS	2416	550		Salt		2367	596	194
Delaware (Lamar)	2610	356		Limestone & Sand		2561	402	3706
Bone Sprg. (BSGL)	6316	-3350		Limestone		6267	-3304	325
U. Avalon Sh	6641	-3675	1459	Silt, Shale & Carb		6592	-3629	225
L. Avalon Sh	6866	-3900	1234	Silt, Shale & Carb		6817	-3854	360
FBSG sand	7226	-4260	874	Fine Sand & Carb		7177	-4214	666
☆ SBSG sand	7892	-4926	208	Fine Sand & Carb		7843	-4880	1127
TBSG sand	9019	-6053		Fine Sand & Carb		8970	-6007	-
EOC target**	8100	-5134	subject to change after logging of PH					
EOL target**	8180	-5214	subject to change after logging of PH					

Comments

COG Production LLC

Wireline Evaluation

GR and Neutron: TD to surface. Density: TD to intermediate casing point. DLLT/MGRD: TD to intermediate casing point.

Coring and Testing

SWCs after OH logging

Mudlogging

Log out from intermediate casing to TD with a 2-man unit keeping 2 sets of 10' samples & capturing 1' drill time.

Land (obligations and deadlines)

Unknown

Version/Geologist

v2 Andrew McCarthy

DATE: 6/29/2012

S:\Delaware Basin Team\Electronic Well Files\OPERATED\BABY BUDDA 13 FED 1H\AFE-DRLG

4. Proposed Cement Program

- a. 13-3/8" Surface Slurry: 350 sx Class C + 2% CaCl₂
(14.8 ppg / 1.34 cuft/sx)
**Calculated w/50% excess on OH volumes
- b. 9 5/8" Intermediate: Lead: 450 sx Class C + 4% Gel + 2% CaCl₂
(13.5 ppg / 1.75 cuft/sx)
Tail: 250 sx Class C + 2% CaCl₂
(14.8 ppg / 1.34 cuft/sx)
**Calculated w/35% excess on OH volumes
- d. 5 1/2" Production Lead: 650 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
- Pilot hole will be plugged back with the below plugs:
 1. Plug #1 –
 - 700' from 8,300' – 9,000'.
 - 250 sx Class H
 - 17.2 ppg 0.98 cuft/sk
 2. Plug #2
 - 700' from 7,600' – 8,300'.
 - 250 sx Class H
 - 17.2 ppg 0.98 cuft/sk

See COA

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 = 3548 psi

Pilot Hole TD= 3903 psi

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'	Fresh Water	8.4	29	N.C.
450' – 2650'	Brine	10	29	N.C.
2650' – 12,712' (Lateral)	Cut Brine	<u>8.8 – 9.2</u> See C-9A	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 1/2" 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:

- 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 1/2" 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.

Production
COG Operating LLC

Eddy County, NM (NAD 83)

Baby Budah 13 Fed 1H

Baby Budah 13 Fed 1H

Wellbore #1

Plan: Plan #1

Standard Planning Report

12 July, 2012



COG Operating LLC
Baby Budah 13 Fed 1H
Eddy County, NM (NAD 83)
Plan #1



Surface Location		Ground Elev: 2948.00 WELL @ 2985.50ft (Original Well Elev)			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	379064.29	629519.33	32.04180620	-104.04874022

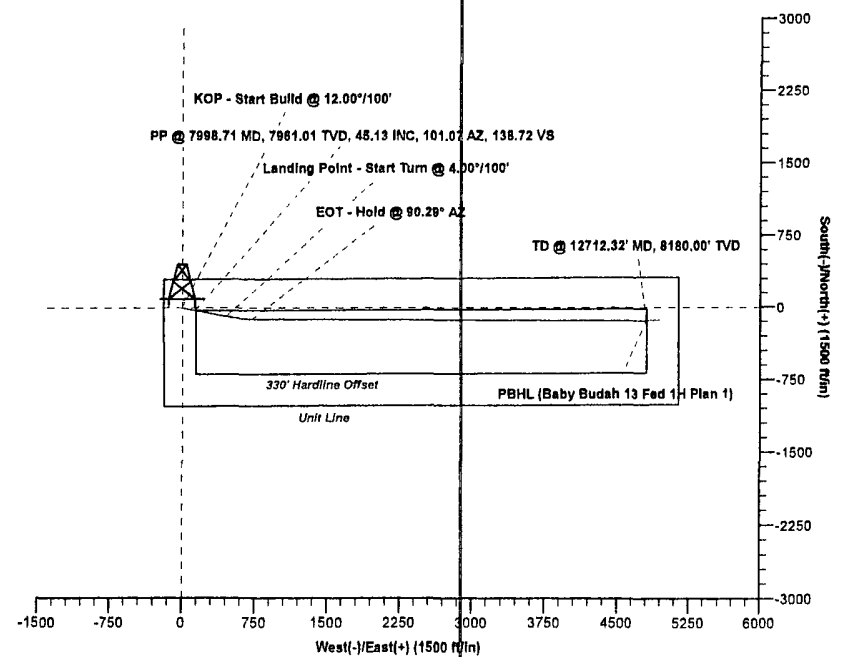
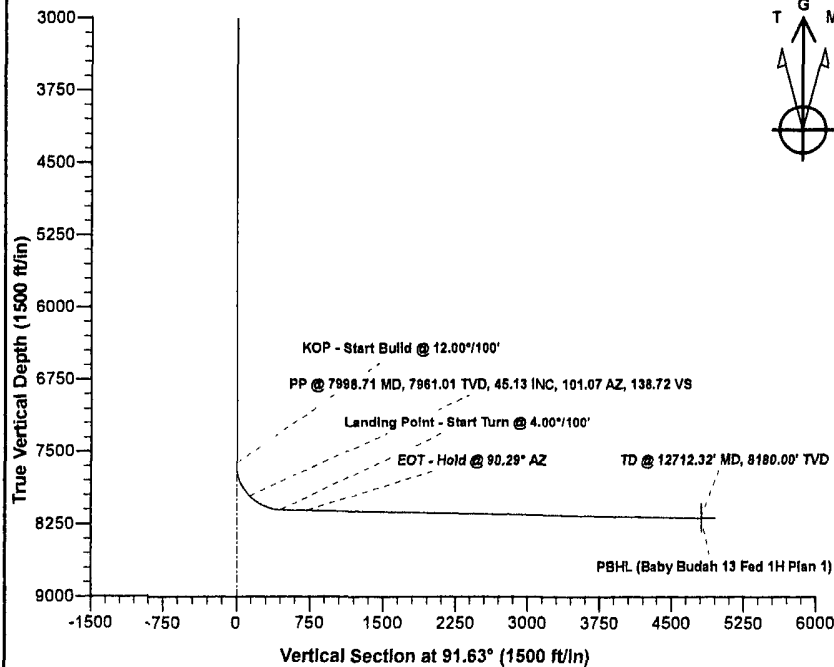
TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (Baby Budah 13 Fed 1H Plan 1)	8180.00	-137.13	4806.94	378927.16	634325.28	32.04139347	-104.03323102

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	7622.82	0.00	0.00	7622.82	0.00	0.00	0.00	0.00	0.00	KOP - Start Build @ 12.00°/100'
3	8363.84	88.96	101.07	8100.00	-89.99	459.96	12.00	101.07	462.34	Landing Point - Start Turn @ 4.00°/100'
4	8633.34	88.96	90.29	8104.98	-116.62	727.70	4.00	-90.10	730.73	EOT - Hold @ 90.29° AZ
5	12712.32	88.96	90.29	8180.00	-137.13	4806.94	0.00	0.00	4807.90	TD @ 12712.32' MD, 8180.00' TVD



Azimuths to Grid North
 True North: -0.15°
 Magnetic North: 7.50°

Magnetic Field
 Strength: 48392.0snT
 Dip Angle: 59.93°
 Date: 7/11/2012
 Model: IGRF200510



Planning Report

Database: Houston R5000 Database
Company: COG Operating LLC
Project: Eddy County, NM (NAD 83)
Site: Baby Budah 13 Fed 1H
Well: Baby Budah 13 Fed 1H
Wellbore: Wellbore #1
Design: Plan #1

Local Co-ordinate Reference: Site Baby Budah 13 Fed 1H
TVD Reference: WELL @ 2965.50ft (Original Well Elev)
MD Reference: WELL @ 2965.50ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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:	Baby Budah 13 Fed 1H				
Site Position:		Northing:	379,064.29 ft	Latitude:	32.04180621
From:	Map	Easting:	629,519.34 ft	Longitude:	-104.04874022
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0 15 °

Well:	Baby Budah 13 Fed 1H				
Well Position	+N-S	0.00 ft	Northing:	379,064.29 ft	Latitude: 32.04180621
	+E-W	0.00 ft	Easting:	629,519.34 ft	Longitude: -104.04874022
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level: 2,948.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/11/2012	7.65	59.93	48,392

Design:	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N- S	+E- W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	91.63

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	
7,622.62	0.00	0.00	7,622.62	0.00	0.00	0.00	0.00	0.00	0.00	
8,363.84	88.95	101.07	8,100.00	-89.99	459.96	12.00	12.00	0.00	101.07	
8,633.34	88.95	90.29	8,104.98	-116.62	727.70	4.00	0.00	-4.00	-90.10	
12,712.32	88.95	90.29	8,180.00	-137.13	4,805.94	0.00	0.00	0.00	0.00	PBHL (Baby Budah 1:

Planning Report

Database: Houston R5000 Database
 Company: COG Operating LLC
 Project: Eddy County, NM (NAD 83)
 Site: Baby Budah 13 Fed 1H
 Well: Baby Budah 13 Fed 1H
 Wellbore: Wellbore #1
 Design: Plan #1

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Site Baby Budah 13 Fed 1H
 WELL @ 2965.50ft (Original Well Elev)
 WELL @ 2965.50ft (Original Well Elev)
 Grid
 Minimum Curvature

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)
7,622.62	0.00	0.00	7,622.62	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Start Build @ 12.00°/100'									
7,700.00	9.29	101.07	7,699.66	-1.20	6.14	6.17	12.00	12.00	0.00
7,800.00	21.29	101.07	7,795.95	-6.25	31.97	32.13	12.00	12.00	0.00
7,900.00	33.29	101.07	7,884.66	-15.04	76.87	77.27	12.00	12.00	0.00
7,998.71	45.13	101.07	7,961.01	-27.00	138.00	138.72	12.00	12.00	0.00
PP @ 7998.71 MD, 7961.01 TVD, 45.13 INC, 101.07 AZ, 138.72 VS									
8,000.00	45.29	101.07	7,961.92	-27.18	138.90	139.62	12.00	12.00	0.00
8,100.00	57.29	101.07	8,024.35	-42.13	215.34	216.45	12.00	12.00	0.00
8,200.00	69.29	101.07	8,069.22	-59.25	302.84	304.41	12.00	12.00	0.00
8,300.00	81.29	101.07	8,094.57	-77.79	397.59	399.64	12.00	12.00	0.00
8,363.84	88.95	101.07	8,100.00	-89.99	459.96	462.34	12.00	12.00	0.00
Landing Point - Start Turn @ 4.00°/100'									
8,400.00	88.94	99.62	8,100.67	-96.48	495.53	498.08	4.00	-0.01	-4.00
8,500.00	88.94	95.62	8,102.52	-109.74	594.61	597.50	4.00	0.00	-4.00
8,600.00	88.94	91.62	8,104.36	-116.06	694.37	697.40	4.00	0.00	-4.00
8,633.34	88.95	90.29	8,104.98	-116.62	727.70	730.73	4.00	0.01	-4.00
EOT - Hold @ 90.29° AZ									
8,700.00	88.95	90.29	8,106.20	-116.95	794.35	797.36	0.00	0.00	0.00
8,800.00	88.95	90.29	8,108.04	-117.45	894.33	897.32	0.00	0.00	0.00
8,900.00	88.95	90.29	8,109.88	-117.96	994.31	997.27	0.00	0.00	0.00
9,000.00	88.95	90.29	8,111.72	-118.46	1,094.29	1,097.23	0.00	0.00	0.00
9,100.00	88.95	90.29	8,113.56	-118.96	1,194.28	1,197.18	0.00	0.00	0.00
9,200.00	88.95	90.29	8,115.40	-119.47	1,294.26	1,297.14	0.00	0.00	0.00
9,300.00	88.95	90.29	8,117.24	-119.97	1,394.24	1,397.09	0.00	0.00	0.00
9,400.00	88.95	90.29	8,119.08	-120.47	1,494.22	1,497.05	0.00	0.00	0.00
9,500.00	88.95	90.29	8,120.92	-120.98	1,594.20	1,597.01	0.00	0.00	0.00
9,600.00	88.95	90.29	8,122.76	-121.48	1,694.19	1,696.96	0.00	0.00	0.00
9,700.00	88.95	90.29	8,124.59	-121.98	1,794.17	1,796.92	0.00	0.00	0.00
9,800.00	88.95	90.29	8,126.43	-122.48	1,894.15	1,896.87	0.00	0.00	0.00
9,900.00	88.95	90.29	8,128.27	-122.99	1,994.13	1,996.83	0.00	0.00	0.00
10,000.00	88.95	90.29	8,130.11	-123.49	2,094.11	2,096.78	0.00	0.00	0.00
10,100.00	88.95	90.29	8,131.95	-123.99	2,194.09	2,196.74	0.00	0.00	0.00
10,200.00	88.95	90.29	8,133.79	-124.50	2,294.06	2,296.69	0.00	0.00	0.00
10,300.00	88.95	90.29	8,135.63	-125.00	2,394.06	2,396.65	0.00	0.00	0.00
10,400.00	88.95	90.29	8,137.47	-125.50	2,494.04	2,496.60	0.00	0.00	0.00
10,500.00	88.95	90.29	8,139.31	-126.01	2,594.02	2,596.56	0.00	0.00	0.00
10,600.00	88.95	90.29	8,141.15	-126.51	2,694.00	2,696.52	0.00	0.00	0.00
10,700.00	88.95	90.29	8,142.99	-127.01	2,793.99	2,796.47	0.00	0.00	0.00
10,800.00	88.95	90.29	8,144.83	-127.51	2,893.97	2,896.43	0.00	0.00	0.00
10,900.00	88.95	90.29	8,146.67	-128.02	2,993.95	2,996.38	0.00	0.00	0.00
11,000.00	88.95	90.29	8,148.51	-128.52	3,093.93	3,096.34	0.00	0.00	0.00
11,100.00	88.95	90.29	8,150.34	-129.02	3,193.91	3,196.29	0.00	0.00	0.00
11,200.00	88.95	90.29	8,152.18	-129.53	3,293.89	3,296.25	0.00	0.00	0.00
11,300.00	88.95	90.29	8,154.02	-130.03	3,393.88	3,396.20	0.00	0.00	0.00
11,400.00	88.95	90.29	8,155.86	-130.53	3,493.86	3,496.16	0.00	0.00	0.00
11,500.00	88.95	90.29	8,157.70	-131.04	3,593.84	3,596.12	0.00	0.00	0.00
11,600.00	88.95	90.29	8,159.54	-131.54	3,693.82	3,696.07	0.00	0.00	0.00
11,700.00	88.95	90.29	8,161.38	-132.04	3,793.80	3,796.03	0.00	0.00	0.00
11,800.00	88.95	90.29	8,163.22	-132.54	3,893.79	3,895.98	0.00	0.00	0.00
11,900.00	88.95	90.29	8,165.06	-133.05	3,993.77	3,995.94	0.00	0.00	0.00
12,000.00	88.95	90.29	8,166.90	-133.55	4,093.75	4,095.89	0.00	0.00	0.00
12,100.00	88.95	90.29	8,168.74	-134.05	4,193.73	4,195.85	0.00	0.00	0.00

Planning Report

Database: Houston R5000 Database
 Company: COG Operating LLC
 Project: Eddy County, NM (NAD 83)
 Site: Baby Budah 13 Fed 1H
 Well: Baby Budah 13 Fed 1H
 Wellbore: Wellbore #1
 Design: Plan #1

Local Co-ordinate Reference: Site Baby Budah 13 Fed 1H
 TVD Reference: WELL @ 2965.50ft (Original Well Elev)
 MD Reference: WELL @ 2965.50ft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
12,200.00	88.95	90.29	8,170.58	-134.56	4,293.71	4,295.80	0.00	0.00	0.00
12,300.00	88.95	90.29	8,172.42	-135.06	4,393.69	4,395.76	0.00	0.00	0.00
12,400.00	88.95	90.29	8,174.26	-135.56	4,493.68	4,495.71	0.00	0.00	0.00
12,500.00	88.95	90.29	8,176.09	-136.07	4,593.66	4,595.67	0.00	0.00	0.00
12,600.00	88.95	90.29	8,177.93	-136.57	4,693.64	4,695.63	0.00	0.00	0.00
12,700.00	88.95	90.29	8,179.77	-137.07	4,793.62	4,795.58	0.00	0.00	0.00
12,712.32	88.95	90.29	8,180.00	-137.13	4,805.94	4,807.90	0.00	0.00	0.00

TD @ 12712.32' MD, 8180.00' TVD - PBHL (Baby Budah 13 Fed 1H Plan 1)

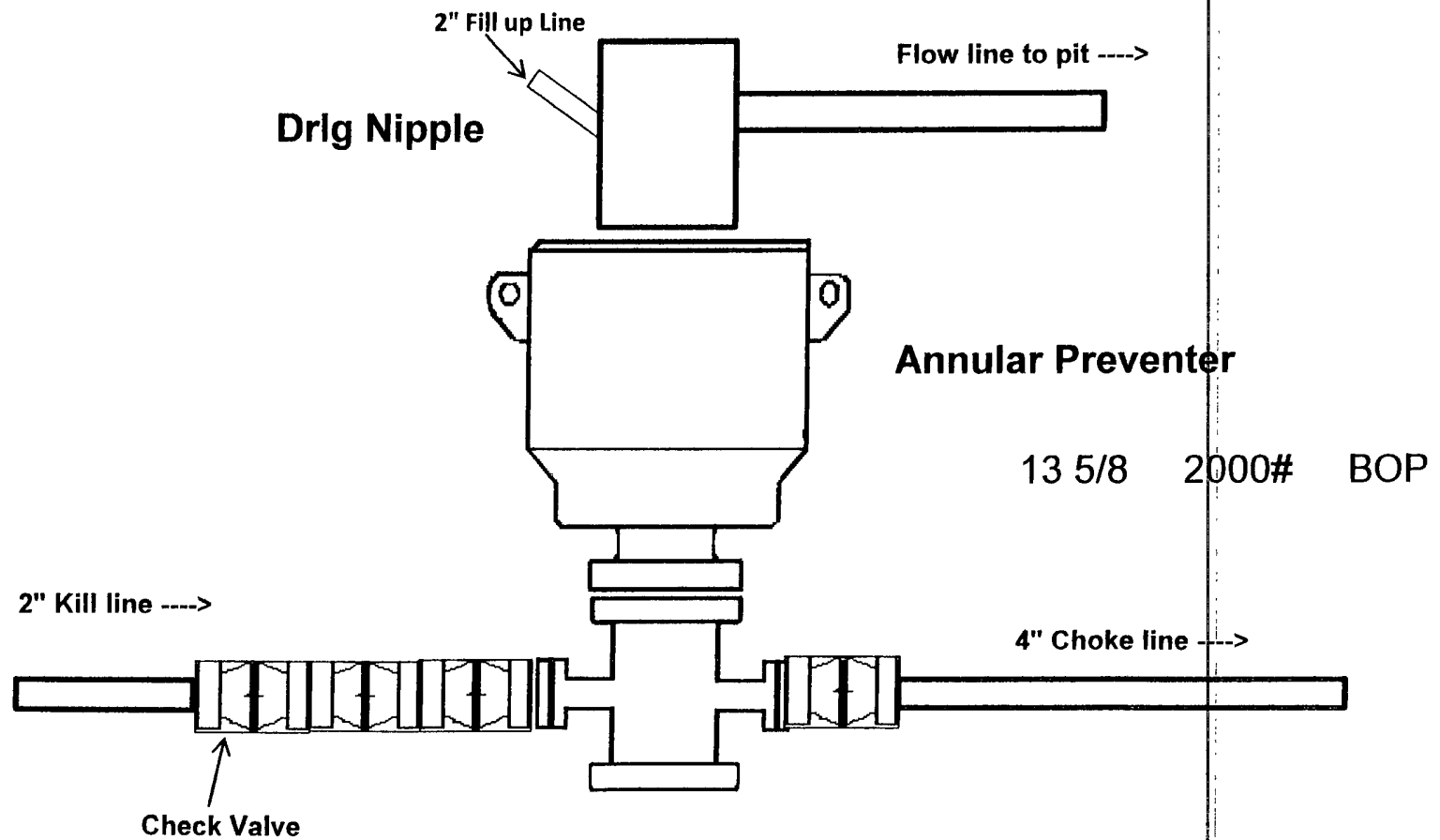
Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL (Baby Budah 13 F	- plan hits target center	0.00	0.00	8,180.00	-137.13	4,805.94	378,927.16	634,325.28	32.04139347	-104.03323102
- Point										

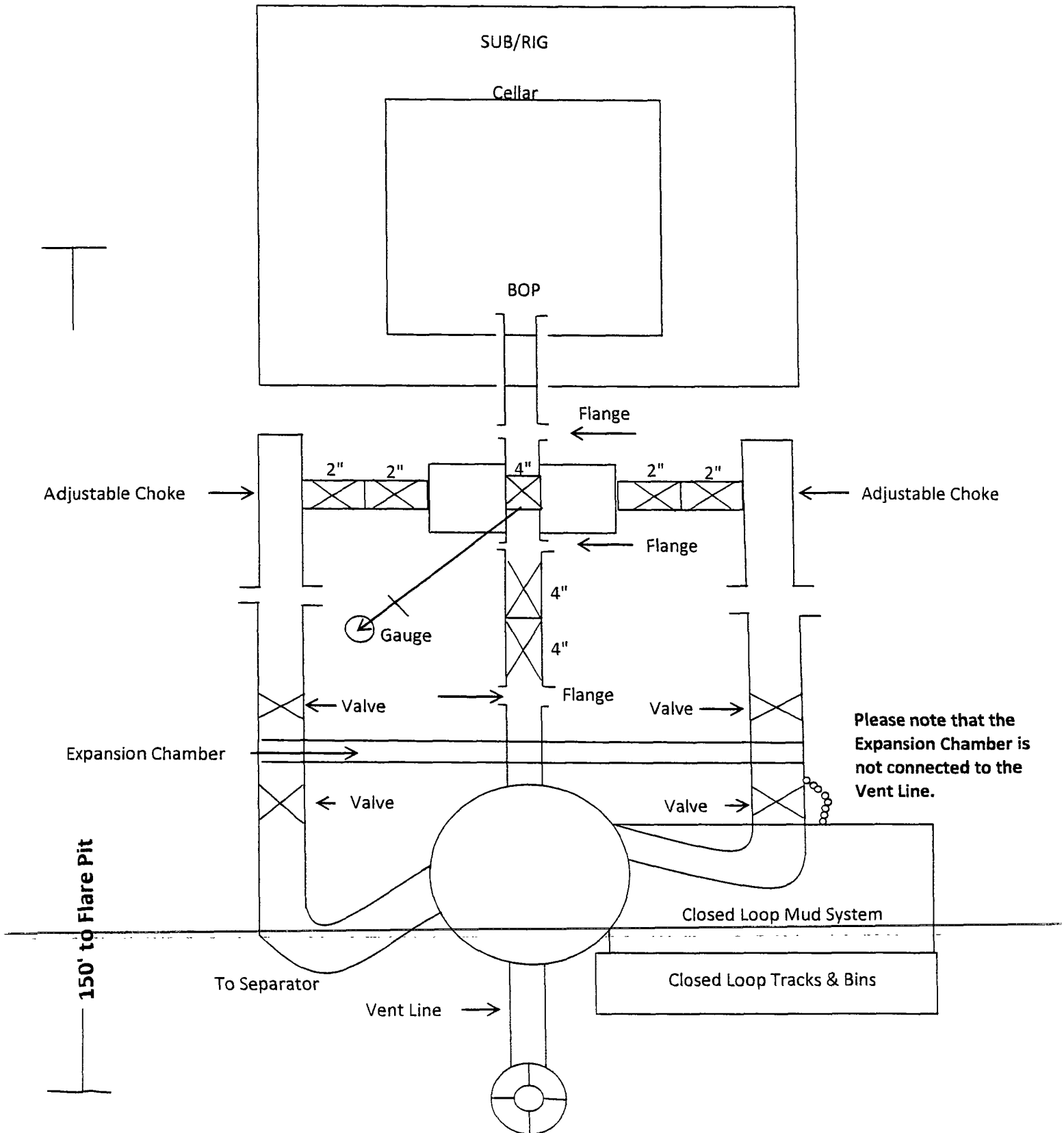
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
7,622.62	7,622.62	0.00	0.00	KOP - Start Build @ 12.00°/100'
7,998.71	7,961.01	-27.00	138.00	PP @ 7998.71 MD, 7961.01 TVD, 45.13 INC, 101.07 AZ, 138.72 VS
8,363.84	8,100.00	-89.99	459.96	Landing Point - Start Turn @ 4.00°/100'
8,633.34	8,104.98	-116.62	727.70	EOT - Hold @ 90.29° AZ
12,712.32	8,180.00	-137.13	4,805.94	TD @ 12712.32' MD, 8180.00' TVD

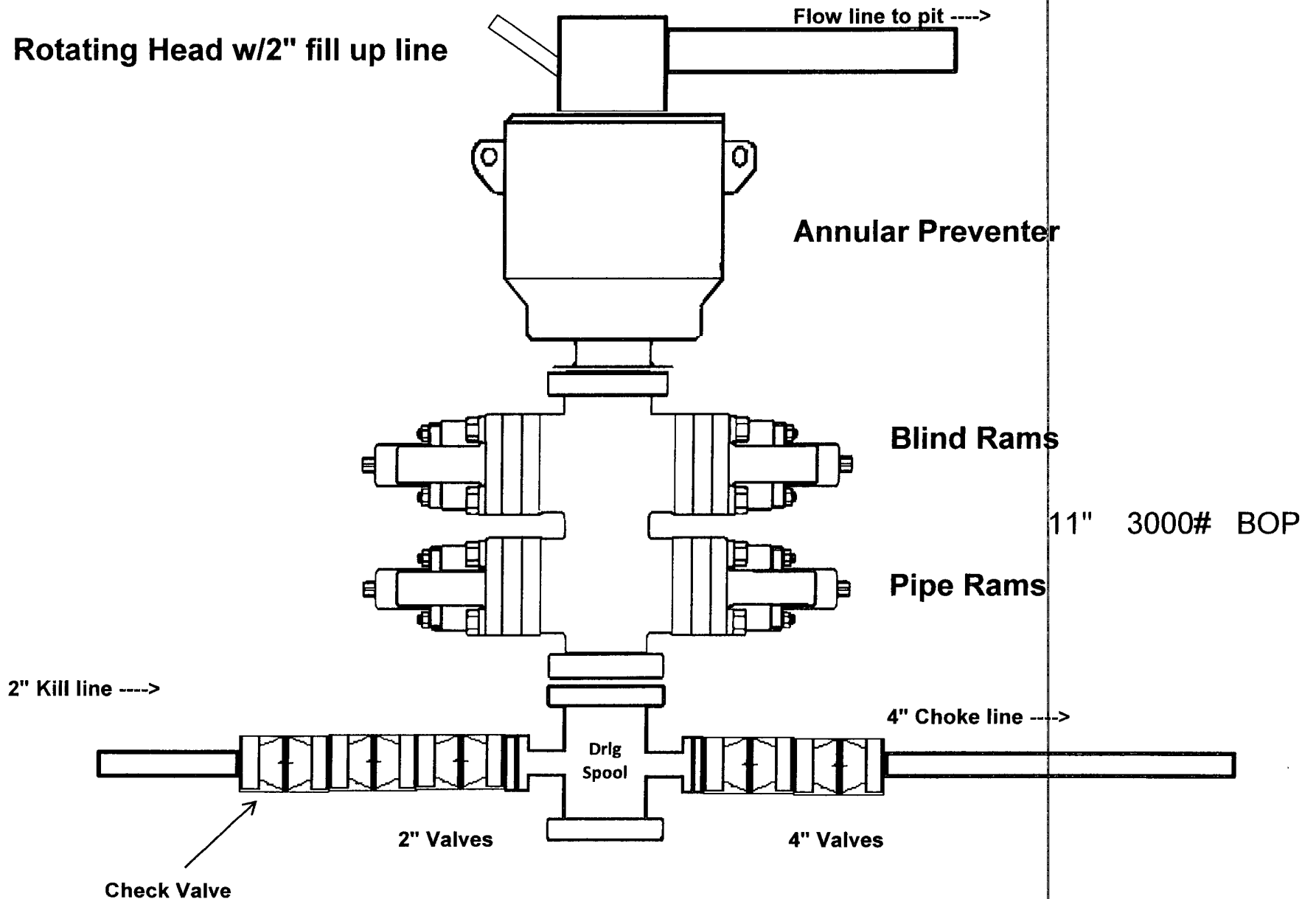
2,000 psi BOP Schematic



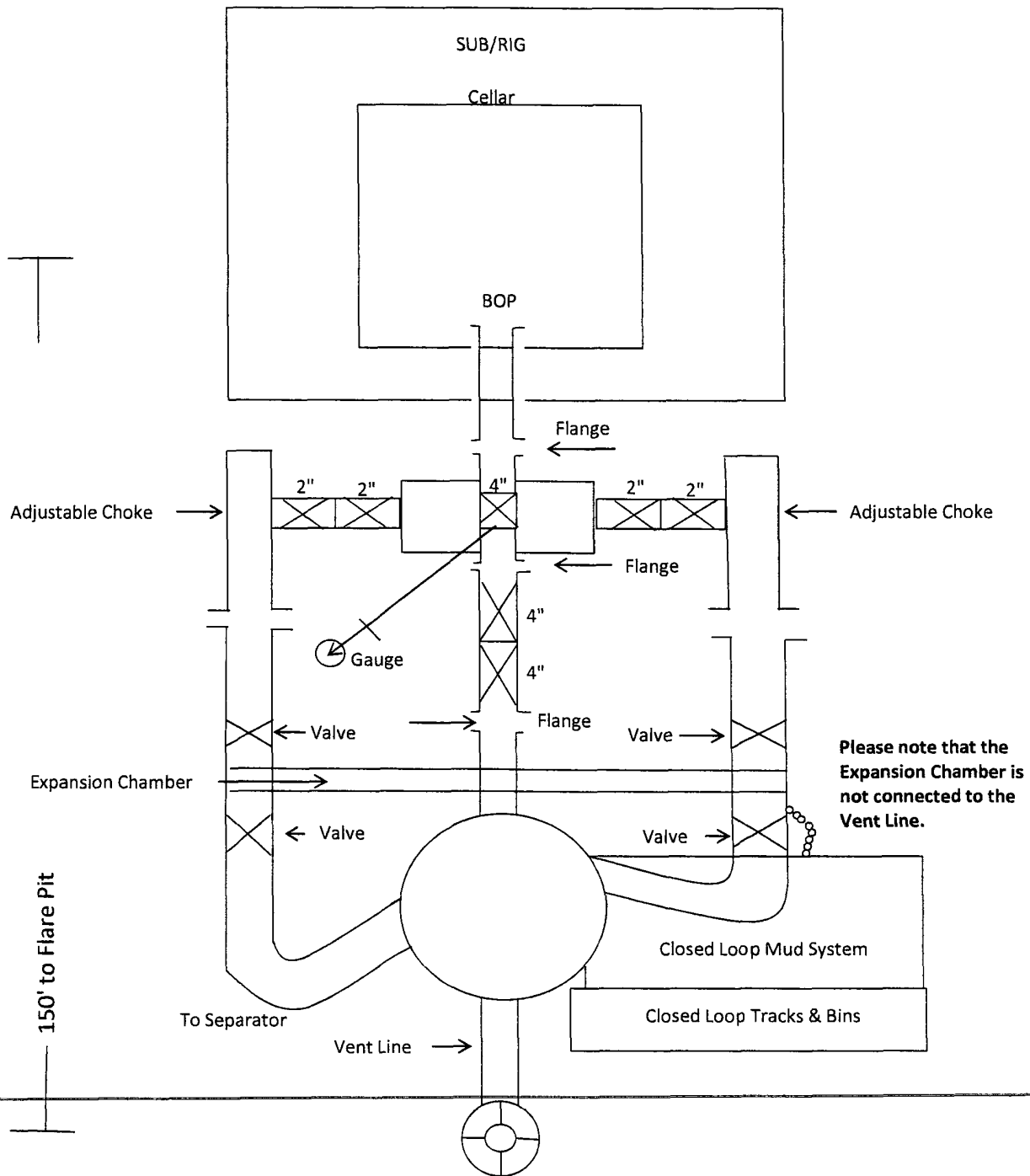
2M Choke Manifold Equipment



3,000 psi BOP Schematic



3M Choke Manifold Equipment



COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram

Well pad will be 340' X 330'
with cellar in center of pad

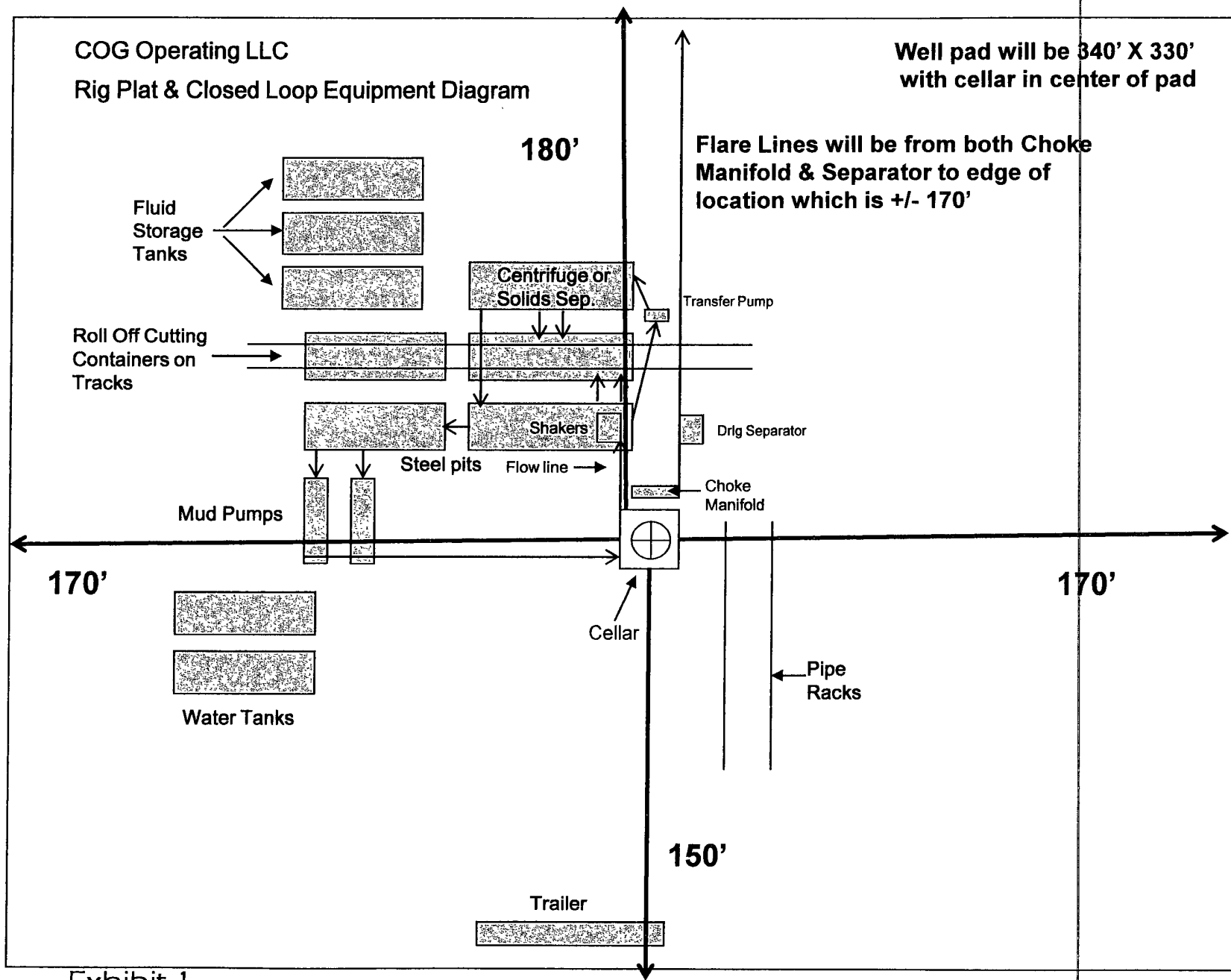


Exhibit 1

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 (H₂S).
- B. The proper use and maintenance of personal protective equipment and life support systems.
- C. The proper use of H₂S 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 H₂S 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 H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session

shall include a review of the site specific H₂S 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. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S 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 H₂S.

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. H₂S detection and monitoring equipment:

2 - portable H₂S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H₂S 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 H₂S 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 H₂S 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.

W A R N I N G

**YOU ARE ENTERING AN H₂S 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

EMERGENCY CALL LIST

	<u>OFFICE</u>	<u>MOBILE</u>	<u>HOME</u>
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

	<u>OFFICE</u>
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

COG PRODUCTION LLC.

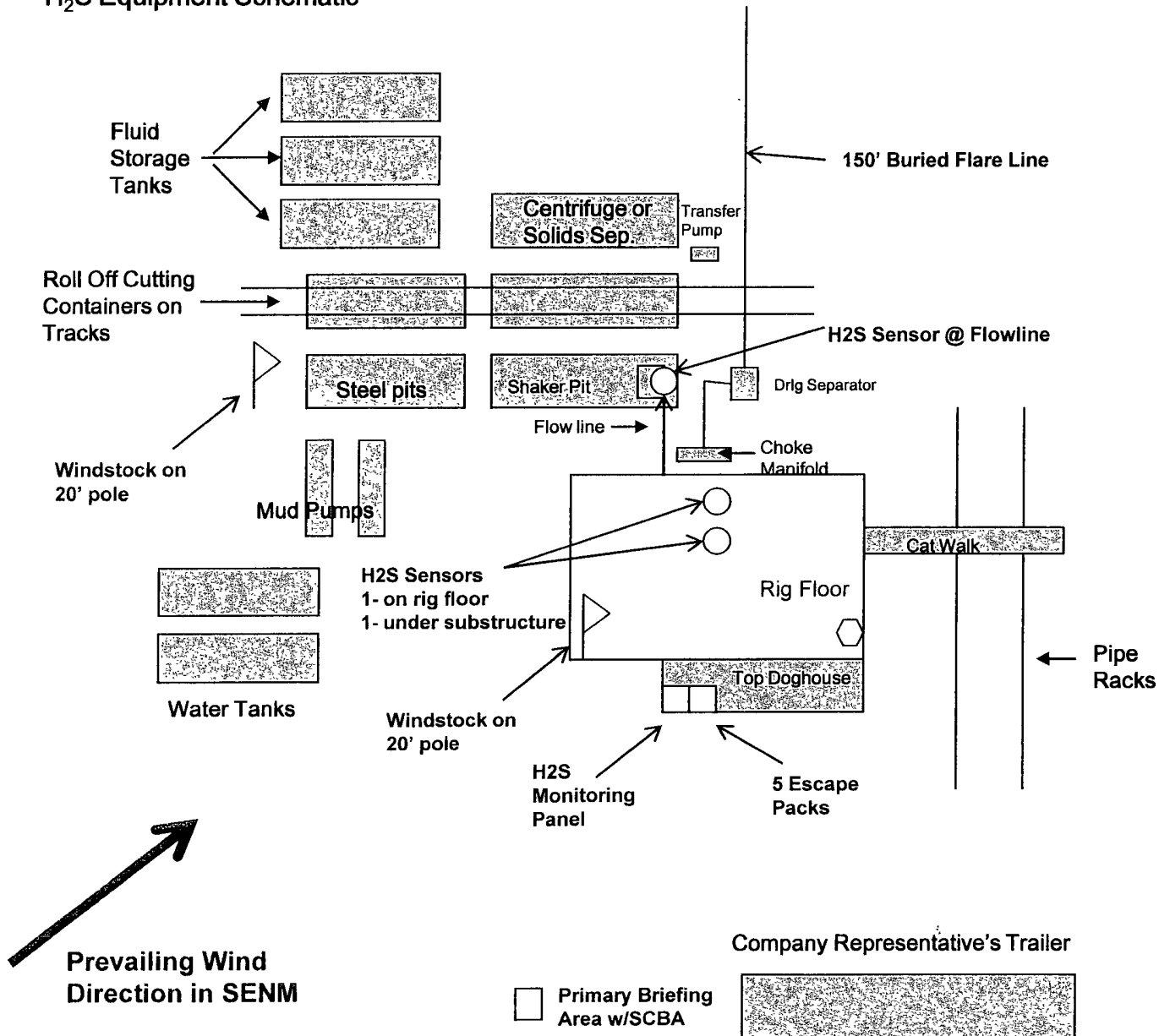
H₂S Equipment Schematic

Well pad will be 340' X 330'
with cellar in center of pad

Location
Entry
Condition
Sign

Briefing Area
w/SCBA

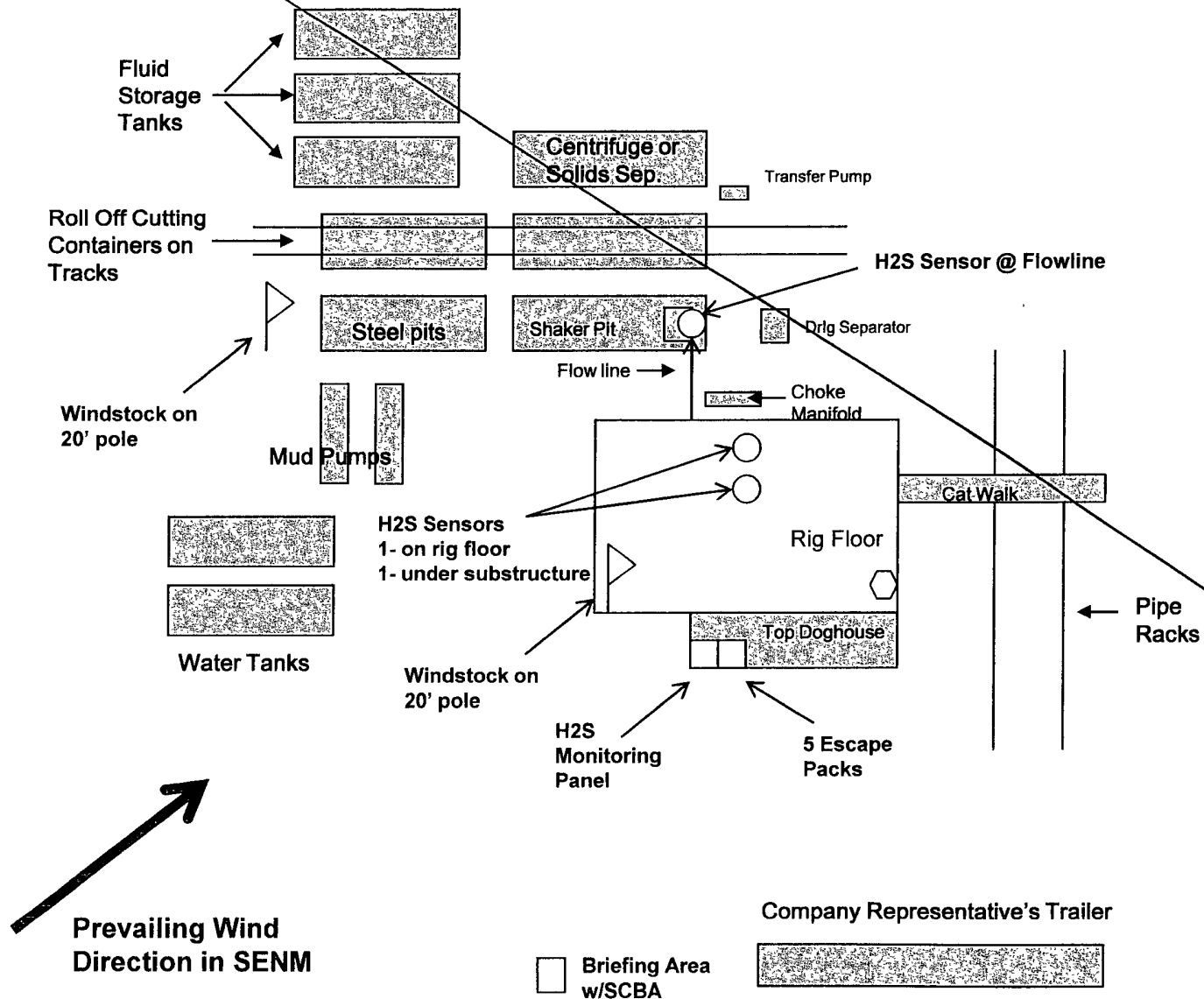
N



Primary Briefing
Area w/SCBA

COG Operating LLC
H₂S Equipment Schematic

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



N

Replaced
8/23/12
47

□ Briefing Area
w/SCBA

Location Entry
Condition Sign





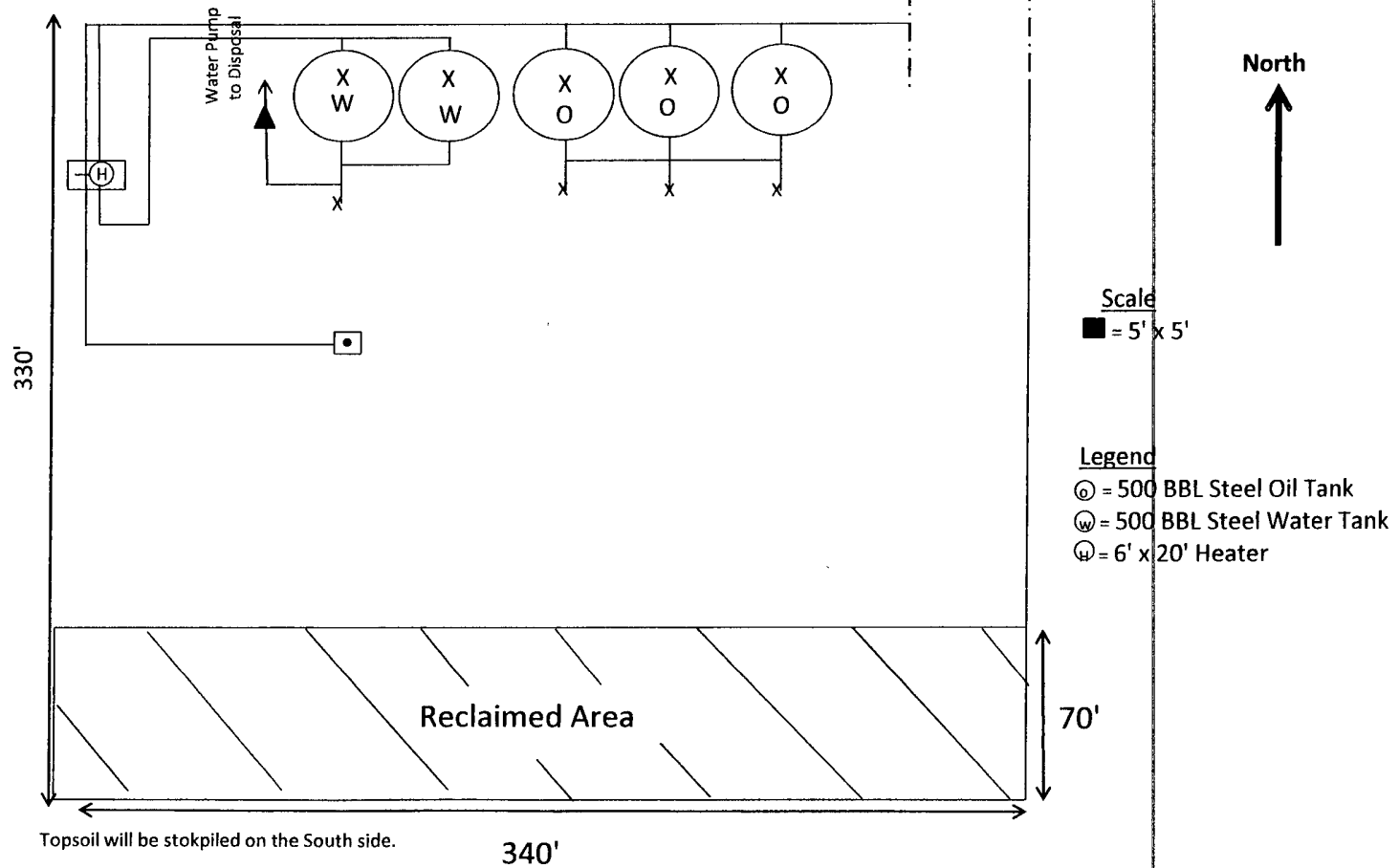
COG Operating LLC

2208 West Main

Artesia, NM 88210

Exhibit 3 Production Facility Layout

Baby Buddha 13 Federal #1H



PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Production
LEASE NO.:	NM12559
WELL NAME & NO.:	1H Baby Buddah 13 Federal
SURFACE HOLE FOOTAGE:	2350' FSL & 190' FWL
BOTTOM HOLE FOOTAGE	2190' FSL & 330' FEL
LOCATION:	Section 13, T.26 S., R.28 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.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Hydrology
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**