AT5-12-308

OCD-ARTESIA

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Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.
NMLC - 029418A

6 If Indian, Allotee or Tribe Name
N/A

7 If Unit or CA Agreement, Name and No
NMNM-71030C; Skelly Unit

1a Type of work. ☑ DRILL ☐ REENTER

1b Type of Well ☑ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

8 Lease Name and Well No
SKELLY UNIT #649 <303560?>

2 Name of Operator
Chevron USA **Agent: COG Operating LLC** <229137>

9 API Well No
30-015- 40478

3a Address
550 W. Texas Ave., Suite 100
Midland, TX 79701

3b Phone No *(include area code)*
432-685-4384

10 Field and Pool, or Exploratory <96770>
FROM ~~Mar Loco~~; **Glorieta-Yeso** ~~97866~~

4 Location of Well *(Report location clearly and in accordance with any State requirements *)*
At surface **SHL: 10 FSL & 2229 FWL, Unit N**
At proposed prod zone **BHL: 330 FSL & 1650 FWL, Unit N**

11 Sec, T R M or Blk and Survey or Area
Sec 14 T17S R31E

14 Distance in miles and direction from nearest town or post office*
9 miles East of Loco Hills, NM

12 County or Parish
EDDY

13 State
NM

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
10'	**640**	**40**
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19 Proposed Depth	20 BLM/BIA Bond No on file
250'	**TVD: 6800' MD: 6846'**	**NMB000740; NMB000215**
21 Elevations (Show whether DF, KDB, RT, GL, etc)	22 Approximate date work will start*	23 Estimated duration
3887' GL	**04/30/2012**	**15 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
Title **Permitting Tech**	**Kelly Holly**	**02/13/2012**
Approved by *(Signature)* James A. Amos	Name *(Printed/Typed)* James A. Amos	Date JUL 10 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

**(Instructions on page 2)*

ROSWELL CONTROLLED WATER BASIN

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements make in this 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 COG Operating, LLC, 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 10th day of January, 2012.

Signed: Carl Bird

Printed Name: Carl Bird

Position: Drilling Engineer

Address: 550 W. Texas, Suite 1300, Midland, Texas 79701

Telephone: (432) 683-7443

Field Representative (if not above signatory): Same

E-mail: cbird@conchoresources.com

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 Road, 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 & 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- 40478	~~97866~~ 26770	~~MAR LOCO-Gloricta YEso~~ FREN

Property Code	Property Name	Well Number
305607	SKELLY UNIT	649
OGRID No	**Operator Name**	**Elevation**
229137	COG OPERATING, LLC	3887'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	14	17-S	31-E		10	SOUTH	2229	WEST	EDDY

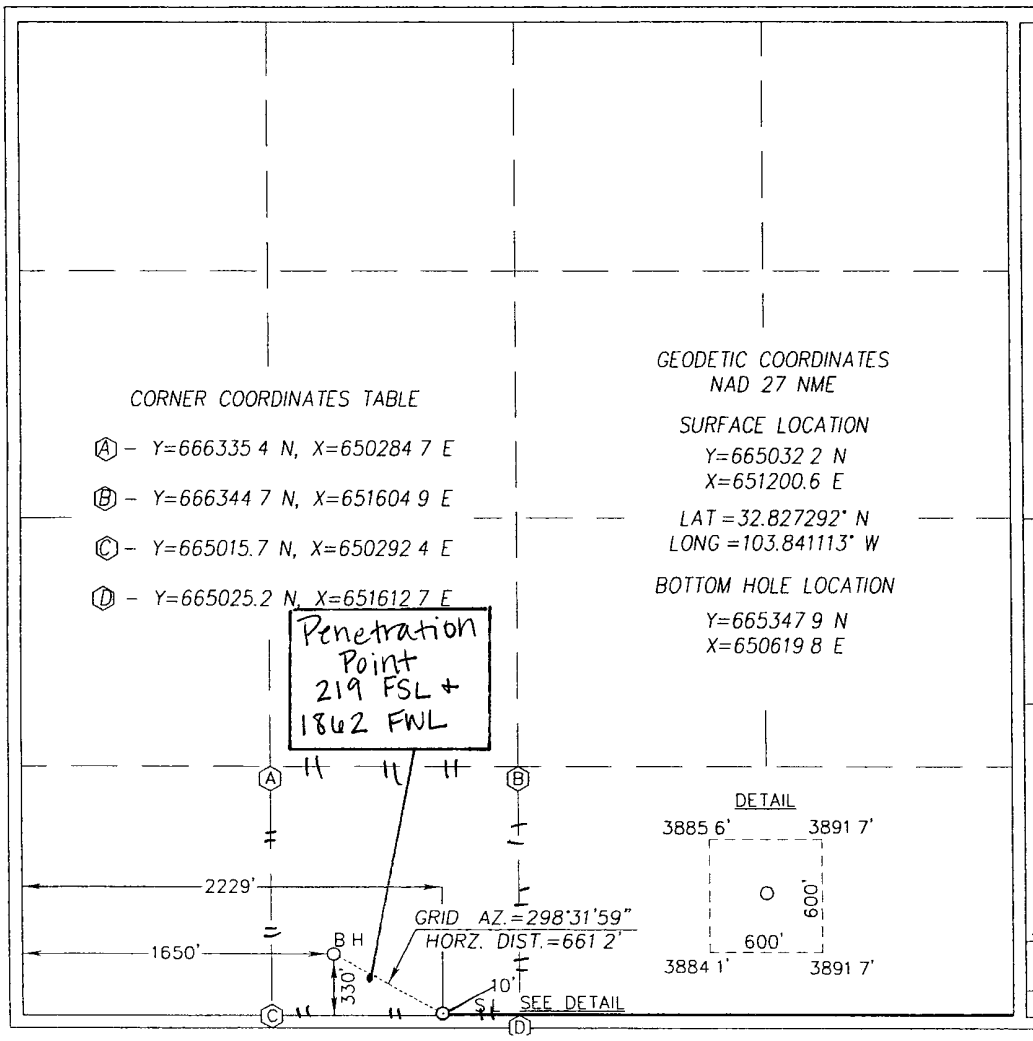
Bottom Hole Location If Different From Surface

UL or lot No	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	14	17-S	31-E		330	SOUTH	1650	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No
40			

7/10 6846

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division

Signature — Date: 1-12-2012

Kelly J. Holly
Printed Name

kholly@concho.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief

DECEMBER 20, 2011
Date of Survey

Signature & Seal of Professional Surveyor

RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

DE 06/2012

Certificate Number	Gary L. Eidson	12641
	Ronald J. Eidson	3239

AF — LA SC W O 11.11.2205

minimum volume and will be adjusted up after caliper is run. Stage 2: LEAD 450 sx 50:50:2 C:Poz:Gel w/ 5% Salt + 3 pps LCM + 0.6% SMS + 1% FL-25 + 1% BA-58 + 0.3% FL-52A + 0.125 pps CF, yield - 1.37, + TAIL 250 sx Class C w/ 0.3% R-3 + 1.5% CD-32, yield – 1.02 152% open hole excess, cement calculated back to surface (no need for excess in casing overlap). Multi stage tool to be set at approximately, depending on hole conditions, 3000'. Cement volumes will be adjusted proportionately for depth changes of multi stage tool, assumption for tool is water flow.

6. Minimum Specifications for Pressure Control

The blowout preventer equipment (BOP) shown in Exhibit #9 will consist of a double ram-type (2000 psi WP) preventer, and in some cases possibly a 2000 psi Hydril type annular preventer as provided for in Onshore Order #2. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on the bottom. A 13-5/8" or 11" BOP will be used, depending on the rig selected, during the drilling of the well. The BOP will be nippled up on the 13 3/8" surface casing with BOP equipment and tested to 2000 psi. When 11" BOP is used the special drilling flange will be utilized on the 13-3/8" head to allow testing the BOP with a retrievable test plug. After setting 8-5/8" the BOP will then be nippled up on the 8 5/8" intermediate casing and tested by a third party to 2000 psi and used continuously until total depth is reached. 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. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve, choke lines and a choke manifold (Exhibit #11) with a 2000 psi WP rating.

The majority of the rigs currently in use have a 13-5/8" BOP, so no special provision is needed for most wells in the area for conventionally testing the BOP with a test plug. However, due to the vagaries of rig scheduling, it might be that one of the few rigs with 11" BOP's might be called upon to drill any specific well in the area. Note that intermediate hole size is always 11". Therefore, COG Operating LLC respectfully requests a variance to the requirement of 13-5/8" BOP on 13-3/8" casing. When that circumstance is encountered the special flange will be utilized to allow testing the entire BOP with a test plug, without subjecting the casing to test pressure. The special flange also allows the return to full-open capability if desired. See COA

7. Types and Characteristics of the Proposed Mud System

The well will be drilled to TD with a combination of brine, cut brine and polymer mud system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-650' 555	Fresh Water	8.5	28	N.C.
650-1800'	Brine	10	30	N.C.
1800'-TD	Cut Brine	8.7-9.1	29	N.C.

Sufficient mud materials will be kept at the well site to maintain mud properties and meet minimum lost circulation and weight increase requirements at all times.

8. Auxiliary Well Control and Monitoring Equipment

A. Kelly cock will be kept in the drill string at all times.

B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

9. Logging, Testing and Coring Program See COA

A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log and will be run from TD to 8 5/8" casing shoe.

B. Drill Stem test is not anticipated.

C. No conventional coring is anticipated.

D. Further testing procedures will be determined after the 5 ½" production casing has been cemented at TD, based on drill shows and log evaluation.

10. Abnormal Conditions, Pressure, Temperatures and Potential Hazards

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 110 degrees and the estimated maximum bottom hold pressure is 2300 psig. Measurable gas volumes or Hydrogen Sulfide levels have not been encountered during drilling operations in this area, although a Hydrogen Sulfide Drilling Operation Plan is attached to this program. No major loss of circulation zones has been reported in offsetting wells.

11. Anticipated Starting Date and Duration of Operations

Road and location work will not begin until approval has been received from the BLM. As this is a Master Drilling plan, please refer to the Form 3160-3 for the anticipated start date. Once commenced, drilling operations should be finished in approximately 12 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities. Completion is planned in the Paddock and Blinebry formations.

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Site Skelly Unit #649
Company:	COG Operating LLC	**TVD Reference:**	GL @ 3887 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL @ 3887 00usft
Site:	Skelly Unit #649	**North Reference:**	Grid
Well:	Skelly Unit #649	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 7-7/8" Hole		

Project Eddy County, NM (NAN27 NME)

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 Skelly Unit #649

Site Position:		**Northing:**	665,032 20 usft	**Latitude:**	32° 49' 38 253 N
From:	Map	**Easting:**	651,200 60 usft	**Longitude:**	103° 50' 28 007 W
Position Uncertainty:	0 00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0 27 °

Well Skelly Unit #649

Well Position	**+N/-S**	0 00 usft	**Northing:**	665,032 20 usft	**Latitude:**	32° 49' 38 253 N
	+E/-W	0 00 usft	**Easting:**	651,200 60 usft	**Longitude:**	103° 50' 28 007 W
Position Uncertainty		0 00 usft	**Wellhead Elevation:**		**Ground Level:**	3,887 00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2012/01/13	7 69	60 68	48,889

Design Plan #1 7-7/8" Hole

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0 00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0 00	0 00	0 00	299 71

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 00	0 00	0.00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
1,950 00	0 00	0 00	1,950 00	0 00	0 00	0 00	0 00	0 00	0 00	
2,352 35	8 05	299 71	2,351 02	13 98	-24 50	2 00	2 00	-14 98	299 71	
6,845 56	8 05	299 71	6,800 00	325 70	-570 80	0 00	0 00	0 00	0.00	PBHL-SU #649

Database:	EDM 5000-1-Single User Db	**Local Co-ordinate Reference:**	Site Skelly Unit #649
Company:	COG Operating LLC	**TVD Reference:**	GL @ 3887 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL @ 3887 00usft
Site:	Skelly Unit #649	**North Reference:**	Grid
Well:	Skelly Unit #649	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" Hole		

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 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
South HL-SU #649 - West HL-SU #649									
1,850 00	0 00	0 00	1,850 00	0 00	0 00	0 00	0 00	0 00	0 00
8-5/8" Casing									
1,950 00	0 00	0 00	1,950 00	0 00	0 00	0 00	0 00	0 00	0 00
Start Build 2.00°/100'									
2,000 00	1 00	299 71	2,000 00	0 22	-0 38	0 44	2 00	2 00	0 00
2,100 00	3 00	299 71	2,099 93	1 95	-3 41	3 93	2 00	2 00	0 00
2,200 00	5 00	299 71	2,199 68	5.40	-9 47	10 90	2 00	2 00	0 00
2,300 00	7 00	299 71	2,299 13	10 58	-18 55	21 35	2 00	2 00	0 00
2,352 35	8 05	299 71	2,351.03	13 98	-24 50	28 21	2 00	2 00	0 00
Hold 8.05°									
2,400 00	8 05	299 71	2,398 21	17 29	-30 29	34 88	0 00	0 00	0 00
2,500 00	8 05	299 71	2,497 22	24 22	-42 45	48 88	0 00	0 00	0 00
2,600 00	8 05	299 71	2,596 24	31 16	-54 61	62 87	0 00	0 00	0 00
2,700 00	8 05	299 71	2,695 26	38 10	-66 77	76 87	0 00	0 00	0 00
2,800 00	8 05	299 71	2,794 27	45 04	-78 93	90 87	0 00	0 00	0 00
2,900.00	8 05	299 71	2,893 29	51 97	-91 09	104 87	0 00	0 00	0 00
3,000 00	8 05	299 71	2,992 30	58 91	-103 24	118.87	0 00	0 00	0 00
3,100 00	8 05	299 71	3,091 32	65 85	-115 40	132 87	0 00	0 00	0 00
3,200 00	8 05	299 71	3,190 33	72 79	-127 56	146 87	0 00	0 00	0 00
3,300 00	8 05	299 71	3,289 35	79 72	-139 72	160 86	0 00	0 00	0 00
3,400 00	8 05	299 71	3,388 36	86 66	-151 88	174 86	0 00	0 00	0 00
3,500 00	8 05	299 71	3,487 38	93 60	-164 04	188 86	0 00	0 00	0 00
3,600 00	8 05	299 71	3,586 39	100 54	-176 19	202 86	0 00	0 00	0 00
3,700 00	8 05	299 71	3,685 41	107 47	-188 35	216 86	0 00	0 00	0 00
3,800 00	8 05	299 71	3,784 42	114 41	-200 51	230 86	0 00	0 00	0 00
3,900 00	8 05	299 71	3,883.44	121 35	-212 67	244 85	0 00	0 00	0 00
4,000 00	8 05	299 71	3,982 46	128.29	-224 83	258 85	0 00	0 00	0 00
4,100 00	8 05	299 71	4,081 47	135 22	-236 99	272 85	0 00	0 00	0 00
4,200 00	8 05	299 71	4,180 49	142 16	-249 14	286 85	0.00	0 00	0 00
4,300 00	8 05	299 71	4,279 50	149 10	-261 30	300 85	0 00	0 00	0 00
4,400 00	8 05	299 71	4,378.52	156 04	-273 46	314 85	0 00	0 00	0 00
4,500 00	8 05	299 71	4,477 53	162 97	-285 62	328 84	0 00	0 00	0 00
4,600 00	8 05	299 71	4,576 55	169 91	-297 78	342 84	0 00	0 00	0 00
4,700 00	8 05	299 71	4,675 56	176 85	-309 94	356 84	0 00	0 00	0 00
4,800 00	8 05	299 71	4,774 58	183 79	-322 09	370.84	0 00	0 00	0 00
4,900 00	8 05	299 71	4,873.59	190 73	-334 25	384 84	0 00	0 00	0 00
5,000 00	8 05	299 71	4,972 61	197 66	-346 41	398 84	0 00	0 00	0 00
5,100 00	8 05	299 71	5,071 62	204 60	-358 57	412 83	0 00	0 00	0 00
5,169 06	8 05	299 71	5,140 00	209 39	-366 96	422 50	0 00	0 00	0 00
Top of Paddock									
5,200 00	8 05	299 71	5,170 64	211.54	-370 73	426 83	0 00	0 00	0 00
5,300 00	8 05	299 71	5,269 66	218 48	-382 89	440 83	0 00	0 00	0 00
5,400 00	8 05	299 71	5,368 67	225 41	-395 04	454 83	0 00	0 00	0 00
5,500 00	8 05	299 71	5,467 69	232 35	-407 20	468 83	0 00	0 00	0 00
5,600 00	8 05	299 71	5,566 70	239 29	-419 36	482 83	0 00	0 00	0 00
5,700 00	8 05	299 71	5,665 72	246 23	-431 52	496 83	0 00	0 00	0 00
5,800 00	8 05	299 71	5,764 73	253 16	-443 68	510 82	0 00	0 00	0 00
5,900 00	8 05	299 71	5,863 75	260 10	-455 84	524 82	0.00	0 00	0 00
6,000 00	8 05	299 71	5,962 76	267 04	-467 99	538 82	0 00	0 00	0 00
6,100 00	8 05	299 71	6,061 78	273 98	-480 15	552 82	0 00	0 00	0 00
6,200 00	8 05	299 71	6,160 79	280 91	-492 31	566 82	0 00	0 00	0 00
6,300 00	8 05	299 71	6,259 81	287 85	-504 47	580 82	0 00	0 00	0 00

Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Skelly Unit #649
Company:	COG Operating LLC	TVD Reference:	GL @ 3887 00usft
Project:	Eddy County, NM (NAN27-NME)	MD Reference:	GL @ 3887 00usft
Site:	Skelly Unit #649	North Reference:	Grid
Well:	Skelly Unit #649	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 7-7/8" Hole		

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)
6,400 00	8 05	299 71	6,358 82	294.79	-516 63	594 81	0 00	0 00	0 00
6,500 00	8 05	299 71	6,457 84	301 73	-528 79	608 81	0 00	0 00	0 00
6,600 00	8 05	299 71	6,556 86	308 66	-540 94	622 81	0 00	0 00	0 00
6,700 00	8 05	299 71	6,655 87	315.60	-553 10	636 81	0 00	0.00	0 00
6,800 00	8 05	299 71	6,754 89	322 54	-565 26	650 81	0.00	0 00	0 00
6,845 56	8 05	299 71	6,800 00	325 70	-570 80	657 19	0 00	0 00	0 00
PBHL-SU #649									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
South HL-SU #649	0 00	0 00	-1 00	315 70	-580 80	665,347 90	650,619 80	32° 49' 41 403 N	103° 50' 34 796 W
- plan misses target center by 661 06usft at 0 00usft MD (0 00 TVD, 0 00 N, 0 00 E)									
- Rectangle (sides W400 00 H0 00 D0 00)									
West HL-SU #649	0.00	0 00	-1 00	315 70	-580 80	665,347 90	650,619 80	32° 49' 41 403 N	103° 50' 34 796 W
- plan misses target center by 661 06usft at 0 00usft MD (0 00 TVD, 0 00 N, 0 00 E)									
- Rectangle (sides W0 00 H100 00 D0 00)									
PBHL-SU #649	0 00	0 00	6,800 00	325 70	-570 80	665,357 90	650,629 80	32° 49' 41 502 N	103° 50' 34 678 W
- plan hits target center									
- Circle (radius 10 00)									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,850 00	1,850 00	8-5/8" Casing	8-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,169 06	5,140 00	Top of Paddock		0 00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,950 00	1,950 00	0 00	0 00	Start Build 2 00°/100'
2,352 35	2,351 03	13 98	-24 50	Hold 8 05°

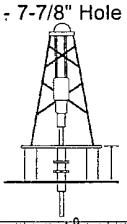
CONCHO

Scientific Drilling
Directional Drilling Operations

Azimuths to Grid North
True North -0 27°
Magnetic North 7 42°
Magnetic Field
Strength 48888 6nT
Dip Angle 60 68°
Date 2012/01/13
Model IGRF2010

To convert a Magnetic Direction to a Grid Direction Add 7 42°
To convert a True Direction to a Grid Direction Subtract 0 27°

Skelly Unit #649
Eddy County, NM (NAN27 NME)
Northing: (Y) 665032.20
Easting: (X) 651200.60
Plan #1 - 7-7/8" Hole



WELL DETAILS Skelly Unit #649

Ground Level 3887 00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0 00	665032 20	651200 60	32° 49' 38 253 N	103° 50' 28 007 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	1950 00	0 00	0 00	1950 00	0 00	0 00	0 00	0 00	0 00	
3	2352 35	8 05	299 71	2351 02	13 98	-24 50	2 00	299 71	28 21	
4	6845 56	8 05	299 71	6800 00	325 70	-570 80	0 00	0 00	657 19	PBHL-SU #649

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
South HL-SU #649	-1 00	315 70	-580 80	665347 90	650619 8032	32° 49' 41 403 N	103° 50' 34 798 W	Rectangle (Sides L0 00 W400 00)
- plan misses target center by 661 06usft at 0 00usft MD (0 00 TVD 0 00 N 0 00 E)								
West HL-SU #649	-1 00	315 70	-580 80	665347 90	650619 8032	32° 49' 41 403 N	103° 50' 34 798 W	Rectangle (Sides L100 00 W0 00)
- plan misses target center by 661 06usft at 0 00usft MD (0 00 TVD 0 00 N 0 00 E)								
PBHL-SU #649	6800 00	325 70	-570 80	665357 90	650629 8032	32° 49' 41 502 N	103° 50' 34 678 W	Circle (Radius 10 00)
- plan hits target center								

SITE DETAILS Skelly Unit #649

Site Centre Northing 665032 20
Easting 651200 60

Positional Uncertainty 0 00
Convergence 0 27
Local North Grid

PROJECT DETAILS Eddy County, NM (NAN27 NME)

Geodetic System US State Plane 1927 (Exact solution)
Datum NAD 1927 (NADCON CONUS)
Ellipsoid Clarke 1866
Zone New Mexico East 3001

System Datum Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
5140 00	5189 06	Top of Paddock	0 00	

Map System US State Plane 1927 (Exact solution)
Datum NAD 1927 (NADCON CONUS)
Ellipsoid Clarke 1866
Zone Name New Mexico East 3001

Local Origin Site Skelly Unit #649 Grid North

Latitude 32° 49' 38 253 N
Longitude 103° 50' 28 007 W

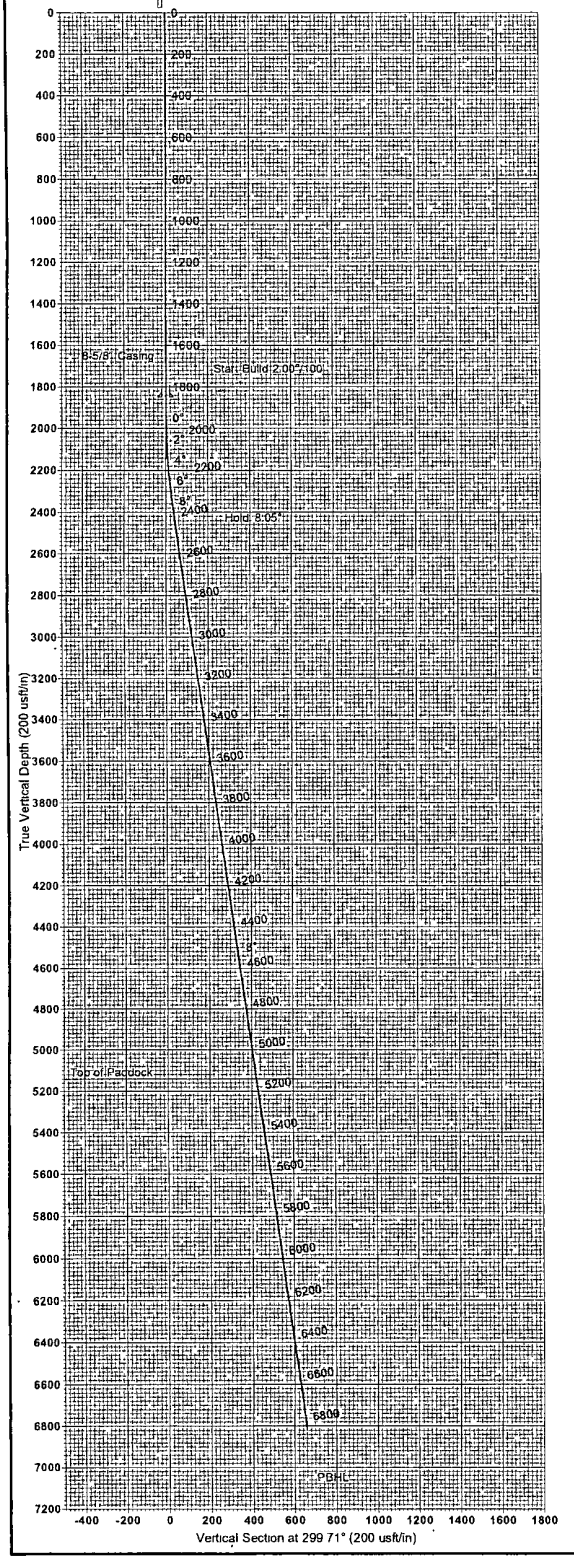
Grid East 651200 60
Grid North 665032 20
Scale Factor 1 000

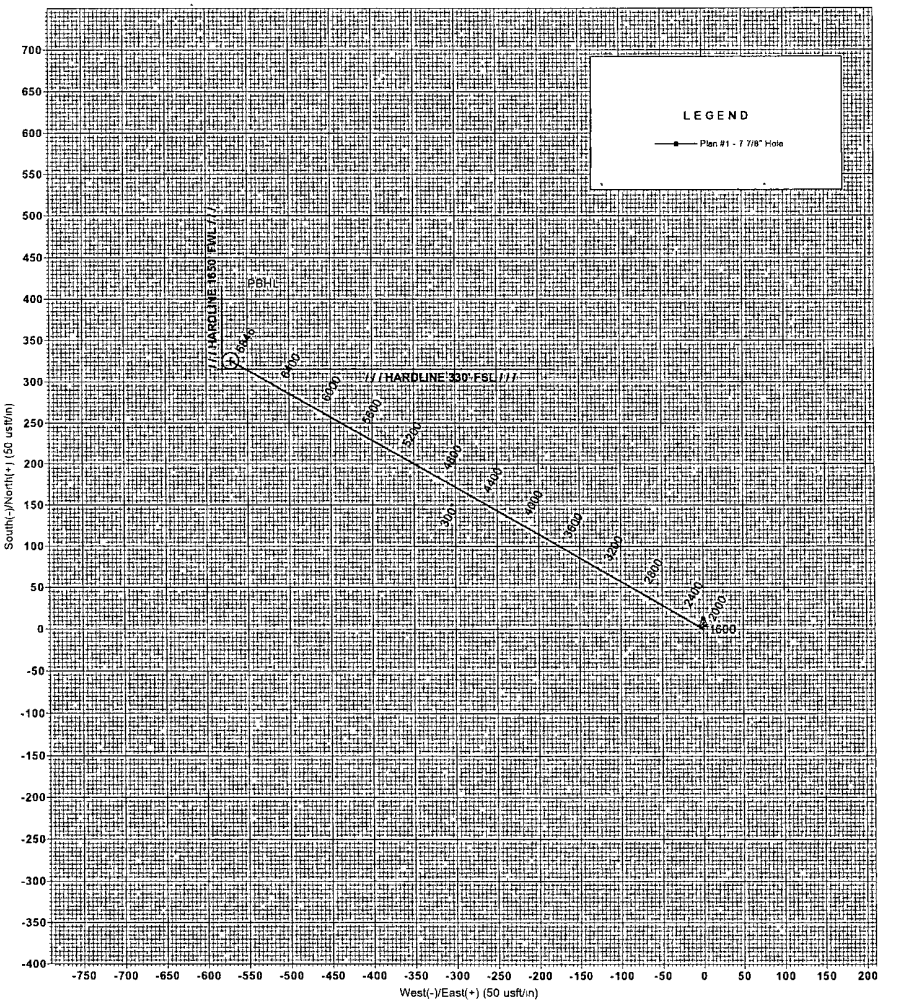
Geomagnetic Model IGRF2010
Sample Date 13-Jan-12
Magnetic Declination 7 69°
Dip Angle from Horizontal 60 68°
Magnetic Field Strength 48889

To convert a Magnetic Direction to a Grid Direction Add 7 42°
To convert a Magnetic Direction to a True Direction Add 7 69 East
To convert a True Direction to a Grid Direction Subtract 0 27°

CASING DETAILS

TVD	MD	Name	Size
1850 00	1850 00	8-5/8 Casing	8-5/8





COG OPERATING LLC
550 West Texas, Suite 1300
Midland, TX 79701

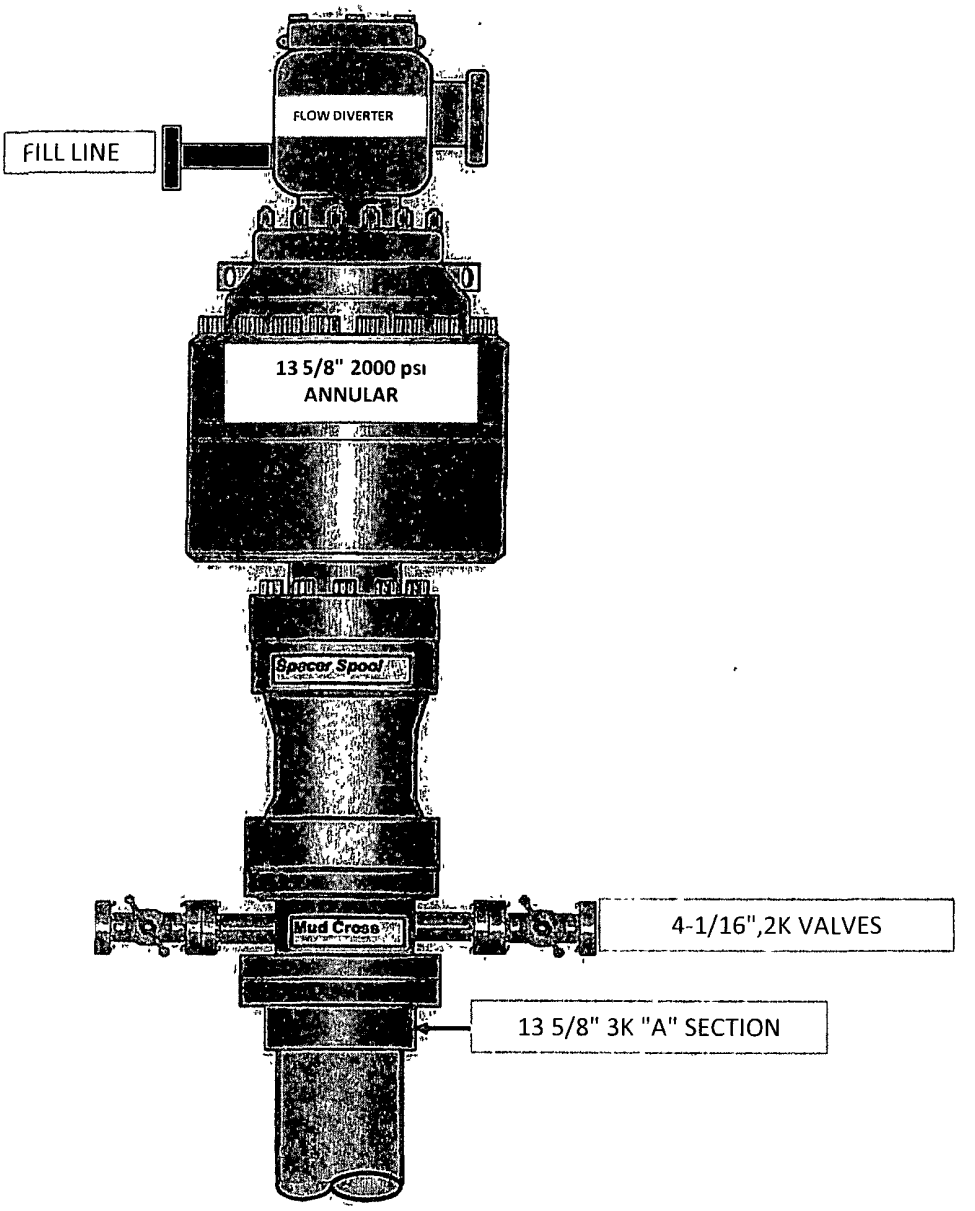
DIRECTIONAL PLAN VARIANCE REQUEST

SKELLY UNIT #649
EDDY COUNTY, NM

SHL	10 FSL 2229 FWL	Sec 14, T17S, R31E, UL N
BHL	330 FSL 1650 FWL	Sec 14, T17S, R31E, UL N

COG Operating LLC, as Operator, desires that the APD reflect the footages as stated on the surveyor's plat However, Operator also desires to avoid inadvertently drilling the well to a non-standard location. Therefore, due to the proximity of the plat bottom hole location to the pro-ration unit hard line(s), the attached directional plan is designed to avoid the hard lines by as much as fifty feet; said fifty feet being in either (or both) the north-south and/or east-west directions as applicable.

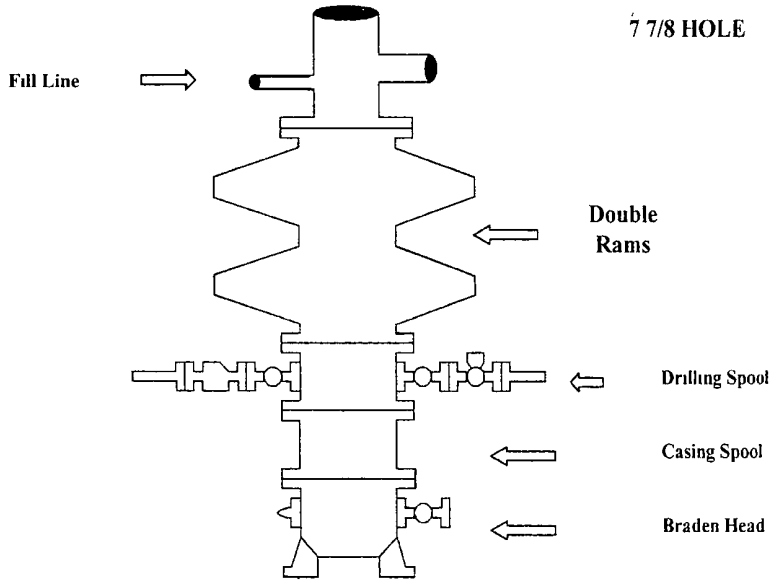
13 5/8" 2K ANNULAR



COG Operating LLC

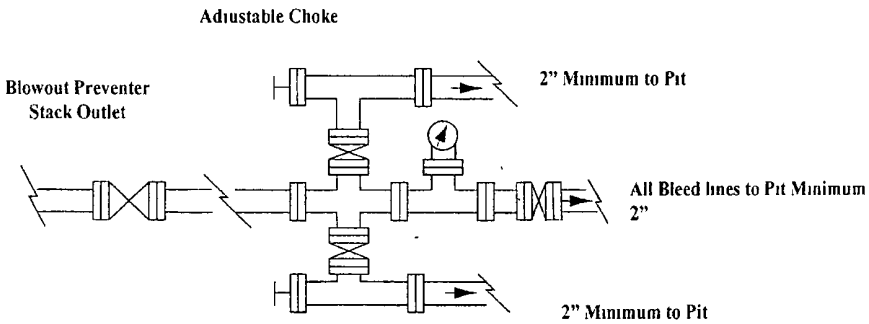
Exhibit #9

BOPE and Choke Schematic



Minimum 4" Nominal choke and kill lines

Choke Manifold Requirement (2000 psi WP)
No Annular Required



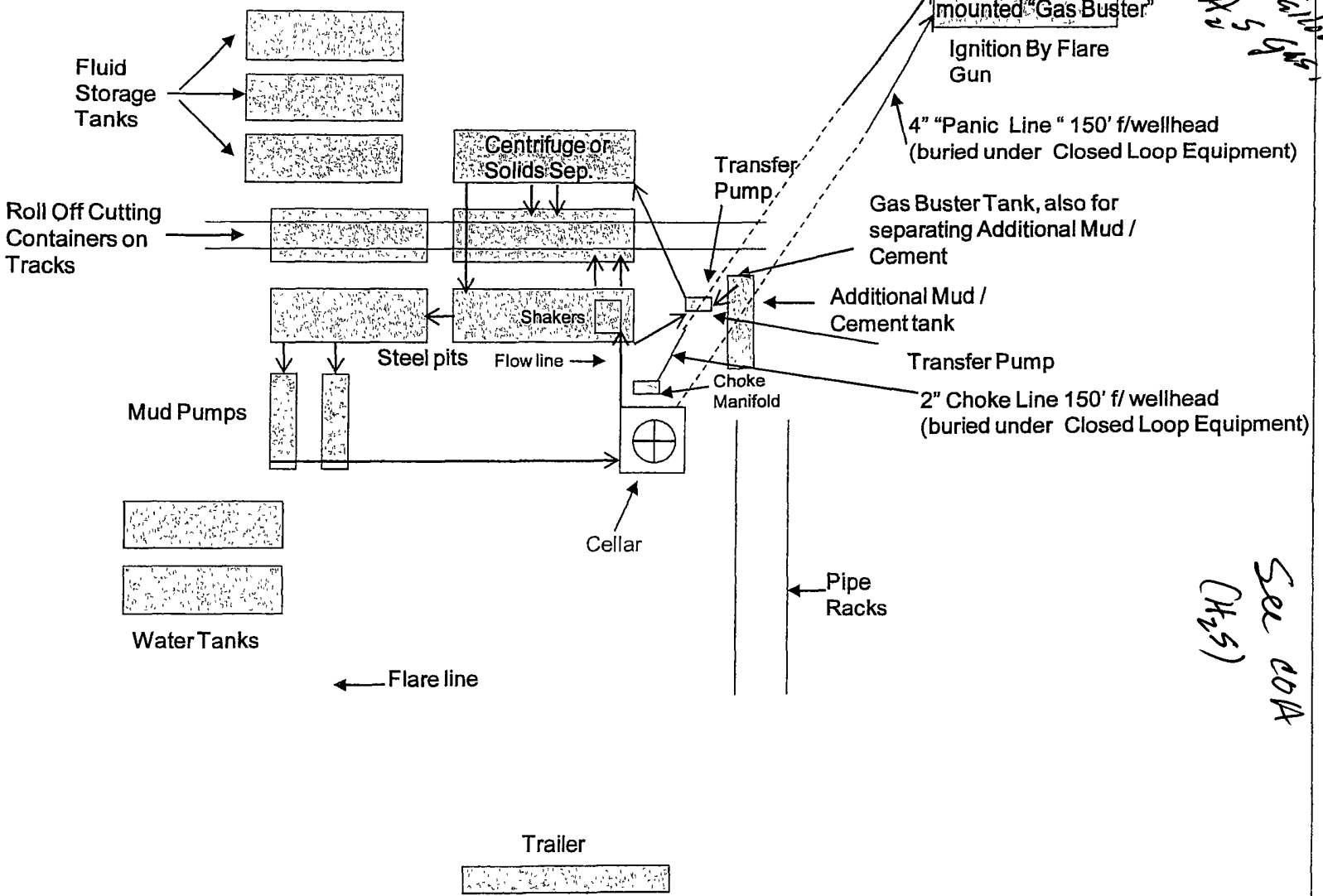
Adjustable Choke
(or Positive)

NOTES REGARDING THE BLOWOUT PREVENTERS
Master Drilling Plan
Eddy County, New Mexico

1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
4. All fittings to be flanged.
5. Safety valve must be available on rig floor at all times with proper connections, valve to be full 2000 psi WP minimum
6. All choke and fill lines to be securely anchored especially ends of choke lines
7. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
8. Kelly cock on Kelly.
9. Extension wrenches and hands wheels to be properly installed.
10. Blow out preventer control to be located as close to driller's position as feasible.
11. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation all API specifications.

COG Operating LLC

Closed Loop Equipment Diagram



Open bottom gas buster won't allow ignition of H_2S gas

See COA (H_2S)

All drilling fluid circulated over shaker(s) with cuttings discharged into roll off container.

Fluid and fines below shaker(s) are circulated with transfer pump through centrifuge(s) or solids separator with cuttings and fines discharged into roll off container.

Fluid is continuously re-circulated through equipment with polymer added to aid separation of cutting fines.

Roll off containers are lined and de-watered with fluids re-circulated into system.

Additional tank is used to capture unused drilling fluid or cement returns from casing jobs.

This equipment will be maintained 24 hrs./day by solids control personnel and or rig crews that stay on location.

Cuttings will be hauled to either:

CRI (permit number R9166)
or
GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.

COG Operating LLC

Hydrogen Sulfide Drilling Operation 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:

1. The hazards an characteristics of hydrogen sulfide (H2S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H2S detectors alarms warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

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

1. The effects of H2S on metal components. If high tensile tubular are to be used, personnel well be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H2S Drilling Operations Plan and 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. **The concentrations of H2S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

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 reasonable expected to contain H2S.

1. **Well Control Equipment:**

   A. Flare line.

   B. Choke manifold.

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

   D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

2. **Protective equipment for essential personnel:**

   A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. **H2S detection and monitoring equipment:**

   A. 1 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. **Visual warning systems:**

   A. Wind direction indicators as shown on well site diagram (Exhibit #8).

   B. Caution/Danger signs (Exhibit #7) 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.

5. **Mud program:**

   A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices, and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. **Metallurgy:**

   A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

   B. All elastomers used for packing and seals shall be H2S trim.

7. **Communication:**

   A. Radio communications in company vehicles including cellular telephone and 2-way radio.

   B. Land line (telephone) communication at Office.

8. **Well testing:**

   A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H2S environment will use the closed chamber method of testing.

   B. There will be no drill stem testing.

EXHIBIT #7

WARNING

YOU ARE ENTERING AN H_2S

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. CHECK WITH COG OPERATING FOREMAN AT

COG OPERATING LLC

1-432-683-7443

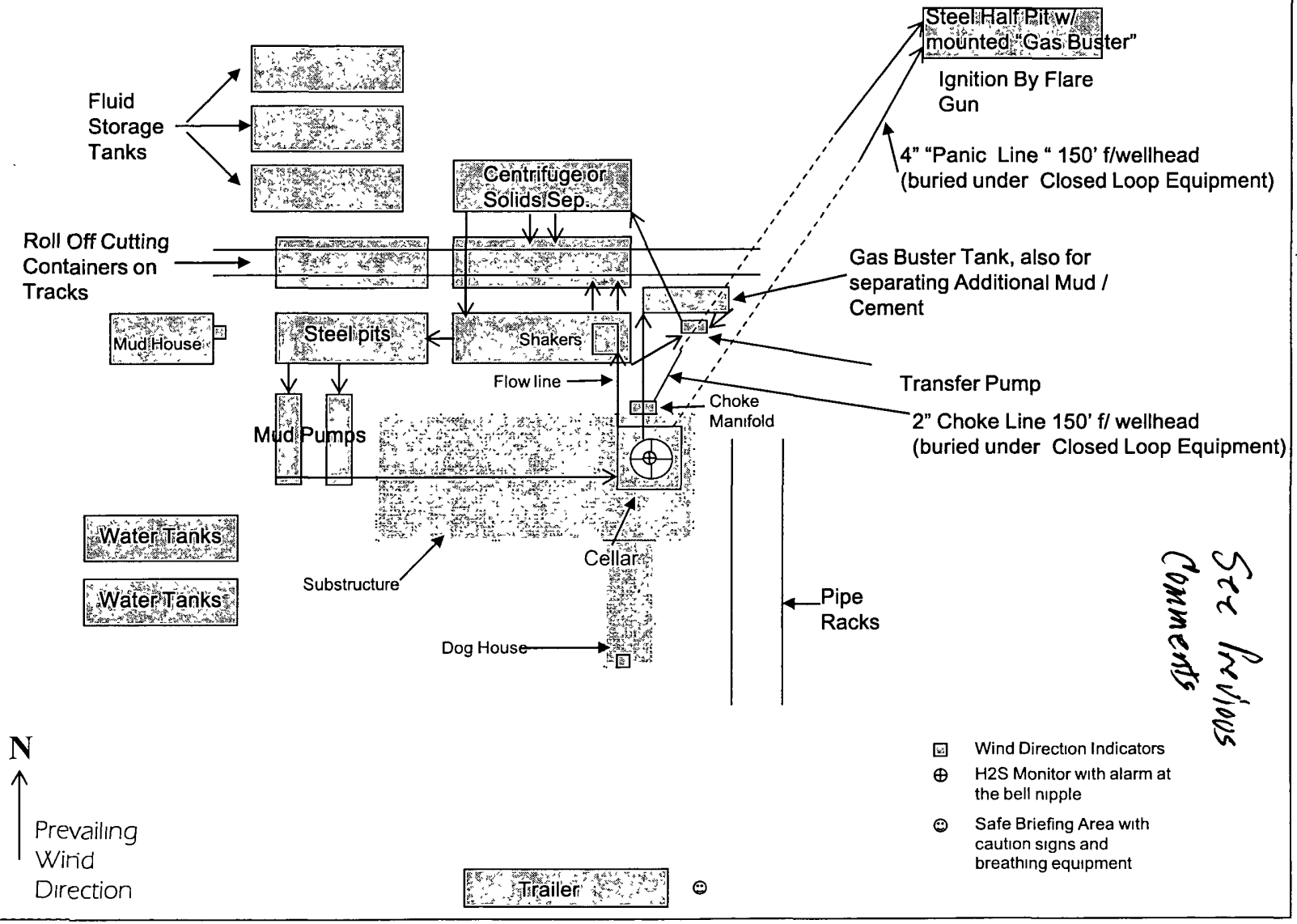
1-575-746-2010

EDDY COUNTY EMERGENCY NUMBERS	*LEA COUNTY EMERGENCY NUMBERS*
ARTESIA FIRE DEPT. 575-746-5050	HOBBS FIRE DEPT. 575-397-9308
ARTESIA POLICE DEPT. 575-746-5000	HOBBS POLICE DEPT. 575-397-9285
EDDY CO. SHERIFF DEPT. 575-746-9888	LEA CO. SHERIFF DEPT. 575-396-1196

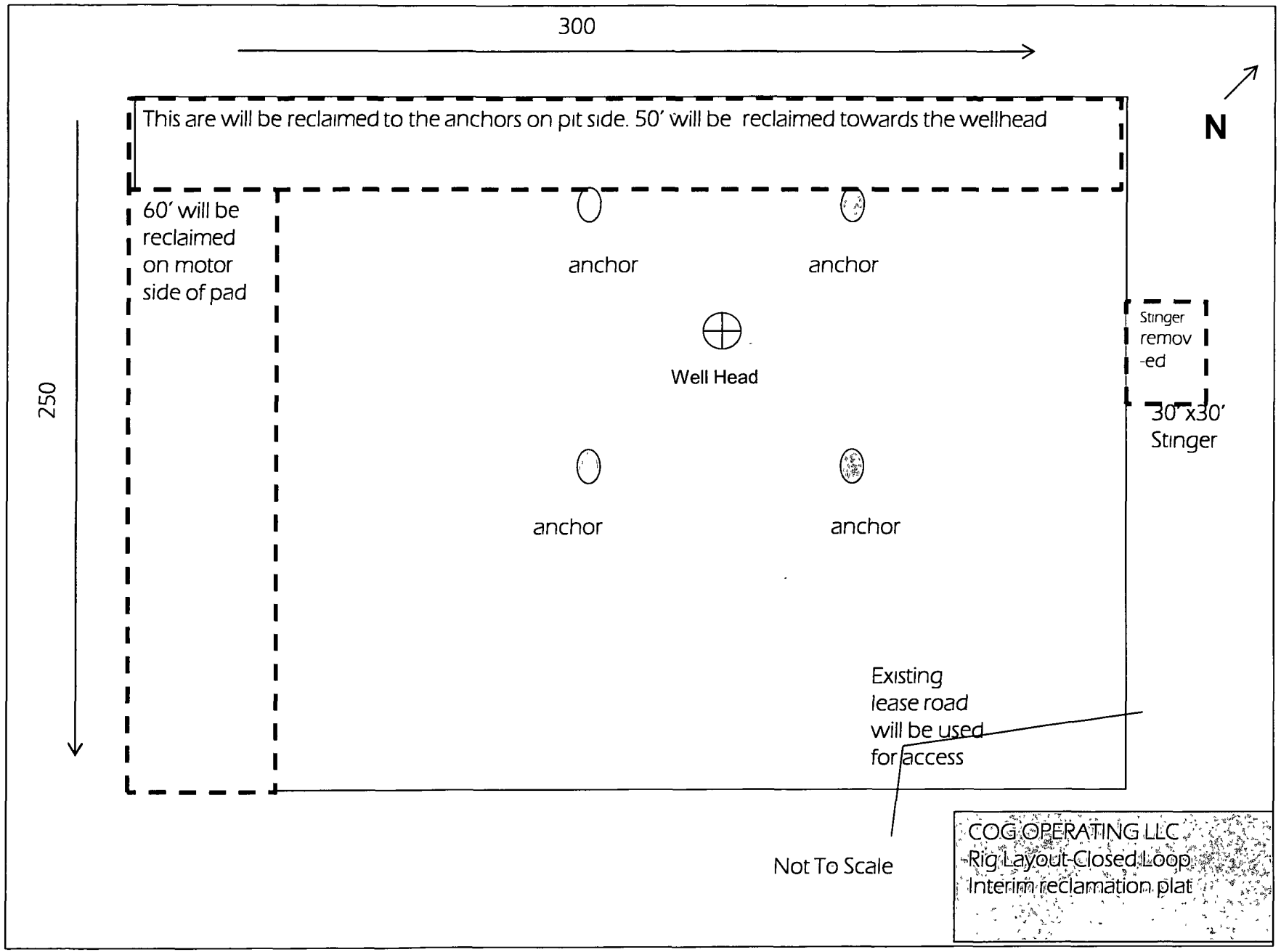
COG Operating LLC

EXHIBIT 8

Drilling Location - H2S Safety Equipment Diagram



See previous Comments


300
N
This are will be reclaimed to the anchors on pit side. 50' will be reclaimed towards the wellhead
60' will be reclaimed on motor side of pad
anchor
anchor
Well Head
Stinger removed
30' x30' Stinger
250
anchor
anchor
Existing lease road will be used for access
Not To Scale
COG OPERATING LLC
Rig Layout-Closed Loop
Interim reclamation plat

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING, LLC
LEASE NO.:	LC-029418A
WELL NAME & NO.:	SKELLY UNIT #649
SURFACE HOLE FOOTAGE:	10' FSL & 2229' FWL
BOTTOM HOLE FOOTAGE	330' FSL & 1650' FWL
LOCATION:	Section 14, T.17 S., R.31 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.