

OCD Artesia

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of work: ☒ DRILL ☐ REENTER		5 Lease Serial No. NMLC-029418A	
1b Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone		6 If Indian, Allottee or Tribe Name N/A	
2 Name of Operator COG Operating LLC		7 If Unit or CA Agreement, Name and No. NMNM-71030C; Skelly Unit	
3a Address 550 W. Texas Ave., Suite 1300 Midland, TX 79701		8 Lease Name and Well No. SKELLY UNIT #766	
3b. Phone No. (include area code) 432-685-4384		9 API Well No. 30-015- 38699	
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface 666 FNL & 162 FEL, Unit A At proposed prod zone 330 FNL & 330 FEL, Unit A		10 Field and Pool, or Exploratory Green; Glorieta-Yeso 26770	
14 Distance in miles and direction from nearest town or post office* 9 miles East of Loco Hills, NM		11 Sec, T R M or Blk and Survey or Area Sec 23 T17S R31E	
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 162'		12 County or Parish EDDY	
16 No. of acres in lease 640		13 State NM	
17 Spacing Unit dedicated to this well 40		18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 600'	
19 Proposed Depth TVD: 6700' MD: 6729'		20 BLM/BIA Bond No. on file NMB000740	
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3898' GL		22 Approximate date work will start* 08/31/2011	
23 Estimated duration 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. | 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2 A Drilling Plan | 5 Operator certification |
| 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) | 6 Such other site specific information and/or plans as may be required by the authorized officer. |

25 Signature 	Name (Printed/Typed) Kelly J. Holly	Date 06/13/2011
Title Permitting Tech		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date AUG - 5 2011
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.

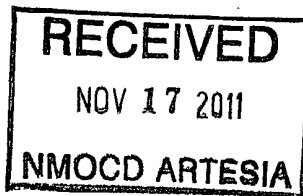
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 USC Section 1001 and Title 43 USC 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



Witness Surface Casing

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

But

MASTER DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Rustler	628'
Top of Salt	801'
Base of Salt	1771'
Yates	1958'
Seven Rivers	2293'
Queen	2915'
Grayburg	3345'
San Andres	3697'
Glorietta	5240'
Paddock	5299'
Blinbry	5736'
Tubb	6700'

3. Estimated Depths of Anticipated Fresh Water, Oil and Gas

Water Sand	150'	Fresh Water
Grayburg	3345'	Oil/Gas
San Andres	3697'	Oil/Gas
Glorieta	5240'	Oil/Gas
Paddock	5299'	Oil/Gas
Blinebry	5736'	Oil/Gas
Tubb	6700'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 650' and circulating cement back to the surface will protect the surface fresh water sand. The Salt Section will be protected by setting 8 5/8" casing to 1800' and circulating cement, in a single or multi-stage job and/or with an ECP, back to the surface. Any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them. This will be achieved by cementing, with a single or multi-stage job, the 5 1/2" production casing back 200' into the intermediate casing, (but calculated to surface) to be run at TD. If wellbore conditions arise that require immediate action and/or a change to this program, COG Operating LLC personnel will always react to protect the wellbore and/or the environment.

4. Casing Program *See COA*

	Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	burst/collapse/tension
600	17 1/2"	0-650'	13 3/8"	48#	H-40orJ-55	New	ST&C	8.71/3.724/14.91
1876	11"	0- 1800'	8 5/8"	24or32#	J-55	New	ST&C	2.91/1.46/5.65
6729	7 7/8"	0-T.D.	5 1/2"	15.5 or 17#	J-55orL80	New	LT&C	1.71/1.574/2.20

5. Cement Program

13 3/8" Surface Casing:

Class C, 475 sx w/ 2% CaCl₂, 0.25 pps CF, yield-1.32, back to surface 100% excess

8 5/8" Intermediate Casing:

11" Hole:

Single Stage: LEAD 350 sx 50:50:10 C:Poz:Gel w/ 5% Salt +0.25% CF, yield-2.45 + TAIL 200 sx Class C w/2% CaCl₂, yield-1.32, back to surface. 145% excess

Multi-Stage: Stage 1: 350 sx Class C, w/2% CaCl₂, yield - 1.32. 40% excess
Stage 2: 200 sx Class C w/2% CaCl₂, yield - 1.32, back to surface, 108% excess
Multi stage tool to be set at approximately, depending on hole conditions, 700' (50' below the surface casing). Cement volumes will be adjusted proportionately for depth changes of multi stage tool.

See COA

5 1/2" Production Casing:

Single Stage: LEAD 500 sx 35:65:6 C:Poz:Gel w/ 5% Salt + 5 pps LCM + 0.2% SMS + 0.3% FL-52A + 0.125 pps CF, yield-2.05 + TAIL 400 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, to 200' minimum tie back to intermediate casing. 44.4% open hole excess, cement calculated back to surface.

Multi-Stage: Stage 1: (Assumed TD of 6700') 500 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, 7% excess; minimum volume, will be adjusted up after caliper is

See COA

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. 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 nipped 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 nipped 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 2014

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' <i>600</i>	Fresh Water	8.5	28	N.C.
650-1800' <i>1776</i>	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 1/2" 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.



COG Operating LLC

Eddy County, NM (NAN27 NME)

Skelly Unit #766

Skelly Unit #766

OH

Plan: Plan #1 7-7/8" Hole

SHL = 666' FNL & 162' FEL

BHL = 340' FNL & 380' FEL

Top of Paddock = 340' FNL & 380' FEL @ 4900' TVD

Standard Planning Report

11 April, 2011



Scientific Drilling
Directional Drilling Operations



Scientific Drilling
Planning Report



Database: EDM-Julio
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Skelly Unit #766
Well: Skelly Unit #766
Wellbore: OH
Design: Plan #1 7-7/8" Hole

Local Co-ordinate Reference: Site Skelly Unit #766
TVD Reference: GL Elev @ 3898 00usft
MD Reference: GL Elev @ 3898 00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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 #766
Site Position: Northing: 664,376 30 usft Latitude: 32° 49' 31 628 N
From: Map Easting: 654,091 90 usft Longitude: 103° 49' 54 160 W
Position Uncertainty: 0 00 usft Slot Radius: 13-3/16 " Grid Convergence: 0 27 °

Well: Skelly Unit #766
Well Position: +N/-S 0 00 usft Northing: 664,376 30 usft Latitude: 32° 49' 31 628 N
+E/-W 0 00 usft Easting: 654,091 90 usft Longitude: 103° 49' 54 160 W
Position Uncertainty: 0 00 usft Wellhead Elevation: Ground Level: 3,898 00 usft

Wellbore: OH
Magnetics: Model Name Sample Date Declination Dip Angle Field Strength
(°) (°) (nT)
IGRF2010 2011/04/11 7 77 60 70 48,965

Design: Plan #1 7-7/8" Hole
Audit Notes:
Version: Phase: PLAN Tie On Depth: 0 00
Vertical Section: Depth From (TVD) +N/-S +E/-W Direction
(usft) (usft) (usft) (°)
0 00 0 00 0 00 325 93

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	
2,394 80	8 90	325 93	2,393 02	28 55	-19 31	2 00	2 00	0 00	325 93	
4,483 90	8 90	325 93	4,456 98	296 15	-200 29	0 00	0 00	0 00	0 00	
4,928 70	0 00	0 00	4,900 00	324 70	-219 60	2 00	-2 00	0 00	180 00	TG1-Skelly #766
6,728 70	0 00	0 00	6,700 00	324 70	-219 60	0 00	0 00	0 00	0 00	PBHL-Skelly #766



Scientific Drilling
Planning Report



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Project: Eddy County, NM (NAN27 NME)
Site: Skelly Unit #766
Well: Skelly Unit #766
Wellbore: OH
Design: Plan #1 7-7/8" Hole

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

Site Skelly Unit #766
GL Elev @ 3898 00usft
GL Elev @ 3898 00usft
Grid
Minimum Curvature

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
North HL-Skelly #766 - East HL-Skelly #766										
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	
KOP Start Build 2.00°/100'										
2,000 00	1 00	325 93	2,000 00	0 36	-0 24	0 44	2 00	2 00	0 00	
2,100 00	3 00	325 93	2,099 93	3 25	-2 20	3 93	2 00	2 00	0 00	
2,200 00	5 00	325 93	2,199 68	9 03	-6 11	10 90	2 00	2 00	0 00	
2,300 00	7 00	325 93	2,299 13	17 69	-11 96	21 35	2 00	2 00	0 00	
2,394 80	8 90	325 93	2,393 02	28 55	-19 31	34 46	2 00	2 00	0 00	
EOC hold 8.90°										
2,400 00	8 90	325 93	2,398 15	29 21	-19 76	35 27	0 00	0 00	0 00	
2,500 00	8 90	325 93	2,496 95	42 02	-28 42	50 73	0 00	0 00	0 00	
2,600 00	8 90	325 93	2,595 75	54 83	-37 08	66 19	0 00	0 00	0 00	
2,700 00	8 90	325 93	2,694 54	67 64	-45 75	81 66	0 00	0 00	0 00	
2,800 00	8 90	325 93	2,793 34	80 45	-54 41	97 12	0 00	0 00	0 00	
2,900 00	8 90	325 93	2,892 14	93 26	-63 07	112 59	0 00	0 00	0 00	
3,000 00	8 90	325 93	2,990 93	106 07	-71 74	128 05	0 00	0 00	0 00	
3,100 00	8 90	325 93	3,089 73	118 88	-80 40	143 52	0 00	0 00	0 00	
3,200 00	8 90	325 93	3,188 53	131 69	-89 06	158 98	0 00	0 00	0 00	
3,300 00	8 90	325 93	3,287 33	144 50	-97 73	174 44	0 00	0 00	0 00	
3,400 00	8 90	325 93	3,386 12	157 31	-106 39	189 91	0 00	0 00	0 00	
3,500 00	8 90	325 93	3,484 92	170 12	-115 05	205 37	0 00	0 00	0 00	
3,600 00	8 90	325 93	3,583 72	182 93	-123 72	220 84	0 00	0 00	0 00	
3,700 00	8 90	325 93	3,682 51	195 74	-132 38	236 30	0 00	0 00	0 00	
3,800 00	8 90	325 93	3,781 31	208 55	-141 04	251 77	0 00	0 00	0 00	
3,900 00	8 90	325 93	3,880 11	221 36	-149 71	267 23	0 00	0 00	0 00	
4,000 00	8 90	325 93	3,978 91	234 17	-158 37	282 69	0 00	0 00	0 00	
4,100 00	8 90	325 93	4,077 70	246 98	-167 03	298 16	0 00	0 00	0 00	
4,200 00	8 90	325 93	4,176 50	259 79	-175 70	313 62	0 00	0 00	0 00	
4,300 00	8 90	325 93	4,275 30	272 60	-184 36	329 09	0 00	0 00	0 00	
4,400 00	8 90	325 93	4,374 09	285 41	-193 03	344 55	0 00	0 00	0 00	
4,483 90	8 90	325 93	4,456 98	296 15	-200 29	357 53	0 00	0 00	0 00	
Start Drop 2.00°/100'										
4,500 00	8 57	325 93	4,472 90	298 18	-201 66	359 97	2 00	-2 00	0 00	
4,600 00	6 57	325 93	4,572 02	309 10	-209 05	373 15	2 00	-2 00	0 00	
4,700 00	4 57	325 93	4,671 54	317 14	-214 49	382 86	2 00	-2 00	0 00	
4,800 00	2 57	325 93	4,771 34	322 31	-217 98	389 10	2 00	-2 00	0 00	
4,900 00	0 57	325 93	4,871 30	324 58	-219 52	391 84	2 00	-2 00	0 00	
4,928 70	0 00	0 00	4,900 00	324 70	-219 60	391 99	2 00	-2 00	118 71	
EOC hold 0.00° - TG1-Skelly #766										
6,728 70	0 00	0 00	6,700 00	324 70	-219 60	391 99	0 00	0 00	0 00	
PBHL-Skelly #766										



Scientific Drilling
Planning Report



Database: EDM-Julio
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Skelly Unit #766
Well: Skelly Unit #766
Wellbore: OH
Design: Plan #1 7-7/8" Hole

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Site Skelly Unit #766
GL Elev @ 3898 00usft
GL Elev @ 3898 00usft
Grid
Minimum Curvature

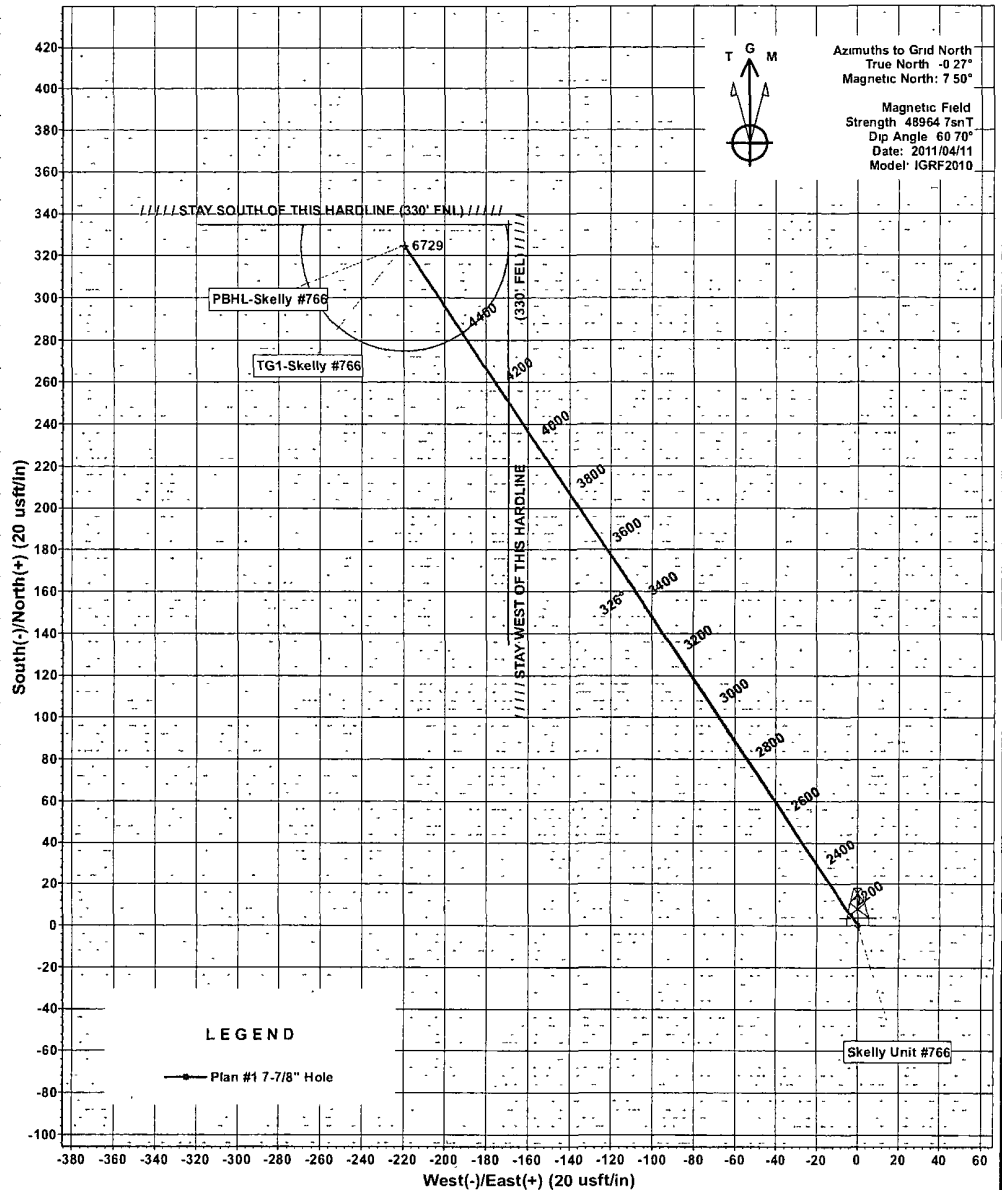
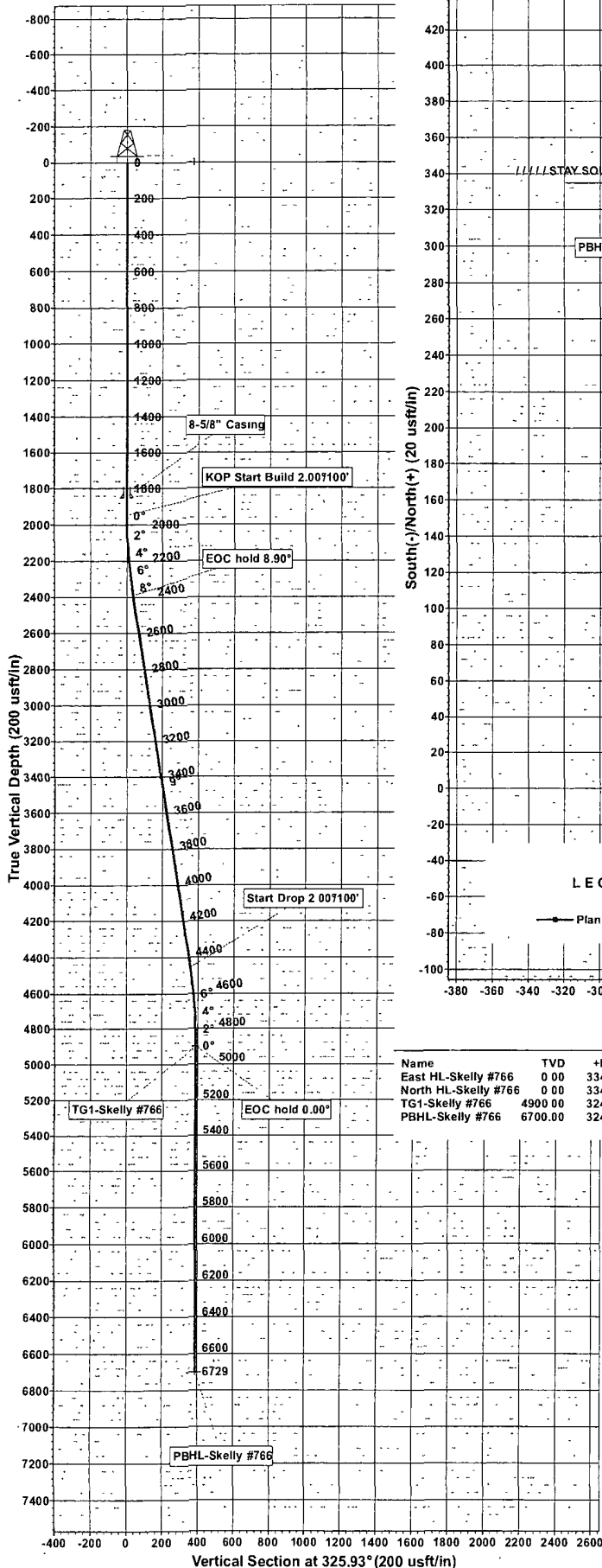
Design Targets									
Target Name	hit/miss target Shape	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude
North HL-Skelly #766		0 00	0 00	0 00	334 70	-169 60	664,711 00	653,922 30	32° 49' 34 948 N 103° 49' 56 129 W
- plan misses target center by 375 22usft at 0 00usft MD (0 00 TVD, 0 00 N, 0 00 E)									
- Rectangle (sides W150 00 H0 00 D0 00)									
East HL-Skelly #766		0 00	0 00	0 00	334 70	-169 60	664,711 00	653,922 30	32° 49' 34 948 N 103° 49' 56 129 W
- plan misses target center by 375 22usft at 0 00usft MD (0 00 TVD, 0 00 N, 0 00 E)									
- Rectangle (sides W0 00 H200 00 D0 00)									
TG1-Skelly #766		0 00	0 00	4,900 00	324 70	-219 60	664,701 00	653,872 30	32° 49' 34 851 N 103° 49' 56 715 W
- plan hits target center									
- Point									
PBHL-Skelly #766		0 00	0 01	6,700 00	324 70	-219 60	664,701 00	653,872 30	32° 49' 34 851 N 103° 49' 56 715 W
- plan hits target center									
- Circle (radius 50 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

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
1,950 00	1,950 00	0 00	0 00	KOP Start Build 2 00°/100'
2,394 80	2,393 02	28 55	-19 31	EOC hold 8 90°
4,483 90	4,456 98	296 15	-200 29	Start Drop 2 00°/100'
4,928 70	4,900 00	324 70	-219 60	EOC hold 0 00°



Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Skelly Unit #766
Wellbore: OH
Design: Plan #1 7-7/8" Hole



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
East HL-Skelly #766	0.00	334.70	-169.60	664711.00	653922.30	32°49' 34.948 N	103°49' 56.129 W	Rectangle (Side s L200 00 W0.00)
North HL-Skelly #766	0.00	334.70	-169.60	664711.00	653922.30	32°49' 34.948 N	103°49' 56.129 W	Rectangle (Side s L0.00 W150.00)
TG1-Skelly #766	4900.00	324.70	-219.60	664701.00	653872.30	32°49' 34.851 N	103°49' 56.715 W	Point
PBHL-Skelly #766	6700.00	324.70	-219.60	664701.00	653872.30	32°49' 34.851 N	103°49' 56.715 W	Circle (Radius: 50.00)

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	2394.80	8.90	325.93	2393.02	28.55	-19.31	2.00	325.93	34.46	
4	4483.90	8.90	325.93	4456.98	296.15	-200.29	0.00	0.00	357.53	
5	4928.70	0.00	0.00	4900.00	324.70	-219.60	2.00	180.00	391.99	TG1-Skelly #766
6	6728.70	0.00	0.00	6700.00	324.70	-219.60	0.00	0.00	391.99	PBHL-Skelly #766

WELL DETAILS: Skelly Unit #766

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	664376.30	654091.90	32°49' 31.628 N	103°49' 54.160 W	

PROJECT DETAILS: Eddy County, NM (NAN27 NME)

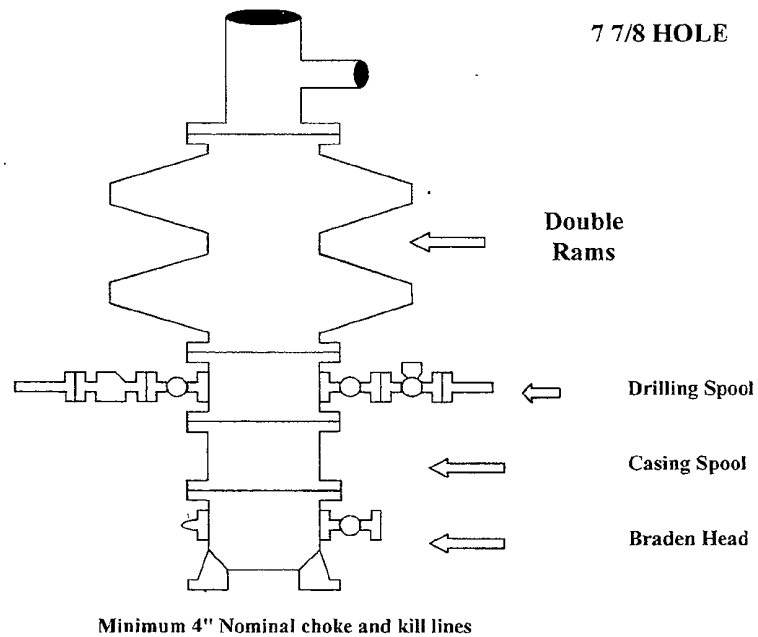
Plan Plan #1 7-7/8" Hole (Skelly Unit #766/OH)

Geodetic System: US State Plane 1927 (Exact solution)	Created By: Julio Pina	Date: 11-Apr-11
Datum: NAD 1927 (NADCON CONUS)		
Ellipsoid: Clarke 1866	Checked: _____	Date: _____
Zone: New Mexico East 3001		
System Datum: Mean Sea Level	Reviewed: _____	Date: _____
	Approved: _____	Date: _____

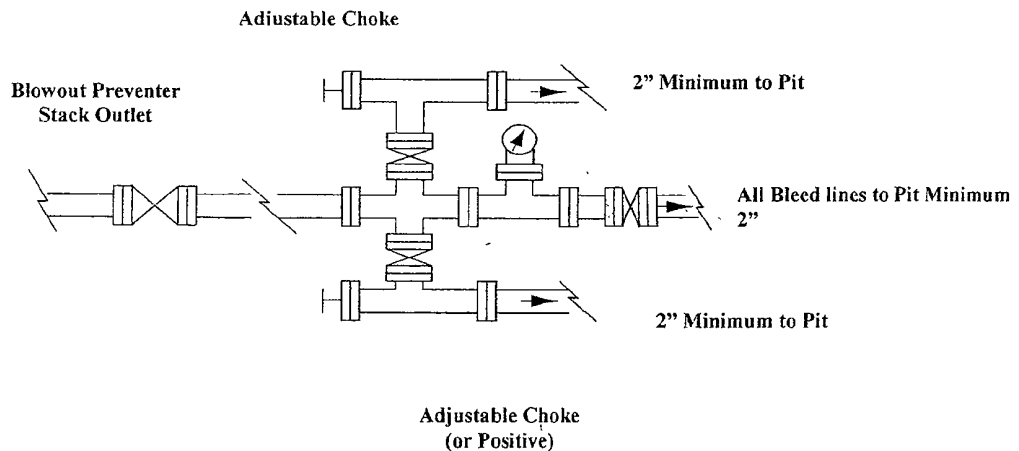
COG Operating LLC

Exhibit #9

BOPE and Choke Schematic



Choke Manifold Requirement (2000 psi WP)
No Annular Required

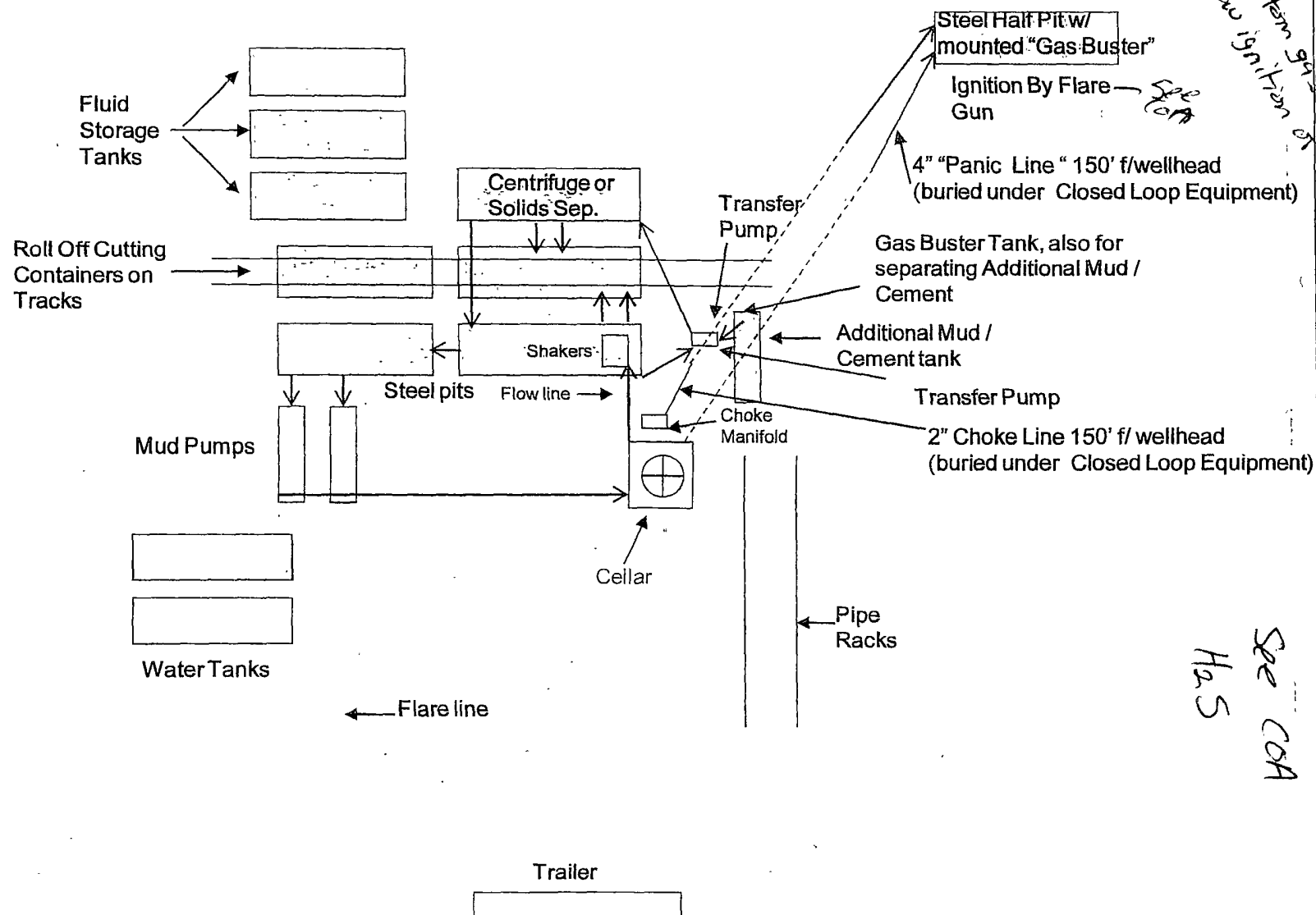


NOTES REGARDING THE BLOWOUT PREVENTERS

**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



Closed Loop Operation & Maintenance Procedure

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.

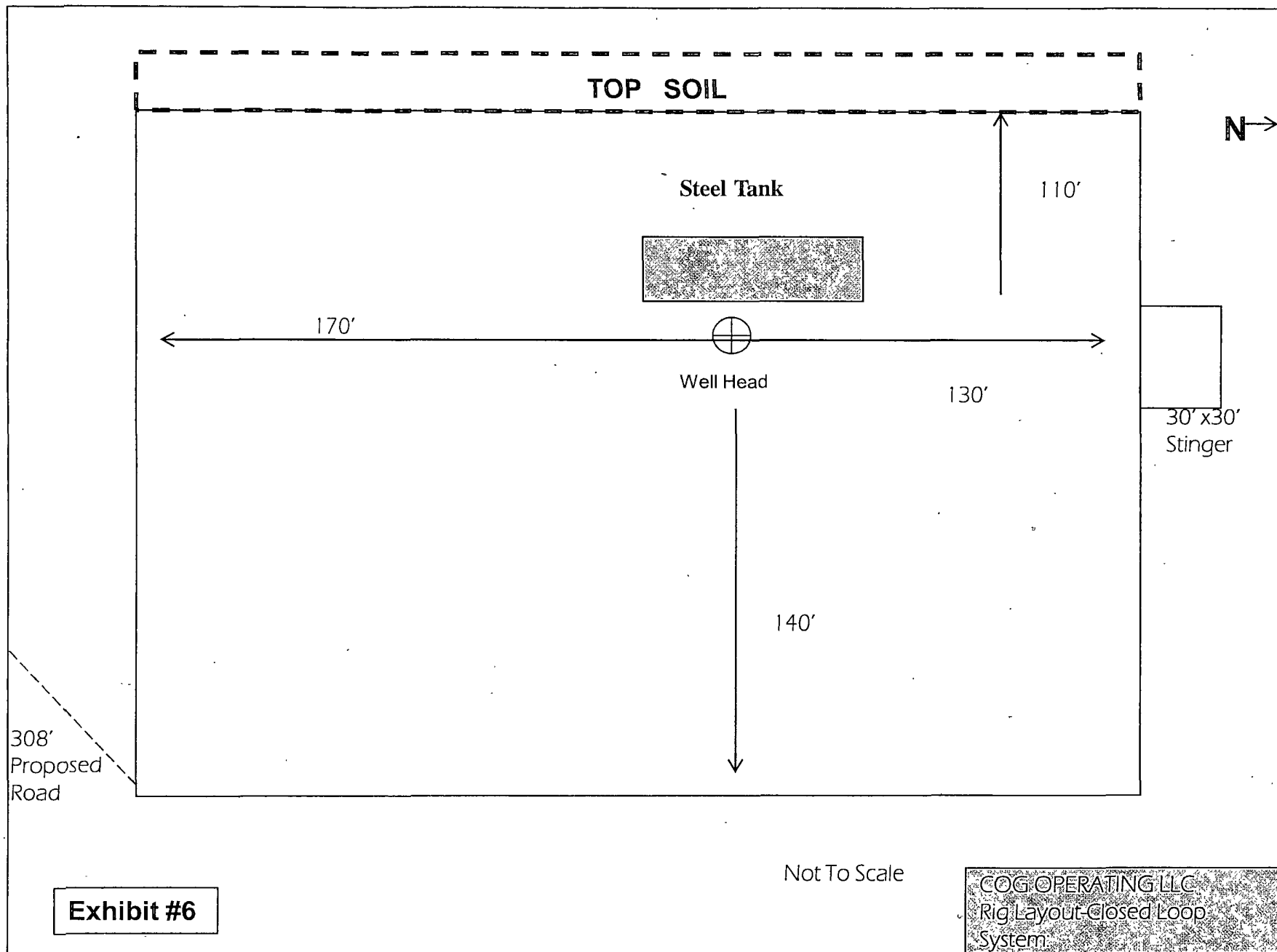
Cuttings will be hauled to either:

CRI (permit number R9166)

or

GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.



DISTRICT 2 CHECKLIST FOR INTENTS TO DRILL

[305607]

Operator COE-OP2 OGRID # 229134
Well Name & # SKELLY UNIT 766 Surface Type (F) (S) (P)
Location: UL A Sect 23 Township 17 s, RNG 31 e, Sub-surface Type (F) (S) (P)

A. Date C101 rec'd 11 / 17 / 2011 C101 reviewed 11 / 28 / 2011

B. 1. Check mark, Information is OK on Forms:

OGRID ✓, BONDING ✓, PROP CODE ✓, WELL # ✓, SIGNATURE ✓

2. Inactive Well list as of: 11 / 28 / 2011 # wells 3679, # Inactive wells 8

a. District Grant APD but see number of inactive wells:

No letter required ✓; Sent Letter to Operator , to Santa Fe

3. Additional Bonding as of: 11 / 28 / 2011

a. District Denial because operator needs addition bonding:

No Letter required ✓; Sent Letter to Operator , To Santa Fe

b. District Denial because of Inactive well list and Financial Assurance:

No Letter required ✓; Sent Letter to Operator , To Santa Fe

C. C102 YES ✓, NO , Signature ✓

Mar. Pool FRAN. GABRIELA - 1050, Code 26770 97866

a. Dedicated acreage , What Units

b. SUR. Location Standard ; Non-Standard Location

c. Well shares acres: Yes , No , # of wells plus this well #

2. 2nd. Operator in same acreage, Yes , No

Agreement Letter , Disagreement letter

3. Intent to Directional Drill Yes , No

a. Dedicated acreage , What Units

b. Bottomhole Location Standard , Non-Standard Bottomhole

4. Downhole Commingle: Yes , No

a. Pool #2 , Code , Acres

Pool #3 , Code , Acres

Pool #4 , Code , Acres

5. POTASH Area Yes , No ✓

D. Blowout Preventer Yes ✓, No

E. H2S Yes ✓, No

F. C144 Pit Registration Yes ✓, No

G. Does APD require Santa Fe Approval:

1. Non-Standard Location: Yes , No ✓, NSL #

2. Non-Standard Proration: Yes , No ✓, NSP #

3. Simultaneous Dedication: Yes , No ✓, SD #

Number of wells Plus #

4. Injection order Yes , No ✓; PMX # or WFX #

5. SWD order Yes , NO ✓; SWD #

6. DHC from SF ; DHC-HOB ; Holding

7. OCD Approval Date 11 / 23 / 2011

API #30-0 15 - 39699

8. Reviewers TES