AFS-10-486
10-1054

OCD-ARTESIA

Form 3160-3
(April 2004)

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. **NMNM-074935**
	6. If Indian, Allotee or Tribe Name **N/A**
	7 If Unit or CA Agreement, Name and No **N/A**
1b. Type of Well ☑ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone	8 Lease Name and Well No. **Electra Federal #66** (302483)
2 Name of Operator **COG Operating LLC** (229137)	9 API Well No. **30-015-** 38180
3a Address **550 W. Texas, Suite 1300 Midland TX 79701** / 3b Phone No. *(include area code)* **(432) 685-4385**	10 Field and Pool, or Exploratory **Loco Hills; Glorieta Yeso** (96718)
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface **SHL: 1120' FNL & 1775' FWL, UL C** At proposed prod zone **BHL: 990' FNL & 1980' FWL, UL C** UNORTHODOX LOCATION	11 Sec, T R. M or Blk and Survey or Area **Sec 15, T17S, R30E**
14 Distance in miles and direction from nearest town or post office* **2 miles North 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
1120'	**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
200'	**TVD: 6150'; MD: 6161'**	**NMB000215**
21 Elevations (Show whether DF, KDB, RT, GL, etc)	22 Approximate date work will start*	23 Estimated duration
3700' GL	**09/30/2010**	**10 days**

RECEIVED
SEP 07 2010
NMOCD ARTESIA

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
Robyn M. Odom	**Robyn M. Odom**	**06/11/2010**

Title **Regulatory Analyst**

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Don Peterson		AUG 31 2010
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) Well becomes orthodox @ approx. 4100' MD/4090' TVD

Roswell Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

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 October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-015- 38180	96718	LOCO HILLS; GLORIETA-YESO

Property Code	Property Name	Well Number
302483	ELECTRA FEDERAL	66

OGRID No.	Operator Name	Elevation
229137	COG OPERATING, LLC	3700'

Surface Location

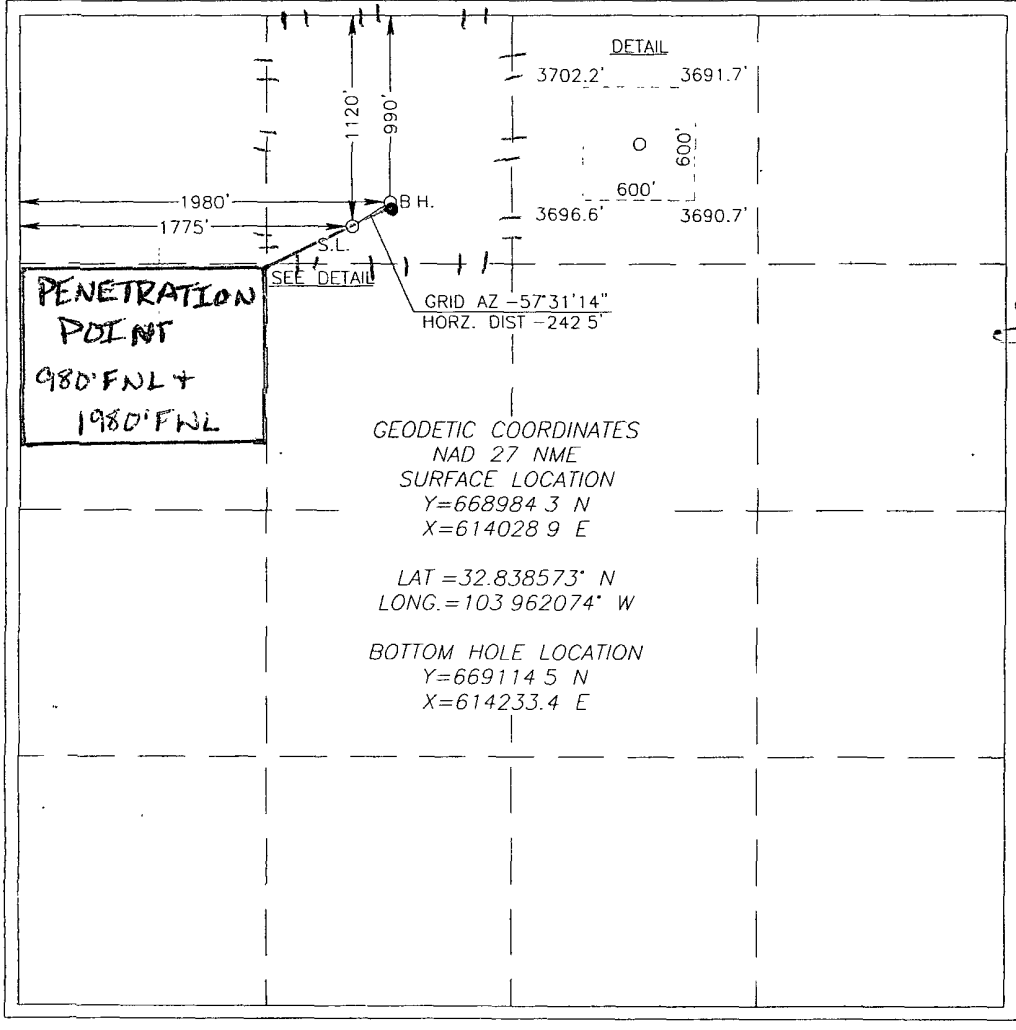
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	15	17-S	30-E		1120	NORTH	1775	WEST	EDDY

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
C	15	17-S	30-E		990	NORTH	1980	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No
40			

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: 6/11/2010

Robyn Odom
Printed Name

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.

GARY G. EIDSON
NEW MEXICO
MAY 19, 2010
12641
PROFESSIONAL SURVEYOR

Date Surveyed: MAY 19, 2010

Signature & Seal of Professional Surveyor

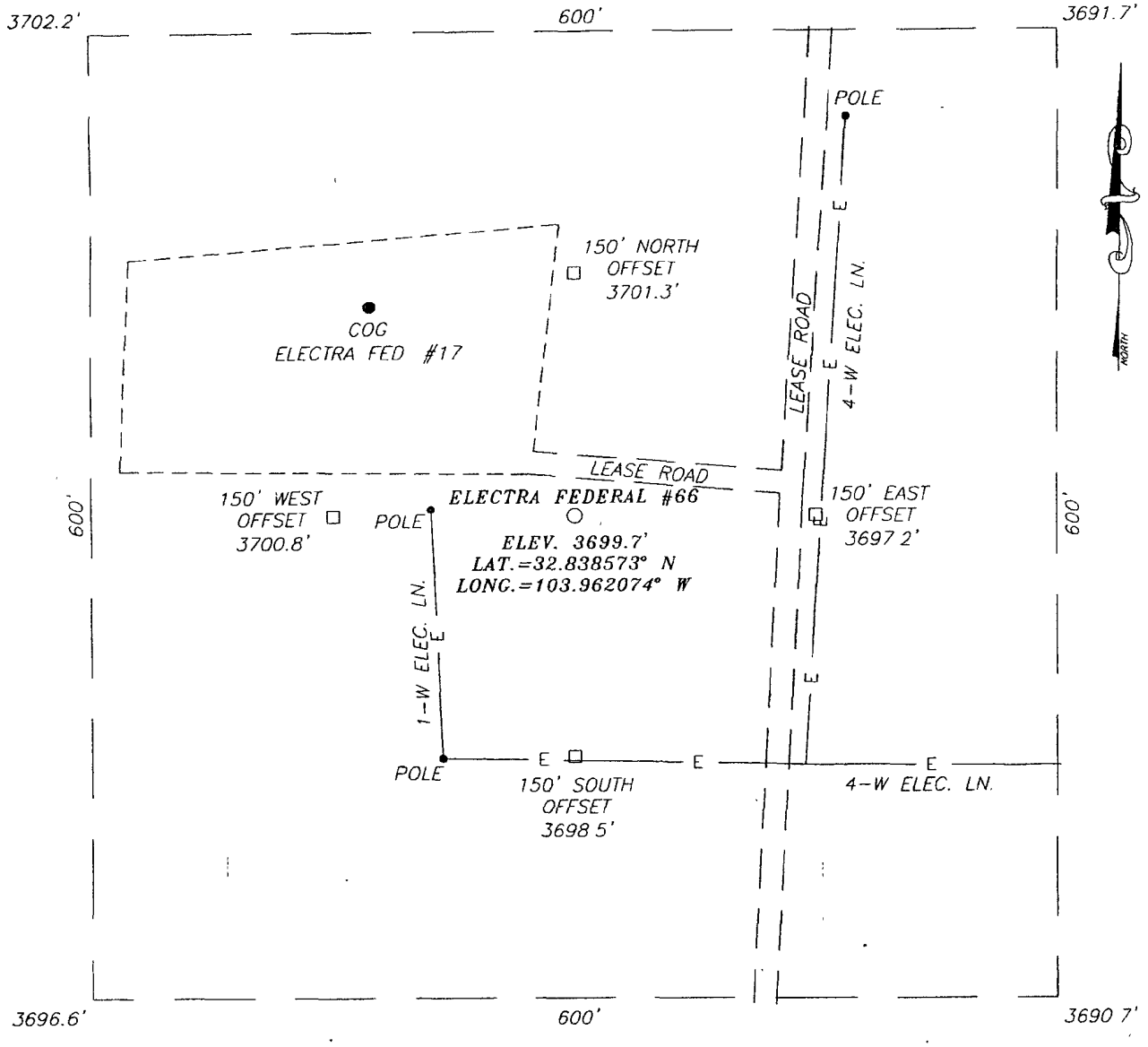
Gary G. Eidson 6/1/10

10.11.0619

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

SECTION 15, TOWNSHIP 17 SOUTH, RANGE 30 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY #82 AND CO. RD. #219 (GOAT ROPERS RD) GO NORTH ON CO RD #219 APPROX. 1.9 MILES. TURN RIGHT AND GO EAST APPROX. 0.9 MILES. TURN RIGHT AND GO SOUTH APPROX. 0.3 MILES. THIS LOCATION IS APPROX. 150 FEET WEST OF LEASE ROAD

100 0 100 200 Feet

Scale: 1"=100'

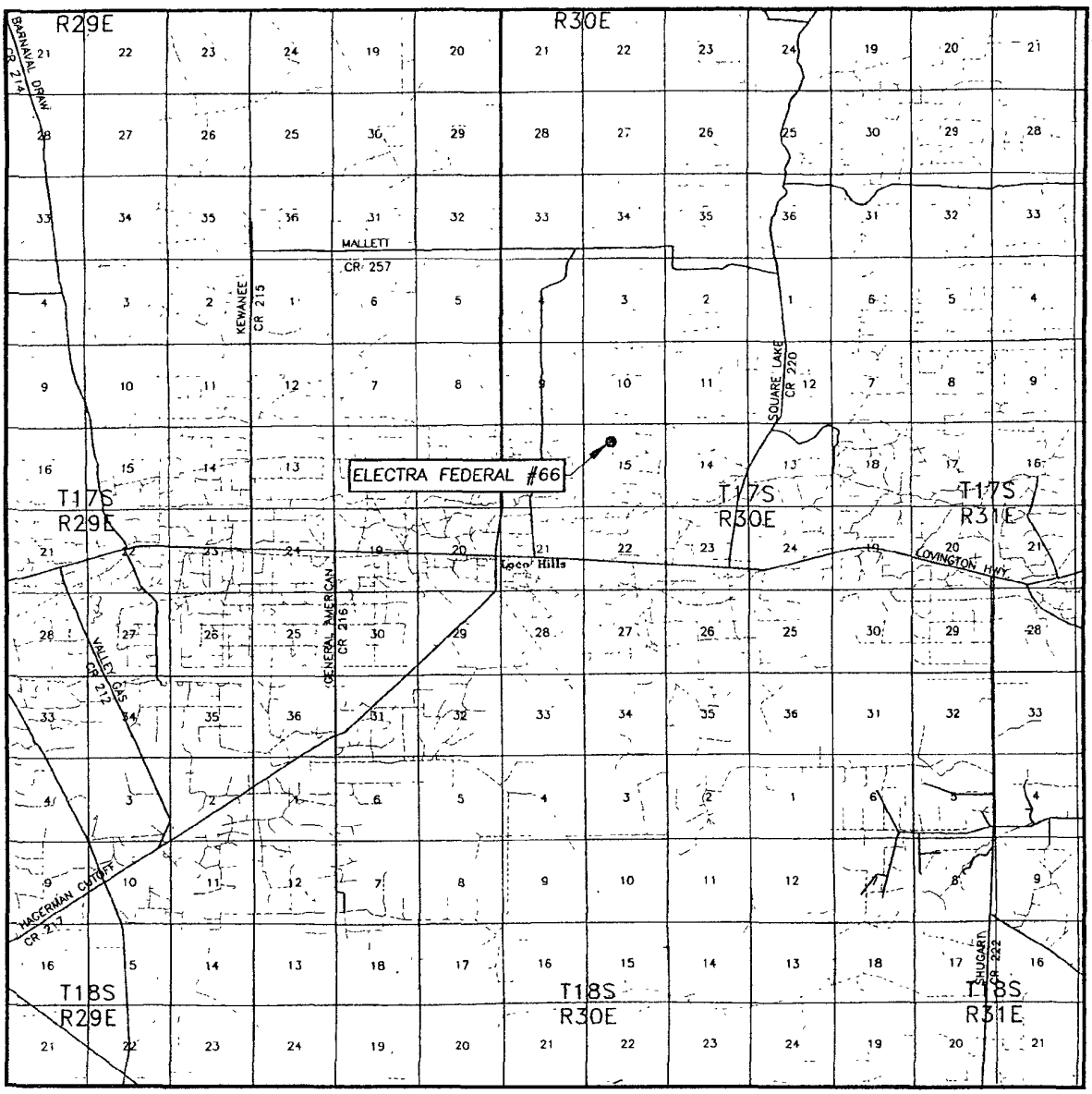
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M 88240
(575) 393-3117

COG OPERATING, LLC

ELECTRA FEDERAL #66 WELL
LOCATED 1120 FEET FROM THE NORTH LINE
AND 1775 FEET FROM THE WEST LINE OF SECTION 15,
TOWNSHIP 17 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Survey Date: 5/19/10	Sheet 1 of 1 Sheets	
W.O. Number: 10.11.0619	Dr By: LA	Rev 1.N/A
Date: 5/27/10	10110619	Scale: 1"=100'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 15 TWP. 17-S RGE 30-E

SURVEY N.M.P.M

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1120' FNL & 1775' FWL

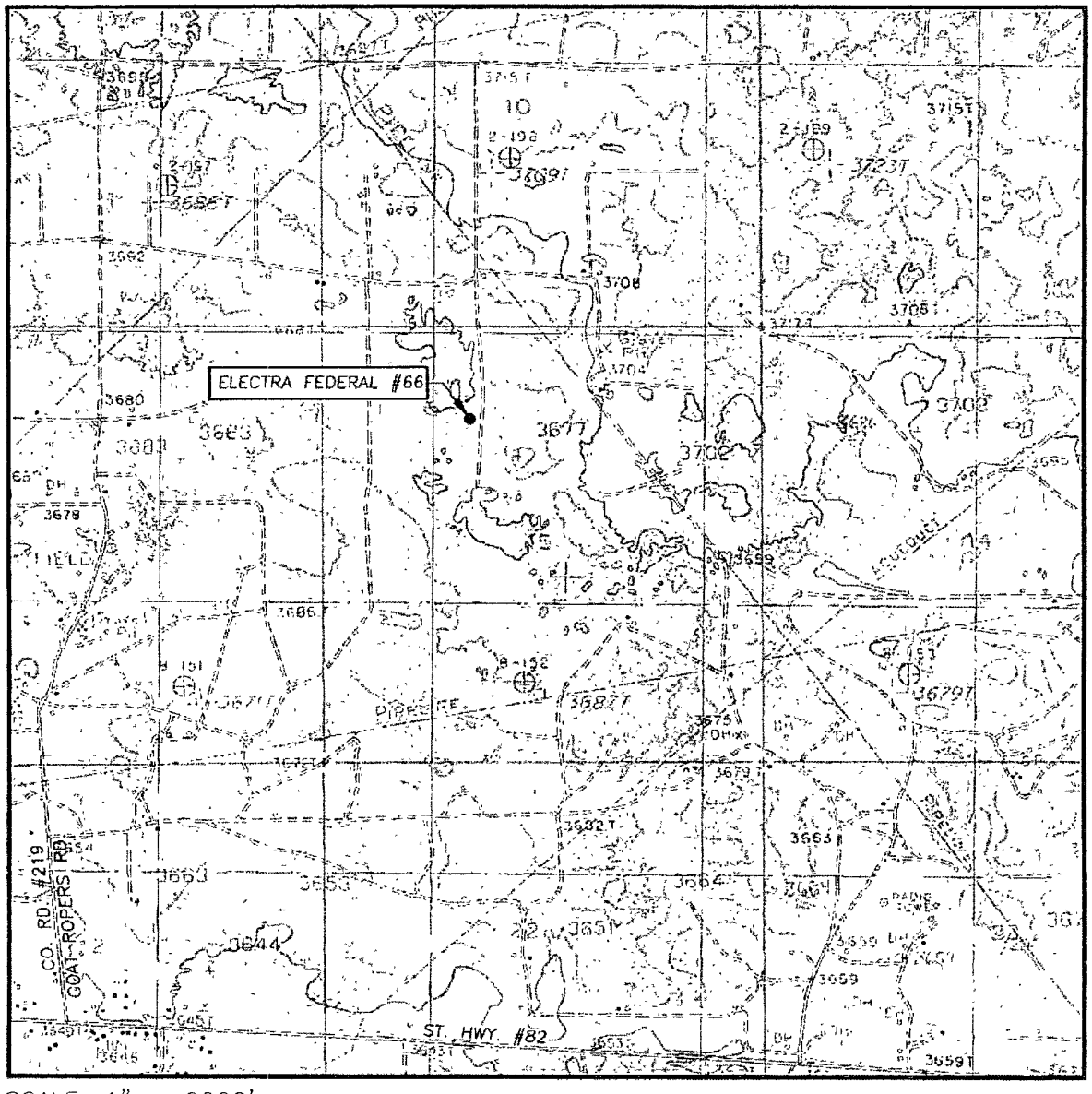
ELEVATION 3700'

OPERATOR COG OPERATING, LLC

LEASE ELECTRA FEDERAL

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
LOCO HILLS, N.M. – 10'

SEC. 15 TWP. 17-S RGE. 30-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1120' FNL & 1775' FWL

ELEVATION 3700'

OPERATOR COG OPERATING, LLC

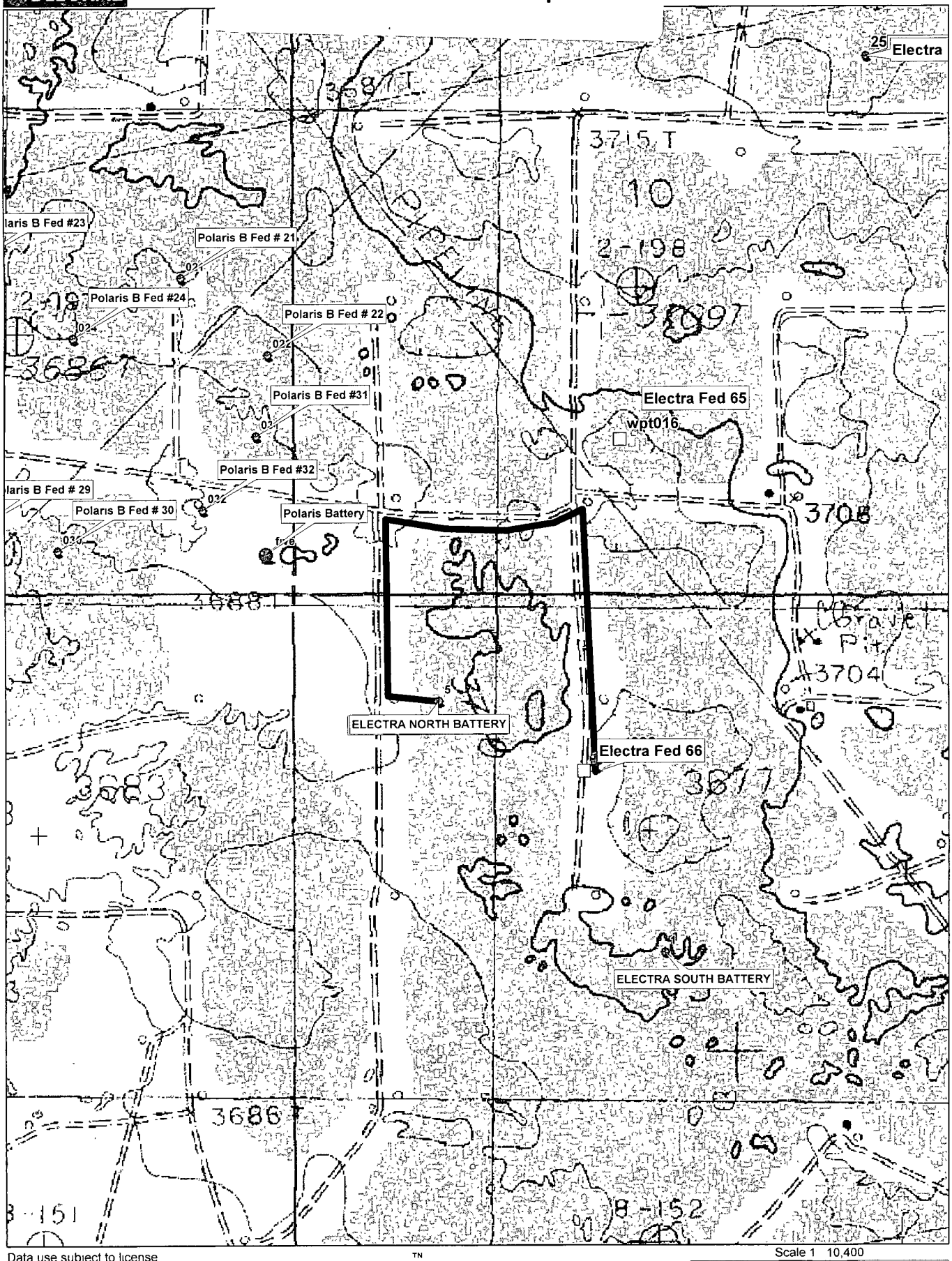
LEASE ELECTRA FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
LOCO HILLS, N.M.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117

Flow Line Route Map

DeLORME XMap® 7



Data use subject to license

© DeLorme XMap® 7

www delorme com

TN

MN (7 9°E)

Scale 1 10,400

1" = 866 7 ft

Data Zoom 14-3

MASTER DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Top of Salt	500'
Base of Salt	1000'
Yates	1180'
Seven Rivers	1470'
Queen	2070'
Grayburg	2480'
San Andres	2780'
Glorietta	4220'
Yeso Group	4300'

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

Water Sand	150'	Fresh Water
Grayburg	2480'	Oil/Gas
San Andres	2780'	Oil/Gas
Glorietta	4220'	Oil/Gas
Yeso Group	4300'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 425' 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 1300' 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, 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

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	brst/clps/ten
17 ½"	0-425'	13 3/8"	48#	H-40orJ-55	ST&C/New	ST&C	9.22/3.943/15.8
11"o[redacted]	0-1300'	8 5/8"	24or32#	J-55	ST&C/New	ST&C	3.03/2.029/7.82
7 7/8"	0-TD	5 1/2"	15.5or17#	J-55orL-80	LT&C/New	LT&C	1.88/1.731/2.42

5. Cement Program

13 3/8" Surface Casing: Class C, 450 sx, yield 1.32, back to surface

8 5/8" Intermediate Casing:

11" Hole:
Single Stage: 50:50:10, 300 sx lead, yield-2.45 + Class C, 200 sx tail, yield-1.32, back to surface.
Multi-Stage: Stage 1: Class C, 300 sx, yield-1.32 Stage 2: Class C, 200 sx, yield-2.45, back to surface. Multi stage tool to be set at approximately, depending on hole conditions, 425'

5 1/2" Production Casing:

Single Stage: 35:65:6, 500 sx Lead, yield-2.05 + 50:50:2, 400 sx Tail, yield-1.37, to 200' minimum tie back to intermediate casing.
Multi-Stage: Stage 1: 50:50:2, 400 sx, yield-1.37 Stage 2: 35:65:6, 500 sx, yield-2.05, to 200' minimum tie back to intermediate casing. Multi stage tool to be set at approximately, depending on hole conditions, [redacted]- 2000'.

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. 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. The BOP will be nippled up on the 13 3/8" surface casing with BOP equipment and tested together to ~~1000 psi by rig pump in one test~~. 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. All BOP's and accessory equipment will be tested to 2000 psi before drilling out of the intermediate casing. 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.

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
0-425'	Fresh Water	8.5	28	N.C.
425-1300'	Brine	10	30	N.C.
1300'-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

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.

CONCHO

COG Operating LLC

Eddy County, NM (NAN27 NME)
Electra Federal #66
Electra Federal #66

OH

Plan: Plan #1 - 7-7/8" Hole
SHL = 1120' FNL & 1775' FWL
BHL = 980' FNL & 1980' FWL
Top of Paddock = 980' FNL & 1980' FWL @ 4400' TVD

Standard Planning Report

07 June, 2010

Scientific Drilling
Directional Drilling Operations

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Site Electra Federal #66
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3700 00ft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3700 00ft
Site:	Electra Federal #66	**North Reference:**	Grid
Well:	Electra Federal #66	**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 Electra Federal #66

Site Position:		**Northing:**	668,984 30 ft	**Latitude:**	32° 50' 18 862 N
From:	Map	**Easting:**	614,028 90 ft	**Longitude:**	103° 57' 43.468 W
Position Uncertainty:	0 00 ft	**Slot Radius:**	0 "	**Grid Convergence:**	0 20 °

Well Electra Federal #66

Well Position	**+N/-S**	0 00 ft	**Northing:**	668,984 30 ft	**Latitude:**	32° 50' 18 862 N
	+E/-W	0 00 ft	**Easting:**	614,028.90 ft	**Longitude:**	103° 57' 43 468 W
Position Uncertainty		0 00 ft	**Wellhead Elevation:**		**Ground Level**	3,700 00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2010/06/07	7 92	60 73	49,076

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

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	55 57

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	
1,450 00	0 00	0 00	1,450 00	0 00	0 00	0 00	0 00	0 00	0 00	
1,713 69	5 27	55 57	1,713 32	6 86	10 00	2 00	2 00	0 00	55 57	
4,147 36	5 27	55 57	4,136 68	133 34	194 50	0 00	0 00	0 00	0 00	
4,411 05	0 00	0 00	4,400 00	140 20	204 50	2 00	-2 00	0 00	180 00	TG1-EF #66
6,161 05	0 00	0 00	6,150 00	140 20	204 50	0 00	0 00	0 00	0 00	PBHL-EF #66

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Site Electra Federal #66
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3700 00ft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3700 00ft
Site:	Electra Federal #66	**North Reference:**	Grid
Well:	Electra Federal #66	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" Hole		

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)
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
North HL-EF #66									
1,350 00	0 00	0 00	1,350 00	0 00	0 00	0 00	0 00	0 00	0 00
8-5/8" Casing									
1,450 00	0 00	0 00	1,450 00	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start Build 2.00°/100'									
1,500 00	1 00	55 57	1,500 00	0 25	0 36	0 44	2 00	2 00	0 00
1,600 00	3 00	55.57	1,599 93	2 22	3 24	3 93	2 00	2 00	0 00
1,700 00	5 00	55 57	1,699 68	6.16	8 99	10 90	2 00	2 00	0 00
1,713 69	5 27	55 57	1,713 32	6 86	10 00	12 13	2 00	2 00	0 00
EOC Hold 5.27°									
1,800 00	5 27	55 57	1,799 26	11 34	16 55	20 06	0 00	0 00	0 00
1,900 00	5 27	55 57	1,898 84	16 54	24 13	29 25	0 00	0 00	0 00
2,000 00	5 27	55 57	1,998 42	21 74	31 71	38 44	0 00	0 00	0 00
2,100 00	5 27	55 57	2,097 99	26 94	39 29	47 63	0 00	0 00	0 00
2,200 00	5 27	55 57	2,197 57	32 13	46 87	56 83	0 00	0 00	0 00
2,300 00	5 27	55 57	2,297 15	37 33	54 45	66 02	0 00	0 00	0 00
2,400 00	5 27	55 57	2,396 72	42 53	62 03	75 21	0 00	0 00	0 00
2,500 00	5 27	55 57	2,496 30	47 72	69 61	84 40	0 00	0 00	0 00
2,600 00	5 27	55 57	2,595 88	52 92	77 19	93 59	0 00	0 00	0 00
2,700 00	5 27	55 57	2,695 45	58 12	84 77	102 78	0 00	0 00	0 00
2,800 00	5 27	55 57	2,795.03	63 32	92 36	111 98	0 00	0 00	0 00
2,900 00	5 27	55 57	2,894 61	68 51	99 94	121 17	0 00	0 00	0 00
3,000 00	5 27	55 57	2,994 18	73 71	107 52	130 36	0 00	0 00	0 00
3,100 00	5 27	55 57	3,093 76	78 91	115 10	139 55	0 00	0 00	0 00
3,200 00	5 27	55 57	3,193 34	84 11	122 68	148 74	0 00	0 00	0 00
3,300 00	5 27	55 57	3,292 91	89 30	130 26	157 93	0 00	0 00	0 00
3,400 00	5 27	55 57	3,392 49	94 50	137 84	167 12	0 00	0 00	0 00
3,500 00	5 27	55 57	3,492 07	99 70	145 42	176 32	0 00	0 00	0 00
3,600 00	5 27	55 57	3,591 64	104 89	153 00	185 51	0 00	0 00	0 00
3,700 00	5 27	55 57	3,691 22	110 09	160 58	194 70	0 00	0 00	0 00
3,800 00	5 27	55 57	3,790 80	115 29	168 16	203 89	0 00	0 00	0 00
3,900 00	5 27	55 57	3,890 37	120 49	175 75	213 08	0 00	0 00	0 00
4,000 00	5 27	55 57	3,989 95	125 68	183 33	222 27	0 00	0 00	0 00
4,100 00	5 27	55 57	4,089 53	130 88	190 91	231 46	0 00	0 00	0 00
4,147 36	5 27	55 57	4,136 68	133 34	194 50	235 82	0 00	0 00	0 00
Start Drop 2.00°/100'									
4,200 00	4 22	55 57	4,189 14	135 81	198 09	240 17	2 00	-2 00	0 00
4,300 00	2 22	55 57	4,288 98	138 98	202 73	245 79	2 00	-2 00	0 00
4,400 00	0 22	55 57	4,388 95	140 19	204 48	247 92	2 00	-2 00	0 00
4,411 05	0 00	0 00	4,400 00	140 20	204 50	247 94	2 00	-2 00	0 00
EOC hold 0.00° - TG1-EF #66									
6,161 05	0 00	0 00	6,150 00	140 20	204 50	247 94	0 00	0 00	0 00
PBHL-EF #66									

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Site Electra Federal #66
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3700.00ft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3700 00ft
Site:	Electra Federal #66	**North Reference:**	Grid
Well:	Electra Federal #66	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" Hole		

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
North HL-EF #66 - plan misses target center by 242 43ft at 0 00ft MD (0 00 TVD, 0 00 N, 0 00 E) - Rectangle (sides W200 00 H0 00 D0 00)	0 00	0 00	0 00	130 20	204 50	669,114 50	614,233 40	32° 50' 20 143 N	103° 57' 41 066 W
TG1-EF #66 - plan hits target center - Circle (radius 0 00)	0 00	0 00	4,400.00	140 20	204 50	669,124 50	614,233 40	32° 50' 20 242 N	103° 57' 41 065 W
PBHL-EF #66 - plan hits target center - Circle (radius 10 00)	0 00	0 00	6,150 00	140 20	204 50	669,124 50	614,233 40	32° 50' 20 242 N	103° 57' 41 065 W

Casing Points

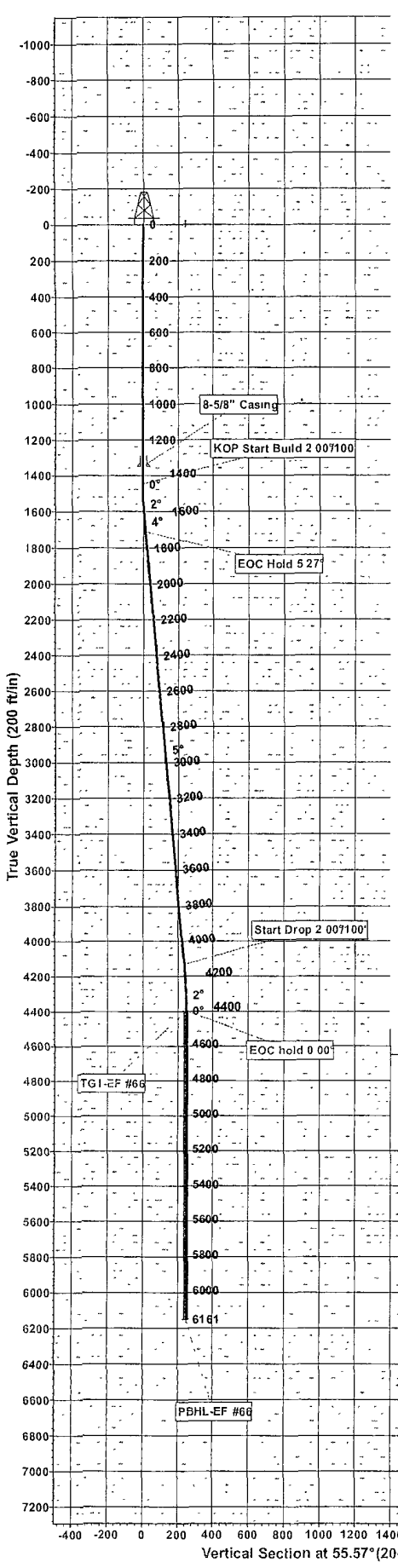
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,350 00	1,350 00	8-5/8" Casing	8-5/8	12-1/4

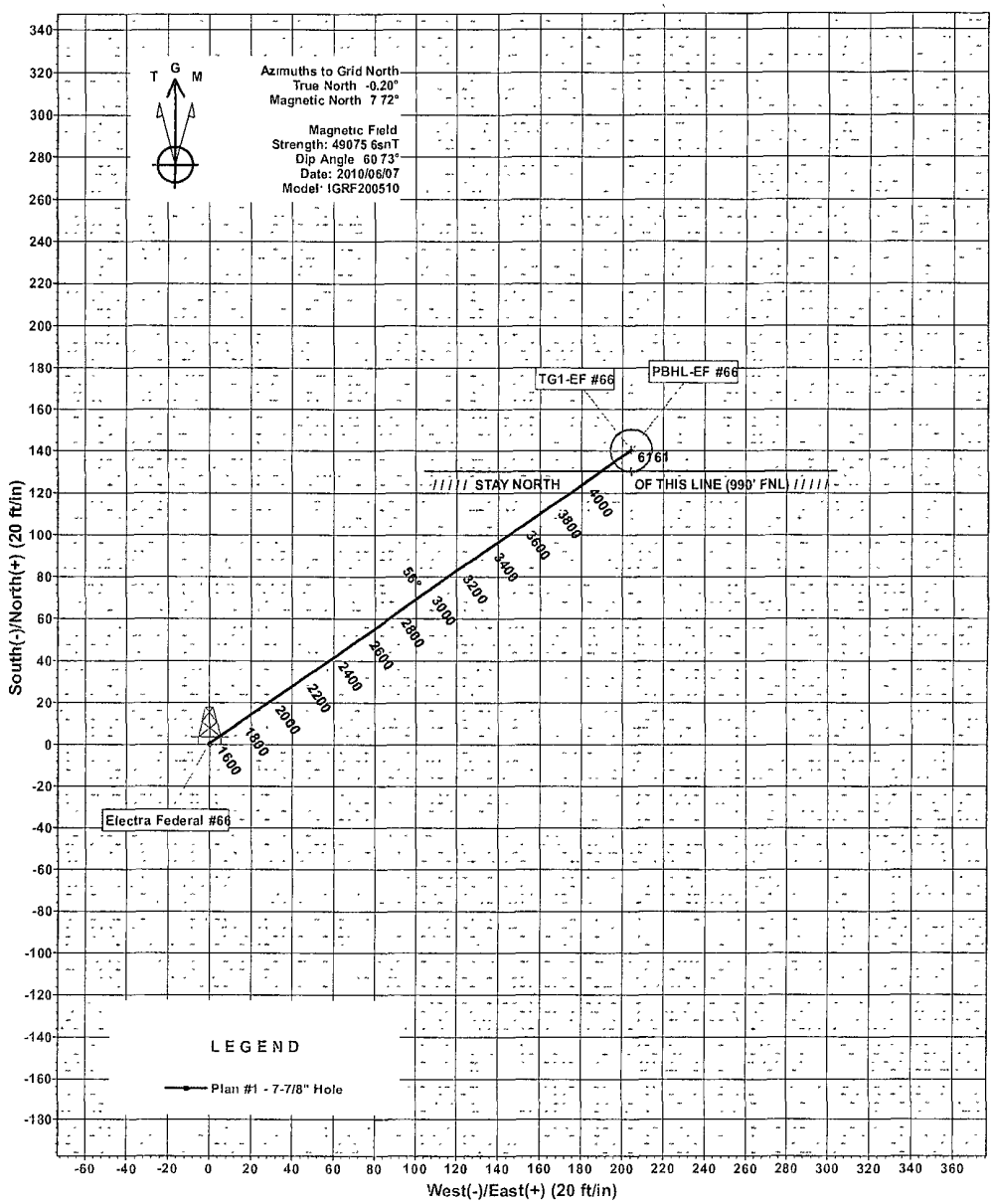
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
1,450 00	1,450 00	0 00	0 00	KOP Start Build 2 00°/100'
1,713 69	1,713 32	6 86	10 00	EOC Hold 5 27°
4,147 36	4,136 68	133 34	194 50	Start Drop 2.00°/100'
4,411 05	4,400 00	140 20	204 50	EOC hold 0 00°

Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Electra Federal #66
Wellbore: OH
Design: Plan #1 - 7-7/8" Hole

Scientific Drilling
Directional Drilling Operations





WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
North HL-EF #66	0 00	130.20	204.50	669114 50	614233 40	32° 50' 20 143 N	103° 57' 41.066 W	Rectangle (Sides L0 00 W200 00)
TG1-EF #66	4400 00	140.20	204.50	669124 50	614233 40	32° 50' 20.242 N	103° 57' 41.065 W	Circle (Radius: 0 00)
PBHL-EF #66	6150 00	140.20	204 50	669124 50	614233 40	32° 50' 20 242 N	103° 57' 41 065 W	Circle (Radius: 10.00)

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	1450 00	0.00	0.00	1450 00	0 00	0 00	0 00	0 00	0 00	
3	1713 69	5 27	55.57	1713 32	6 86	10.00	2 00	55 57	12.13	
4	4147 36	5 27	55.57	4136 68	133.34	194 50	0 00	0 00	235.82	
5	4411 05	0 00	0.00	4400 00	140.20	204 50	2 00	180 00	247 94	TG1-EF #66
6	6161 05	0 00	0 00	6150.00	140 20	204.50	0 00	0.00	247.94	PBHL-EF #66

WELL DETAILS: Electra Federal #66

Ground Level: 3700.00

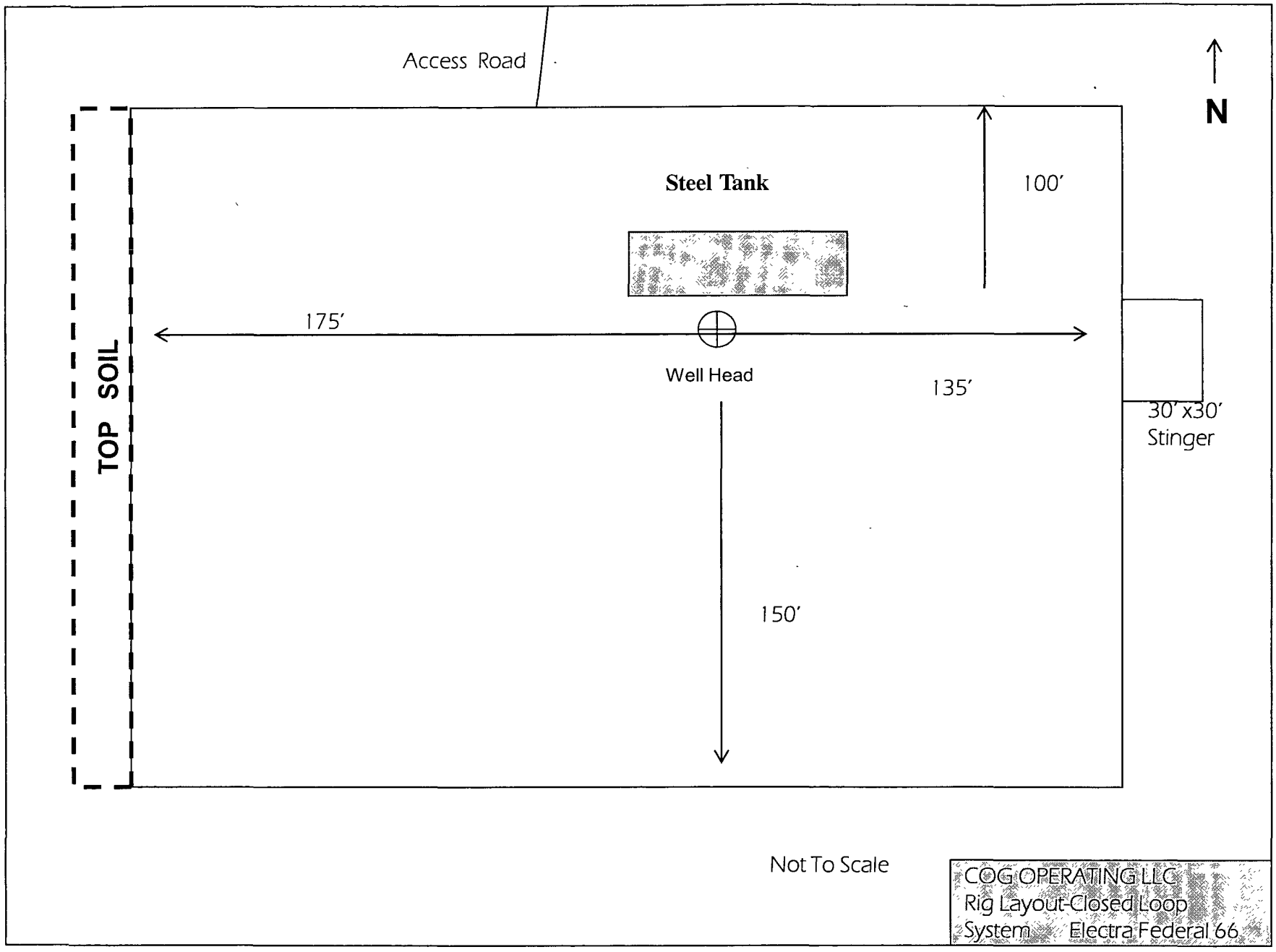
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0.00	668984.30	614028 90	32° 50' 18 862 N	103° 57' 43 468 W	

PROJECT DETAILS Eddy County, NM (NAN27 NME)

Plan Plan #1 - 7-7/8" Hole (Electra Federal #66/OH)

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

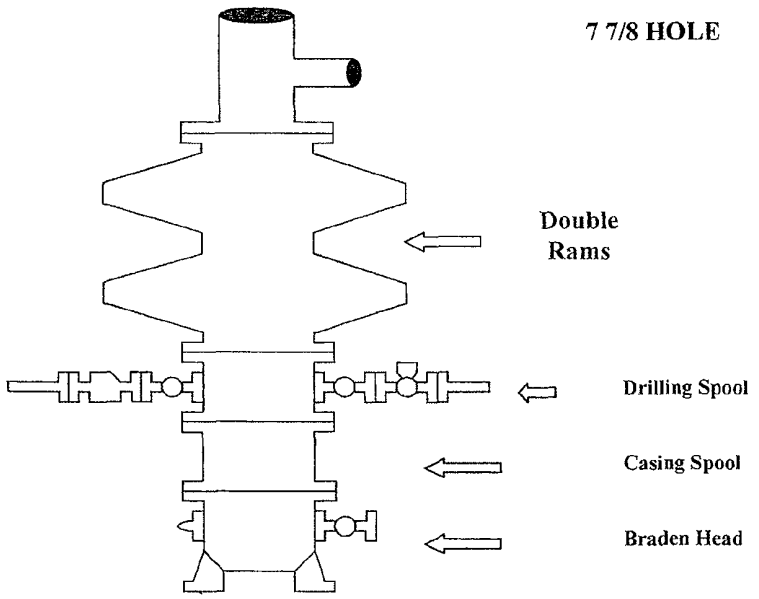
Created By: Julio Pina — Date: 07-Jun-10
Checked: _____ Date _____
Reviewed _____ Date _____
Approved _____ Date _____


Access Road
N
Steel Tank
100'
175'
Well Head
135'
30' x30'
Stinger
TOP SOIL
150'
Not To Scale
COG OPERATING LLC
Rig Layout-Closed Loop
System Electra Federal 66

COG Operating LLC

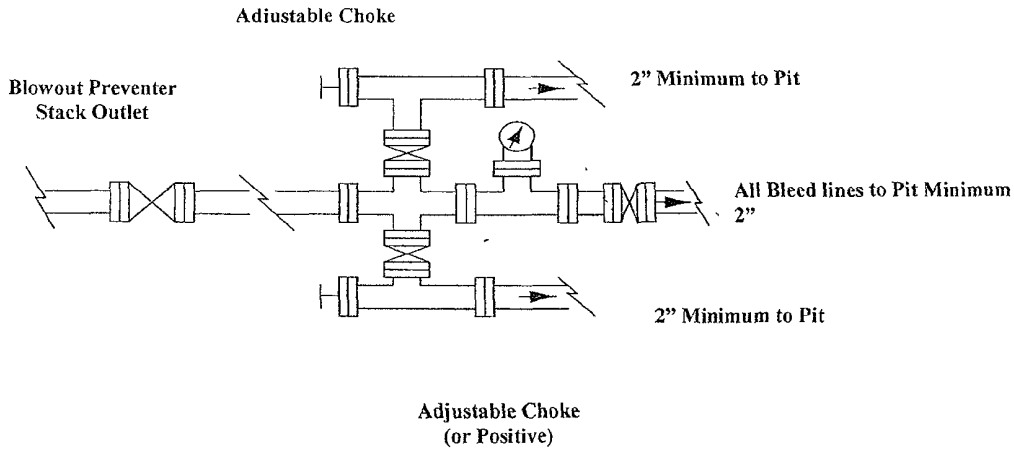
Exhibit #9

BOPE and Choke Schematic



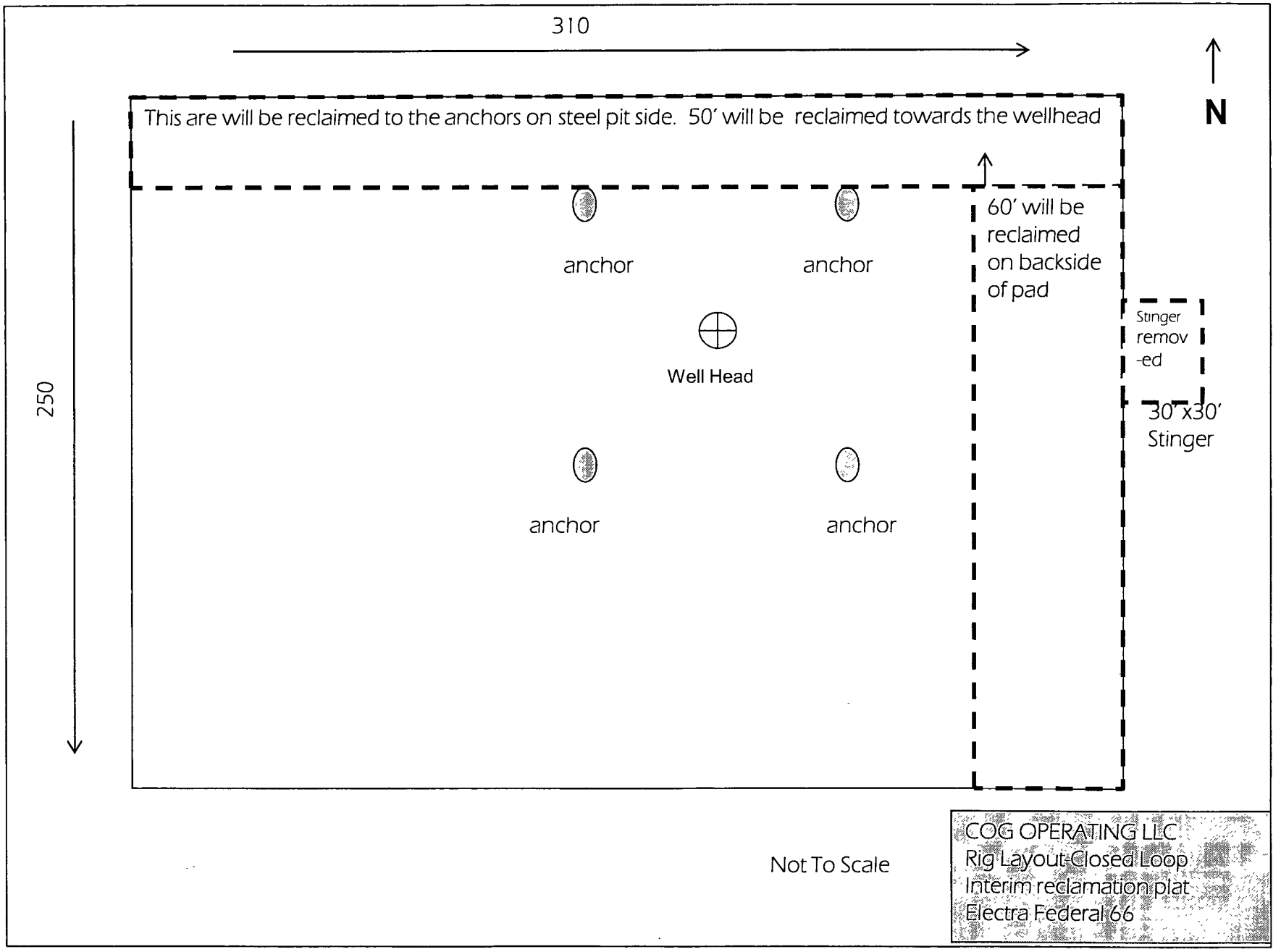
Minimum 4" Nominal choke and kill lines

Choke Manifold Requirement (2000 psi WP)
No Annular Required



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.


310
N
This are will be reclaimed to the anchors on steel pit side. 50' will be reclaimed towards the wellhead
60' will be reclaimed on backside of pad
anchor
anchor
Well Head
Stinger remov -ed
30' x30' Stinger
250
anchor
anchor
Not To Scale
COG OPERATING LLC
Rig Layout-Closed Loop
Interim reclamation plat
Electra Federal 66

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

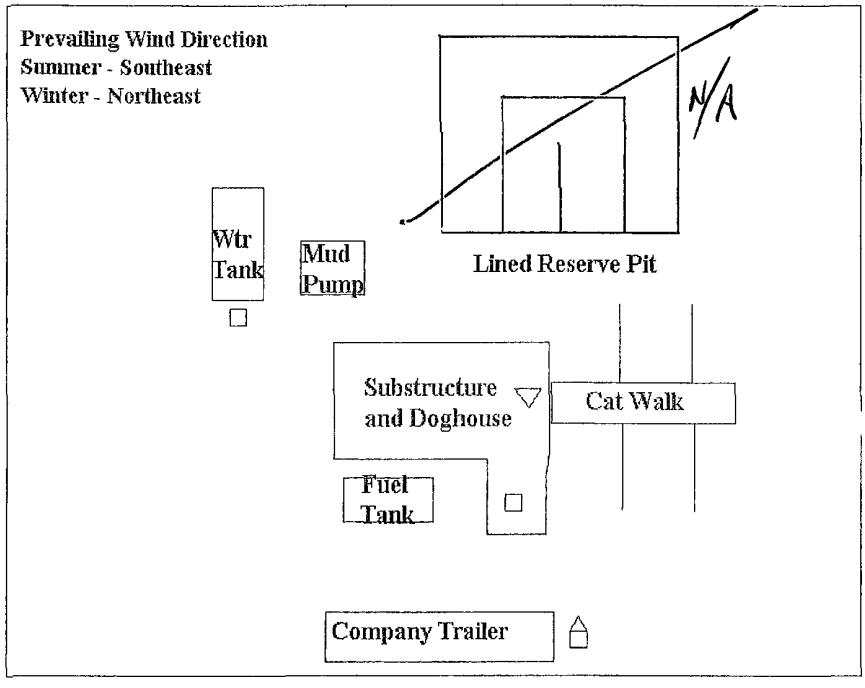
1. BEARDS OR CONTACT LENSES NOT ALLOWED
2. HARD HATS REQUIRED
3. SMOKING IN DESIGNATED AREAS ONLY
4. BE WIND CONSCIOUS AT ALL TIMES
5. CHECK WITH COG OPERATING FOREMAN AT

COG OPERATING LLC
1-432-683-7443
1-575-746-2010

EDDY COUNTY EMERGENCY NUMBERS
ARTESIA FIRE DEPT. 575-746-5050
ARTESIA POLICE DEPT. 575-746-5000
EDDY CO. SHERIFF DEPT. 575-746-9888

LEA COUNTY EMERGENCY NUMBERS
HOBBS FIRE DEPT. 575-397-9308
HOBBS POLICE DEPT. 575-397-9285
LEA CO. SHERIFF DEPT. 575-396-1196

DRILLING LOCATION
H2S SAFETY EQUIPMENT
Exhibit # 8



▽ H2S Monitors with alarms at the bell nipple

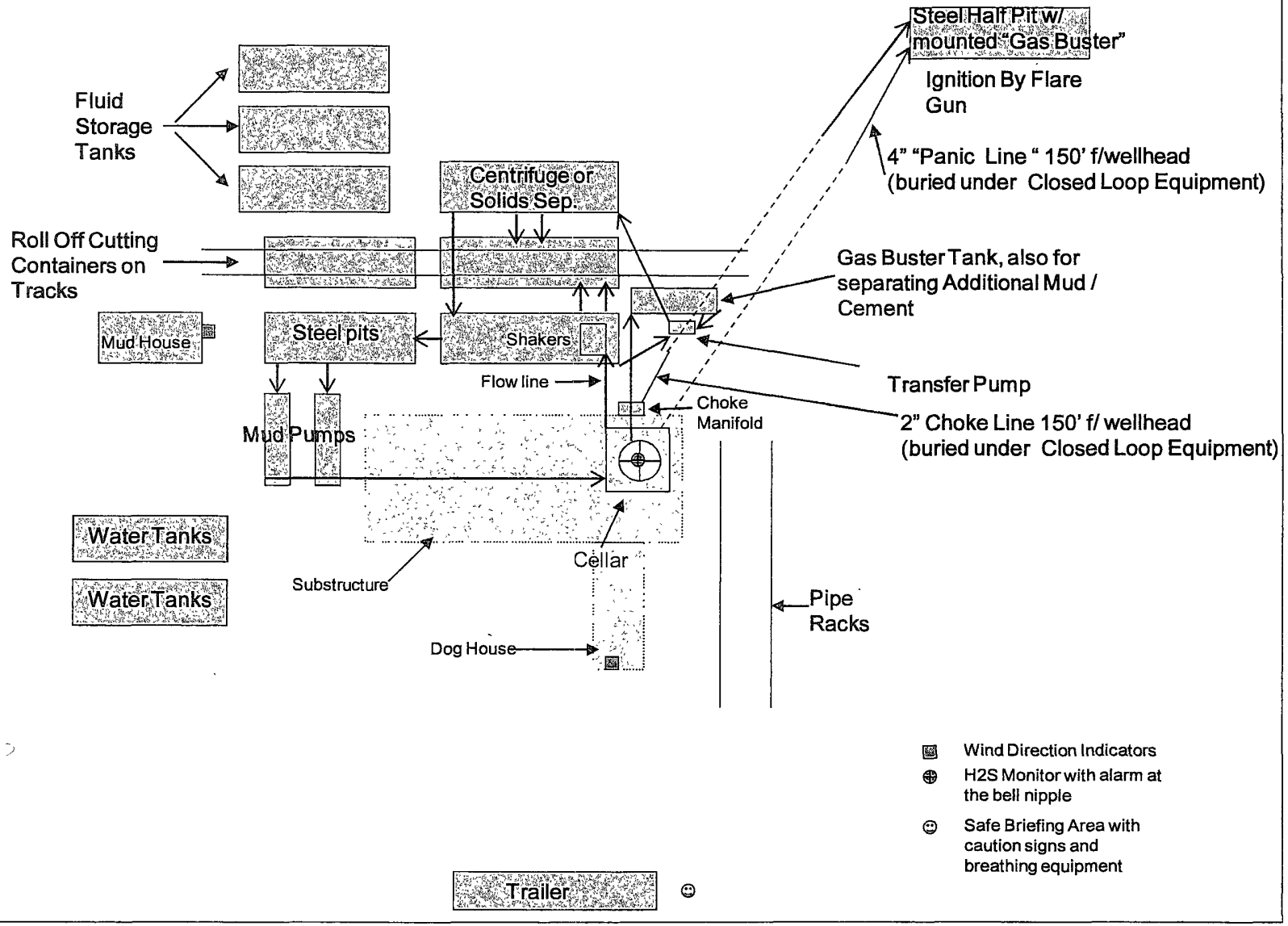
□ Wind Direction Indicators

△ Safe Briefing areas with caution signs and breathing equipment min 150 feet from

COG Operating LLC

EXHIBIT 8

Drilling Location - H2S Safety Equipment Diagram



SURFACE USE AND OPERATING PLAN

1. Existing & Proposed Access Roads

A. The well site survey and elevation plat for the proposed well is shown in Exhibit #1. It was staked by John West Engineering, Hobbs, NM.

B. All roads to the location are shown in the topographic map Exhibit #2. The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling the well will be done where necessary.

C. Directions to Location: From the intersection US Highway 82 and Co. Rd. 219 (Goat Ropers Road), Go North on County Road 219 apprx 1.9 miles. Turn Right and go East apprx 0.9 mile. Turn Right and to South apprx 0.3 mile. This location stake is apprx 150 West of lease road. See Vicinity Map, Exhibit #3.

D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease. Roads will be maintained according to specifications in section 2A of this Surface Use and Operating Plan.

2. Proposed Access Road:

Exhibit #4 shows that 0' of new access road will be required for this location. If any road is required it will be constructed as follows:

A. The maximum width of the running surface will be 14'. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.

B. The average grade will be less than 1%.

C. No turnouts are planned.

D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.

E. Surfacing material will consist of native caliche. Caliche will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from the nearest BLM caliche pit.

3. Location of Existing Well:

Exhibit #5 shows all existing wells within a one-mile radius of this well.

As shown on this plat there are numerous wells producing from the San Andres and Yeso formations.

4. Location of Existing and/or Proposed Facilities:

A. COG Operating LLC does operate a production facility on this lease.

B. If the well is productive, contemplated facilities will be as follows:

1) Production will be sent to the Electra Federal tank battery located at the Electra Federal #31 in the NW/4 of the NW/4 of Section 15, T17S, R30 E, Lease #: NM 0744935. The facility location is shown in Exhibit #5.

2) The tank battery and facilities including all flow lines and piping will be installed according to API specifications.

3) Any additional caliche will be obtained from the actual well site. If caliche does not exist or is not plentiful from the well site, the caliche will be hauled from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.

4) Proposed flow lines, will follow an archaeologically approved route to the the Electra Federal tank battery located in the NW/4 of the NW/4 of Section 15, T17S, R30 E, Lease #: NM 0744935. The flowline will be SDR 7 3" poly line laid on the surface and will be approximately 4580' in length with max pressure 100 psi. Flowlines will be no more than 11' from the paralleling road.

5) It will be necessary to run electric power if this well is productive. Power will be provided by CVE and they will submit a separate plan and ROW for service to the well location.

6) If the well is productive, rehabilitation plans will include the following:

a) The original topsoil from the well site will be returned to the location, and the site will be re-contoured as close as possible to the original site.

5. Location and Type of Water Supply:

The well will be drilled with combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads shown in Exhibit #2. If a commercial fresh water source is nearby, fast line may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

6. Source of Construction Materials and Location "Turn-Over" Procedure:

Obtaining caliche: The primary way of obtaining caliche to build locations and roads will be by "turning over" the location. This means, caliche will be obtained from the actual well sight. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cu. Yards is max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

A. The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.

B. An approximate 120' X 120' area is used within the proposed well site to remove caliche.

C. Subsoil is removed and piled along side the 120' by 120' area within the pad site.

D. When caliche is found, material will be stock piled within the pad site to build the location and road.

E. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.

F. Once well is drilled, the stock piled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche or subsoil will be stock piled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in attached plat.

In the event that no caliche is found onsite, caliche will be hauled in from a BLM approved caliche pit.

7. Methods of Handling Water Disposal:

A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to an NMOCD approved disposal site.

B. Drilling fluids will be contained in steel mud pits.

C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility.

D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. No toxic waste or hazardous chemicals will be produced by this operation.

E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole only a dry hole marker will remain.

8. Ancillary Facilities:

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

9. Well Site Layout:

A. The drill pad layout, with elevations staked by John West Engineering, is shown in Exhibit #4. Dimensions of the pad and pits are shown on Exhibit #6. V door direction is East. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.

B. Exhibit #6 also shows the proposed orientation of closed loop system and access road. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

10. Plans for Restoration of the Surface:

A. Interim Reclamation will take place after the well has been completed. The pad will be downsized by reclaiming the areas not needed for production operations. The portions of the pad that are not needed for production operations will be recontoured to its original state as much as possible. The caliche that is removed will be reused to either build another pad site or for road repairs within the lease. The stockpiled topsoil will then be spread out reclaimed area and reseeded with a BLM approved seed mixture. In the event that the well must be worked over or maintained, it may be necessary to drive, park, and/or operate machinery on reclaimed land. This area will be repaired or reclaimed after work is complete.

B. Final Reclamation: Upon plugging and abandoning the well, All caliche for well pad and lease road will be removed and surface will be recountoured to reflect its surroundings as much as possible. Caliche will be recycled for road repair or reused for another well pad within the lease. If any topsoil remains, it will be spread out and the area will be re-seeded with a BLM approved mixture and revegitated as per BLM orders.

11.Surface Ownership:

A. The surface is owned by the U.S. Government and is administered by the Bureau of Land Management. The surface is multiple uses with the primary uses of the region for grazing of livestock and the production of oil and gas.

B. The surface tenant for this site is Charles K. Martin, P O Box 706, Artesia, NM 88211.

C. The proposed road routes and surface location will be restored as directed by the BLM

12.Other Information:

A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite and shinnery oak. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.

B. There is no permanent or live water in the immediate area.

C. There are no dwellings within 2 miles of this location.

D. If needed, a Cultural Resources Examination is being prepared by Southern New Mexico Archaeological Services, Inc. P.O. Box 1, Bent New Mexico, 88314, phone # 505-671-4797 and the results will be forwarded to your office in the near future. Otherwise, **COG will be participating in the Permian Basin MOA Program.**

13. Bond Coverage:

Bond Coverage is Nationwide Bond # 000215

14. Lessee's and Operator's Representative:

The COG Operating LLC representative responsible for assuring compliance with the surface use plan is as follows:

John Coffman,
Drilling Superintendent
COG Operating LLC
550 W. Texas, Suite 1300
Midland, TX 79701
Phone (432) 683-7443 (office)
(432) 631-9762 (cell)

Erick Nelson.
Division Operations Manager
COG Operating LLC
550 W. Texas, Suite 1300
Midland, TX 79701
Phone (505) 746-2210 (office)
(432) 238-7591 (cell)

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently 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 11th day of August 2010.

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

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cog Operating LLC
LEASE NO.:	NM074935
WELL NAME & NO.:	66 Electra Federal
SURFACE HOLE FOOTAGE:	1120' FNL & 1775' FWL
BOTTOM HOLE FOOTAGE	990' FNL & 1980' FWL
LOCATION:	Section 15, T. 17 S., R 30 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.

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.

Possible lost circulation in the Grayburg and San Andres formations.
Possible water and brine flows in the Salado and Artesia Group.

1. The **13-3/8** inch surface casing shall be set at approximately **370** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If the salt is encountered, the casing is to be set 25 feet above the salt.**

    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.

Drill intermediate hole with brine mud.

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **This casing is to be set in the Tansill formation at approximately 1250 feet.**

If used, DV tool is to be set 50 feet below previous casing shoe. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.

b. Activities of other parties including, but not limited to:

(1) Land clearing.
(2) Earth-disturbing and earth-moving work.
(3) Blasting.
(4) Vandalism and sabotage.

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

C. ELECTRIC LINES (Not applied for in APD)

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).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery 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
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A
**Four-winged Saltbush	5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

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