ATS-10-109

RECEIVED
OCD Hobbs
DEC 28 2009
HOBBSOCD

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-029405B
6. If Indian, Allotee or Tribe Name	N/A
7 If Unit or CA Agreement, Name and No.	N/A
8 Lease Name and Well No.	G C FEDERAL #40 <302498>
9 API Well No.	30-025- 39626
10 Field and Pool, or Exploratory	Maljamar; Yeso, West 44500
11 Sec, T R. M. or Blk. and Survey or Area	Sec 20, T17S, R32E
12 County or Parish	Lea
13. State	NM

1a. Type of work: ☑ DRILL ☐ REENTER

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

2 Name of Operator: COG Operating LLC <229137>

3a. Address: 550 W. Texas, Suite 1300 Midland TX 79701

3b. Phone No. (include area code): (432) 685-4385

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface: SHL: 480' FSL & 930' FWL, Unit M
At proposed prod. zone: BHL: 330' FSL & 330' FWL, Unit M

14 Distance in miles and direction from nearest town or post office*: 3 miles south of Maljamar NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any)	480'	16 No. of acres in lease: 1602	17 Spacing Unit dedicated to this well: 40
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	100'	19. Proposed Depth: ~~7000'~~ 7100 TVD 7144 MD	20. BLM/BIA Bond No. on file: NMB000215 RLH 11/23/09
21 Elevations (Show whether DF, KDB, RT, GL, etc.): 3949' GL		22. Approximate date work will start*: 12/31/2009	23. Estimated duration: 10 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: Robyn Odom	Name (Printed/Typed): Robyn M. Odom	Date: 11/10/2009
Title: Regulatory Analyst		

Approved by (Signature): /s/ Don Peterson	Name (Printed/Typed): /s/ Don Peterson	Date: DEC 2 [illegible] 2009
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)

KZ

Roswell Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

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
30-025- 39626	44500	MALJAMAR; YESO, WEST

Property Code	Property Name	Well Number
302498	GC FEDERAL	40

OGRID No.	Operator Name	Elevation
229137	COG OPERATING, LLC	3949'

Surface Location

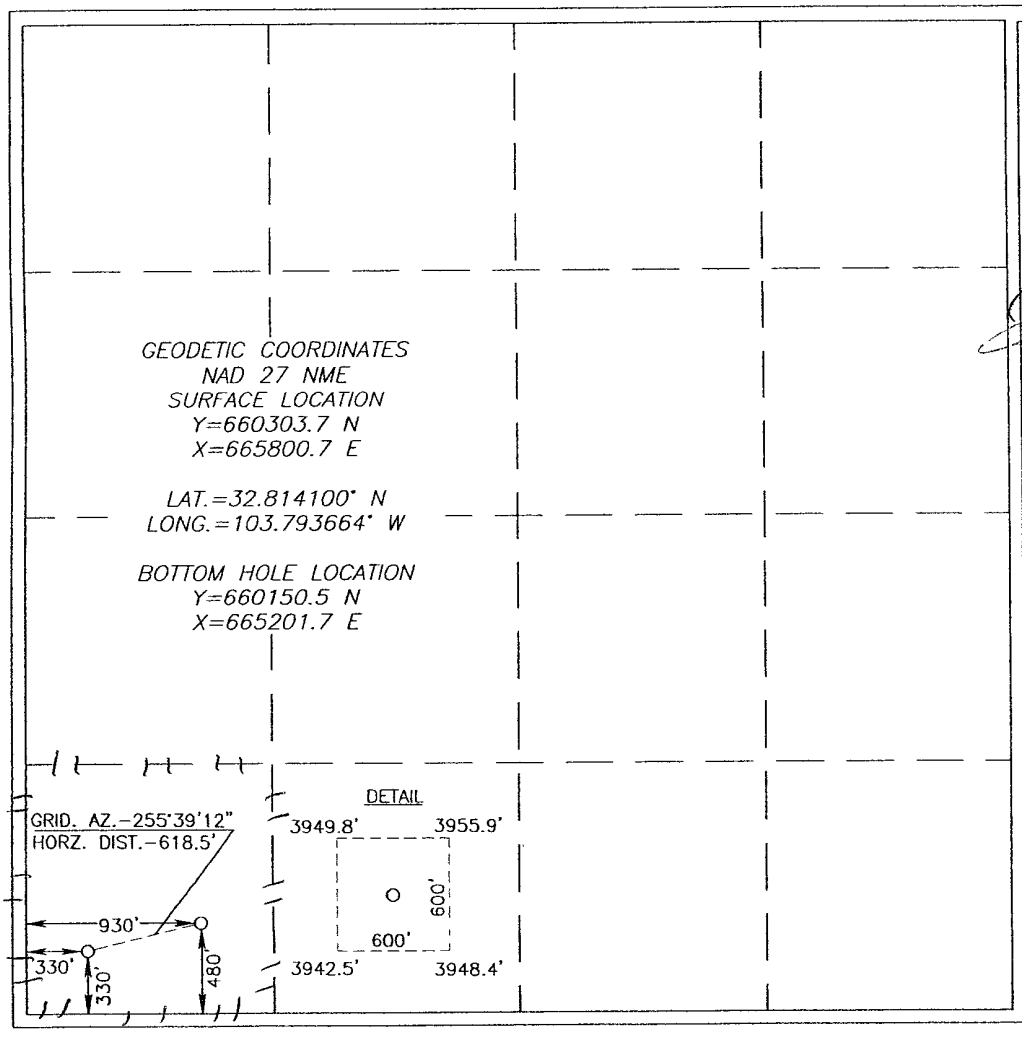
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	20	17-S	32-E		480	SOUTH	930	WEST	LEA

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
M	20	17-S	32-E		330	SOUTH	330	WEST	LEA

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 11/10/2009
Signature Date

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.

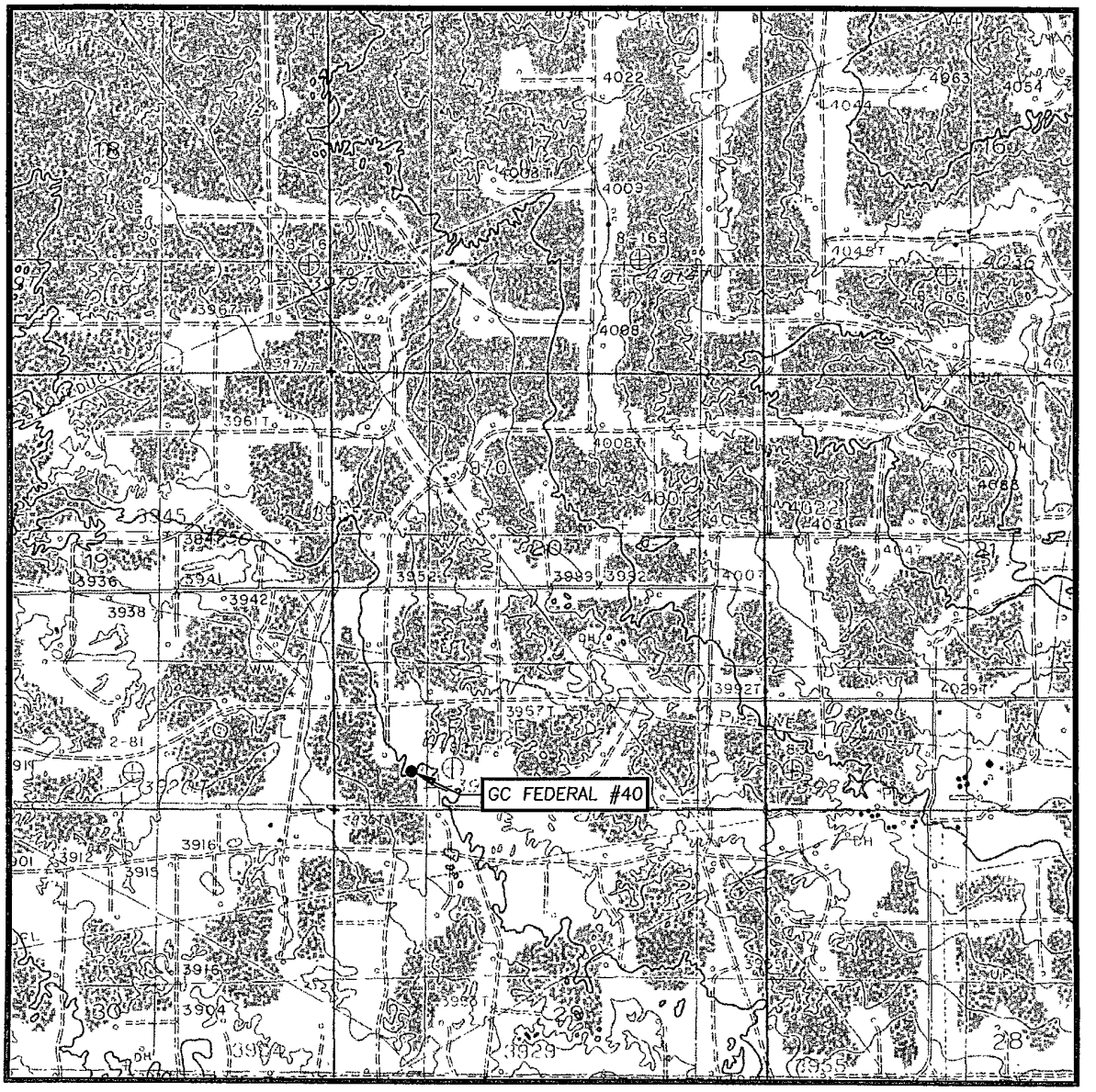
RONALD J. EIDSON 3239 NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR

OCTOBER 28, 2009
Date Surveyed LA REV: 11/9/09

Signature & Seal of Professional Surveyor
3239
11-09-09
09.11.0920

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
MALJAMAR, N.M. – 10'

SEC. 20 TWP. 17-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 480' FSL & 930' FWL

ELEVATION 3949'

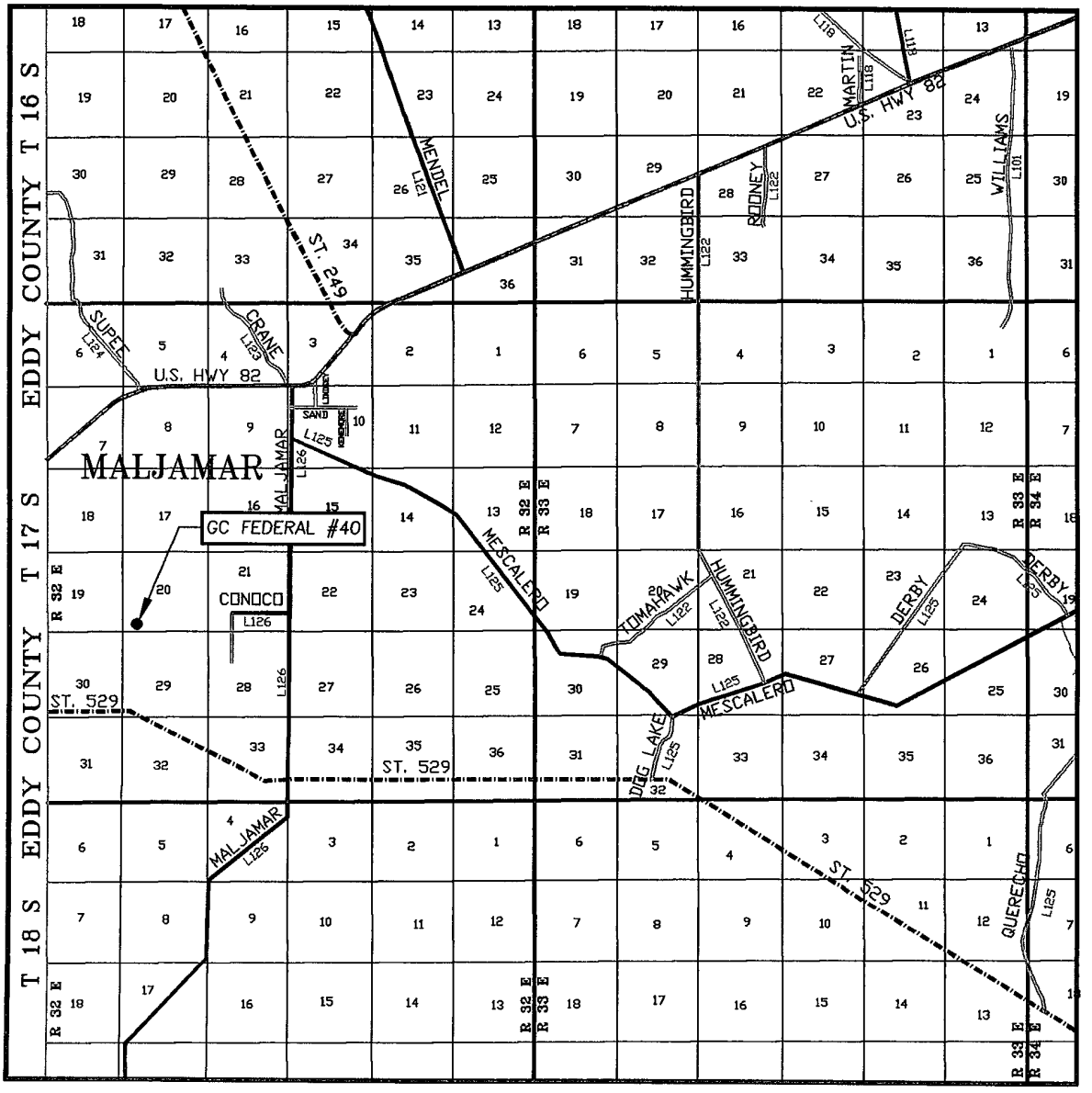
OPERATOR COG OPERATING, LLC

LEASE GC FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
MALJAMAR, N.M.

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

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 20 TWP. 17-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 480' FSL & 930' FWL

ELEVATION 3949'

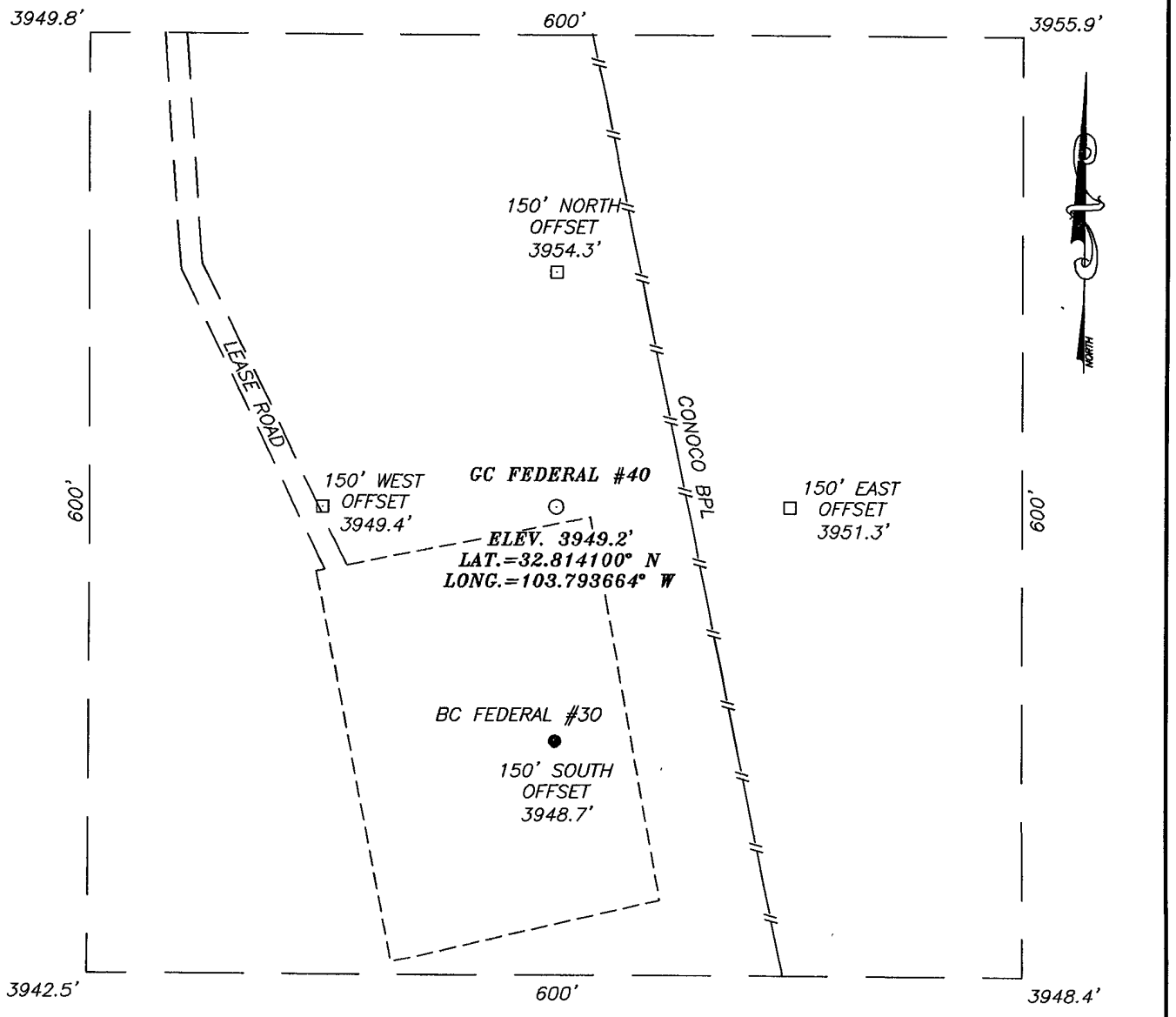
OPERATOR COG OPERATING, LLC

LEASE GC FEDERAL

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

SECTION 20, TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. L-126 (MALJAMAR RD) & CONOCO ROAD, GO WEST ON CONOCO ROAD APPROX. 1.7 MILES. TURN LEFT AND GO SOUTH APPROX. 0.2 MILES TO THE GC FED. #30 WELL PAD. THIS LOCATION IS APPROX. 150 FEET NORTH OF EXISTING WELL.

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

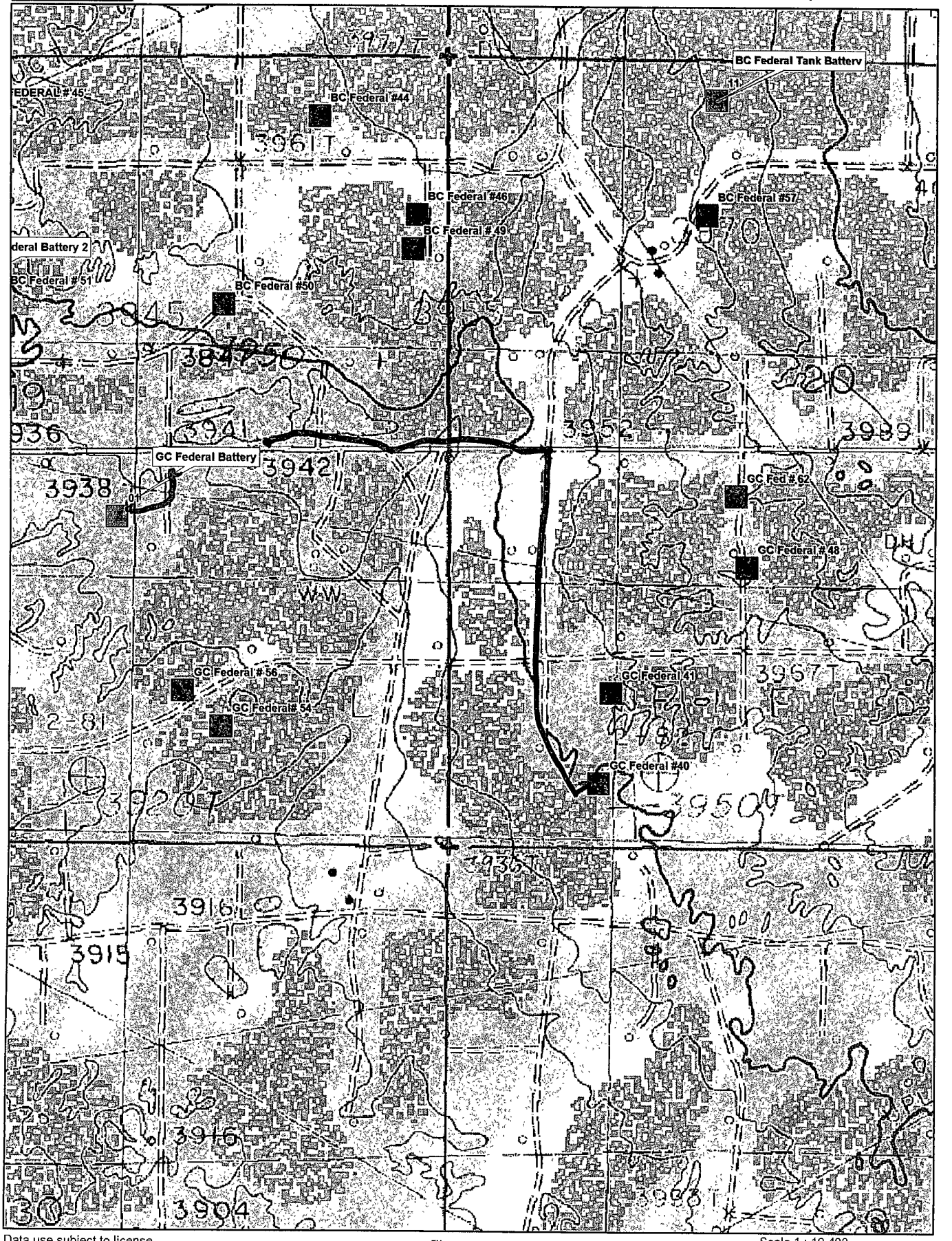
COG OPERATING, LLC

GC FEDERAL #40 WELL
LOCATED 480 FEET FROM THE SOUTH LINE
AND 930 FEET FROM THE WEST LINE OF SECTION 20,
TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 10/28/09	Sheet 1 of 1 Sheets		
W.O. Number: 09.11.0920	Dr By: LA		Rev 1:11/6/09
Date: 11/6/09		09110920	Scale:1"=100'

DELORME

XMap® 5.2 Professional



Data use subject to license.

© DeLorme. XMap® 5 2 Professional.

www.delorme com

TN

MN (7 9°E)

Scale 1 · 10,400

0 200 400 600 800 1000 ft

0 80 160 240 320 400 m

1" = 866.7 ft

Data Zoom 14-3

COG Operating LLC
Master Drilling Plan Revised 7-22-09
Maljamar ; Yeso, West
Use for Sections 3-35, T17S, R32E
Lea County, NM

MASTER DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Top of Salt	900'
Base of Salt	1700'
Yates	2000'
Seven Rivers	2375'
Queen	2975'
Grayburg	3475'
San Andres	3775'
Glorietta	5225'
Yeso Group	5325'

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

Water Sand	150'	Fresh Water
Grayburg	3475'	Oil/Gas
San Andres	3775'	Oil/Gas
Glorietta	5225'	Oil/Gas
Yeso Group	5325'	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 2100' 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.

See COA

4. Casing Program

See COA

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	burst/collapse/tension
17 ½"	0-~~650'~~695	13 3/8"	48#	H-40orJ-55	ST&C/New	6.03/2.578/10.32
11"or~~12¼~~"	0-~~2100~~'	8 5/8"	24or32#	J-55	ST&C/New	1.85/1.241/4.78
7 7/8"	0-T.D.	5 1/2"	15.5or17#	J-55orL-80	LT&C/New	1.59/1.463/2.05

5. Cement Program

13 3/8" Surface Casing: Class C, 4% Gel, 2% CaCl2, .25 pps CF, 350 sx lead, yield-1.98 + 200 sx tail, yield-1.32.

8 5/8" Intermediate Casing:

11" Hole:

Single Stage: 50:50:10, 400 sx lead, yield-2.45 + Class C, 200 sx tail, yield-1.32, back to surface.

Multi-Stage: Stage 1: Class C, 400 sx, yield - 1.32; Stage 2: Class C, 200 sx, yield – 1.32, back to surface. Multi stage tool to be set at approximately, depending on hole conditions, 650'

See COA

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, TD - 2000'.

See COA

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~~. See COA 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:

See COA

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-650'	Fresh Water	8.5	28	N.C.
650-2100'	Brine	10	30	N.C.
2100'-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 15 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
550 West Texas, Suite 1300
Midland, TX 79701

DIRECTIONAL PLAN VARIANCE REQUEST

G C Federal #40
LEA, NM

SHL	480 FSL, 930 FWL	Sec 20, T17S, R32E, Unit M
BHL	330 FSL, 330 FWL	Sec 20, T17S, R32E, Unit M

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.

CONCHO

COG Operating LLC

Lea County, NM (NAD27 NME)
GC Federal #40
GC Federal #40

OH

Plan: Plan #1 - 7-7/8" Hole
SHL = 480' FSL & 930' FWL
BHL = 380' FSL & 340' FWL
Top of Paddock = 86' S of Surf & 490' W of Surf @ 5400' TVD

Standard Planning Report

12 November, 2009

Scientific Drilling

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Well GC Federal #40
Company:	COG Operating LLC	**TVD Reference:**	Ground Elev @ 3949 00ft (Rig ?)
Project:	Lea County, NM (NAD27 NME)	**MD Reference:**	Ground Elev @ 3949 00ft (Rig ?)
Site:	GC Federal #40	**North Reference:**	Grid
Well:	GC Federal #40	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" Hole		

Project Lea County, NM (NAD27 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 GC Federal #40

Site Position:		**Northing:**	660,303.70 ft	**Latitude:**	32° 48' 50 759 N
From:	Map	**Easting:**	665,800 70 ft	**Longitude:**	103° 47' 37 190 W
Position Uncertainty:	0 00 ft	**Slot Radius:**	0 "	**Grid Convergence:**	0 29 °

Well GC Federal #40

Well Position	**+N/-S**	0 00 ft	**Northing:**	660,303 70 ft	**Latitude:**	32° 48' 50 759 N
	+E/-W	0 00 ft	**Easting:**	665,800 70 ft	**Longitude:**	103° 47' 37 190 W
Position Uncertainty		0 00 ft	**Wellhead Elevation:**		**Ground Level:**	3,949 00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2009/11/12	7 91	60 75	49,133

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	260 06

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	
2,200.00	0.00	0 00	2,200 00	0 00	0 00	0.00	0 00	0 00	0 00	
2,696 95	9 94	260 06	2,694 46	-7.42	-42 35	2.00	2 00	0 00	260.06	
5,112 51	9 94	260 06	5,073 77	-79 37	-453 02	0 00	0 00	0 00	0 00	
5,441 13	3 37	260 06	5,400.00	-85 94	-490 50	2 00	-2 00	0.00	180 00	PP-GC Fed #40
7,144 07	3 37	260 06	7,100 00	-103 20	-589 00	0 00	0.00	0 00	0 00	PBHL-GC Fed #40

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well GC Federal #40
Company:	COG Operating LLC	**TVD Reference:**	Ground Elev @ 3949.00ft (Rig ?)
Project:	Lea County, NM (NAD27 NME)	**MD Reference:**	Ground Elev @ 3949.00ft (Rig ?)
Site:	GC Federal #40	**North Reference:**	Grid
Well:	GC Federal #40	**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
South HL-GC Fed #40 - West HL-GC Fed #40									
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8-5/8" Casing									
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Start Build 2.00°/100'									
2,300.00	2.00	260.06	2,299.98	-0.30	-1.72	1.75	2.00	2.00	0.00
2,400.00	4.00	260.06	2,399.84	-1.20	-6.87	6.98	2.00	2.00	0.00
2,500.00	6.00	260.06	2,499.45	-2.71	-15.46	15.69	2.00	2.00	0.00
2,600.00	8.00	260.06	2,598.70	-4.81	-27.46	27.88	2.00	2.00	0.00
2,696.95	9.94	260.06	2,694.46	-7.42	-42.35	42.99	2.00	2.00	0.00
EOC hold 9.94°									
2,700.00	9.94	260.06	2,697.47	-7.51	-42.87	43.52	0.00	0.00	0.00
2,800.00	9.94	260.06	2,795.96	-10.49	-59.87	60.78	0.00	0.00	0.00
2,900.00	9.94	260.06	2,894.46	-13.47	-76.87	78.04	0.00	0.00	0.00
3,000.00	9.94	260.06	2,992.96	-16.45	-93.87	95.30	0.00	0.00	0.00
3,100.00	9.94	260.06	3,091.46	-19.43	-110.87	112.56	0.00	0.00	0.00
3,200.00	9.94	260.06	3,189.96	-22.40	-127.87	129.82	0.00	0.00	0.00
3,300.00	9.94	260.06	3,288.46	-25.38	-144.87	147.08	0.00	0.00	0.00
3,400.00	9.94	260.06	3,386.96	-28.36	-161.87	164.34	0.00	0.00	0.00
3,500.00	9.94	260.06	3,485.46	-31.34	-178.88	181.60	0.00	0.00	0.00
3,600.00	9.94	260.06	3,583.96	-34.32	-195.88	198.86	0.00	0.00	0.00
3,700.00	9.94	260.06	3,682.46	-37.30	-212.88	216.12	0.00	0.00	0.00
3,800.00	9.94	260.06	3,780.96	-40.28	-229.88	233.38	0.00	0.00	0.00
3,900.00	9.94	260.06	3,879.46	-43.26	-246.88	250.64	0.00	0.00	0.00
4,000.00	9.94	260.06	3,977.96	-46.24	-263.88	267.90	0.00	0.00	0.00
4,100.00	9.94	260.06	4,076.45	-49.21	-280.88	285.16	0.00	0.00	0.00
4,200.00	9.94	260.06	4,174.95	-52.19	-297.88	302.42	0.00	0.00	0.00
4,300.00	9.94	260.06	4,273.45	-55.17	-314.88	319.68	0.00	0.00	0.00
4,400.00	9.94	260.06	4,371.95	-58.15	-331.88	336.94	0.00	0.00	0.00
4,500.00	9.94	260.06	4,470.45	-61.13	-348.89	354.20	0.00	0.00	0.00
4,600.00	9.94	260.06	4,568.95	-64.11	-365.89	371.46	0.00	0.00	0.00
4,700.00	9.94	260.06	4,667.45	-67.09	-382.89	388.72	0.00	0.00	0.00
4,800.00	9.94	260.06	4,765.95	-70.07	-399.89	405.98	0.00	0.00	0.00
4,900.00	9.94	260.06	4,864.45	-73.04	-416.89	423.24	0.00	0.00	0.00
5,000.00	9.94	260.06	4,962.95	-76.02	-433.89	440.50	0.00	0.00	0.00
5,100.00	9.94	260.06	5,061.45	-79.00	-450.89	457.76	0.00	0.00	0.00
5,112.51	9.94	260.06	5,073.77	-79.37	-453.02	459.92	0.00	0.00	0.00
Start DLS 2.00°/100'									
5,200.00	8.19	260.06	5,160.16	-81.75	-466.59	473.70	2.00	-2.00	0.00
5,300.00	6.19	260.06	5,259.37	-83.91	-478.92	486.22	2.00	-2.00	0.00
5,400.00	4.19	260.06	5,358.96	-85.47	-487.83	495.26	2.00	-2.00	0.00
5,441.13	3.37	260.06	5,400.00	-85.94	-490.50	497.97	2.00	-2.00	0.00
EOC hold 3.37° - PP-GC Fed #40									
5,500.00	3.37	260.06	5,458.77	-86.54	-493.90	501.43	0.00	0.00	0.00
5,600.00	3.37	260.06	5,558.59	-87.55	-499.69	507.30	0.00	0.00	0.00
5,700.00	3.37	260.06	5,658.42	-88.56	-505.47	513.17	0.00	0.00	0.00
5,800.00	3.37	260.06	5,758.25	-89.58	-511.26	519.04	0.00	0.00	0.00
5,900.00	3.37	260.06	5,858.08	-90.59	-517.04	524.92	0.00	0.00	0.00
6,000.00	3.37	260.06	5,957.90	-91.61	-522.82	530.79	0.00	0.00	0.00
6,100.00	3.37	260.06	6,057.73	-92.62	-528.61	536.66	0.00	0.00	0.00
6,200.00	3.37	260.06	6,157.56	-93.63	-534.39	542.53	0.00	0.00	0.00
6,300.00	3.37	260.06	6,257.39	-94.65	-540.18	548.41	0.00	0.00	0.00

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Well GC Federal #40
Company:	COG Operating LLC	**TVD Reference:**	Ground Elev @ 3949 00ft (Rig ?)
Project:	Lea County, NM, (NAD27, NME)	**MD Reference:**	Ground Elev @ 3949 00ft (Rig ?)
Site:	GC Federal #40	**North Reference:**	Grid
Well:	GC Federal #40	**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)
6,400.00	3 37	260 06	6,357 21	-95 66	-545 96	554.28	0.00	0 00	0 00
6,500.00	3 37	260 06	6,457 04	-96.67	-551.75	560.15	0.00	0.00	0 00
6,600.00	3 37	260 06	6,556 87	-97 69	-557 53	566 02	0.00	0 00	0 00
6,700 00	3 37	260 06	6,656 69	-98 70	-563.31	571 90	0.00	0.00	0 00
6,800.00	3 37	260 06	6,756 52	-99 71	-569.10	577 77	0.00	0 00	0 00
6,900 00	3 37	260.06	6,856.35	-100 73	-574.88	583 64	0.00	0.00	0 00
7,000.00	3 37	260 06	6,956 18	-101.74	-580.67	589.51	0.00	0 00	0 00
7,100.00	3 37	260 06	7,056 00	-102.75	-586.45	595.38	0.00	0 00	0 00
7,144.07	3 37	260 06	7,100 00	-103 20	-589 00	597.97	0.00	0.00	0 00
PBHL GC Fed #40									

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
South HL-GC Fed #40 - plan misses target center by 618 28ft 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	-153 20	-599.00	660,150 50	665,201.70	32° 48' 49.273 N	103° 47' 44 218 W
West HL-GC Fed #40 - plan misses target center by 618 28ft at 0 00ft MD (0.00 TVD, 0 00 N, 0 00 E) - Rectangle (sides W0 00 H200 00 D0.00)	0 00	0 00	0 00	-153 20	-599 00	660,150 50	665,201 70	32° 48' 49 273 N	103° 47' 44.218 W
PP-GC Fed #40 - plan hits target center - Circle (radius 50.00)	3 37	80 06	5,400 00	-85 94	-490 50	660,217.76	665,310 21	32° 48' 49 933 N	103° 47' 42 943 W
PBHL-GC Fed #40 - plan hits target center - Circle (radius 50.00)	3 37	80 06	7,100 00	-103 20	-589 00	660,200.50	665,211.70	32° 48' 49.768 N	103° 47' 44 098 W

Casing Points

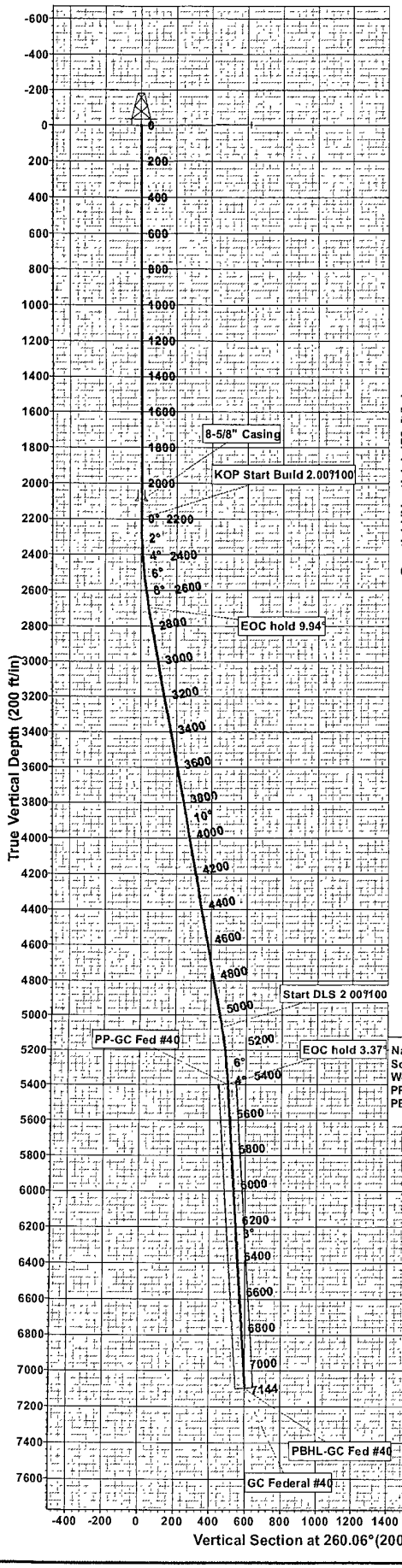
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,100 00	2,100 00	8-5/8" Casing	8-5/8	12-1/4

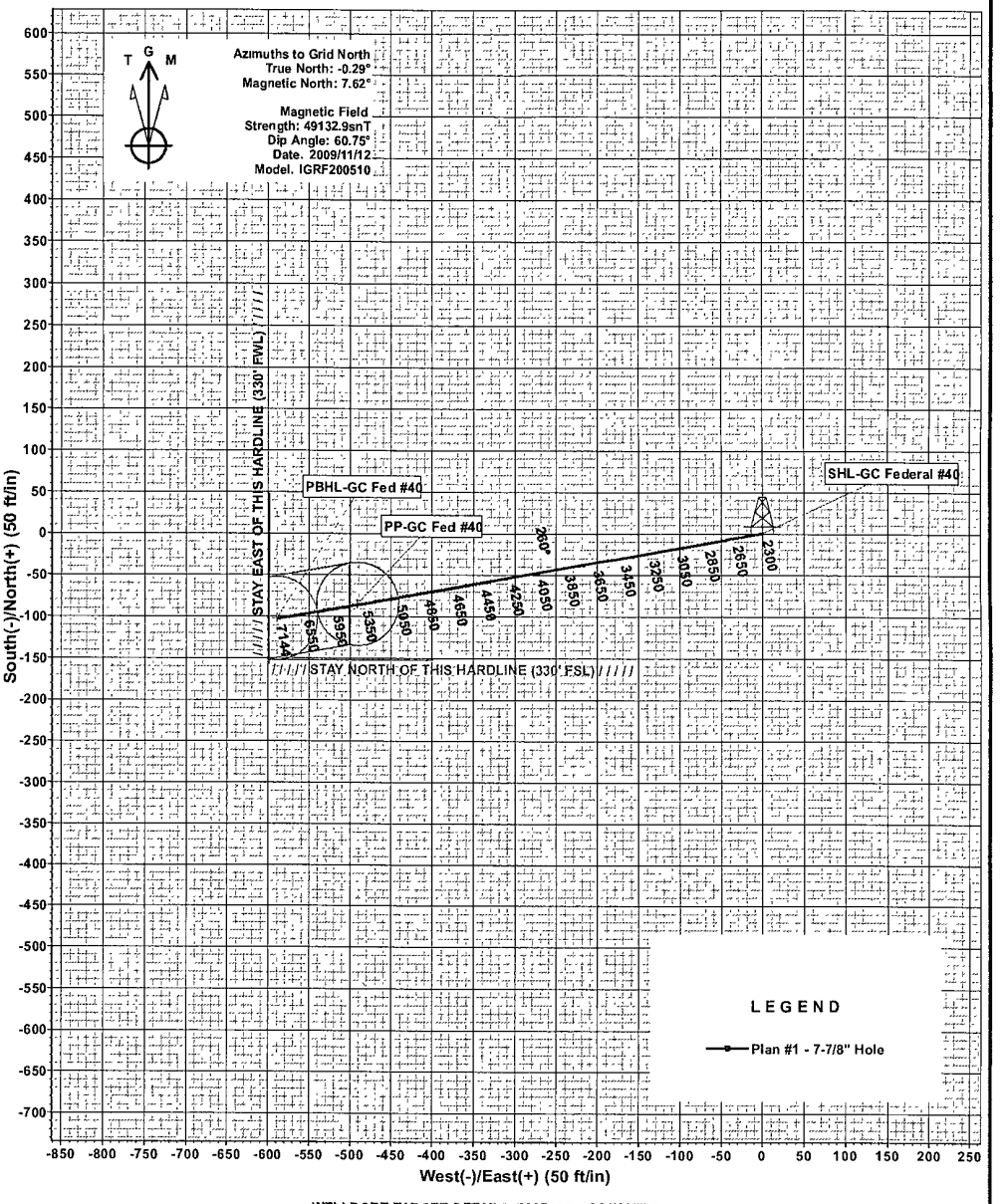
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,200 00	2,200 00	0 00	0 00	KOP Start Build 2 00°/100'
2,696 95	2,694.46	-7.42	-42 35	EOC hold 9 94°
5,112 51	5,073 77	-79.37	-453 02	Start DLS 2 00°/100'
5,441 13	5,400 00	-85 94	-490 50	EOC hold 3.37°

Scientific Drilling for COG Operating LLC
Site: Lea County, NM (NAD27 NME)
Well: GC Federal #40
Wellbore: OH
Design: Plan #1 - 7-7/8" Hole

Scientific Drilling





WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
South HL-GC Fed #40	0 00	-153 20	-599 00	660150 50	665201.70	32°48' 49.273 N	103°47' 44.218 W	Rectangle (Sid es. L0.00 W200.00)
West HL-GC Fed #40	0 00	-153.20	-599 00	660150 50	665201.70	32°48' 49.273 N	103°47' 44.218 W	Rectangle (Side s L200.00 W0.00)
PP-GC Fed #40	5400.00	-85 94	-490 50	660217 76	665310.20	32°48' 49 933 N	103°47' 42.943 W	Circle (Radius 50 00)
PBHL-GC Fed #40	7100.00	-103 20	-589 00	660200 50	665211.70	32°48' 49.768 N	103°47' 44.098 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	2200 00	0.00	0.00	2200 00	0.00	0 00	0.00	0 00	0.00	
3	2696 95	9.94	260 06	2694.46	-7 42	-42.35	2.00	260.06	42 99	
4	5112.51	9 94	260.06	5073.77	-79.37	-453 02	0.00	0.00	459.92	
5	5441 13	3.37	260.06	5400.00	-85 94	-490.50	2.00	180.00	497.97	PP-GC Fed #40
6	7144.07	3 37	260.06	7100.00	-103.20	-589 00	0 00	0.00	597.97	PBHL-GC Fed #40

WELL DETAILS: GC Federal #40

Ground Level: 3949.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0 00	660303.70	665800 70	32°48' 50.759 N	103°47' 37 190 W	

PROJECT DETAILS: Lea County, NM (NAD27 NME)

Plan: Plan #1 - 7-7/8" Hole (GC Federal #40/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: 12-Nov-09
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____

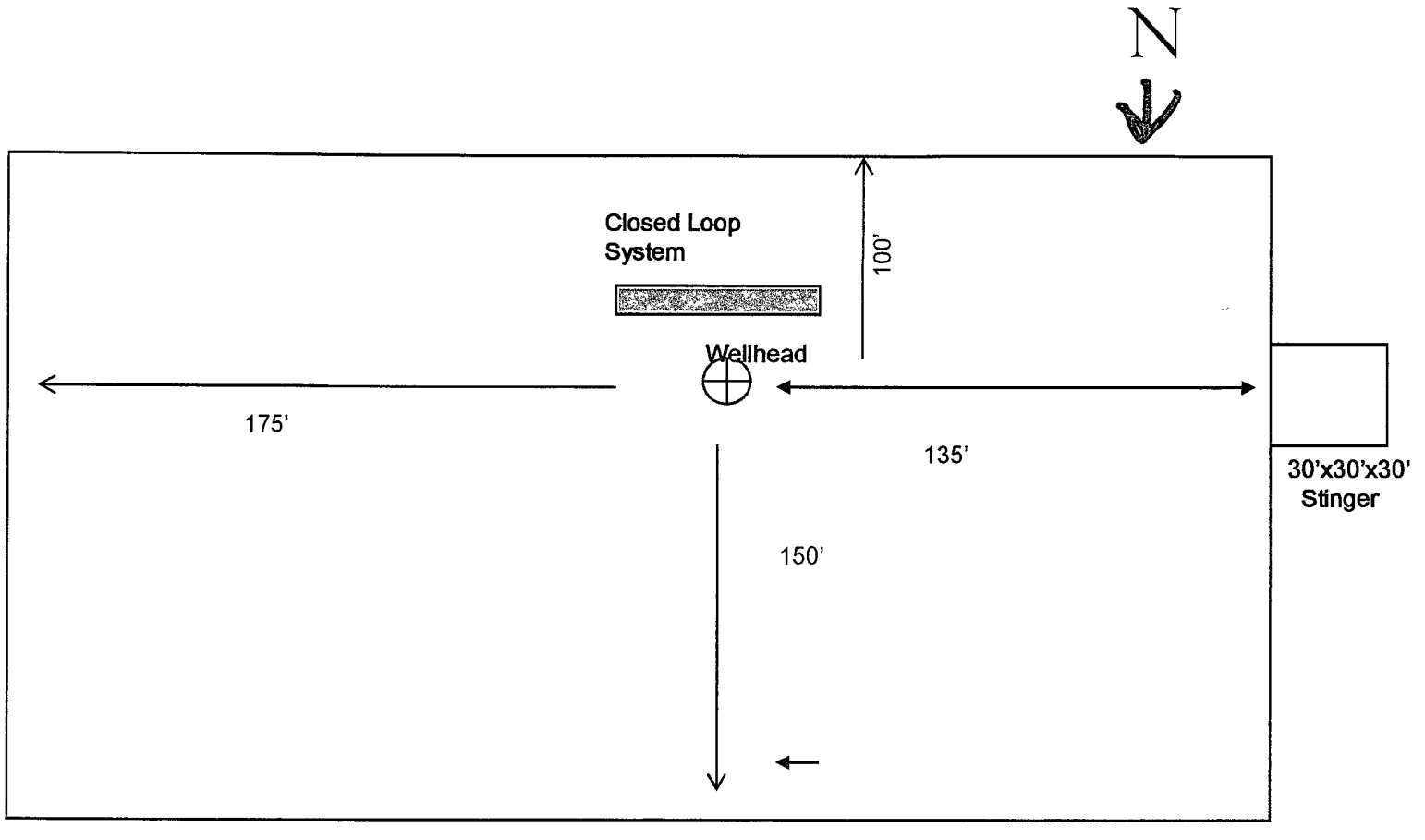


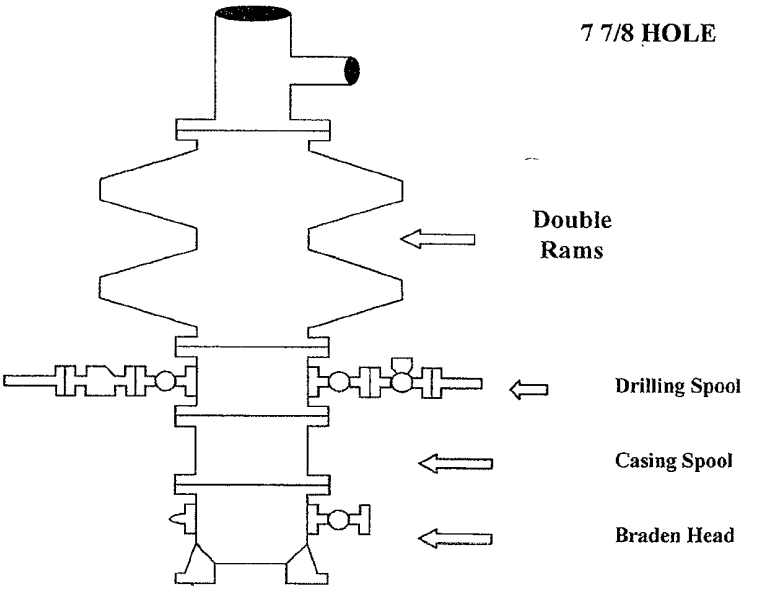
Exhibit 6

COG OPERATING LLC

Rig Layout Closed Loop System

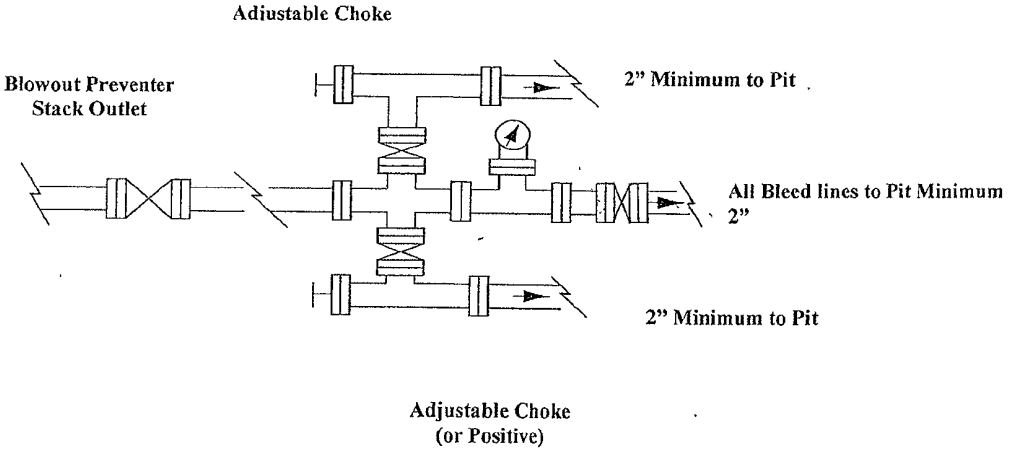
Not To Scale

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.

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 H2S

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

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 13th day of October, 2009.

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.:	NMLC 029405B
WELL NAME & NO.:	GC Federal 40
SURFACE HOLE FOOTAGE:	480' FSL & 930' FWL
BOTTOM HOLE FOOTAGE	330' FSL & 330' FWL
LOCATION:	Section 20, T. 17 S., R 32 E., NMPM
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

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

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

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. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Hobbs Field Station at (575) 393-3612 at least 3 working days prior to commencing construction of the access road and/or well pad.

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

B. V-DOOR DIRECTION: South

C. TOPSOIL

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

D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

E. FEDERAL MINERAL MATERIALS PIT

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

F. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

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

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Lea County**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Grayburg** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

Wait on cement (WOC) time 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. 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 water and brine flows in the Salado and Artesia Group.
Possible lost circulation in the Grayburg and San Andres formations.

1. The **13-3/8** inch surface casing shall be set at **approximately 695 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **Fresh water mud to be used to setting depth.**

    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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **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 at approximately 1900' within the Tansill formation.**

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.

a. First stage to DV tool, cement shall:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool, cement shall:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Additional cement may be required as the excess calculated to a negative 23%.**

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

☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

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.

a. First stage to DV tool, cement shall:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. **Additional cement may be required as the excess calculated to a negative 40%.**

b. Second stage above DV tool, cement shall:

☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. Casing cut-off and BOP installation will not be initiated until the cement has had 4-6 hours of setup time in a water basin and 12 hours in the potash areas. This time will start after the cement plug is bumped.

    b. **Prior to testing a BOP/BOPE system against the casing; the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Testing the BOP/BOPE against a plug can commence after meeting the conditions in (a.) plus the BOP installation time.**
    c. The tests shall be done by an independent service company.

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

    e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

    g. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

D. DRILL STEM TEST

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

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or 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.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **25** feet.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint 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.

(March 1989)

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