ATS-08-448 PA-08-916

OCD-ARTESIA

(April 2004)

JUN 18 2008 OCD-ARTESIA

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

DEPARTMENT OF THE BUREAU OF LAND MAN APPLICATION FOR PERMIT TO	INTERIOR IAGEMENT	`	5 Lease Serial No. LC-029405B 6 If Indian, Alloted N/A	e or Tribe Name		
la. Type of work:	UNORTHODOX		7 If Unit or CA Agr N/A		No	
Ib. Type of Well. ✓ Oil Well	AMEN	ple Zone	8. Lease Name and G C Federal		つるい	
2 Name of Operator COG Operating LLC	orthodoxaut	r RHr	9. API Well No.	38994	<u> </u>	
3a Address 550 W. Texas, Suite 1300 Midland TX 79701	3b Phone No. (include area code) (432) 685-4340	•	10. Field and Pool, or Maljamar; Ye		00	
At surface 1550' FSL & 660' FEL, UL I At proposed prod zone 1650' FSL & 330' FEL, UL I	, ,	iter Ba	11 Sec , T R. M. or I	ĺ	Area	
14. Distance in miles and direction from nearest town or post office* 2.5 miles SW of Maljamar, NM	***************************************		12 County or Parish Lea	13. Sta	te NM	
15 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line, if any) 660'	16. No. of acres in lease	17 Spacin	7 Spacing Unit dedicated to this well 40			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 506'	19. Proposed Depth 6800'		BLM/BIA Bond No on file NMB000215			
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3938' C L	22 Approximate date work will star 06/15/2008	t*	23. Estimated duration 10 days	on		
The following, completed in accordance with the requirements of Onshore	24. Attachments	tached to thi	s form			
Well plat certified by a registered surveyor. A Drilling Plan. A Surface Use Plan (if the location is on National Forest System I SUPO shall be filed with the appropriate Forest Service Office).	4 Bond to cover the Item 20 above). Lands, the 5. Operator certific	ne operation ation specific info	is unless covered by an	Ū	·	
25. Signature Phylles a devaid	Name (Printed/Typed) Phyllis A. Edwards			Date 05/16/2008		

Approved by (Signature)

Îs/ Don Peterson

Title

Regulatory Analyst

Name (Printed/Typed)
/S/ Don Peterson

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 1t 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

SEE ATTACHED FOR CONDITIONS OF APPROVAL **APPROVAL SUBJECT TO GENERAL REQUIREMENTS** AND SPECIAL STIPULATIONS **ATTACHED**

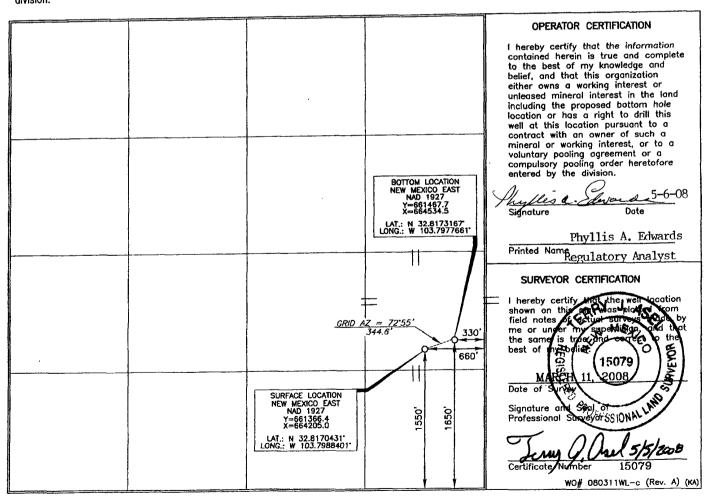
State of New Mexico District 1 Energy, Minerals & Natural Resources Department 1625 N. French Dr., Hobbs, NM 88240 District II OIL CONSERVATION DIVISION 1301 W. Grand Avenue, Artesia, NM 88210 District III 1220 South St. Francis Dr. 1000 Rio Brazos Rd., Aztec, NM 87410 Santa Fe, NM 87505 District IV AMENDED REPORT 1220 S. St. Francis Dr., Santa Fe, NM 87505 WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102 Revised October 12, 2005 Submit to Appropriate District Office State Lease- 4 Copies Fee Lease-3 Copies

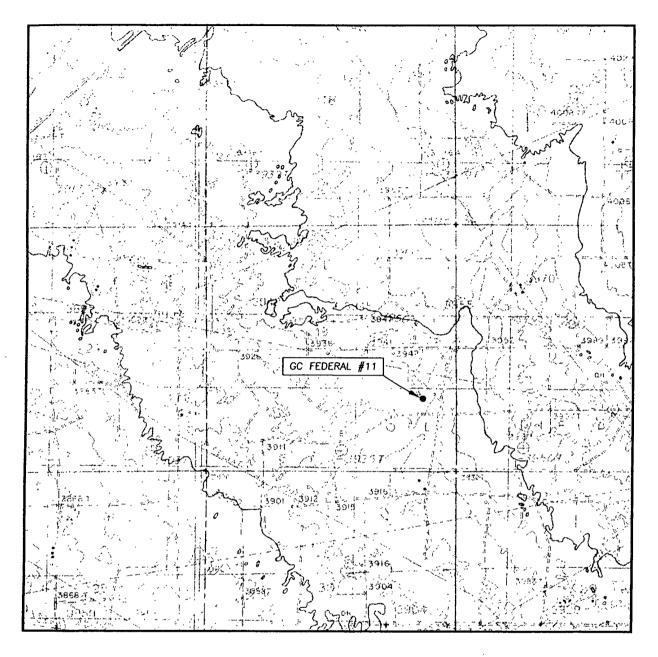
Pool Name Pool Code API Number MALJAMAR; YESO, WEŜT 44500 30-025-Well Number Property Name Property Code 11 GC FEDERAL 302498 Elevation Operator Name OGRID No. 3937.8 COG OPERATING LLC. 229137 Surface Location

Lot Idn Feet from the North/South line Feet from the County East/West line Range Township UL or lot no. Section EAST LEA SOUTH 660' 1550' 32 EAST, N.M.P.M. 17 SOUTH I 19 Bottom Hole Location If Different From Surface County Lot Idn Feet from the North/South line Feet from the East/West line UL or lot no. Section Township EAST LEA SOUTH 330 1650 17 SOUTH 32 EAST. N.M.P.M. 19 Order No. Joint or Infill Consolidation Code Dedicated Acres

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.



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 19 TWP. 17-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1550' FSL & 660' FEL

ELEVATION 3937.8'

OPERATOR COG OPERATING LLC.

LEASE GC FEDERAL #11

U.S.G.S. TOPOGRAPHIC MAP

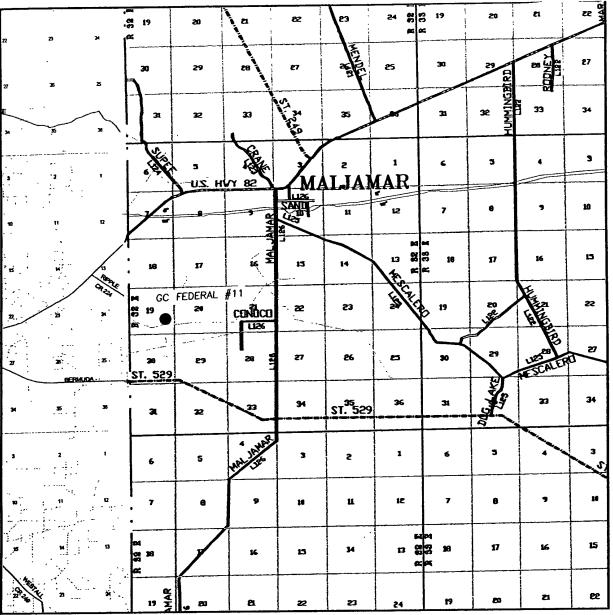
MALJAMAR, N.M.

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146



VICINITY MAP



SEC. 19 TWP. 17—S RGE. 32—E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1550' FSL & 660' FEL

ELEVATION 3937.8'

OPERATOR COG OPERATING LLC.

LEASE GC FEDERAL #11

SCALE: 1" = 2 MILES

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR HOBBS, NEW MEXICO - 575-393-9146



SECTION 19, TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M., NEW MEXICO LEA COUNTY CALC. CORNER BOTTOM HOLE LOCATION 'n GRID AZ = 72.55° 2640 660 S00'19'04"E SURFACE LOCATION
GC FEDERAL #11 R-32-E R-31-E 19 20 19 24 30 29 S89'47'06"W - 5310.2" 25 30 CALC. GLO B.C. "1913" CORNER BPL (PLAINS) 3932.9 600 150' N 3940.3' GC FEDERAL #11 150° W, a 3940.1° a 150' E 3936.0 3937.8 0 150' S 3935.5' 600' 3930 7 3937.3 ERRY SCALE-1'=200' 15079 LEGEND - DENOTES FOUND MONUMENT AS NOTED - DENOTES CALCULATED CORNER SOFF SSIONAL LAND SURVEYORS CERTIFICATE I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR
NO. 15079, DO HERBEY CERTIFY THAT I CONDUCTED AND AM
RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS
TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND
BELIEF, AND MEETS THE "MINIMUM STANDARDS FOR
SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW
MEXICO STATE BOARD OF REGISTRATION FOR
BOCCESSIONAL ENGINEEDS AND SILVEYORS 2000' FEET 1000 1000' SCALE: 1"=1000 COG **OPERATING** PROFESSIONAL ENGINEERS AND SURVEYORS. GC FEDERAL #11
IN SECTION 19, TOWNSHIP 17 SOUTH,
RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO Asel Surveying

P.O. BOX 393 - 310 W TAYLOR HOBBS, NEW MEXICO - 575-393-9146

Survey Date: 03/11/08	Sheet 1 of	f 1 Sheets
W.O. Number: 080311WL-c (Rev A)	Drawn By: KA	Rev: A
Date: 05/05/08	080311WL-c	Scale:1"=1000'

COG Operating LLC

Master Drilling Plan Revised 3-25-08

Maljamar; Yeso

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 back to the surface. Any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them by cementing 5 1/2" production casing back to 200' into the intermediate casing, to be run at TD.

4. Casing Program

		OD			Jt.,	
Hole Size	Interval	Casing	Weight	Grade	Condition	burst/collapse/tension
17 1/2"	0-650'	13 3/8"	48#	H-40	ST&C/New	6,03/2.578/10.32
11"or12 1/4"	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"	17#	J-55orL-80	LT&C/New	1.59/1.463/2.05

COG Operating LLC

Master Drilling Plan Revised 3-25-08

Maljamar; Yeso

Use for Sections 3-35, T17S, R32E

Lea County, NM

5. Cement Program

13 3/8" Surface Casing:

Class C, 500 sx lead, yield-1.98 + 200 sx

tail, yield-1.32.

8 5/8" Intermediate Casing:

11" Hole: Class C, 500 sx lead, yield-2.45 +

200 sx tail, yield-1.32, back to surface.

12-1/4" Hole: Class C, 700 sx lead, yield-2.45 + 200 sx tail, yield-1.32, back to

surface.

5 1/2" Production Casing:

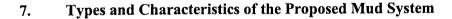
Class C, 700 sx Lead, yield-1.97 + 400 sx

Tail, yield-1.37, to 200' minimum tie back

to intermediate casing.

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) will a 2000 psi WP rating.



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

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-650'	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.



COG Operating LLC Master Drilling Plan Revised 3-25-08 Maljamar; Yeso Use for Sections 3-35, T17S, R32E Lea County, NM

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. Low levels of hydrogen sulfide have been monitored in producing wells in the area, so H₂S may be present while drilling the well. 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.



Proposal

Report Date: May 9, 2008

Client: COG Operating, LLC.
Field: Lea County, NM

Structure / Slot: GC Fed #11 / GC Fed #11

Well: GC Fed #11 Borehole: GC Fed #11

UWI/AP#:

Survey Name / Date: GC Federal #11_r1 / May 9, 2008 Tort / AHD / DDI / ERD ratio: 4.110° / 344.74 ft / 3.152 / 0.051

Grid Coordinate System: NAD27 New Mexico State Planes, Eastern Zone, US Feet

Location Lat/Long: N 32 49 1.355, W 103 47 55.825 Location Grid N/E Y/X: N 661366.400 ftUS, E 664205.000 ftUS

Grid Convergence Angle: +0.28967898° Grid Scale Factor: 0.99993997 Survey / DLS Computation Method: Minimum Curvature / Lubinski

Vertical Section Azimuth: 72 910°

Vertical Section Origin: N 0.000 ft, E 0.000 ft

TVD Reference Datum: RKB

TVD Reference Elevation: 0.0 ft relative to Sea Bed / Ground Level Elevation: 0 000 ft relative to

Magnetic Declination: 8.098°

Total Field Strength: 49310.304 nT Magnetic Dip: 60.787°

Declination Date: May 09, 2008

Magnetic Declination Model: IGRF 2005 North Reference: Grid North

Total Corr Mag North -> Grid North: +7.808°
Local Coordinates Referenced To: Well Head

Comments	Measured Depth	Inclination	Azimuth	TVD	Vertical Section	NS	EW	Closure	Closure Azimuth	DLS	Mag / Grav Tool Face	Build Rate	Walk Rate
	(ft)	(deg)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	(deg/100 ft)	(deg)	(deg/100 ft)	(deg/100 ft)
Tie-In	0.00	0.00	72 91	0.00	0.00	0.00	0 00	0.00	0.00	0.00		0.00	0.00
	100.00	0.00	72.91	100.00	0.00	0.00	0 00	0 00	0.00	0.00		0.00	0.00
	200 00	0.00	72.91	200.00	0.00	0 00	0.00	0 00	0 00	0.00		0.00	0.00
	300.00	0.00	72.91	300.00	0.00	0.00	0 00	0.00	0.00	0 00		0 00	0.00
	400.00	0.00	72.91	400.00	0 00	0.00	0 00	0.00	0.00	0.00		0.00	0.00
	500.00	0.00	72 91	500 00	0.00	0.00	0.00	0.00	0.00	0.00		0 00	0.00
	600 00	0.00	72 91	600 00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
	700 00	0.00	72 91	700.00	0.00	0.00	0 00	0.00	0.00	0.00		0.00	0.00
	800 00	0.00	72 91	800.00	0.00	0.00	0.00	0.00	0 00	0.00		0.00	0.00
	900.00	0 00	72.91	900.00	0.00	0.00	0.00	0.00	0.00	0.00		0 00	0.00
	1000.00	0.00	72.91	1000.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0 00
	1100.00	0.00	72 91	1100 00	0.00	0.00	0.00	0.00	0.00	0.00		0 00	0.00
	1200.00	0.00	72.91	1200.00	0.00	0.00	0.00	0 00	0 00	0.00		0.00	0.00
	1300.00	0.00	72 91	1300.00	0.00	0.00	0.00	0 00	0.00	0 00		0 00	0.00
	1400.00	0.00	72.91	1400.00	0.00	0 00	0.00	0 00	0.00	0.00		0.00	0.00
	1500.00	0 00	72.91	1500.00	0.00	0.00	0.00	0 00	0 00	0.00		0.00	0.00
	1600 00	0.00	72.91	1600.00	0.00	0 00	0.00	0 00	0.00	0.00		0.00	0 00
	1700 00	0.00	72.91	1700 00	0.00	0.00	0 00	0.00	0.00	0.00		0 00	0.00
	1800.00	0.00	72 91	1800.00	0.00	0 00	0 00	0.00	0.00	0 00		0.00	0.00
Build (KOP)	1900.00	0.00	72 91	1900.00	0.00	0.00	0 00	0.00	0.00	0.00	72 91M	0.00	0.00
	2000 00	2.00	72 91	1999.98	1.75	0.51	1.67	1 75	72.91	2.00	72.91M	2.00	0 00
	2100.00	4.00	72 91	2099.84	6.98	2.05	6.67	6 98	72.91	2.00	72.91M	2.00	0.00
EOB	2105.52	4 11	72 91	2105.34	7 37	2.17	7.04	7.37	72.91	2.00		2.00	0.00
	2200.00	4 11	72 91	2199.58	14.14	4.16	13.52	14.14	72 91	0.00		0 00	0.00
	2300.00	4.11	72.91	2299.32	21 31	6.26	20.37	21.31	72.91	0.00		0.00	0.00
	2400.00	4.11	72.91	2399.07	28.48	8.37	27.22	28.48	72.91	0.00		0.00	0.00
	2500.00	4.11	72.91	2498.81	35.64	10.47	34.07	35.64	72.91	0.00		0.00	0.00
	2600 00	4 11	72 91	2598.55	42.81	12.58	40.92	42.81	72.91	0.00		0 00	0.00
	2700.00	4 11	72.91	2698.29	49.98	14.69	47.77	49.98	72.91	0 00		0.00	
	2800.00	4.11	72.91	2798.04	57.15	16.79	54.62	57.15	72.91	0.00		0.00	0.00
	2900.00	4.11	72.91	2897.78	64.32	18.90	61.48	64.32	72.91	0 00		0.00	0.00
	3000.00	4 11	72 91	2997.52	71 48	21.01	68.33	71.48	72 91	0 00		0.00	
	3100.00	4 11	72 91	3097.27	78.65	23.11	75.18	78.65	72.91	0.00		0.00	0.00
	3200 00	4 11	72.91	3197.01	85 82	25.22	82.03	85 82	72.91	0.00		0.00	0.00
	3300 00	4.11	72.91	3296.75	92.99	27.33	88.88	92.99	72 91	0 00		0.00	0.00
	3400 00	4 11	72.91	3396.49	100.15	29 43	95 73	100.15	72.91	0.00		0.00	0 00
	3500.00	4 11	72.91	3496.24	107.32	31 54	102 58	107 32	72.91	0.00		0 00	0 00
	3600.00	4 11	72.91	3595.98	114 49	33 64	109.44	114 49	72 91	0 00		0.00	0.00
	3700 00	4.11	72.91	3695.72	121 66	35 75	116 29	121.66	72.91	0 00		0 00	0.00
	3800 00	4 11	72 91	3795 47	128.83	37.86	123.14	128.83	72 91	0 00		0.00	0.00
	3900.00	4 11	72.91	3895 21	135 99	39.96	129 99	135 99	72 91	0 00		0 00	0.00

Cammanta	Measured	Inclination	Azimuth	TVD	Vertical Section	NS	EW	Closure	Closure Azimuth	DLS	Mag / Grav Tool Face	Build Rate	Walk Rate
Comments	Depth	l i			(ft)	(ft)	(ft)	(ft)	(deg)	(deg/100 ft)	(deg)	(deg/100 ft)	(deg/100 ft)
	(ft)	(deg)	(deg)	(ft) <u> </u> 3994 95	143.16	42.07	136.84	143.16	72 91	0.00		0.00	0.00
	4000.00	4.11	72.91	4094.69	150 33	44 18	143 69	150.33	72.91	0 00		0.00	0.00
	4100 00	4.11	72.91		157.50	46 28	150.54	157.50	72.91	0.00		0 00	0.00
	4200 00	4 11	72.91	4194.44	164.67	48.39	157.40	164 67	72 91	0.00		0.00	0.00
	4300.00	4.11	72.91	4294 18	104.07	40.00	10710	, , , ,					
		4.11	72.91	4393.92	171.83	50.50	164.25	171.83	72.91	0.00		0.00	0.00
	4400 00		72.91	4493 66	179.00	52.60	171.10	179.00	72.91	0 00		0.00	0.00
	4500 00		72.91	4593 41	186 17	54.71	177.95	186.17	72.91	0.00		0.00	0.00
	4600.00		72.91	4693.15	193.34	56.81	184.80	193.34	72 91	0.00		0.00	0.00
	4700.00			4792.89	200.50	58.92	191.65	200 50	72.91	0 00		0.00	0.00
	4800.00	4.11	72.91	4/92.03	200.50	30.02							
			72.91	4892.64	207.67	61.03	198.50	207 67	72 91				
	4900.00		72.91	4992.38	214 84	63 13	205 35	214.84	72.91			*	0.00
	5000.00		72.91	5092.12	222.01	65.24	212.21	222.01	72.91	0.00			
	5100 00			5191.86	229.18	67.35	219.06	229.18	72 91	0.00		• • • •	
	5200.00		72.91	5291.61	236.34	69.45	225.91	236.34	72.91	0.00		0.00	0.0
	5300.00	4.11	72 91	3231.01	200.04	55.15							
	F 400 00	4.11	72.91	5391.35	243.51	71.56	232.76	243.51	72 91				
	5400.00		72.91	5491.09		73.67	239 61	250.68	72.91	0 00			
	5500 00		72.91	5590.84		75.77	246.46	257.85	72.91				
	5600.00		72.91	5690.58		77.88	253 31	265.01	72.91	0.00			
	5700.00		72.91	5790.32		79.98	260.17	272 18	72.91	0 00		0.00	0.0
	5800.00	4.11	72.91	3790.32	272.10	, 5.55							
	5000.00	4.11	72.91	5890.06	279.35	82.09	267.02	279 35	72.91				
	5900.00		72.91	5989.81			273.87	286 52	72.91				
	6000.00			6089.55			280.72	293 69	72.91				
	6100.00			6189.29			287.57	300.85	72.91	0 00			
	6200.00			6289.03			294.42	308 02	72.91	0.00		- 0.00	0.0
	6300.00	4.11	72.51	0203.00	00002								
	6400.00	4.11	72.91	6388 78	315 19	92 62	301.27	315.19	72.91				
	6400.00						308.12	322.36	72.9			*	
	6500.00						314 98	329.53	72.9				
	6600.00						321.83	336 69	72.9	0.00			
	6700.00						328.68	343.86	72.9	1 0.00		- 0.00	0.0
	6800 00) 4.11	12.91	0/0/./3	, 0-0.00	, , , , , , ,							
	6812.28	3 4.11	72.91	6800 00	344.74	101.31	329.52	344.74	72 9 ⁻	1 0.00		- 0.00	0.0

PBHL.

Proposal

Report Date: May 9, 2008

Client: COG Operating, LLC Field: Lea County, NM

Structure / Slot: GC Fed #11 / GC Fed #11

Well: GC Fed #11 Borehole: GC Fed #11

UWI/API#:

Survey Name / Date: GC Federal #11_r1 / May 9, 2008 Tort / AHD / DDI / ERD ratio: 4 110° / 344 74 ft / 3 152 / 0 051

Grid Coordinate System: NAD27 New Mexico State Planes, Eastern Zone, US Feet

Location Lat/Long: N 32 49 1 355, W 103 47 55.825 Location Grid N/E Y/X: N 661366 400 ftUS, E 664205 000 ftUS

Grid Convergence Angle: +0.28967898° Grid Scale Factor: 0 99993997

Survey / DLS Computation Method: Minimum Curvature / Lubinski

Vertical Section Azimuth: 72 910°

Vertical Section Origin: N 0 000 ft, E 0.000 ft

TVD Reference Datum: RKB

TVD Reference Elevation: 0.0 ft relative to Sea Bed / Ground Level Elevation: 0.000 ft relative to

Magnetic Declination: 8 098°

Total Field Strength: 49310.304 nT Magnetic Dip: 60.787° Declination Date: May 09, 2008 Magnetic Declination Model: IGRF 2005

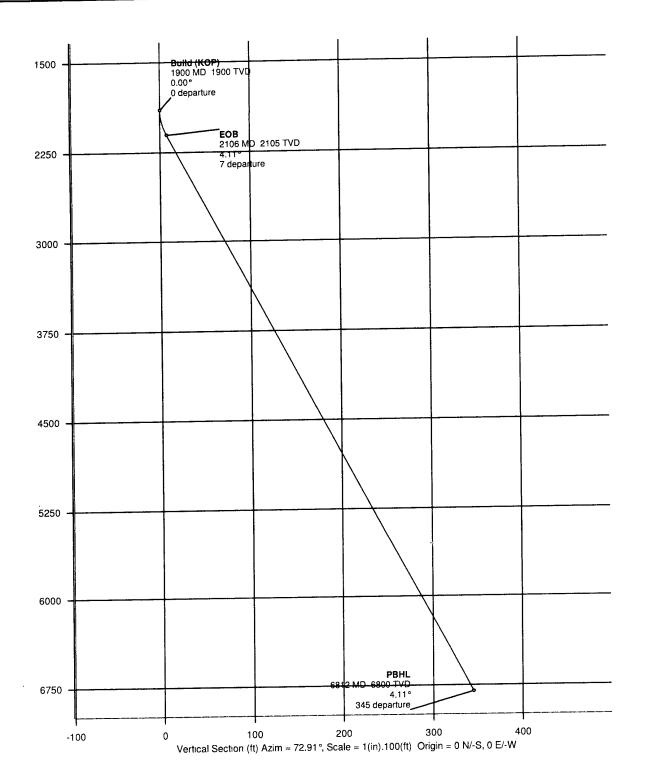
North Reference: Grid North Total Corr Mag North -> Grid North: +7.808° Local Coordinates Referenced To: Well Head

Comments	Measured Depth	Inclination	Azimuth	TVD	Vertical Section	NS	EW	Closure	Closure Azimuth	DLS	Mag / Grav Tool Face	Build Rate	Walk Rate
	(ft)	(deg)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	(deg/100 ft)	(deg)	(deg/100 ft)	(deg/100 ft) 0 00
Tie-In	0 00	0 00	72 91	0 00	0 00	0 00	0.00	0.00	0.00	0 00		0 00	
	100 00	0.00	72 91	100 00	0 00	0 00	0 00	0 00	0 00	0 00		0 00	0 00 0 00
	200.00	0 00	72 91	200.00	0.00	0 00	0 00	0 00	0.00	0 00		0.00	0 00
	300 00	0 00	72 91	300 00	0 00	0.00	0 00	0.00	0 00	0 00		0 00	0.00
	400 00	0 00	72.91	400 00	0 00	0 00	0 00	0 00	0.00	0.00		0 00	0.00
	500 00	0 00	72 91	500 00	0 00	0.00	0.00	0 00	0 00	0 00		0 00 0 00	0 00 0 00
	600 00	0 00	72 91	600 00	0 00	0 00	0 00	0 00	0 00 0 00	0.00 0.00		0 00	0 00
	700 00	0 00	72 91	700 00	0 00	0 00	0 00	0 00	0 00	0 00		0 00	0 00
	800 00	0 00	72 91	800 00	0 00	0 00	0 00	0 00	0.00	0 00		0.00	0.00
	900 00	0 00	72 91	900 00	0 00	0 00	0 00	0.00	0.00	0 00		0.00	
	1000 00	0 00	72 91	1000 00	0 00	0 00	0.00	0 00	0 00	0 00		0 00 0 00	0 00 0 00
	1100.00	0 00	72 91	1100 00	0 00	0 00	0.00	0 00	0 00	0.00 0.00		0.00	0 00
	1200.00	0 00	72 91	1200 00	0 00	0 00	0 00	0 00	0 00 0 00	0 00		0.00	0 00
	1300 00	0 00	72 91	1300 00	0 00	0 00	0 00	0 00	0 00	0 00		0.00	0 00
	1400 00	0 00	72 91	1400 00	0 00	0 00	0 00	0 00	0 00	0 00		0 00	0 00
	1500 00	0 00	72 91	1500 00	0 00	0 00	0 00	0 00	0 00	0 00		0 00	0 00
	1600 00	0 00	72 91	1600 00	0 00	0 00	0 00	0 00	0 00	0 00		0 00	0 00
	1700 00	0 00	72 91	1700 00	0 00	0 00	0.00	0 00	0 00	0 00		0 00	0 00
	1800 00	0 00	72 91	1800 00	0 00	0.00	0 00	0.00	0 00	0 00		0 00	0 00
Build (KOP)	1900 00	0 00	72 91	1900 00	0 00	0 00	0 00	0 00	0 00	0.00	72 91M	0 00	0 00
	2000 00	2 00	72 91	1999 98	1 75	0 51	1 67	1 75	72 91	2 00	72 91M	2 00	0 00
	2100 00	4 00	72 91	2099 84	6 98	2.05	6 67	6 98	72 91	2 00	72 91 M	2 00	0 00
EOB	2105 52	4 11	72 91	2105.34	7 37	2 17	7 04	7 37	72 91	2 00		2.00	0 00
	2200.00	4 11	72 91	2199 58	14 14	4 16	13 52	14 14	72 91	0 00		0 00	0 00
	2300 00	4 11	72 91	2299 32	21 31	6 26	20 37	21 31	72.91	0 00		0 00	0 00
	2400 00	4 11	72 91	2399 07	28 48	8 37	27 22	28 48	72.91	0 00		0 00	0 00
	2500 00	4 11	72 91	2498 81	35 64	10.47	34 07	35 64	72 91	0 00		0.00	0 00
	2600 00	4 11	72 91	2598 55	42 81	12 58	40 92	42 81	72 91	0 00		0 00	0 00
	2700 00	4 11	72.91	2698 29	49 98	14 69	47.77	49 98	72 91	0 00		0 00	0.00
	2800 00	4 11	72 91	2798 04	57 15	16 79	54 62	57 15	72 91	0.00		0 00	0 00
	2900 00	4 11	72 91	2897 78	64 32	18 90	61 48	64 32	72 91	0 00		0 00	0 00
	3000 00	4 11	72 91	2997 52	71 48	21 01	68 33	71 48	72 91	0 00	***	0 00	0 00
	3100 00	4.11	72 91	3097 27	78 65	23 11	75 18	78 65	72 91	0 00		0 00	0 00
	3200 00	4 11	72 91	3197 01	85 82	25 22	82 03	85 82	72 91	0 00		0 00	0 00
	3300 00	4 11	72 91	3296 75	92 99	27 33	88 88	92 99	72 91	0 00		0 00	0 00
	3400 00	4 11	72 91	3396 49	100 15	29 43	95 73	100 15	72 91	0 00		0 00	0 00
	3500 00	4 11	72 91	3496 24	107 32	31 54	102 58	107 32	72 91	0.00		0 00	0 00
	3600 00	4 11	72 91	3595 98	114 49	33 64	109 44	114 49	72 91	0 00		0.00	0 00
	3700 00	4 11	72 91	3695 72	121 66	35 75	116 29	121 66	72 91	0 00		0 00	0 00
	3800 00	4 11	72 91	3795 47	128 83	37 86	123.14	128 83	72 91	0 00		0 00	0 00
	3900 00	4 11	72 91	3895 21	135 99	39 96	129 99	135 99	72 91	0 00		0 00	0 00
	4000 00	4 11	72 91	3994 95	143 16	42 07	136 84	143 16	72 91	0 00		0 00	0 00
	4100 00	4 11	72 91	4094 69	150 33	44 18	143.69	150 33	72 91	0 00		0 00	0 00

4200 00	4 11	72 91	4194 44	157 50	46 28	150 54	157 50	72 91	0 00	 0 00	0.00
4300 00	4 11	72 91	4294 18	164 67	48 39	157 40	164 67	72 91	0 00	 0 00	0 00
							70.07	7201	0 00	 0 00	0 00
4400 00	4 11	72.91	4393 92	171 83	50 50	164 25	171 83	72 91	0 00	 0 00	0 00
4500 00	4 11	72 91	4493 66	179 00	52 60	171 10	179 00	72 91	0 00	 0 00	0 00
4600 00	4.11	72 91	4593 41	186 17	54 71	177 95	186 17	72 91	0 00	 0 00	0 00
4700 00	4 11	72 91	4693 15	193 34	56.81	184 80	193 34	72 91	0 00	 0 00	0 00
4800 00	4 11	72 91	4792 89	200 50	58.92	191 65	200 50	72 91	0 00	 0 00	0 00
4900 00	4 11	72 91	4892 64	007.07							• • • •
5000 00	4 11	72.91		207 67	61 03	198 50	207 67	72 91	0 00	 0 00	0 00
5100 00	4 11	72.91	4992 38	214 84	63 13	205 35	214 84	72 91	0 00	 0 00	0 00
5200 00	4.11		5092 12	222 01	65 24	212 21	222 01	72 91	0 00	 0 00	0 00
5300 00	4.11	72.91	5191 86	229 18	67 35	219 06	229 18	72 91	0 00	 0 00	0 00
3300 00	4 11	72 91	5291 61	236 34	69 45	225 91	236.34	72 91	0 00	 0 00	0.00
5400 00	4 11	72 91	5391 35	243 51	71 56	232 76	243 51	72 91	0 00	 0 00	
5500 00	4 11	72 91	5491.09	250 68	73.67	239 61	250 68	72 91	0 00		0 00
5600 00	4 11	72.91	5590 84	257 85	75.77	246.46	257 85	72 91	0 00	 0 00	0.00
5700 00	4 11	72 91	5690.58	265 01	77.88	253 31	265 01	72 91	0 00	 0 00	0 00
5800 00	4.11	72 91	5790 32	272 18	79 98	260.17	272 18	72 91	0 00	 0.00	0 00
						200.77	272 10	72 91	0 00	 0 00	0 00
5900 00	4 11	72.91	5890 06	279 35	82.09	267.02	279 35	72 91	0 00	 0 00	0 00
6000 00	4 11	72 91	5989 81	286 52	84 20	273 87	286 52	72 91	0 00	 0 00	0 00
6100 00	4 11	72 91	6089 55	293 69	86 30	280 72	293 69	72 91	0 00	 0 00	0 00
6200 00	4 11	72 91	6189 29	300 85	88 41	287 57	300 85	72 91	0 00	 0 00	0 00
6300.00	4 11	72.91	6289.03	308 02	90 52	294 42	308 02	72 91	0 00	 0.00	0 00
								. =	0 00	0.00	0 00
6400 00	4 11	72 91	6388.78	315 19	92 62	301 27	315 19	72 91	0 00	 0 00	0.00
6500 00	4 11	72 91	6488 52	322 36	94 73	308.12	322 36	72 91	0 00	 0 00	0.00
6600 00	4 11	72 91	6588 26	329 53	96 83	314 98	329 53	72 91	0 00	 0 00	0 00
6700 00	4 11	72.91	6688 01	336 69	98.94	321 83	336 69	72 91	0 00	 0 00	0 00
6800 00	4 11	72 91	6787 75	343 86	101 05	328.68	343 86	72 91	0 00	 0 00	0 00
6812 28	4 11	72 91	6800 00	344 74	101 31	329 52	344 74	72 91	0 00	 0 00	0.00

PBHL

COG Operating, LLC.

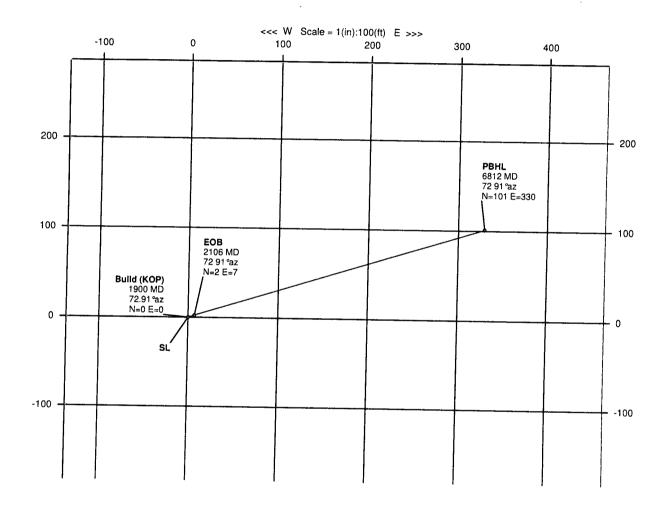






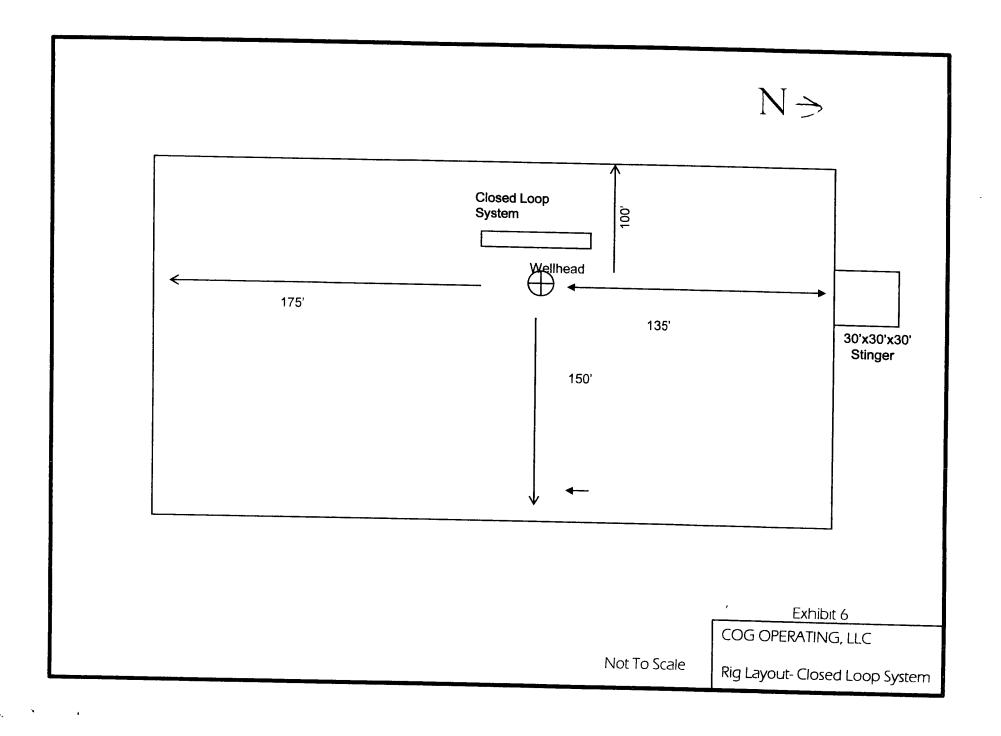
COG Operating, LLC.

GC Fed #11		Lea County,	NM	GC F	ed #11
Magnetic Parameters Model IGRF 2005 Dip 60 787* Mag Dec +8 098*	Date May 09 2008 FS 49310 3 nT	Lat N32 49 1 355 Northing 66136	7 New Meuco State Planes Eastern Zone US Feet 6 40 hUS Grid Coriv +0 28967898* 5 00 htt/S Scale Fact 0 8998399683	Miscellaneous Stot GC Fed #11 Plan GC Federal #11 rt	TVD Ret RKB (0.00 ft above) Sny Dare May ng 2008



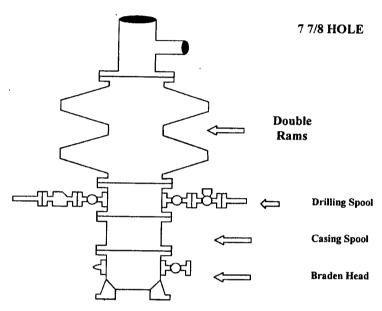






COG Operating LLC

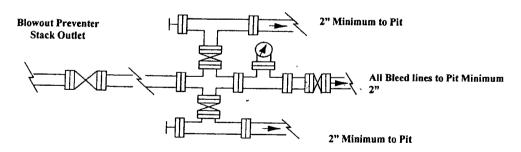
Exhibit #9 BOPE and Choke Schematic



Minimum 4" Nominal choke and kill lines

Choke Manifold Requirement (2000 psi WP) No Annular Required

Adiustable Choke



Adjustable Choke (or Positive)

NOTES REGARDING THE BLOWOUT PREVENTERS

- 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.

Blowout Preventers Page 2

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
LEASE NO.:	LC-029405-B
WELL NAME & NO.:	G C Federal #11
SURFACE HOLE FOOTAGE:	1550' FSL & 660' FEL
BOTTOM HOLE FOOTAGE	1650' FSL & 330' FEL
LOCATION:	Section 19, 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.

☐ General Provisions ☐ Permit Expiration ☐ Archaeology, Paleontology, and Historical Sites ☐ Noxious Weeds ☐ Special Provision
Special Requirements Lesser Prairie Chicken
◯ Construction
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
⊠ Road Section Diagram
☑ Drilling
☐ Production (Post Drilling)
Well Structures & Facilities
Pipelines
Closed Loop System/Interim Reclamation
Final Abandonment/Reclamation

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)

Mitigation Measures: The mitigation measures include the Pecos District Conditions of Approval, the standard stipulation for the lesser prairie chicken, the standard stipulation for surface pipelines, and the standard stipulations for permanent resource roads.

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, geophysical exploration other than 3-D operations, and 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 ft. from the source of the noise.

GC Federal #11: Closed Loop V-Door North

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 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. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

GC Federal #11: Closed Loop V-Door North

Tanks are required for drilling operations: No Pits.

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

C. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (575) 234-5972.

D. 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.

E. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

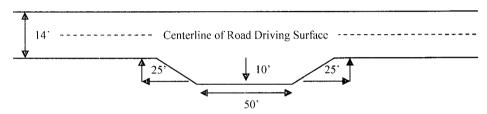
Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

Standard Turnout - Plan View

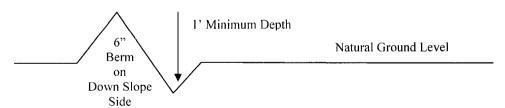


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

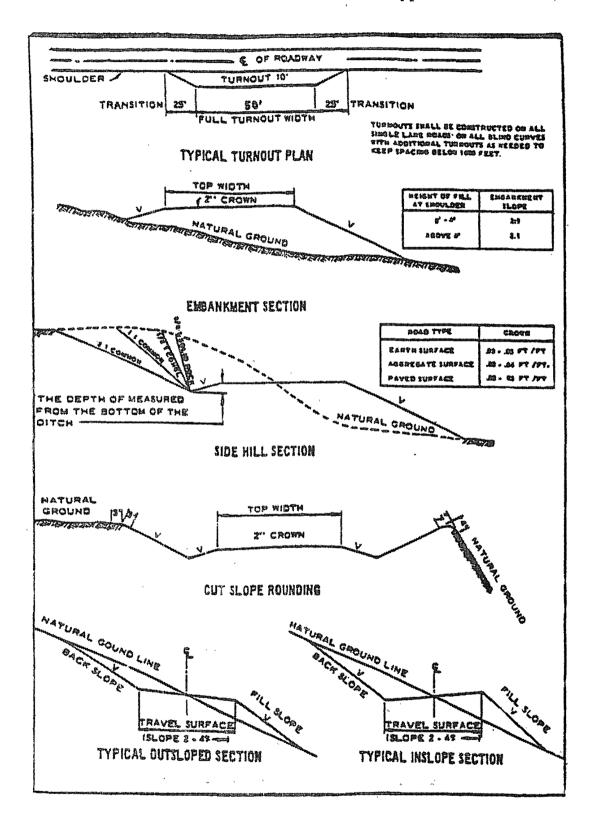
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 - Cross Sections and Plans For Typical Road Sections



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. **Hydrogen Sulfide has been reported through out** the township measuring 100-1400 ppm in the gas stream.
- 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.

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.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.

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 a minimum of 25 feet into the Rustler Anhydrite at approximately 650 feet and cemented to the surface.
 - 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.
 - b. 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. (This is to include the lead cement).
 - 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-d above.
- 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.
- 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. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. 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.
 - d. 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.
 - e. A variance to test the surface casing and BOP/BOPE (entire system) to the reduced pressure of 1000 psi with the rig pumps is approved. In order to meet BLM requirements, the test cannot be properly done in one step.

D. DRILL STEM TEST

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

WWI 060408

4

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 APD 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.

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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 _______ feet.

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- 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 <u>24</u> 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 hehalf, 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 & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

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If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

Seed Mixture 2, for Sandy Sites

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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 <u>no</u> 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 see 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:

<u>Species</u>	l <u>b/acre</u>
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

^{*}Pounds of pure live seed:

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

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.