

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD 10985 OCD

FORM APPROVED
OMB NO. 1004-0135
Expires. July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

JAN 05 2012

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1 Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		8 Well Name and No. JC FEDERAL 55
2 Name of Operator COG OPERATING LLC		9 API Well No. 30-025-39863-00-X1
3a Address 550 WEST TEXAS AVENUE SUITE 100 MIDLAND, TX 79701-4287		10 Field and Pool, or Exploratory MALJAMAR
3b Phone No (include area code) Ph: 432-685-4384		11 County or Parish, and State LEA COUNTY, NM
4 Location of Well (Footage, Sec., T, R, M, or Survey Description) Sec 22 T17S R32E SESW 270FSL 1910FWL		

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

COG Operating submitted APD for this well at this location:

270' FSL & 1910' FWL, SEC 22, T17S, R32E, Unit N

COG Operating respectfully requests permission to change this well from Vertical to Directional:

* SHL: 270' FSL & 1910' FWL, Sec 22, T17S, R32E, Unit N *
BHL: 330' FSL & 2310' FWL, Sec 22, T17S, R32E, Unit N

A Revised C-102 and Directional Plan is attached for your review

14 I hereby certify that the foregoing is true and correct.	
Electronic Submission #125390 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Hobbs Committed to AFMSS for processing by DEBORAH MCKINNEY on 12/13/2011 (12DLM0157SE)	
Name (Printed/Typed) KELLY J HOLLY	Title PERMITTING TECH
Signature (Electronic Submission)	Date 12/12/2011

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CHRISTOPHER WALLS	Title PETROLEUM ENGINEER	Date 12/29/2011
Conditions of approval, if any, are attached. Approval of this notice 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.		Office Hobbs

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

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **



COG Operating LLC

Lea County, NM (NAD27 NME)

JC Federal #55

JC Federal #55

HOBBS OCD

JAN 0 5 2012

OH

RECEIVED

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

SHL = 270' FSL & 1910' FWL

BHL = 380' FSL & 2260' FWL

Top of Paddock = 72' N of Surface & 224' E of Surface @ 5450' TVD

Standard Planning Report

07 December, 2011





Scientific Drilling Planning Report



Drillerc: EDM-Julio
Company: COG Operating LLC
Project: Lea County, NM (NAD27 NME)
Well: JC Federal #55
Well: JC Federal #55
Well: OH
Design: Plan #1 - 7-7/8" Hole

Local Coordinates Reference:
TVD Reference: GL Elev @ 4003.00usft
MSD Reference: GL Elev @ 4003.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project: Lea County, NM (NAD27 NME)

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site: JC Federal #55

Site Position:
From: Map
Position Uncertainty: 0.00 usft
Northing: 660,135.50 usft
Easting: 677,339.40 usft
Slot Radius: 0"
Latitude: 32° 48' 48.492 N
Longitude: 103° 45' 21.999 W
Grid Convergence: 0.31 °

Well: JC Federal #55

Well Position: +N/-S 0.00 usft
+E/-W: 0.00 usft
Position Uncertainty: 0.00 usft
Wellhead Elevation: 4,003.00 usft
Northing: 660,135.50 usft
Easting: 677,339.40 usft
Latitude: 32° 48' 48.492 N
Longitude: 103° 45' 21.999 W
Ground Level: 4,003.00 usft

Well: OH

Magnetic	Grid Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(mT)
	IGRF2010	2011/12/07	7.66	60.69	48,899

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

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.00

Vertical Section	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	72.32

Plan Section:

Measured Depth (usft)	Direction (°)	Approx (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,414.38	4.29	72.32	2,414.18	2.43	7.64	2.00	2.00	33.73	72.32	
7,213.63	4.29	72.32	7,200.00	111.40	349.50	0.00	0.00	0.00	0.00	PBHL-JC #55



Scientific Drilling
Planning Report



EDM-Julio
COG Operating LLC
Lea County, NM (NAD27 NME)
JC Federal #55
JC Federal #55
OH
Plan #1 - 7-7/8" Hole

Local Coordinates Reference
TVD Reference
MD Reference
North Reference
Survey Calculation Method

Well JC Federal #55
GL Elev @ 4003.00usft
GL Elev @ 4003.00usft
Grid
Minimum Curvature

Measured Depth (usft)	Direction (°)	Altitude (ft)	Vertical Depth (usft)	WGS (usft)	MD (usft)	Vertical Section (usft)	Survey Rate (Degrees)	Surf Rate (ft/min)	Turn Rate (ft/min)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
West HL-JC #55 - South HL-JC #55									
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	72.32	2,299.98	0.53	1.66	1.75	2.00	2.00	0.00
2,400.00	4.00	72.32	2,399.84	2.12	6.65	6.98	2.00	2.00	0.00
2,414.38	4.29	72.32	2,414.18	2.43	7.64	8.02	2.00	2.00	0.00
EOC Hold 4.29°									
2,500.00	4.29	72.32	2,499.56	4.38	13.74	14.42	0.00	0.00	0.00
2,600.00	4.29	72.32	2,599.28	6.65	20.86	21.90	0.00	0.00	0.00
2,700.00	4.29	72.32	2,699.00	8.92	27.98	29.37	0.00	0.00	0.00
2,800.00	4.29	72.32	2,798.72	11.19	35.11	36.85	0.00	0.00	0.00
2,900.00	4.29	72.32	2,898.44	13.46	42.23	44.32	0.00	0.00	0.00
3,000.00	4.29	72.32	2,998.16	15.73	49.35	51.80	0.00	0.00	0.00
3,100.00	4.29	72.32	3,097.88	18.00	56.48	59.28	0.00	0.00	0.00
3,200.00	4.29	72.32	3,197.60	20.27	63.60	66.75	0.00	0.00	0.00
3,300.00	4.29	72.32	3,297.32	22.54	70.72	74.23	0.00	0.00	0.00
3,400.00	4.29	72.32	3,397.04	24.81	77.85	81.71	0.00	0.00	0.00
3,500.00	4.29	72.32	3,496.76	27.08	84.97	89.18	0.00	0.00	0.00
3,600.00	4.29	72.32	3,596.48	29.35	92.09	96.66	0.00	0.00	0.00
3,700.00	4.29	72.32	3,696.20	31.62	99.22	104.13	0.00	0.00	0.00
3,800.00	4.29	72.32	3,795.92	33.89	106.34	111.61	0.00	0.00	0.00
3,900.00	4.29	72.32	3,895.64	36.17	113.46	119.09	0.00	0.00	0.00
4,000.00	4.29	72.32	3,995.36	38.44	120.59	126.56	0.00	0.00	0.00
4,100.00	4.29	72.32	4,095.08	40.71	127.71	134.04	0.00	0.00	0.00
4,200.00	4.29	72.32	4,194.80	42.98	134.83	141.52	0.00	0.00	0.00
4,300.00	4.29	72.32	4,294.52	45.25	141.96	148.99	0.00	0.00	0.00
4,400.00	4.29	72.32	4,394.24	47.52	149.08	156.47	0.00	0.00	0.00
4,500.00	4.29	72.32	4,493.96	49.79	156.20	163.94	0.00	0.00	0.00
4,600.00	4.29	72.32	4,593.68	52.06	163.33	171.42	0.00	0.00	0.00
4,700.00	4.29	72.32	4,693.40	54.33	170.45	178.90	0.00	0.00	0.00
4,800.00	4.29	72.32	4,793.12	56.60	177.57	186.37	0.00	0.00	0.00
4,900.00	4.29	72.32	4,892.84	58.87	184.70	193.85	0.00	0.00	0.00
5,000.00	4.29	72.32	4,992.56	61.14	191.82	201.33	0.00	0.00	0.00
5,100.00	4.29	72.32	5,092.28	63.41	198.94	208.80	0.00	0.00	0.00
5,200.00	4.29	72.32	5,192.00	65.68	206.06	216.28	0.00	0.00	0.00
5,300.00	4.29	72.32	5,291.72	67.95	213.19	223.76	0.00	0.00	0.00
5,400.00	4.29	72.32	5,391.44	70.22	220.31	231.23	0.00	0.00	0.00
5,458.72	4.29	72.32	5,450.00	71.56	224.49	235.62	0.00	0.00	0.00
Top of Paddock									
5,500.00	4.29	72.32	5,491.18	72.49	227.43	238.71	0.00	0.00	0.00
5,600.00	4.29	72.32	5,590.88	74.76	234.56	246.18	0.00	0.00	0.00
5,700.00	4.29	72.32	5,690.60	77.03	241.68	253.66	0.00	0.00	0.00
5,800.00	4.29	72.32	5,790.32	79.30	248.80	261.14	0.00	0.00	0.00
5,900.00	4.29	72.32	5,890.04	81.57	255.93	268.61	0.00	0.00	0.00
6,000.00	4.29	72.32	5,989.77	83.84	263.05	276.09	0.00	0.00	0.00
6,100.00	4.29	72.32	6,089.49	86.12	270.17	283.57	0.00	0.00	0.00
6,200.00	4.29	72.32	6,189.21	88.39	277.30	291.04	0.00	0.00	0.00
6,300.00	4.29	72.32	6,288.93	90.66	284.42	298.52	0.00	0.00	0.00
6,400.00	4.29	72.32	6,388.65	92.93	291.54	305.99	0.00	0.00	0.00
6,500.00	4.29	72.32	6,488.37	95.20	298.67	313.47	0.00	0.00	0.00
6,600.00	4.29	72.32	6,588.09	97.47	305.79	320.95	0.00	0.00	0.00



Scientific Drilling Planning Report



Client: EDM-Julio
Company: COG Operating LLC
Project: Lea County, NM (NAD27 NME)
Well: JC Federal #55
State: JC Federal #55
County: OH
Design: Plan #1 - 7-7/8" Hole

Local Coordinates: NAD27
TVD Reference: 0.00usft
MD Reference: 0.00usft
North Reference: 0.00usft
Survey Calculation Method:

Well JC Federal #55
GL Elev @ 4003.00usft
GL Elev @ 4003.00usft
Grid
Minimum Curvature

Measured Depth (usft)	inclination (°)	Azimuth (°)	Vertical Depth (usft)	MD (usft)	TVN (usft)	Vertical Depth (usft)	MD (usft)	MD (usft)	MD (usft)	MD (usft)
6,700.00	4.29	72.32	6,687.81	99.74	312.91	328.42	0.00	0.00	0.00	0.00
6,800.00	4.29	72.32	6,787.53	102.01	320.04	335.90	0.00	0.00	0.00	0.00
6,900.00	4.29	72.32	6,887.25	104.28	327.16	343.38	0.00	0.00	0.00	0.00
7,000.00	4.29	72.32	6,986.97	106.55	334.28	350.85	0.00	0.00	0.00	0.00
7,100.00	4.29	72.32	7,086.69	108.82	341.41	358.33	0.00	0.00	0.00	0.00
7,200.00	4.29	72.32	7,186.41	111.09	348.53	365.81	0.00	0.00	0.00	0.00
7,213.63	4.29	72.32	7,200.00	111.40	349.50	366.82	0.00	0.00	0.00	0.00
PBHL-JC #55										

Target Name	Target Type	Target Depth (usft)	Target Azimuth (°)	Target TVD (usft)	Target MD (usft)	Target TVN (usft)	Target TVD (usft)	Target MD (usft)	Target Azimuth (°)	Target Longitude	Target Latitude
West HL-JC #55	0.00	0.00	0.00	61.40	399.50	660,196.90	677,738.90	32° 48' 49.078 N	103° 45' 17.314 W		
- plan misses target center by 404.19usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)											
- Rectangle (sides W0.00 H150.00 D0.00)											
South HL-JC #55	0.00	0.00	0.00	61.40	399.50	660,196.90	677,738.90	32° 48' 49.078 N	103° 45' 17.314 W		
- plan misses target center by 404.19usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)											
- Rectangle (sides W400.00 H0.00 D0.00)											
PBHL-JC #55	0.00	0.01	7,200.00	111.40	349.50	660,246.90	677,688.90	32° 48' 49.575 N	103° 45' 17.897 W		
- plan hits target center											
- Circle (radius 50.00)											

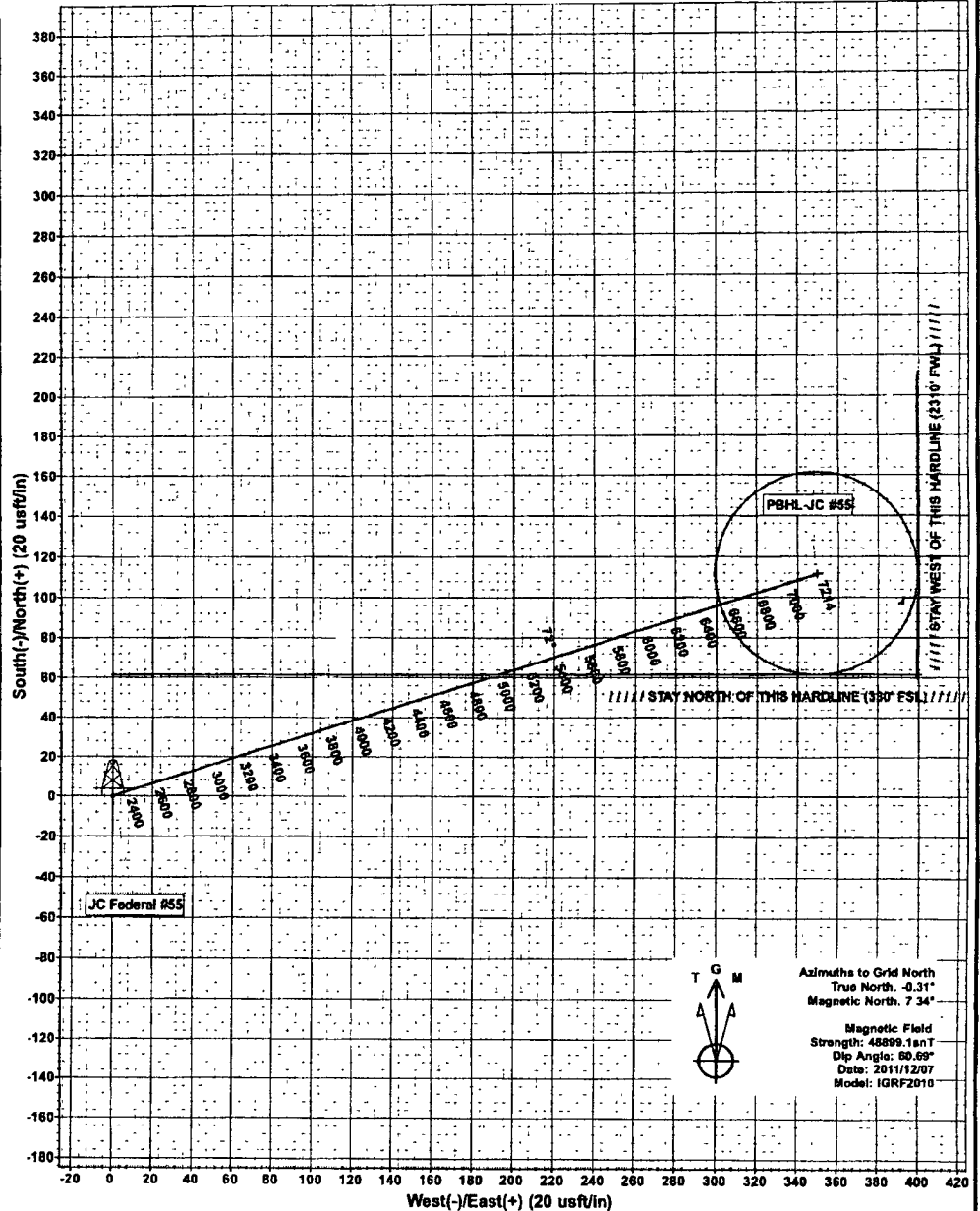
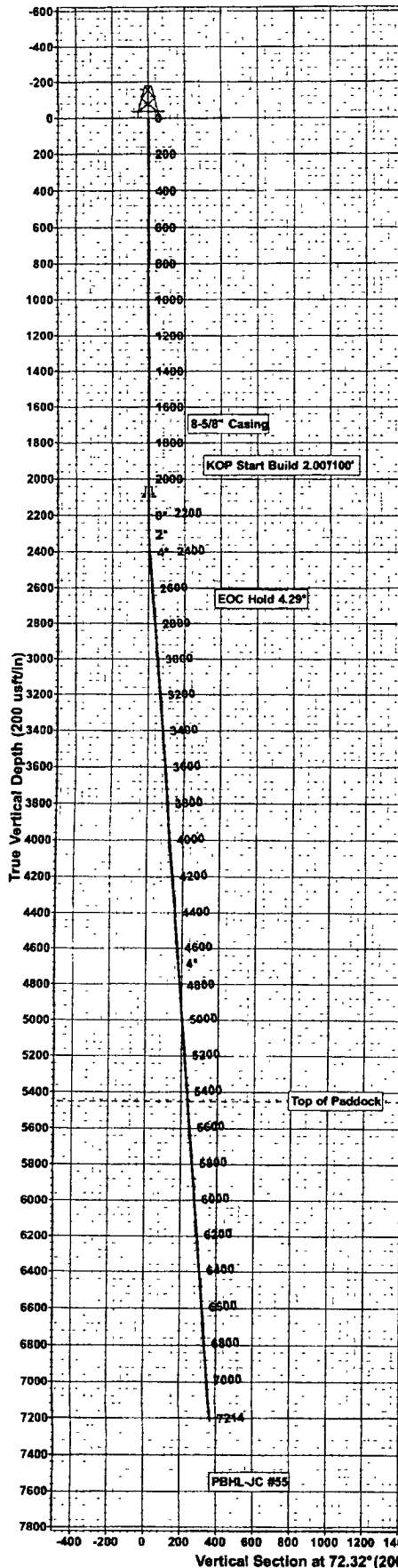
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Well Diameter (in)
2,100.00	2,100.00	8-5/8" Casing	8-5/8	12-1/4

Measured Depth (usft)	Vertical Depth (usft)	Name	Latitude	Longitude
5,458.72	5,450.00	Top of Paddock	0.00	

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	MD (usft)	Comment
2,200.00	2,200.00	0.00	0.00	KOP Start Build 2.00°/100'
2,414.38	2,414.18	2.43	7.64	EOC Hold 4.29°



Scientific Drilling for COG Operating LLC
Site: Lea County, NM (NAD27 NME)
Well: JC Federal #55
Wellbore: OH
Design: Plan #1 - 7-7/8" Hole



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
South HL-JC #55	0.00	61.40	399.50	660196.90	677738.90	32° 48' 49.078 N	103° 45' 17.314 W	Rectangle (Sides: L:0.00 W:400.00)
West HL-JC #55	0.00	61.40	399.50	660196.90	677738.90	32° 48' 49.078 N	103° 45' 17.314 W	Rectangle (Sides: L:150.00 W:0.00)
PBHL-JC #55	7200.00	111.40	349.50	660246.90	677688.90	32° 48' 49.575 N	103° 45' 17.897 W	Circle (Radius: 50.00)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dlog	TFace	VSec	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	2414.38	4.29	72.32	2414.18	2.43	7.64	2.00	72.32	8.02	
4	7213.63	4.29	72.32	7200.00	111.40	349.50	0.00	0.00	366.82	PBHL-JC #55

WELL DETAILS: JC Federal #55

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	660135.50	677339.40	32° 48' 48.492 N	103° 45' 21.999 W	

PROJECT DETAILS: Lea County, NM (NAD27 NME)		Plan: Plan #1 - 7-7/8" Hole (JC Federal #55/OH)	
Geodetic System: US State Plane 1927 (Exact solution)	Created By: Julio Pina	Date: 07-Dec-11	
Datum: NAD 1927 (NADCON CONUS)	Checked: _____	Date: _____	
Ellipsoid: Clarke 1866	Reviewed: _____	Date: _____	
Zone: New Mexico East 3001	Approved: _____	Date: _____	
System Datum: Mean Sea Level			

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025	Pool Code 44500	Pool Name Maljamar; Yeso West
Property Code 302508	Property Name JC FEDERAL	Well Number 55
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 4003'

Surface Location

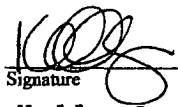
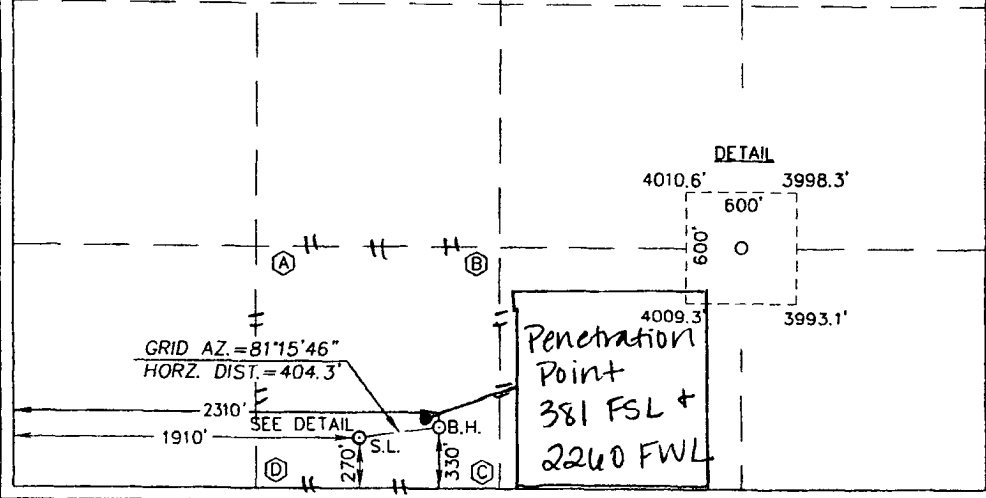
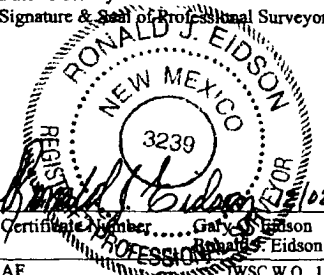
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	22	17-S	32-E		270	SOUTH	1910	WEST	LEA

Bottom Hole Location If Different From Surface

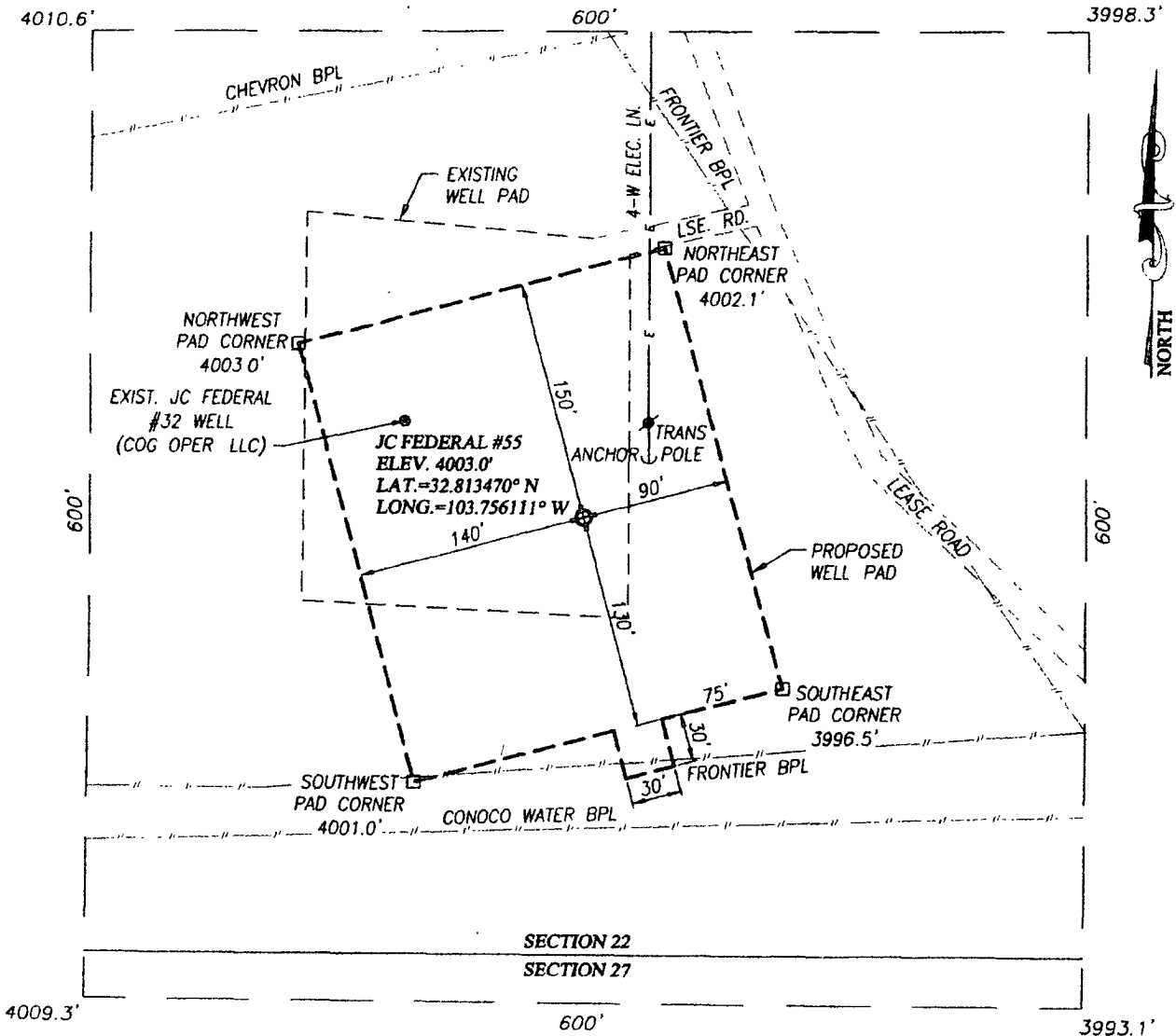
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	22	17-S	32-E		330	SOUTH	2310	WEST	LEA

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

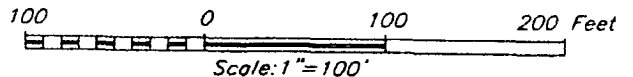
CORNER COORDINATES TABLE Ⓐ - Y=661182.3 N, X=676739.6 E Ⓑ - Y=661186.9 N, X=678055.9 E Ⓒ - Y=659868.2 N, X=678064.9 E Ⓓ - Y=659863.4 N, X=676748.2 E	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=660135.5 N X=677339.4 E LAT.=32.813470° N LONG.=103.756111° W BOTTOM HOLE LOCATION Y=660196.9 N X=677738.9 E	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.  12-12-11 Signature Date Kelly J. Holly Printed Name kholly@concho.com E-mail Address
 DETAIL 4010.6' 3998.3' 600' 4009.3' 3993.1' GRID AZ.=81°15'46" HORZ. DIST.=404.3' 2310' 1910' SEE DETAIL OB.H. 270' 330' Penetration Point 381 FSL + 2260 FWL		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 APRIL 19, 2011 Date of Survey Signature & Seal of Professional Surveyor:  Certificate Number: Gary Eidson 12641 Ronald J. Eidson 3239 AF WSC W.O. 11.13.2554

SECTION 22, TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. #L126 (MALJAMAR ROAD) AND CO. RD. #L126 (CONOCO ROAD), GO EAST ON CONOCO ROAD APPROX. 0.35 MILES. TURN RIGHT AND GO SOUTH APPROX. 0.2 MILES TO THE EXISTING COG OPERATING, LLC, JC FEDERAL #32 WELL. THIS LOCATION STAKE IS APPROX. 124 FEET SOUTHEAST OF THE EXISTING WELL HEAD.



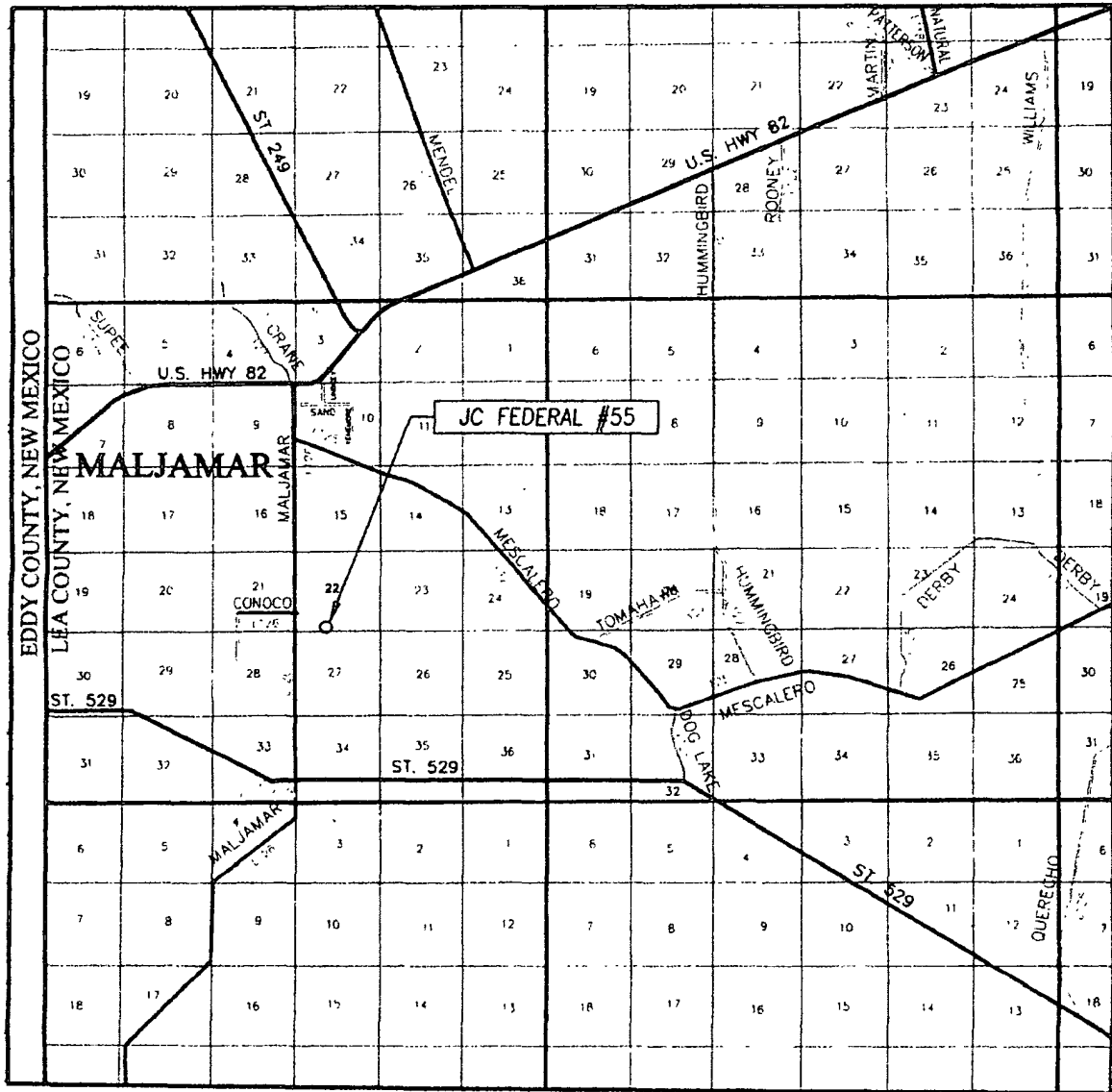
COG OPERATING, LLC

JC FEDERAL #55 WELL
LOCATED 270 FEET FROM THE SOUTH LINE
AND 1910 FEET FROM THE WEST LINE OF SECTION 22,
TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO

Survey Date	4/19/11	Sheet	1	of	1	Sheets
W.C. Number	11110919	Dr. By	DSS	Rev	1	
Date	4/22/11		11110919	Scale	1"=100'	

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
MRS. N.M. 88246
(505) 393-3111

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 22 TWP. 17-S RGE. 32-E

SURVEY N.M.P.M.

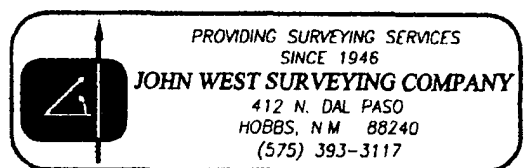
COUNTY LEA STATE NEW MEXICO

DESCRIPTION 270' FSL & 1910' FWL

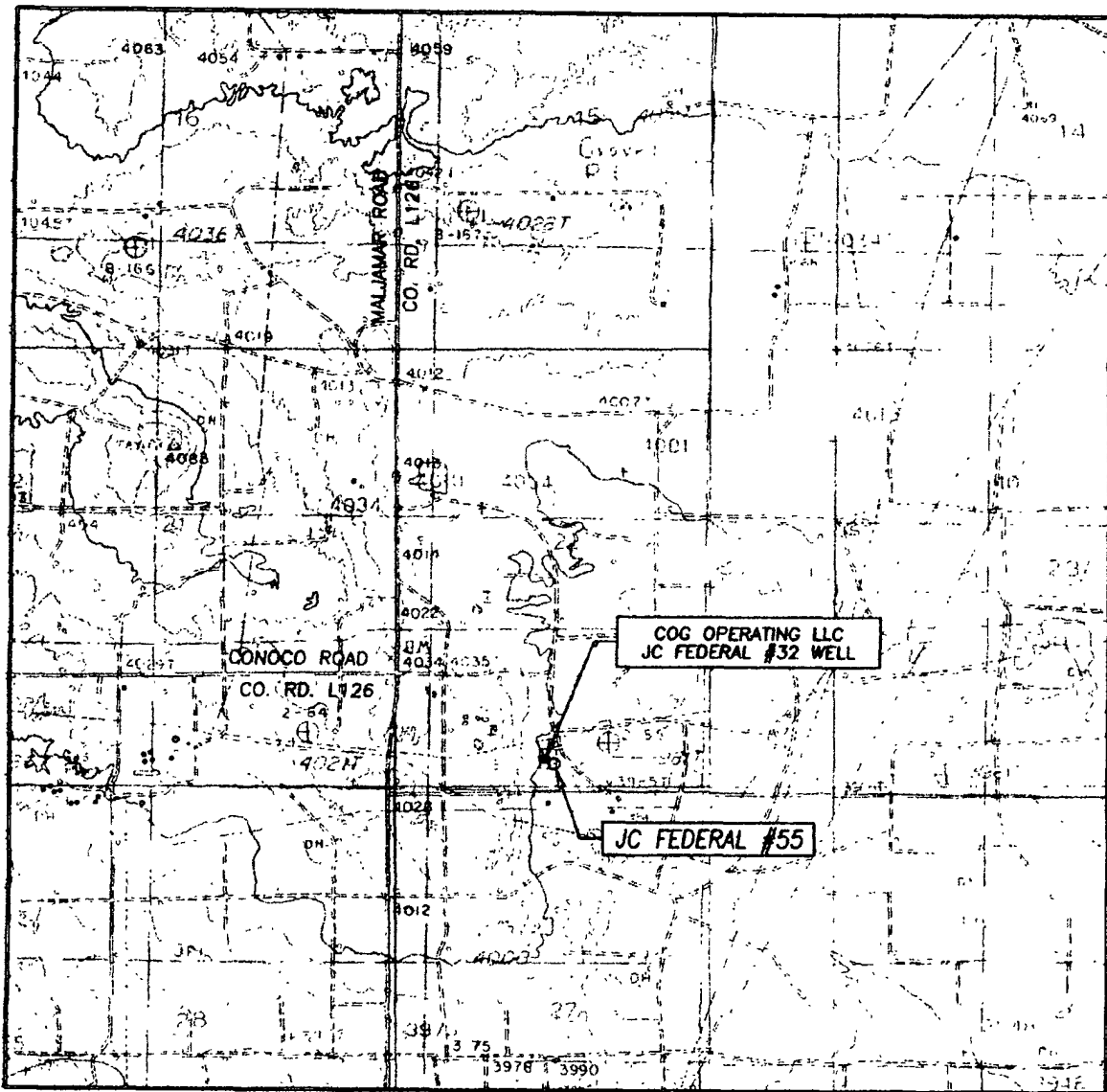
ELEVATION 4003'

OPERATOR COG OPERATING, LLC

LEASE JC FEDERAL



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:

MALJAMAR, N.M. - 10'

DOG LAKE, N.M. - 10'

SEC. 22 TWP. 17-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 270' FSL & 1910' FWL

ELEVATION 4003'

OPERATOR COG OPERATING, INC.

LEASE JC 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