

NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-102

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

Revised August 1, 2011

APR 13 2015 submit one copy to appropriate District Office

RECEIVED

☐ AMENDED REPORT

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-43032	² Pool Code 96610	³ Pool Name Empire; Gloreita Yeso East
⁴ Property Code 313320	⁵ Property Name BOSE IKARD 4 STATE COM	
⁷ OGRID NO. 229137	⁸ Operator Name COG OPERATING, LLC	⁹ Elevation 3604'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
4	4	17S	29E		750	NORTH	150	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

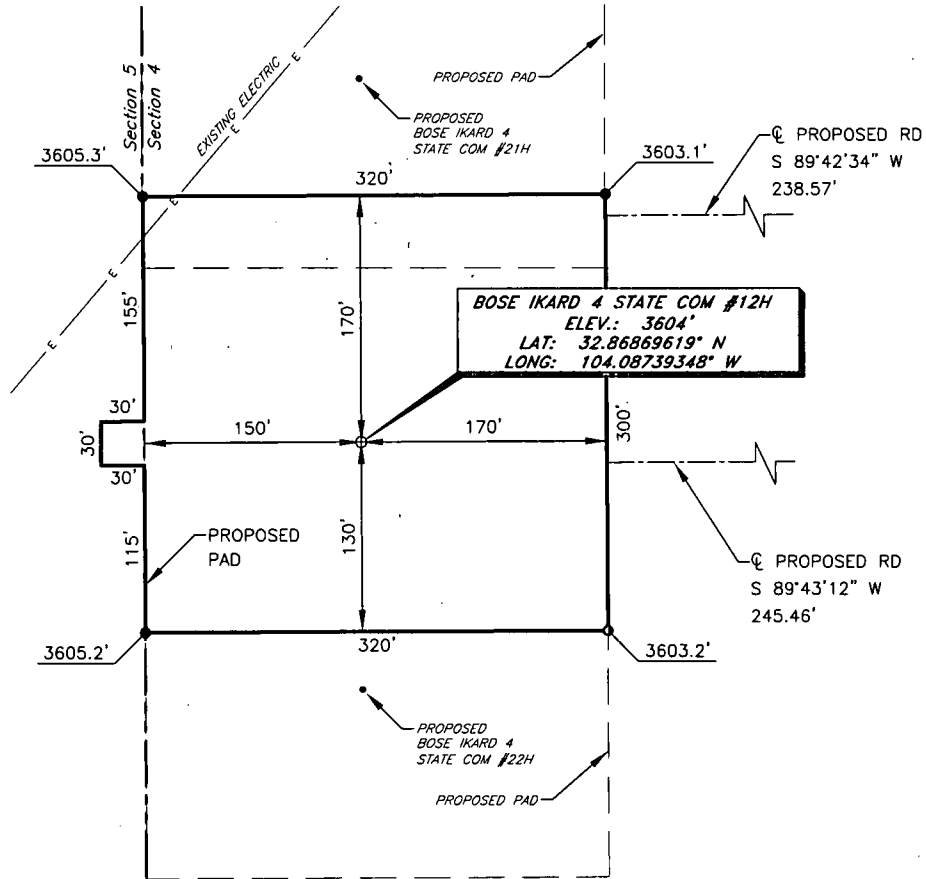
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	4	17S	29E		986	NORTH	330	EAST	EDDY

¹² Dedicated Acres 159.86	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
--	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

		¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <u>[Signature]</u> Date: 4-8-15 Printed Name: Kelly J. Holly E-mail Address: kholly@concho.com
Estimated Completed Interval: 758 FNL 330 FNL		¹⁸ 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. Date of Survey: 3-12-2015 Signature and Seal of Professional Surveyor: <u>[Signature]</u> 19680 Certificate Number

COG OPERATING, LLC
BOSE IKARD 4 STATE COM #12H
(750' FNL & 150' FWL)
SECTION 4, T17S, R29E
N. M. P. M., EDDY CO., NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of CR-214 (Barnaval Draw) and CR-211 (Old Loco)
Go West on CR-211 approx. 0.6 miles;
Turn Right on lease rd. and go North approx. 0.2 miles to a dry hole pad;
Location is approx. 407 feet to the West of lease road.

SCALE: 1" = 100'
0 50 100
BEARINGS ARE
NAD 27 GRID - NM EAST
DISTANCES ARE
GROUND.

Firm No.: TX 10193838 NM 4655451

Copyright 2014 - All Rights Reserved

NO.	REVISION	DATE
JOB NO.:	LS1503080	
DWG. NO.:	1503080PAD	

RRC

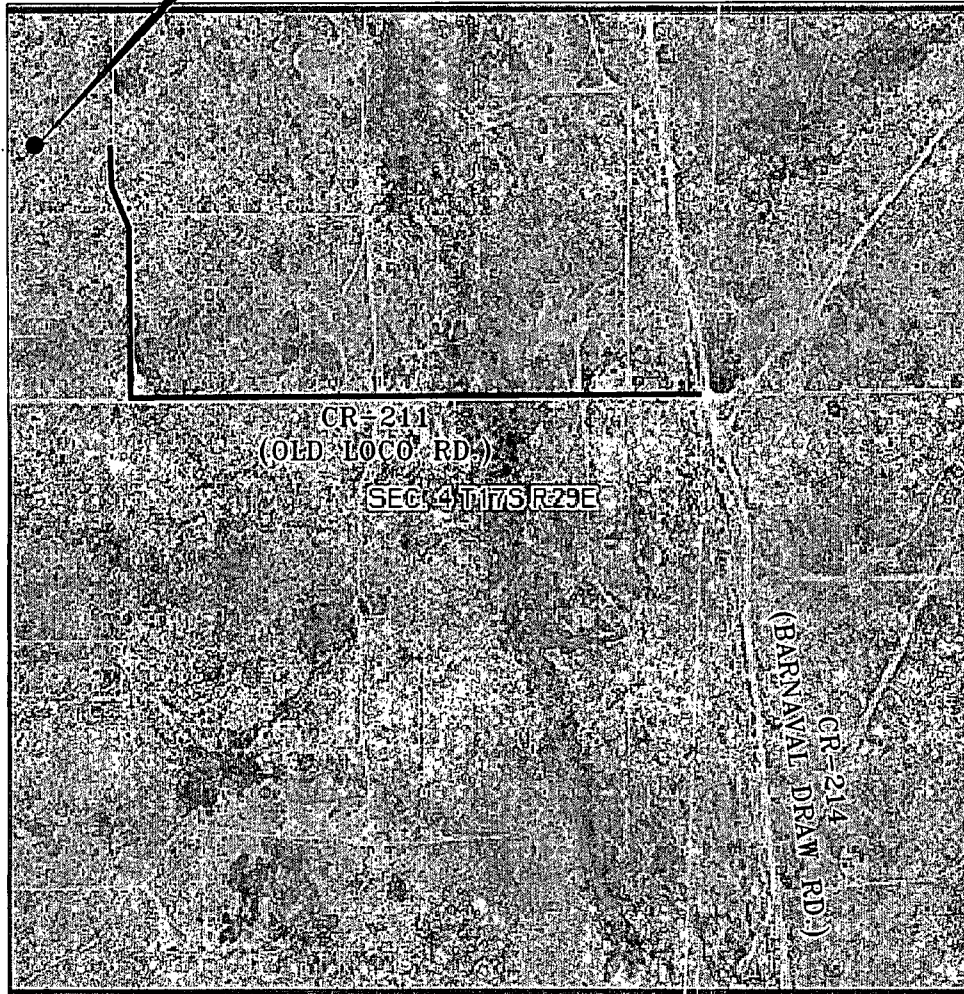
308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 100'
DATE: 3-12-2015
SURVEYED BY: GB
DRAWN BY: CMJ
APPROVED BY: RMH
SHEET : 1 OF 1

VICINITY MAP

NOT TO SCALE

BOSE IKARD 4 STATE COM #12H



*SECTION 4, TWP. 17 SOUTH, RGE. 29 EAST,
N. M. P. M., EDDY CO., NEW MEXICO*

OPERATOR: COG Operating, LLC
LEASE: Bose Ikard 4 State Com
WELL NO.: 12H

LOCATION: 750' FNL & 150' FWL
ELEVATION: 3604'

Firm No.: TX 10193838 NM 4655451

Copyright 2015 - All Rights Reserved

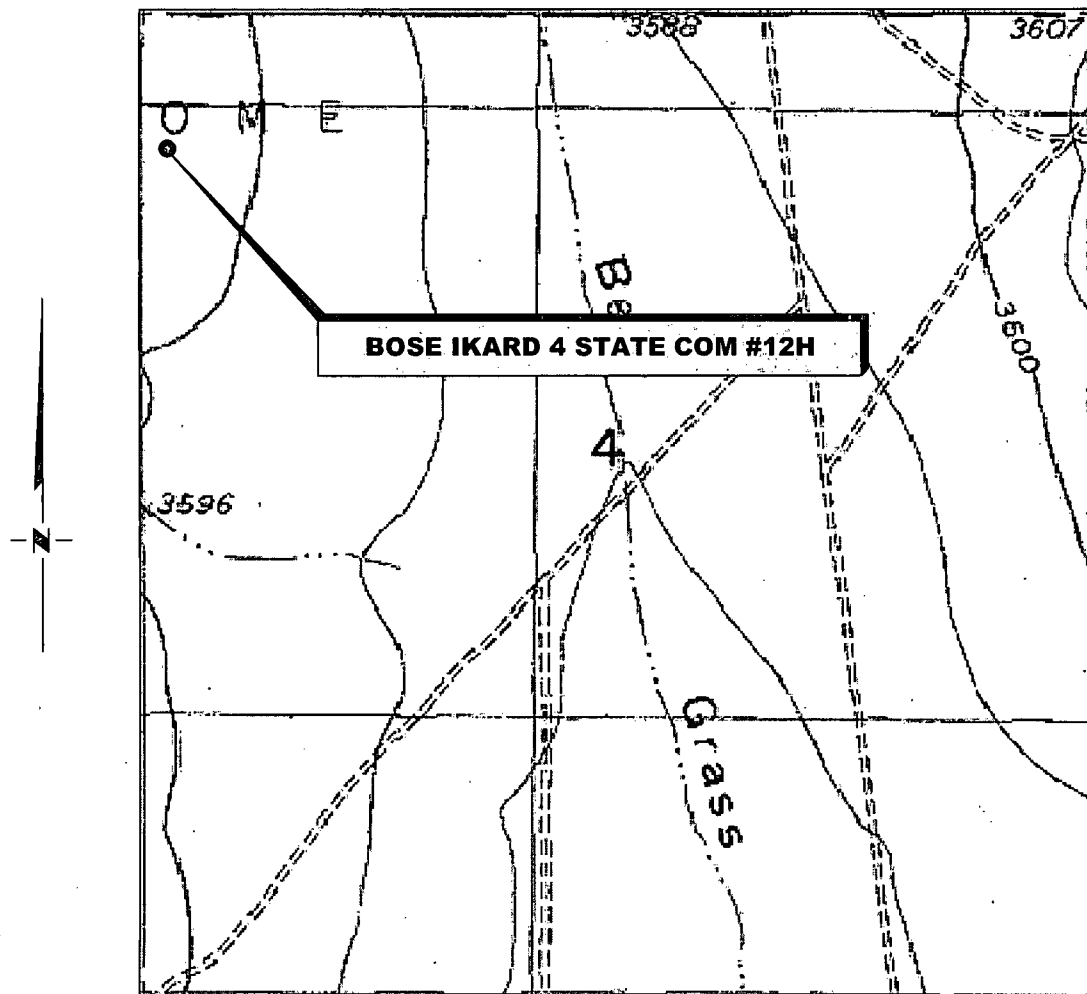
NO.	REVISION	DATE
JOB NO.: LS1503080		
DWG. NO.: 1503080VM		

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: NTS
DATE: 3-12-2015
SURVEYED BY: GB
DRAWN BY: CMJ
APPROVED BY: RMH
SHEET : 1 OF 1

LOCATION VERIFICATION MAP



*SECTION 4, TWP. 17 SOUTH, RGE. 29 EAST,
N. M. P. M., EDDY CO., NEW MEXICO*

OPERATOR: COG Operating, LLC
 LEASE: Bose Ikard 4 State Com
 WELL NO.: 12H
 ELEVATION: 3604'

LOCATION: 750' FNL & 150' FWL
 CONTOUR INTERVAL: 10'
 USGS TOPO. SOURCE MAP:
Red Lake SE, NM (1955)

Firm No.: TX 10193838 NM 4655451

Copyright 2015 - All Rights Reserved

NO.	REVISION	DATE
JOB NO.: LS1503080		
DWG. NO.: 1503080LVM		

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 1000'
DATE: 3-12-2015
SURVEYED BY: GB
DRAWN BY: CMJ
APPROVED BY: RMH
SHEET : 1 OF 1



NM OIL CONSERVATION
ARTESIA DISTRICT

APR 13 2015

RECEIVED

**COG Operating LLC
NEW MEXICO SHELF**

EDDY COUNTY, NM

EMPIRE

BOSE IKARD 4 STATE COM #12H

OWB

Plan: PWP0

SHL: 750' FNL, 150' FWL, SEC. 4, T17S, R29E, LOT 4

PP: 758' FNL, 330' FWL, SEC. 4, T17S, R29E, LOT 4

BHL: 986' FNL, 330' FEL, SEC. 4, T17S, R29E, LOT 1

Standard Planning Report

26 March, 2015



COG Operating LLC

Planning Report

Database:	EDM Users	Local Co-ordinate Reference:	Well: BOSE IKARD 4 STATE COM #12H
Company:	NEW MEXICO SHELF	TVD Reference:	RKB=3604+12 @ 3616.0usft (TBD)
Project:	EDDY COUNTY NM	MD Reference:	RKB=3604+12 @ 3616.0usft (TBD)
Site:	EMPIRE	North Reference:	Grid
Well:	BOSE IKARD 4 STATE COM #12H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Project: EDDY COUNTY NM			
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	EMPIRE				
Site Position:		Northing:	667,066.90 usft	Latitude:	32° 50' 0.822 N
From:	Map	Easting:	582,960.90 usft	Longitude:	104° 3' 47.669 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.15

Well:	BOSE IKARD 4 STATE COM #12H					
Well Position	+N-S	12,764.1 usft	Northing:	679,831.00 usft	Latitude:	32° 52' 7.306 N
	+E-W	-7,448.3 usft	Easting:	575,512.60 usft	Longitude:	104° 5' 14.617 W
Position Uncertainty		3.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,604.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2005	12/31/2009	8.04	60.73	49,117

Design:	PWP0				
Audit Notes:					
Version:	Phase:	PROTOTYPE		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.0	0.0	0.0	92.64	

Plan Sections											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00		
3,529.1	0.00	0.01	3,529.1	0.0	0.0	0.00	0.00	0.00	0.01		
4,356.6	91.00	92.64	4,050.0	-24.4	529.5	11.00	11.00	0.00	92.64		
8,616.6	91.00	92.64	3,975.5	-220.2	4,784.4	0.00	0.00	0.00	0.00	PBHL-Bose Ikard 4 S:	



COG Operating LLC
Planning Report

Database:	EDM Users	Local Co-ordinate Reference:	Well: BOSE IKARD 4 STATE COM #12H
Company:	NEW MEXICO SHELF	TVD Reference:	RKB=3604+12 @ 3616.0usft (TBD)
Project:	EDDY COUNTY, NM	MD Reference:	RKB=3604+12 @ 3616.0usft (TBD)
Site:	EMPIRE	North Reference:	Grid
Well:	BOSE IKARD 4 STATE COM #12H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	N/S (usft)	E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,529.1	0.00	0.00	3,529.1	0.0	0.0	0.0	0.00	0.00	0.00	
EST KOP 3529.1 MD 11°/100'										
3,600.0	7.80	92.64	3,599.8	-0.2	4.8	4.8	11.00	11.00	0.00	
3,700.0	18.80	92.64	3,697.0	-1.3	27.8	27.8	11.00	11.00	0.00	
3,800.0	29.79	92.64	3,788.0	-3.2	68.8	68.9	11.00	11.00	0.00	
3,900.0	40.79	92.64	3,869.5	-5.8	126.4	126.5	11.00	11.00	0.00	
3,976.0	49.15	92.64	3,923.2	-8.3	180.0	180.2	11.00	11.00	0.00	
PP 3976 MD										
4,000.0	51.79	92.64	3,938.4	-9.1	198.5	198.7	11.00	11.00	0.00	
4,100.0	62.79	92.64	3,992.4	-13.0	282.4	282.7	11.00	11.00	0.00	
4,200.0	73.78	92.64	4,029.3	-17.3	375.1	375.5	11.00	11.00	0.00	
4,300.0	84.78	92.64	4,047.9	-21.8	473.1	473.6	11.00	11.00	0.00	
4,356.6	91.00	92.64	4,050.0	-24.4	529.6	530.1	10.99	10.99	0.00	
EOC 4356.6 MD 4050 TVD 91° INC 92.64° AZI										
4,400.0	91.00	92.64	4,049.2	-26.4	572.9	573.5	0.00	0.00	0.00	
4,500.0	91.00	92.64	4,047.5	-31.0	672.8	673.5	0.00	0.00	0.00	
4,600.0	91.00	92.64	4,045.7	-35.6	772.7	773.5	0.00	0.00	0.00	



COG Operating LLC Planning Report

Database:	EDM Users	Local Co-ordinate Reference:	Well BOSE IKARD 4 STATE COM #12H
Company:	NEW MEXICO SHELF	TVD Reference:	RKB=3604+12 @ 3616.0usft (TBD)
Project:	EDDY COUNTY NM	MD Reference:	RKB=3604+12 @ 3616.0usft (TBD)
Site:	EMPIRE	North Reference:	Grid:
Well:	BOSE IKARD 4-STATE COM #12H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,700.0	91.00	92.64	4,044.0	-40.2	872.6	873.5	0.00	0.00	0.00	
4,800.0	91.00	92.64	4,042.2	-44.8	972.4	973.5	0.00	0.00	0.00	
4,900.0	91.00	92.64	4,040.5	-49.4	1,072.3	1,073.4	0.00	0.00	0.00	
5,000.0	91.00	92.64	4,038.7	-53.9	1,172.2	1,173.4	0.00	0.00	0.00	
5,100.0	91.00	92.64	4,037.0	-58.5	1,272.1	1,273.4	0.00	0.00	0.00	
5,200.0	91.00	92.64	4,035.2	-63.1	1,371.9	1,373.4	0.00	0.00	0.00	
5,300.0	91.00	92.64	4,033.5	-67.7	1,471.8	1,473.4	0.00	0.00	0.00	
5,400.0	91.00	92.64	4,031.7	-72.3	1,571.7	1,573.4	0.00	0.00	0.00	
5,500.0	91.00	92.64	4,030.0	-76.9	1,671.6	1,673.4	0.00	0.00	0.00	
5,600.0	91.00	92.64	4,028.2	-81.5	1,771.5	1,773.3	0.00	0.00	0.00	
5,700.0	91.00	92.64	4,026.5	-86.1	1,871.3	1,873.3	0.00	0.00	0.00	
5,800.0	91.00	92.64	4,024.8	-90.7	1,971.2	1,973.3	0.00	0.00	0.00	
5,900.0	91.00	92.64	4,023.0	-95.3	2,071.1	2,073.3	0.00	0.00	0.00	
6,000.0	91.00	92.64	4,021.3	-99.9	2,171.0	2,173.3	0.00	0.00	0.00	
6,100.0	91.00	92.64	4,019.5	-104.5	2,270.9	2,273.3	0.00	0.00	0.00	
6,200.0	91.00	92.64	4,017.8	-109.1	2,370.7	2,373.2	0.00	0.00	0.00	
6,300.0	91.00	92.64	4,016.0	-113.7	2,470.6	2,473.2	0.00	0.00	0.00	
6,400.0	91.00	92.64	4,014.3	-118.3	2,570.5	2,573.2	0.00	0.00	0.00	
6,500.0	91.00	92.64	4,012.5	-122.9	2,670.4	2,673.2	0.00	0.00	0.00	
6,600.0	91.00	92.64	4,010.8	-127.5	2,770.3	2,773.2	0.00	0.00	0.00	
6,700.0	91.00	92.64	4,009.0	-132.1	2,870.1	2,873.2	0.00	0.00	0.00	
6,800.0	91.00	92.64	4,007.3	-136.7	2,970.0	2,973.2	0.00	0.00	0.00	
6,900.0	91.00	92.64	4,005.5	-141.3	3,069.9	3,073.1	0.00	0.00	0.00	
7,000.0	91.00	92.64	4,003.8	-145.9	3,169.8	3,173.1	0.00	0.00	0.00	
7,100.0	91.00	92.64	4,002.0	-150.5	3,269.6	3,273.1	0.00	0.00	0.00	
7,200.0	91.00	92.64	4,000.3	-155.1	3,369.5	3,373.1	0.00	0.00	0.00	
7,300.0	91.00	92.64	3,998.5	-159.7	3,469.4	3,473.1	0.00	0.00	0.00	
7,400.0	91.00	92.64	3,996.8	-164.3	3,569.3	3,573.1	0.00	0.00	0.00	
7,500.0	91.00	92.64	3,995.0	-168.9	3,669.2	3,673.0	0.00	0.00	0.00	
7,600.0	91.00	92.64	3,993.3	-173.5	3,769.0	3,773.0	0.00	0.00	0.00	
7,700.0	91.00	92.64	3,991.5	-178.1	3,868.9	3,873.0	0.00	0.00	0.00	
7,800.0	91.00	92.64	3,989.8	-182.7	3,968.8	3,973.0	0.00	0.00	0.00	
7,900.0	91.00	92.64	3,988.0	-187.3	4,068.7	4,073.0	0.00	0.00	0.00	
8,000.0	91.00	92.64	3,986.3	-191.9	4,168.6	4,173.0	0.00	0.00	0.00	
8,100.0	91.00	92.64	3,984.5	-196.5	4,268.4	4,273.0	0.00	0.00	0.00	
8,200.0	91.00	92.64	3,982.8	-201.0	4,368.3	4,372.9	0.00	0.00	0.00	
8,300.0	91.00	92.64	3,981.0	-205.6	4,468.2	4,472.9	0.00	0.00	0.00	
8,400.0	91.00	92.64	3,979.3	-210.2	4,568.1	4,572.9	0.00	0.00	0.00	
8,500.0	91.00	92.64	3,977.5	-214.8	4,668.0	4,672.9	0.00	0.00	0.00	
8,600.0	91.00	92.64	3,975.8	-219.4	4,767.8	4,772.9	0.00	0.00	0.00	
8,616.6	91.00	92.64	3,975.5	-220.2	4,784.4	4,789.5	0.00	0.00	0.00	
PBHL 8616.6 MD 3975.5 TVD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
hit/miss target										
- Shape										
PBHL-Bose Ikard 4 Stat	0.00	0.00	3,975.5	-220.2	4,784.4	679,610.80	580,297.00	32° 52' 5.014 N	104° 4' 18.527 W	
- plan hits target center										
- Point										



COG Operating LLC

Planning Report

Database:	EDM Users	Local Co-ordinate Reference:	Well BOSE IKARD 4 STATE COM #12H
Company:	NEW MEXICO SHELF	TVD Reference:	RKB=3604+12 @ 3616.0usft (TBD)
Project:	EDDY COUNTY, NM	MD Reference:	RKB=3604+12 @ 3616.0usft (TBD)
Site:	EMPIRE	North Reference:	Grid
Well:	BOSE IKARD 4 STATE COM #12H	Survey Calculation Method:	Minimum Curvature
Wellbore:	QWB		
Design:	PWR0		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,529.1	3,529.1	0.0	0.0	EST KOP 3529.1' MD, 11°/100'
3,976.0	3,923.2	-8.3	180.0	PP, 3976' MD
4,356.6	4,050.0	-24.4	529.6	EOC, 4356.6' MD, 4050' TVD, 91° INC, 92.64° AZI
8,616.6	3,975.5	-220.2	4,784.4	PBHL, 8616.6' MD, 3975.5' TVD



Project: EDDY COUNTY, NM
 Site: EMPIRE
 Well: BOSE IKARD 4 STATE COM #12H
 Wellbore: OWB
 Design: PWP0

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well BOSE IKARD 4 STATE COM #12H, Grid North
 Vertical (TVD) Reference: RKB=3604+12 @ 3616.0usft (TBD)
 Section (VS) Reference: Slot - (0.0N, 0.0E)
 Measured Depth Reference: RKB=3604+12 @ 3616.0usft (TBD)
 Calculation Method: Minimum Curvature

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V/Sect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		EST KOP 3529.1' MD, 11°/100'
2	3529.1	0.00	0.00	3529.1	0.0	0.0	0.00	0.00	0.0		EOC, 4356.6' MD, 4050' TVD, 91° INC, 92.64° AZI
3	4356.6	91.00	92.64	4050.0	-24.4	529.5	11.00	92.64	530.1		
4	8616.6	91.00	92.64	3975.5	-220.2	4784.4	0.00	0.00	4789.5		PBHL-Bose Ikard 4 State Com #12H PBHL, 8616.6' MD, 3975.5' TVD

