

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 **NM OIL CONSERVATION**
Energy, Minerals & Natural Resources Department
ARTESIA DISTRICT
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015- 43031		² Pool Code 96610	³ Pool Name Empire; Glorieta Yeso East
⁴ Property Code 313320	⁵ Property Name BOSE IKARD 4 STATE COM		⁶ Well Number 11H
⁷ GRID NO. 229137	⁸ Operator Name COG OPERATING, LLC		⁹ Elevation 3604'

¹⁰ Surface Location

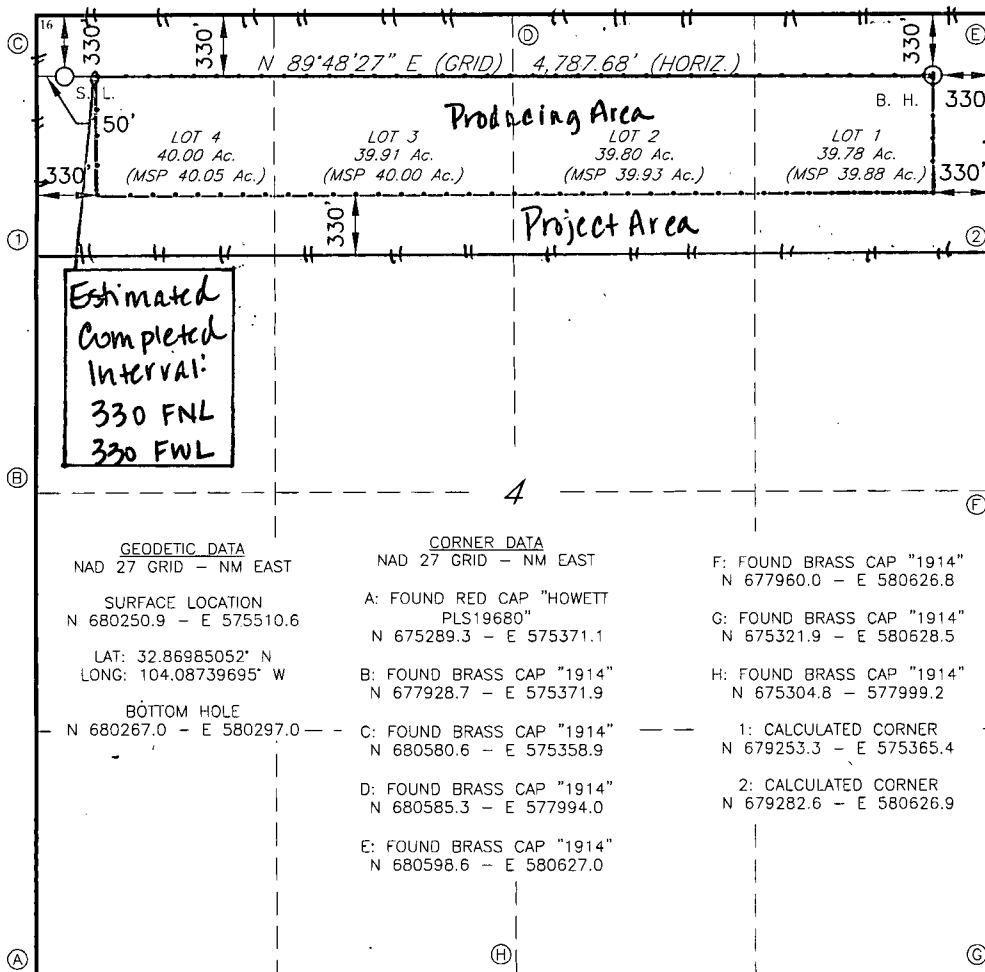
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
4	4	17S	29E		330	NORTH	150	WEST	EDDY

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		330	NORTH	330	EAST	EDDY

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



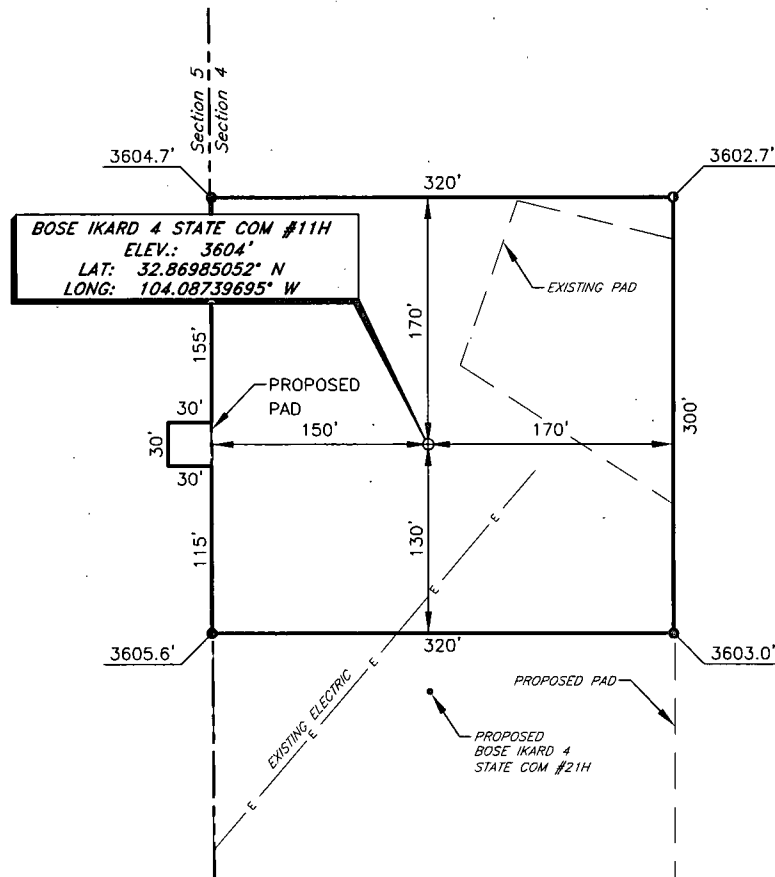
¹⁷ OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to 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: Date: 4-8-15
Printed Name: Kelly J. Holly
E-mail Address: kholly@concho.com

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: 3-11-15
Signature and Seal of Professional Surveyor:
Certificate Number: 19680

COG OPERATING, LLC
BOSE IKARD 4 STATE COM #11H
(330' 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. 0.3 miles to a dry hole pad;

Location is approx. 180 feet to the West of the Cave State #1 dryhole marker.

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

Firm No.: TX 10193838 NM 4655451

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NO.	REVISION	DATE
JOB NO.:	LS1503079	
DWG. NO.:	1503079PAD	

RRC

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

SCALE: 1" = 100'

DATE: 3-11-2015

SURVEYED BY: GB

DRAWN BY: CMJ

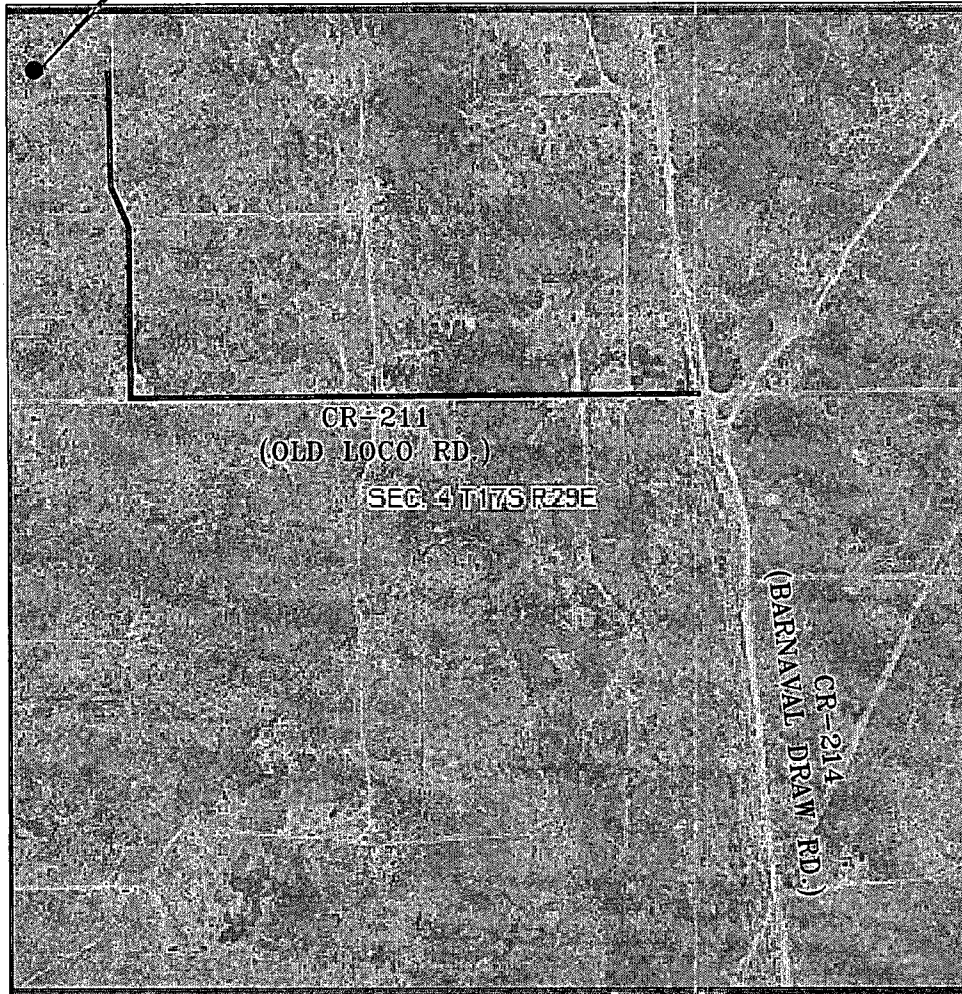
APPROVED BY: RMH

SHEET : 1 OF 1

VICINITY MAP

NOT TO SCALE

BOSE IKARD 4 STATE COM #11H



*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.: 11H

LOCATION: 330' FNL & 150' FWL
ELEVATION: 3604'

Firm No.: TX 10193838 NM 4655451

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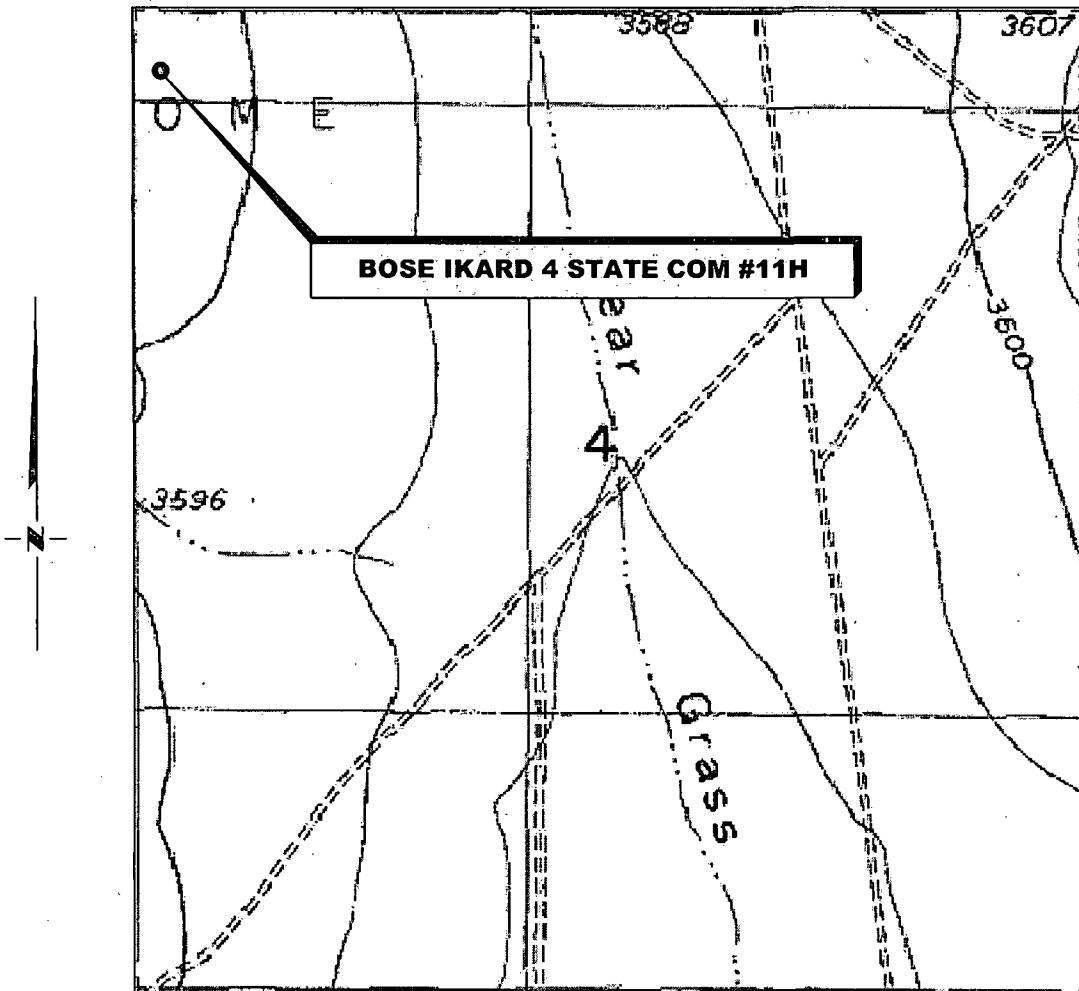
NO.	REVISION	DATE
JOB NO.:	LS1503079	
DWG. NO.:	1503079VM	

RRC

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

SCALE: NTS
DATE: 3-11-2015
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.: 11H
ELEVATION: 3604'

LOCATION: 330' FNL & 150' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Red Lake SE, NM (1955)

Firm No.: TX 10193838 NM 4655451

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NO.	REVISION	DATE
JOB NO.:	LS1503079	
DWG. NO.:	1503079LVM	

RRC

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

SCALE: 1" = 1000'
DATE: 3-11-2015
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 #11H

OWB

Plan: PWP0

SHL: 330' FNL, 150' FWL, SEC. 4, T17S, R29E, LOT 4

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

BHL: 330' 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 #11H
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 #11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP01		

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 #11H					
Well Position	+N-S	13,184.0 usft	Northing:	680,250.90 usft	Latitude:	32° 52' 11.461 N
	+E-W	-7,450.3 usft	Easting:	575,510.60 usft	Longitude:	104° 5' 14.629 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	60.74	49,117

Design:	PWP01			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/S (usft)	+E/W (usft)	Direction (°)
	3,975.5	0.0	0.0	89.81

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	0.00	3,529.1	0.0	0.0	0.00	0.00	0.00	0.00	
4,356.6	91.00	89.81	4,050.0	1.8	530.1	11.00	11.00	0.00	89.81	
8,613.6	91.00	89.81	3,975.5	16.1	4,786.4	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 #11H
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 #11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	RWP0		

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	89.81	3,599.8	0.0	4.8	4.8	11.00	11.00	0.00
3,700.0	18.80	89.81	3,697.0	0.1	27.8	27.8	11.00	11.00	0.00
3,800.0	29.79	89.81	3,788.0	0.2	68.9	68.9	11.00	11.00	0.00
3,900.0	40.79	89.81	3,869.5	0.4	126.5	126.5	11.00	11.00	0.00
3,957.7	47.14	89.81	3,911.0	0.6	166.6	166.6	11.00	11.00	0.00
PP 3957.7 MD									
4,000.0	51.79	89.81	3,938.4	0.7	198.7	198.7	11.00	11.00	0.00
4,100.0	62.79	89.81	3,992.4	1.0	282.7	282.7	11.00	11.00	0.00
4,200.0	73.78	89.81	4,029.3	1.3	375.5	375.5	11.00	11.00	0.00
4,300.0	84.78	89.81	4,047.9	1.6	473.6	473.6	11.00	11.00	0.00
4,356.6	91.00	89.81	4,050.0	1.8	530.1	530.1	10.99	10.99	0.00
EOC 4356.6 MD 4050 TVD 91° INC 89.81° AZI									
4,400.0	91.00	89.81	4,049.2	1.9	573.5	573.5	0.00	0.00	0.00
4,500.0	91.00	89.81	4,047.5	2.3	673.5	673.5	0.00	0.00	0.00
4,600.0	91.00	89.81	4,045.7	2.6	773.5	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 #11H
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 #11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWR0		

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	89.81	4,044.0	2.9	873.5	873.5	0.00	0.00	0.00	
4,800.0	91.00	89.81	4,042.2	3.3	973.5	973.5	0.00	0.00	0.00	
4,900.0	91.00	89.81	4,040.5	3.6	1,073.4	1,073.4	0.00	0.00	0.00	
5,000.0	91.00	89.81	4,038.7	3.9	1,173.4	1,173.4	0.00	0.00	0.00	
5,100.0	91.00	89.81	4,037.0	4.3	1,273.4	1,273.4	0.00	0.00	0.00	
5,200.0	91.00	89.81	4,035.2	4.6	1,373.4	1,373.4	0.00	0.00	0.00	
5,300.0	91.00	89.81	4,033.5	5.0	1,473.4	1,473.4	0.00	0.00	0.00	
5,400.0	91.00	89.81	4,031.7	5.3	1,573.4	1,573.4	0.00	0.00	0.00	
5,500.0	91.00	89.81	4,030.0	5.6	1,673.3	1,673.4	0.00	0.00	0.00	
5,600.0	91.00	89.81	4,028.2	6.0	1,773.3	1,773.3	0.00	0.00	0.00	
5,700.0	91.00	89.81	4,026.5	6.3	1,873.3	1,873.3	0.00	0.00	0.00	
5,800.0	91.00	89.81	4,024.7	6.6	1,973.3	1,973.3	0.00	0.00	0.00	
5,900.0	91.00	89.81	4,023.0	7.0	2,073.3	2,073.3	0.00	0.00	0.00	
6,000.0	91.00	89.81	4,021.2	7.3	2,173.3	2,173.3	0.00	0.00	0.00	
6,100.0	91.00	89.81	4,019.5	7.6	2,273.2	2,273.3	0.00	0.00	0.00	
6,200.0	91.00	89.81	4,017.7	8.0	2,373.2	2,373.2	0.00	0.00	0.00	
6,300.0	91.00	89.81	4,016.0	8.3	2,473.2	2,473.2	0.00	0.00	0.00	
6,400.0	91.00	89.81	4,014.2	8.7	2,573.2	2,573.2	0.00	0.00	0.00	
6,500.0	91.00	89.81	4,012.5	9.0	2,673.2	2,673.2	0.00	0.00	0.00	
6,600.0	91.00	89.81	4,010.7	9.3	2,773.2	2,773.2	0.00	0.00	0.00	
6,700.0	91.00	89.81	4,009.0	9.7	2,873.2	2,873.2	0.00	0.00	0.00	
6,800.0	91.00	89.81	4,007.2	10.0	2,973.1	2,973.2	0.00	0.00	0.00	
6,900.0	91.00	89.81	4,005.5	10.3	3,073.1	3,073.1	0.00	0.00	0.00	
7,000.0	91.00	89.81	4,003.7	10.7	3,173.1	3,173.1	0.00	0.00	0.00	
7,100.0	91.00	89.81	4,002.0	11.0	3,273.1	3,273.1	0.00	0.00	0.00	
7,200.0	91.00	89.81	4,000.2	11.3	3,373.1	3,373.1	0.00	0.00	0.00	
7,300.0	91.00	89.81	3,998.5	11.7	3,473.1	3,473.1	0.00	0.00	0.00	
7,400.0	91.00	89.81	3,996.7	12.0	3,573.0	3,573.1	0.00	0.00	0.00	
7,500.0	91.00	89.81	3,995.0	12.4	3,673.0	3,673.0	0.00	0.00	0.00	
7,600.0	91.00	89.81	3,993.2	12.7	3,773.0	3,773.0	0.00	0.00	0.00	
7,700.0	91.00	89.81	3,991.5	13.0	3,873.0	3,873.0	0.00	0.00	0.00	
7,800.0	91.00	89.81	3,989.7	13.4	3,973.0	3,973.0	0.00	0.00	0.00	
7,900.0	91.00	89.81	3,988.0	13.7	4,073.0	4,073.0	0.00	0.00	0.00	
8,000.0	91.00	89.81	3,986.2	14.0	4,172.9	4,173.0	0.00	0.00	0.00	
8,100.0	91.00	89.81	3,984.5	14.4	4,272.9	4,273.0	0.00	0.00	0.00	
8,200.0	91.00	89.81	3,982.7	14.7	4,372.9	4,372.9	0.00	0.00	0.00	
8,300.0	91.00	89.81	3,981.0	15.0	4,472.9	4,472.9	0.00	0.00	0.00	
8,400.0	91.00	89.81	3,979.2	15.4	4,572.9	4,572.9	0.00	0.00	0.00	
8,500.0	91.00	89.81	3,977.5	15.7	4,672.9	4,672.9	0.00	0.00	0.00	
8,600.0	91.00	89.81	3,975.7	16.1	4,772.9	4,772.9	0.00	0.00	0.00	
8,613.6	91.00	89.81	3,975.5	16.1	4,786.4	4,786.4	0.00	0.00	0.00	
PBHL 8613.6" MD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
miss target Shape										
PBHL-Bose Ikard 4 Stat	0.00	0.00	3,975.5	16.1	4,786.4	680,267.00	580,297.00	32° 52' 11.507 N	104° 4' 18.508 W	
- plan hits target center										
- Point										



COG Operating LLC
Planning Report

Database:	EDM Users	Local Co-ordinate Reference:	Well BOSE IKARD 4 STATE COM.#11H
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.#11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

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'	
3,957.7	3,911.0	0.6	166.6	PP, 3957.7' MD	
4,356.6	4,050.0	1.8	530.1	EOC, 4356.6' MD, 4050' TVD, 91° INC, 89.81° AZI	
8,613.6	3,975.5	16.1	4,786.4	PBHL, 8613.6' MD	



Project: EDDY COUNTY, NM
 Site: EMPIRE
 Well: BOSE IKARD 4 STATE COM #11H
 Wellbore: OWB
 Design: PWP0

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	3529.1	0.0	0.0	0.00	0.00	0.0	0.0
2	3529.1	0.00	0.00	3529.1	0.0	0.0	0.00	0.00	0.0	0.0
3	4356.6	91.00	89.81	4050.0	1.8	530.1	11.00	89.81	530.1	0.0
4	8613.6	91.00	89.81	3975.5	16.1	4786.4	0.00	0.00	4786.4	0.0

Annotation:
 EST KOP 3529.1' MD, 11°/100'
 EOC, 4356.6' MD, 4050' TVD, 91° INC, 89.81° AZI
 PBHL-Bose Ikard 4 State Com #11H PBHL, 8613.6' MD

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well BOSE IKARD 4 STATE COM #11H, 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

