



COG Operating LLC NEW MEXICO SHELF

LEA COUNTY, NM

MALJAMAR

IVAR THE BONELESS FED #12H

OWB

Plan: PWP0

SHL: 85' FNL, 1283' FWL, SEC. 22, T17S, R32E, UNIT D

PP: 734' FSL, 986' FWL, SEC. 15, T17S, R32E, UNIT M

BHL: 330' FNL, 989' FWL, SEC. 15, T17S, R32E, UNIT D

Standard Planning Report

18 March, 2015

JAN 04 2016



COG Operating LLC
Planning Report

Database:	EDM_Users	Local Co-ordinate Reference:	Well IVAR THE BONELESS FED #12H
Company:	NEW MEXICO SHELF	TVD Reference:	WELL @ 4027.0usft (TBD)
Project:	LEA COUNTY, NM	MD Reference:	WELL @ 4027.0usft (TBD)
Site:	MALJAMAR	North Reference:	Grid
Well:	IVAR THE BONELESS FED #12H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Project	LEA 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		MALJAMAR			
Site Position:		Northing:	675,386.60 usft	Latitude:	32° 51' 19.093 N
From:	Map	Easting:	682,929.80 usft	Longitude:	103° 44' 15.489 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well	IVAR THE BONELESS FED #12H					
Well Position	+N/-S	-10,331.2 usft	Northing:	665,055.40 usft	Latitude:	32° 49' 37.209 N
	+E/-W	-6,247.8 usft	Easting:	676,682.00 usft	Longitude:	103° 45' 29.388 W
Position Uncertainty		3.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	4,015.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2005	12/31/2009	7.89	60.76	49,126

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	0.00

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	
5,229.0	0.00	0.00	5,229.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,056.6	91.00	337.00	5,750.0	488.0	-207.2	11.00	11.00	0.00	337.00	
6,630.2	91.00	359.95	5,739.8	1,046.2	-321.0	4.00	0.00	4.00	89.79	
10,620.1	91.00	359.95	5,670.0	5,035.5	-324.6	0.00	0.00	0.00	0.00	PBHL-Ivar The Boneless



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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
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,229.0	0.00	0.00	5,229.0	0.0	0.0	0.0	0.00	0.00	0.00



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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)
EST. KOP 5229' MD, 11°/100'									
5,300.0	7.81	337.00	5,299.8	4.4	-1.9	4.4	11.00	11.00	0.00
5,400.0	18.80	337.00	5,396.9	25.6	-10.9	25.6	11.00	11.00	0.00
5,500.0	29.80	337.00	5,487.9	63.4	-26.9	63.4	11.00	11.00	0.00
5,600.0	40.79	337.00	5,569.4	116.5	-49.5	116.5	11.00	11.00	0.00
5,700.0	51.79	337.00	5,638.4	183.0	-77.7	183.0	11.00	11.00	0.00
5,800.0	62.78	337.00	5,692.4	260.3	-110.5	260.3	11.00	11.00	0.00
5,900.0	73.78	337.00	5,729.3	345.7	-146.7	345.7	11.00	11.00	0.00
6,000.0	84.78	337.00	5,747.9	436.0	-185.1	436.0	11.00	11.00	0.00
6,056.6	91.00	337.00	5,750.0	488.0	-207.2	488.0	11.00	11.00	0.00
EOC, 6056.6' MD, 91° INC, 337° AZI									
6,100.0	91.01	338.74	5,749.2	528.2	-223.5	528.2	4.00	0.01	4.00
6,200.0	91.02	342.74	5,747.5	622.6	-256.5	622.6	4.00	0.01	4.00
6,300.0	91.02	346.74	5,745.7	719.0	-282.8	719.0	4.00	0.01	4.00
6,400.0	91.02	350.74	5,743.9	817.1	-302.3	817.1	4.00	0.00	4.00
PP, 6400' MD									
6,500.0	91.02	354.74	5,742.1	916.2	-315.0	916.2	4.00	0.00	4.00
6,600.0	91.01	358.74	5,740.4	1,016.0	-320.6	1,016.0	4.00	-0.01	4.00
6,630.2	91.00	359.95	5,739.8	1,046.2	-321.0	1,046.2	4.00	-0.01	4.00
6,700.0	91.00	359.95	5,738.6	1,116.0	-321.1	1,116.0	0.00	0.00	0.00
6,800.0	91.00	359.95	5,736.9	1,216.0	-321.1	1,216.0	0.00	0.00	0.00
6,900.0	91.00	359.95	5,735.1	1,316.0	-321.2	1,316.0	0.00	0.00	0.00
7,000.0	91.00	359.95	5,733.4	1,416.0	-321.3	1,416.0	0.00	0.00	0.00
7,100.0	91.00	359.95	5,731.6	1,515.9	-321.4	1,515.9	0.00	0.00	0.00
7,200.0	91.00	359.95	5,729.9	1,615.9	-321.5	1,615.9	0.00	0.00	0.00
7,300.0	91.00	359.95	5,728.1	1,715.9	-321.6	1,715.9	0.00	0.00	0.00
7,400.0	91.00	359.95	5,726.4	1,815.9	-321.7	1,815.9	0.00	0.00	0.00
7,500.0	91.00	359.95	5,724.6	1,915.9	-321.8	1,915.9	0.00	0.00	0.00
7,600.0	91.00	359.95	5,722.9	2,015.9	-321.9	2,015.9	0.00	0.00	0.00
7,700.0	91.00	359.95	5,721.1	2,115.9	-322.0	2,115.9	0.00	0.00	0.00
7,800.0	91.00	359.95	5,719.4	2,215.8	-322.0	2,215.8	0.00	0.00	0.00
7,900.0	91.00	359.95	5,717.6	2,315.8	-322.1	2,315.8	0.00	0.00	0.00
8,000.0	91.00	359.95	5,715.9	2,415.8	-322.2	2,415.8	0.00	0.00	0.00
8,100.0	91.00	359.95	5,714.1	2,515.8	-322.3	2,515.8	0.00	0.00	0.00
8,200.0	91.00	359.95	5,712.4	2,615.8	-322.4	2,615.8	0.00	0.00	0.00
8,300.0	91.00	359.95	5,710.6	2,715.8	-322.5	2,715.8	0.00	0.00	0.00
8,400.0	91.00	359.95	5,708.9	2,815.7	-322.6	2,815.7	0.00	0.00	0.00
8,500.0	91.00	359.95	5,707.1	2,915.7	-322.7	2,915.7	0.00	0.00	0.00
8,600.0	91.00	359.95	5,705.4	3,015.7	-322.8	3,015.7	0.00	0.00	0.00
8,700.0	91.00	359.95	5,703.6	3,115.7	-322.9	3,115.7	0.00	0.00	0.00
8,800.0	91.00	359.95	5,701.9	3,215.7	-323.0	3,215.7	0.00	0.00	0.00
8,900.0	91.00	359.95	5,700.1	3,315.7	-323.0	3,315.7	0.00	0.00	0.00
9,000.0	91.00	359.95	5,698.4	3,415.7	-323.1	3,415.7	0.00	0.00	0.00
9,100.0	91.00	359.95	5,696.6	3,515.6	-323.2	3,515.6	0.00	0.00	0.00
9,200.0	91.00	359.95	5,694.9	3,615.6	-323.3	3,615.6	0.00	0.00	0.00
9,300.0	91.00	359.95	5,693.1	3,715.6	-323.4	3,715.6	0.00	0.00	0.00
9,400.0	91.00	359.95	5,691.4	3,815.6	-323.5	3,815.6	0.00	0.00	0.00
9,500.0	91.00	359.95	5,689.6	3,915.6	-323.6	3,915.6	0.00	0.00	0.00
9,600.0	91.00	359.95	5,687.9	4,015.6	-323.7	4,015.6	0.00	0.00	0.00
9,700.0	91.00	359.95	5,686.1	4,115.5	-323.8	4,115.5	0.00	0.00	0.00
9,800.0	91.00	359.95	5,684.4	4,215.5	-323.9	4,215.5	0.00	0.00	0.00
9,900.0	91.00	359.95	5,682.6	4,315.5	-323.9	4,315.5	0.00	0.00	0.00
10,000.0	91.00	359.95	5,680.9	4,415.5	-324.0	4,415.5	0.00	0.00	0.00



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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)
10,100.0	91.00	359.95	5,679.1	4,515.5	-324.1	4,515.5	0.00	0.00	0.00
10,200.0	91.00	359.95	5,677.4	4,615.5	-324.2	4,615.5	0.00	0.00	0.00
10,300.0	91.00	359.95	5,675.6	4,715.5	-324.3	4,715.5	0.00	0.00	0.00
10,400.0	91.00	359.95	5,673.9	4,815.4	-324.4	4,815.4	0.00	0.00	0.00
10,500.0	91.00	359.95	5,672.1	4,915.4	-324.5	4,915.4	0.00	0.00	0.00
10,600.0	91.00	359.95	5,670.4	5,015.4	-324.6	5,015.4	0.00	0.00	0.00
10,620.1	91.00	359.95	5,670.0	5,035.5	-324.6	5,035.5	0.00	0.00	0.00
PBHL, 10620.1' MD									

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-Ivar The Boneless	0.00	0.00	5,670.0	5,035.5	-324.6	670,090.90	676,357.40	32° 50' 27.052 N	103° 45' 32.872 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,229.0	5,229.0	0.0	0.0	EST. KOP 5229' MD, 11°/100'
6,056.6	5,750.0	488.0	-207.2	EOC, 6056.6' MD, 91° INC, 337° AZI
6,400.0	5,743.9	817.1	-302.3	PP, 6400' MD
10,620.1	5,670.0	5,035.5	-324.6	PBHL, 10620.1' MD



Project: LEA COUNTY, NM
Site: MALJAMAR
Well: IVAR THE BONELESS FED #12H
Wellbore: OWB
Design: PWP0

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+NLS	+E/W	Dleg	Tface	Vsect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	0.0	
2	5229.0	0.00	0.00	5229.0	0.0	0.0	0.00	0.00	0.0	0.0	EST. KOP 5229' MD, 11°100'
3	6056.6	91.00	337.00	5750.0	488.0	-207.2	11.00	337.00	488.0	488.0	EOC, 6056.6' MD, 91° INC, 337° AZI
4	6630.2	91.00	359.95	5739.8	1046.2	-321.0	4.00	89.79	1046.2		
5	10620.1	91.00	359.95	5670.0	5035.5	-324.6	0.00	0.00	5035.5	5035.5	PBHL-Ivar The Boneless Fed #12H PBHL, 10620.1' MD

LEGEND

--- PWP0

