



COG Operating LLC

Eddy County, NM (NAD-27 2015)

Burch Keely Unit #964H

API #: 30-015-44149

SHL: 1485' FNL, 215' FEL, Sec 24, T17S, R29E, Unit H

PP: 1669' FNL, 330' FWL, Sec 19, T17S, R30E, Unit E

BHL: 1650' FNL, 10' FEL, Sec 19, T17S, R30E, Unit H

Design #1

Anticollision Report

09 May, 2017





TDS
Anticollision Report



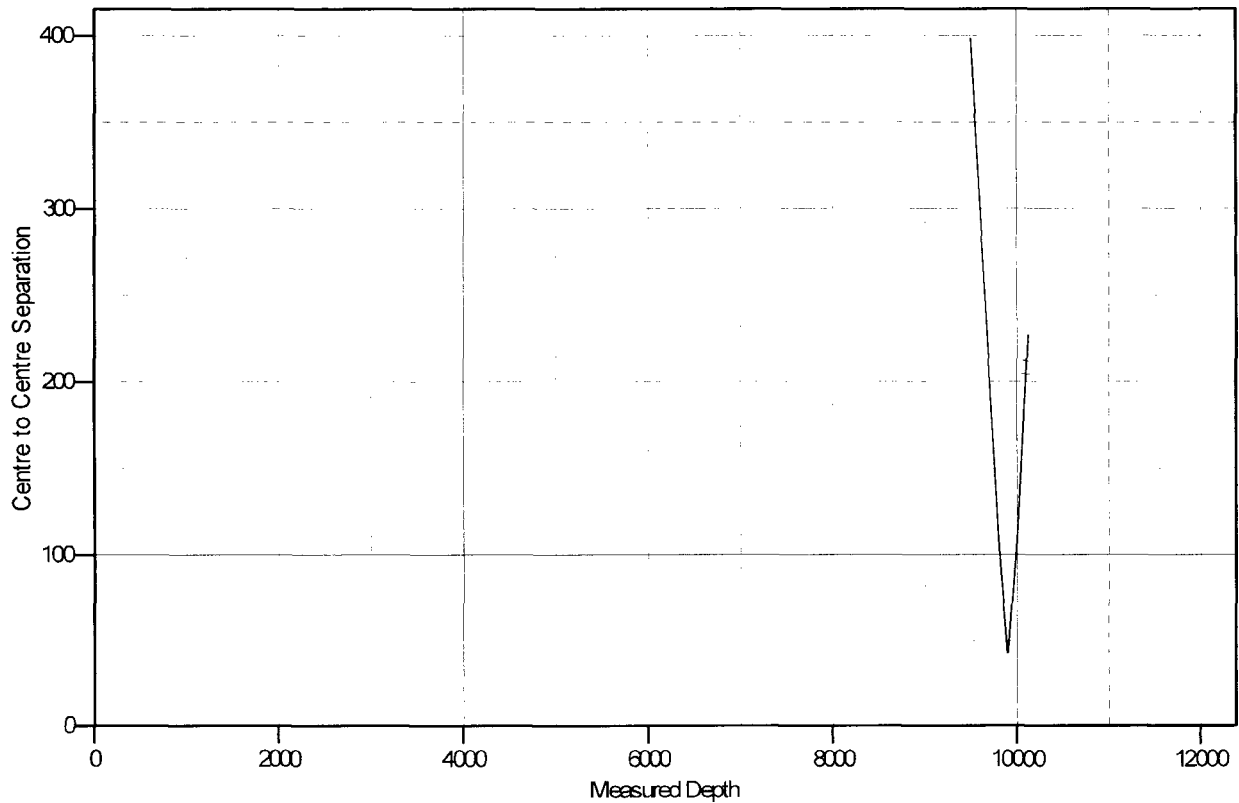
Company: COG Operating LLC
Project: Eddy County, NM (NAD-27 2015)
Reference Site: Burch Keely Unit #964H
Site Error: 0.00 usft
Reference Well: SHL: 1485' FNL, 215' FEL, Sec 24, T17S, R29E, Unit H
Well Error: 0.00 usft
Reference Wellbore: BHL: 1650' FNL, 10' FEL, Sec 19, T17S, R30E, Unit H
Reference Design: Design #1

Local Co-ordinate Reference: Site Burch Keely Unit #964H
TVD Reference: KB @ 3639.00usft (Patriot 6)
MD Reference: KB @ 3639.00usft (Patriot 6)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB @ 3639.00usft (Patriot 6)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Burch Keely Unit #964H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.17°

Ladder Plot



LEGEND

— Burch Keely Unit#242, OH, OHV0



TDS

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Reference	Design #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.00usft
Depth Range:	Unlimited
Results Limited by:	Maximum separation factor of 4.00
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

Survey Tool Program		Date	5/9/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	10,118.52	Design #1 (BHL: 1650' FNL, 10' FEL, Sec	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Eddy County Offset Wells						
Burch Keely Unit #242 - OH - OH	9,896.18	4,820.00	43.15	-0.81	0.982	Level 1, CC
Burch Keely Unit #242 - OH - OH	9,900.00	4,820.00	43.32	-5.59	0.886	Level 1, ES, SF
Burch Keely Unit #956H - OH - OH						Out of range

Eddy County Offset Wells - Burch Keely Unit #242 - OH - OH													Offset Site Error:	0.00 usft
Survey Program:		418-INC											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,500.00	4,875.77	4,820.00	4,818.79	130.21	319.51	-1.09	-145.90	5,178.24	398.52	290.79	107.73	3.699		
9,600.00	4,874.02	4,820.00	4,818.79	132.95	319.51	-1.09	-145.90	5,178.24	299.31	191.44	107.87	2.775		
9,700.00	4,872.27	4,820.00	4,818.79	135.70	319.51	-1.09	-145.90	5,178.24	200.87	92.89	107.98	1.860		
9,800.00	4,870.52	4,820.00	4,818.79	138.45	319.51	-1.09	-145.90	5,178.24	105.42	-1.12	106.53	0.990	Level 1	
9,896.18	4,868.83	4,820.00	4,818.79	141.10	319.51	-1.09	-145.90	5,178.24	43.15	-0.81	43.96	0.982	Level 1, CC	
9,900.00	4,868.77	4,820.00	4,818.79	141.20	319.51	-1.09	-145.90	5,178.24	43.32	-5.59	48.91	0.886	Level 1, ES, SF	
10,000.00	4,867.02	4,820.00	4,818.79	143.95	319.51	-1.09	-145.90	5,178.24	112.43	7.03	105.40	1.067	Level 2	
10,100.00	4,865.26	4,820.00	4,818.79	146.70	319.51	-1.09	-145.90	5,178.24	208.34	101.65	106.68	1.953		
10,119.00	4,864.93	4,820.00	4,818.79	147.22	319.51	-1.09	-145.90	5,178.24	226.96	119.95	107.01	2.121		

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