

30.015.36981



COG Operating LLC

Eddy County, NM (NAN27 NME)

Skelly Unit #628

Skelly Unit #628

OH

Design: Actual

Standard Survey Report

02 August, 2009



Scientific Drilling



Scientific Drilling Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Skelly Unit #628
Project:	Eddy County, NM (NAN27 NME)	TVD Reference:	Ground Elev @ 3858.00ft (Basic #35)
Site:	Skelly Unit #628	MD Reference:	Ground Elev @ 3858.00ft (Basic #35)
Well:	Skelly Unit #628	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM 5000.1 Single User Db

Project	Eddy County, NM (NAN27 NME)		
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	Skelly Unit #628				
Site Position:		Northing:	662,919.10 ft	Latitude:	32° 49' 17.525 N
From:	Map	Easting:	647,215.20 ft	Longitude:	103° 51' 14.824 W
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.26 °

Well	Skelly Unit #628					
Well Position	+N-S	0.00 ft	Northing:	662,919.10 ft	Latitude:	32° 49' 17.525 N
	+E-W	0.00 ft	Easting:	647,215.20 ft	Longitude:	103° 51' 14.824 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,858.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2009/08/01	7.97	60.75	49,158

Design	Actual				
Audit Notes:					
Version:	10	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N-S (ft)	+E-W (ft)	Direction (°)	
	0.00	0.00	0.00	158.60	

Survey Program	Date	2009/08/02			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	1,660.00	Gyro survey (OH)	Keeper	Standard Wireline Keeper ver 1.0.2	
1,855.00	5,073.00	MWD Survey (OH)	MWD	MWD - Standard	

Survey	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	100.00	0.44	73.64	100.00	0.11	0.37	0.03	0.44	0.44	0.00
	200.00	0.62	56.11	199.99	0.52	1.19	-0.05	0.24	0.18	-17.53
	300.00	0.89	44.95	299.99	1.37	2.18	-0.48	0.31	0.27	-11.16
	400.00	1.27	29.99	399.97	2.88	3.29	-1.48	0.47	0.38	-14.96
	500.00	1.46	36.23	499.94	4.87	4.59	-2.85	0.24	0.19	6.24
	600.00	1.25	38.24	599.91	6.75	6.02	-4.09	0.22	-0.21	2.01
	700.00	1.04	41.49	699.89	8.29	7.30	-5.05	0.22	-0.21	3.25
	800.00	1.16	40.81	799.87	9.73	8.56	-5.94	0.12	0.12	-0.68
	900.00	1.08	41.07	899.85	11.21	9.84	-6.85	0.08	-0.08	0.26



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Site: Skelly Unit #628
Well: Skelly Unit #628
Wellbore: OH
Design: Actual

Local Co-ordinate Reference: Site Skelly Unit #628
TVD Reference: Ground Elev @ 3858.00ft (Basic #35)
MD Reference: Ground Elev @ 3858.00ft (Basic #35)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,000.00	1 12	43.35	999.84	12.63	11.13	-7.70	0.06	0.04	2.28
1,100.00	1 33	42.18	1,099.81	14.20	12.58	-8.63	0.21	0.21	-1.17
1,200.00	1.32	34.85	1,199.79	16.01	14.02	-9.79	0.17	-0.01	-7.33
1,300.00	1.66	42.06	1,299.75	18.03	15.65	-11.08	0.39	0.34	7.21
1,400.00	2 01	41.28	1,399.70	20.42	17.77	-12.53	0.35	0.35	-0.78
1,500.00	2 36	49.59	1,499.63	23.07	20.50	-14.00	0.47	0.35	8.31
1,600.00	1 96	52.33	1,599.56	25.45	23.42	-15.15	0.41	-0.40	2.74
1,660.00	1 83	56.35	1,659.52	26.61	25.03	-15.64	0.31	-0.22	6.70
Gyro Tie-in									
1,855.00	1.52	42.30	1,854.44	30.25	29.36	-17.45	0.26	-0.16	-7.21
1,951.00	0.79	183.62	1,950.43	30.53	30.18	-17.41	2.28	-0.76	147.21
2,045.00	2 84	195.95	2,044.38	27.64	29.50	-14.98	2.21	2.18	13.12
2,140.00	4 43	183.72	2,139.19	21.72	28.61	-9.78	1.85	1.67	-12.87
2,304.00	5 73	182.29	2,302.54	7.22	27.87	3.45	0.80	0.79	-0.87
2,456.00	6.05	199.02	2,453.75	-7.94	24.96	16.50	1.14	0.21	11.01
2,552.00	4 97	181.38	2,549.31	-16.88	23.21	24.18	2.08	-1.13	-18.38
2,647.00	4.40	161.42	2,644.00	-24.45	24.27	31.62	1.81	-0.60	-21.01
2,742.00	3.88	164.38	2,738.75	-31.00	26.30	38.46	0.59	-0.55	3.12
2,870.00	6.13	171.43	2,866.26	-41.93	28.48	49.43	1.82	1.76	5.51
2,965.00	4.55	159.82	2,960.84	-50.48	30.54	58.14	2.01	-1.66	-12.22
3,060.00	4 42	166.59	3,055.55	-57.58	32.69	65.54	0.57	-0.14	7.13
3,187.00	5 77	161.07	3,182.05	-68.38	35.90	76.76	1.13	1.06	-4.35
3,315.00	6 78	143.82	3,309.29	-80.56	42.44	90.50	1.66	0.79	-13.48
3,441.00	4.85	148.71	3,434.64	-91.12	49.60	102.94	1.58	-1.53	3.88
3,568.00	5.96	143.67	3,561.07	-101.02	56.30	114.60	0.95	0.87	-3.97
3,696.00	5.79	147.07	3,688.40	-111.79	63.74	127.34	0.30	-0.13	2.66
3,855.00	5 29	157.86	3,846.66	-125.31	70.87	142.53	0.73	-0.31	6.79
4,014.00	7.26	163.00	4,004.70	-141.71	76.57	159.88	1.29	1.24	3.23
4,142.00	6.02	151.03	4,131.85	-155.32	82.18	174.60	1.45	-0.97	-9.35
4,300.00	4.62	150.46	4,289.16	-168.11	89.33	189.11	0.89	-0.89	-0.36
4,456.00	5.86	161.55	4,444.51	-181.13	94.95	203.28	1.02	0.79	7.11
4,614.00	6 01	163.84	4,601.66	-196.72	99.81	219.58	0.18	0.09	1.45
4,710.00	4.49	164.07	4,697.26	-205.16	102.24	228.32	1.58	-1.58	0.24
4,805.00	2 86	143.77	4,792.06	-210.65	104.66	234.32	2.17	-1.72	-21.37
4,932.00	2 56	144.58	4,918.92	-215.52	108.17	240.13	0.24	-0.24	0.64
5,027.00	0.88	107.45	5,013.88	-217.47	110.10	242.65	2.03	-1.77	-39.08
MWD Survey									
5,073.00	0 88	107.45	5,059.87	-217.68	110.77	243.09	0.00	0.00	0.00
Projection to Bit									



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Wellbore: OH
Design: Actual

Local Co-ordinate Reference: Site Skelly Unit #628
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Survey Calculation Method: Minimum Curvature
Database: EDM 5000 1 Single User Db

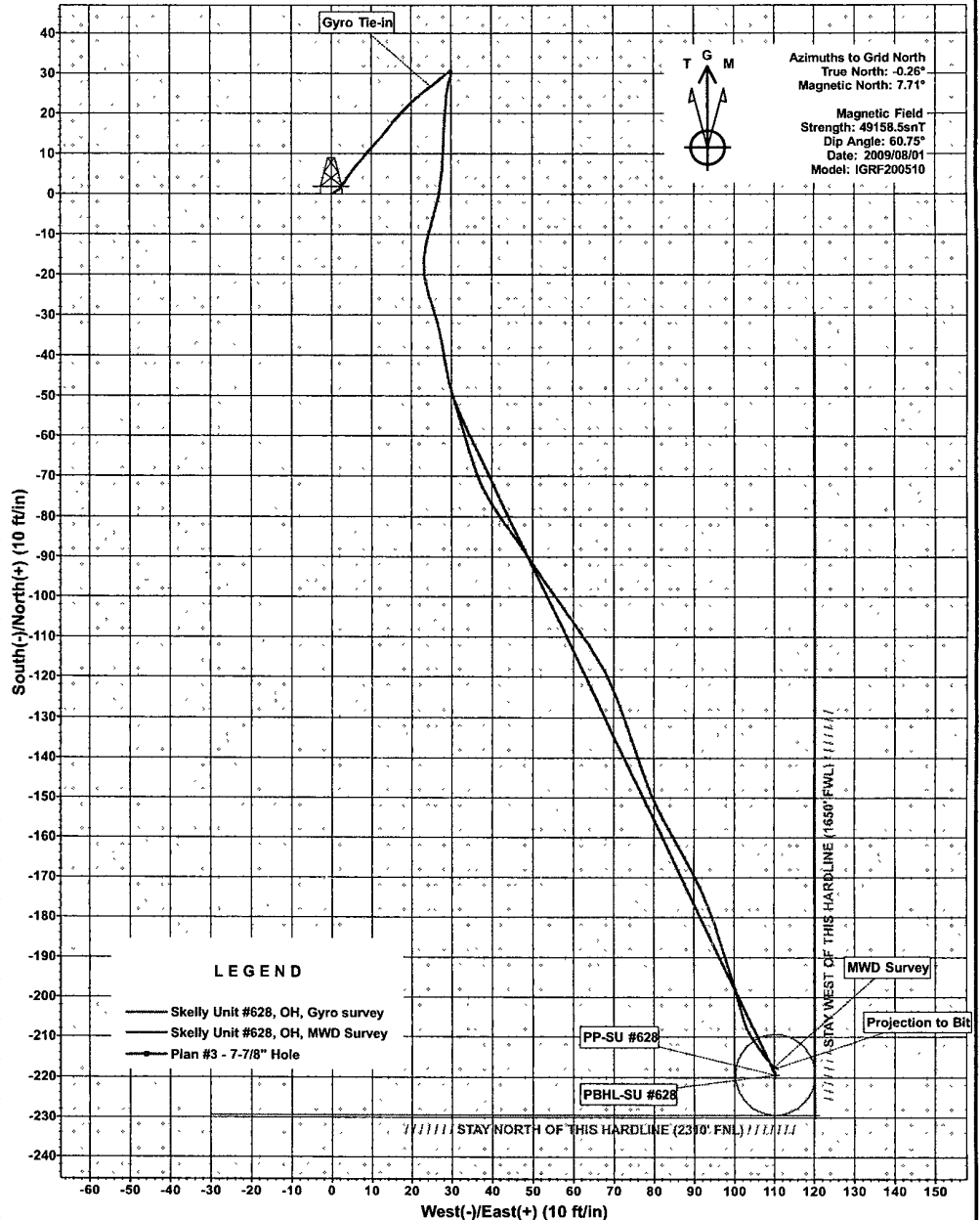
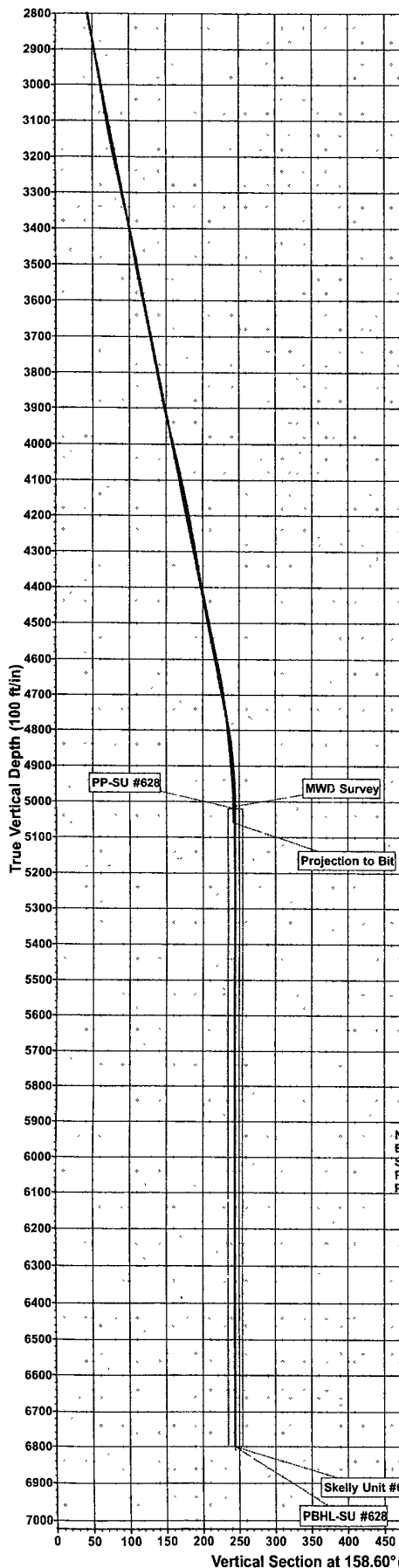
Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		
		+N-S (ft)	+E-W (ft)	Comment
1,660 00	1,659 52	26.61	25.03	Gyro Tie-in
5,027 00	5,013 88	-217 47	110 10	MWD Survey
5,073 00	5,059.87	-217 68	110 77	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____



Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Skelly Unit #628
Wellbore: OH
Design: Plan #3 vs Actual - 7-7/8" Hole



LEGEND

- Skelly Unit #628, OH, Gyro survey
- Skelly Unit #628, OH, MWD Survey
- Plan #3 - 7-7/8" Hole

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
East HL-SU #628	0.00	-229.40	120.30	662689.70	647335.50	32° 49' 15.249 N	103° 51' 13.427 W	Rectangle (Sides: L 200.00 W0.00)
South HL-SU #628	0.00	-229.40	120.30	662689.70	647335.50	32° 49' 15.249 N	103° 51' 13.427 W	Rectangle (Sides: L 0.00 W150.00)
PP-SU #628	5020.00	-219.40	110.30	662699.70	647325.50	32° 49' 15.349 N	103° 51' 13.544 W	Circle (Radius: 10.00)
PBHL-SU #628	6800.00	-219.40	110.30	662699.70	647325.50	32° 49' 15.349 N	103° 51' 13.544 W	Circle (Radius: 10.00)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	2965.00	4.55	159.82	2960.84	-50.48	30.54	0.00	0.00	58.14	
2	3078.70	5.59	154.60	3074.09	-59.72	34.47	1.00	-26.54	68.18	
3	4753.50	5.59	154.60	4740.93	-207.09	104.46	0.00	0.00	230.93	
4	5033.01	0.00	0.00	5020.00	-219.40	110.30	2.00	180.00	244.52	PP-SU #628
5	5683.01	0.00	0.00	6800.00	-219.40	110.30	0.00	0.00	244.52	PBHL-SU #628

WELL DETAILS: Skelly Unit #628

+N/-S	+E/-W	Ground Level:	Latitude	Longitude
0.00	0.00	Northing 662919.10 Easting 647215.20	32° 49' 17.525 N	103° 51' 14.824 W

PROJECT DETAILS: Eddy County, NM (NAN27 NME)			Plan: Plan #3 - 7-7/8" Hole (Skelly Unit #628/OH)		
Geodetic System:	US State Plane 1927 (Exact solution)	Created By:	Julio Pina	Date:	01-Aug-09
Datum:	NAD 1927 (NADCON CONUS)	Checked:		Date:	
Ellipsoid:	Clarke 1866	Reviewed:		Date:	
Zone:	New Mexico East 3001	Approved:		Date:	
System Datum:	Mean Sea Level				

Send Email

From: rghall@blm.gov

To: kcarrillo@conchoresources.com

CC:

Subject: Well SKELLY UNIT 628

Message: The Completion Report you submitted has been accepted by the BLM. Your original EC transmission was assigned ID 74084. Please be sure to open and save all attachments to this message, since they contain important information.

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Approved By: ROGER HALL

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