

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION
11885 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410

DISTRICT IV
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-37668	Pool Code 26770	Pool Name Fren; Glorieta, Yeso
Property Code 305607	Property Name SKELLY UNIT	Well Number 824
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3900'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	15	17-S	31-E		755	NORTH	1890	EAST	EDDY

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
B	15	17-S	31-E		394	NORTH	2291	EAST	EDDY

Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

GRID AZ.=314°58'03" HORIZ. DIST.=596.9' SEE DETAIL GEODETIC COORDINATES NAD 27 NME Y=669517.5 N X=647056.8 E LAT.=32.839673° N LONG.=103.854536° W BOTTOM HOLE LOCATION Y=669939.3 N X=646634.6 E	OPERATOR CERTIFICATION I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>K.C.</i> 09/10/10 Signature Date Kanicia Carrillo Printed Name 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. <i>Ronald J. Eidson</i> Date Surveyed Signature & Seal of Professional Surveyor RONALD J. EIDSON 12-15-09 09.11.1195 Certificate No. GARY G. EIDSON 12641 RONALD J. EIDSON 3239
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COG Operating LLC

Eddy County, NM (NAN27 NME)

Skelly Unit #824

Skelly Unit #824

OH

Design: Actual

Standard Survey Report

10 August, 2010



Scientific Drilling
Directional Drilling Operations



Scientific Drilling Survey Report



Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Skelly Unit #824
Well: Skelly Unit #824
Wellbore: OH
Design: Actual

Local Co-ordinate Reference: Site Skelly Unit #824
TVD Reference: RKB Elev (12') @ 3912 00usft (Basic #35)
MD Reference: RKB Elev (12') @ 3912 00usft (Basic #35)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM-Julio

Project: Eddy County, NM (NAN27 NME)

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site: Skelly Unit #824

Site Position: Northing: 669,517 50 usft Latitude: 32° 50' 22 824 N
From: Map Easting: 647,056 80 usft Longitude: 103° 51' 16 330 W
Position Uncertainty: 0.00 usft Slot Radius: 0 " Grid Convergence: 0 26 °

Well: Skelly Unit #824

Well Position: +N/-S 0 00 usft Northing: 669,517 50 usft Latitude: 32° 50' 22 824 N
+E/-W 0 00 usft Easting: 647,056 80 usft Longitude: 103° 51' 16 330 W
Position Uncertainty: 0 00 usft Wellhead Elevation: usft Ground Level: 3,900 00 usft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2010/08/02	7 86	60 75	49,072

Design: Actual

Audit Notes:

Version: 1 0 Phase: ACTUAL Tie On Depth: 0 00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0 00	0 00	0 00	312 05

Survey Program Date: 2010/08/10

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100 00	1,724 22	Gyro Survey (OH)	Keeper	Standard Wireline Keeper ver 1 0 2
1,877 00	6,910 00	MWD Survey (OH)	MWD	MWD - Standard

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 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
100 00	0 59	308 59	100 00	0 32	-0 40	0 51	0 59	0 59	0 00
200 00	0 59	296 96	199 99	0 88	-1 26	1 52	0 12	0 00	-11 63
300 00	0 49	257 93	299 99	1 02	-2 14	2 27	0 37	-0 10	-39 03
400 00	0 62	250 99	399 98	0 75	-3 07	2 79	0 15	0 13	-6 94
500 00	0 47	247 67	499 98	0 42	-3 96	3 22	0 15	-0 15	-3 32
600 00	0 65	225 47	599 97	-0 13	-4 75	3 44	0 28	0 18	-22 20
700 00	0 51	224 79	699 97	-0 85	-5 46	3 49	0 14	-0 14	-0 68
800 00	0 71	227 67	799 96	-1 58	-6 23	3 57	0 20	0 20	2 88
900 00	0 79	243 43	899 96	-2 30	-7 31	3 88	0 22	0 08	15 76



Scientific Drilling

Survey Report



Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Skelly Unit #824
Well: Skelly Unit #824
Wellbore: OH
Design: Actual

Local Co-ordinate Reference: Site Skelly Unit #824
TVD Reference: RKB Elev (12') @ 3912 00usft (Basic #35)
MD Reference: RKB Elev (12') @ 3912 00usft (Basic #35)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM-Julio

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)
1,000 00	0.75	250.35	999.95	-2.83	-8.54	4.45	0.10	-0.04	6.92
1,100 00	0.84	245.44	1,099.94	-3.36	-9.83	5.05	0.11	0.09	-4.91
1,200 00	0.60	264.70	1,199.93	-3.71	-11.01	5.69	0.34	-0.24	19.26
1,300 00	0.25	48.89	1,299.93	-3.62	-11.37	6.02	0.82	-0.35	144.19
1,400 00	1.46	84.11	1,399.91	-3.34	-9.94	5.14	1.26	1.21	35.22
1,500 00	2.22	86.92	1,499.86	-3.11	-6.74	2.92	0.77	0.76	2.81
1,600 00	2.79	85.89	1,599.77	-2.83	-2.38	-0.13	0.57	0.57	-1.03
1,700 00	3.26	90.86	1,699.63	-2.70	2.89	-3.96	0.54	0.47	4.97
1,724.22	3.32	95.23	1,723.81	-2.77	4.28	-5.03	1.06	0.25	18.04
Gyro tie-in									
1,877 00	2.67	90.35	1,876.38	-3.20	12.25	-11.23	0.46	-0.43	-3.19
1,972 00	3.42	75.21	1,971.24	-2.49	17.20	-14.44	1.15	0.79	-15.94
2,067 00	2.40	49.14	2,066.13	-0.46	21.44	-16.23	1.73	-1.07	-27.44
2,162 00	2.27	14.29	2,161.05	2.66	23.41	-15.60	1.48	-0.14	-36.68
2,254 00	3.21	359.29	2,252.95	7.01	23.83	-13.00	1.28	1.02	-16.30
2,349 00	4.40	351.99	2,347.74	13.27	23.29	-8.40	1.35	1.25	-7.68
2,445 00	6.80	344.02	2,443.27	22.39	21.21	-0.76	2.62	2.50	-8.30
2,540 00	8.51	331.29	2,537.43	33.96	16.28	10.65	2.52	1.80	-13.40
2,603 00	8.83	325.34	2,599.71	42.03	11.30	19.76	1.51	0.51	-9.44
2,636 00	9.49	322.01	2,632.29	46.25	8.18	24.90	2.56	2.00	-10.09
2,668 00	9.69	321.02	2,663.84	50.43	4.86	30.16	0.81	0.63	-3.09
2,732 00	10.11	315.83	2,726.89	58.64	-2.44	41.09	1.54	0.66	-8.11
2,795 00	10.55	309.30	2,788.87	66.26	-10.76	52.37	1.98	0.70	-10.37
2,858 00	11.30	302.60	2,850.73	73.24	-20.42	64.22	2.34	1.19	-10.63
2,922 00	10.73	301.50	2,913.55	79.73	-30.78	76.26	0.95	-0.89	-1.72
2,985 00	10.05	300.50	2,975.52	85.59	-40.52	87.41	1.12	-1.08	-1.59
3,048 00	10.55	300.10	3,037.50	91.27	-50.24	98.44	0.80	0.79	-0.63
3,112 00	10.83	306.00	3,100.39	97.74	-60.18	110.15	1.76	0.44	9.22
3,175 00	11.60	305.60	3,162.19	104.91	-70.12	122.33	1.23	1.22	-0.63
3,239 00	11.28	303.60	3,224.92	112.12	-80.56	134.92	0.80	-0.50	-3.13
3,302 00	11.20	302.65	3,286.71	118.83	-90.85	147.05	0.32	-0.13	-1.51
3,366 00	10.98	301.73	3,349.52	125.39	-101.26	159.17	0.44	-0.34	-1.44
3,430 00	10.92	301.52	3,412.35	131.76	-111.62	171.13	0.11	-0.09	-0.33
3,501 00	10.98	300.70	3,482.06	138.73	-123.16	184.37	0.24	0.08	-1.15
3,565 00	10.26	301.50	3,544.96	144.82	-133.26	195.95	1.15	-1.13	1.25
3,628 00	9.37	307.00	3,607.04	150.84	-142.14	206.58	2.05	-1.41	8.73
3,691 00	8.77	307.38	3,669.25	156.84	-150.05	216.47	0.96	-0.95	0.60
3,754 00	8.28	305.13	3,731.56	162.36	-157.58	225.76	0.94	-0.78	-3.57
3,817 00	8.86	307.93	3,793.85	167.96	-165.12	235.10	1.13	0.92	4.44
3,881 00	8.91	308.21	3,857.08	174.05	-172.90	244.97	0.10	0.08	0.44
3,944 00	8.73	309.77	3,919.34	180.13	-180.41	254.61	0.48	-0.29	2.48
4,006 00	9.24	309.73	3,980.58	186.32	-187.85	264.29	0.82	0.82	-0.06
4,070 00	9.50	309.81	4,043.72	192.99	-195.86	274.70	0.41	0.41	0.13



Scientific Drilling

Survey Report



Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Skelly Unit #824
Well: Skelly Unit #824
Wellbore: OH
Design: Actual

Local Co-ordinate Reference: Site Skelly Unit #824
TVD Reference: RKB Elev (12') @ 3912 00usft (Basic #35)
MD Reference: RKB Elev (12') @ 3912 00usft (Basic #35)
North Reference: Grd
Survey Calculation Method: Minimum Curvature
Database: EDM-Julio

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)
4,133.00	9.53	309.01	4,105.86	199.60	-203.91	285.10	0.22	0.05	-1.27
4,196.00	9.45	308.48	4,168.00	206.10	-212.01	295.47	0.19	-0.13	-0.84
4,260.00	9.25	309.40	4,231.15	212.63	-220.10	305.85	0.39	-0.31	1.44
4,324.00	9.40	309.50	4,294.30	219.22	-228.10	316.21	0.24	0.23	0.16
4,386.00	9.65	308.80	4,355.44	225.70	-236.06	326.46	0.44	0.40	-1.13
4,449.00	9.53	308.40	4,417.56	232.25	-244.26	336.93	0.22	-0.19	-0.63
4,513.00	9.44	309.30	4,480.69	238.86	-252.48	347.46	0.27	-0.14	1.41
4,577.00	9.28	308.70	4,543.84	245.41	-260.57	357.86	0.29	-0.25	-0.94
4,640.00	9.03	308.50	4,606.03	251.67	-268.40	367.86	0.40	-0.40	-0.32
4,704.00	9.05	308.40	4,669.24	257.92	-276.27	377.90	0.04	0.03	-0.16
4,767.00	8.91	307.83	4,731.47	263.99	-284.01	387.71	0.26	-0.22	-0.90
4,831.00	9.08	308.03	4,794.68	270.14	-291.90	397.69	0.27	0.27	0.31
4,893.00	9.23	307.74	4,855.89	276.20	-299.69	407.53	0.25	0.24	-0.47
4,957.00	9.19	307.53	4,919.07	282.45	-307.80	417.74	0.08	-0.06	-0.33
5,021.00	9.25	306.30	4,982.24	288.61	-316.00	427.95	0.32	0.09	-1.92
5,084.00	8.74	308.13	5,044.46	294.56	-323.85	437.77	0.93	-0.81	2.90
5,148.00	7.81	308.60	5,107.80	300.28	-331.07	446.96	1.46	-1.45	0.73
5,211.00	6.45	310.80	5,170.31	305.26	-337.09	454.77	2.20	-2.16	3.49
5,275.00	5.61	311.40	5,233.95	309.68	-342.16	461.49	1.32	-1.31	0.94
5,338.00	3.90	313.30	5,296.73	313.19	-346.03	466.71	2.73	-2.71	3.02
5,401.00	2.99	316.10	5,359.62	315.84	-348.73	470.50	1.47	-1.44	4.44
5,465.00	2.53	313.70	5,423.55	318.02	-350.91	473.57	0.74	-0.72	-3.75
5,528.00	2.79	314.90	5,486.48	320.06	-353.00	476.49	0.42	0.41	1.90
5,591.00	2.66	310.51	5,549.41	322.09	-355.20	479.49	0.39	-0.21	-6.97
5,654.00	2.78	314.23	5,612.34	324.11	-357.40	482.47	0.34	0.19	5.90
5,717.00	2.67	312.21	5,675.26	326.16	-359.58	485.47	0.23	-0.17	-3.21
5,813.00	2.82	311.37	5,771.15	329.22	-363.01	490.07	0.16	0.16	-0.88
5,908.00	2.60	308.40	5,866.05	332.11	-366.46	494.55	0.27	-0.23	-3.13
6,003.00	2.46	315.40	5,960.96	334.90	-369.58	498.74	0.36	-0.15	7.37
6,099.00	2.47	310.20	6,056.87	337.70	-372.60	502.86	0.23	0.01	-5.42
6,193.00	2.71	312.70	6,150.77	340.51	-375.78	507.11	0.28	0.26	2.66
6,289.00	2.55	309.40	6,246.67	343.41	-379.10	511.51	0.23	-0.17	-3.44
6,384.00	2.77	311.20	6,341.57	346.26	-382.46	515.92	0.25	0.23	1.89
6,473.00	2.74	314.50	6,430.46	349.17	-385.60	520.19	0.18	-0.03	3.71
6,569.00	2.51	308.70	6,526.36	352.09	-388.87	524.58	0.37	-0.24	-6.04
6,664.00	2.37	309.30	6,621.28	354.64	-392.02	528.62	0.15	-0.15	0.63
6,759.00	2.80	306.60	6,716.18	357.26	-395.40	532.90	0.47	0.45	-2.84
6,854.00	2.50	306.49	6,811.08	359.88	-398.93	537.27	0.32	-0.32	-0.12
Last MWD Survey									
6,910.00	2.50	306.49	6,867.03	361.33	-400.89	539.70	0.00	0.00	0.00
Projection to Bit:									



Scientific Drilling
Survey Report



Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Skelly Unit #824
Well: Skelly Unit #824
Wellbore: OH
Design: Actual

Local Co-ordinate Reference: Site Skelly Unit #824
TVD Reference: RKB Elev (12') @ 3912 00usft (Basic #35)
MD Reference: RKB Elev (12') @ 3912 00usft (Basic #35)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM-Julio

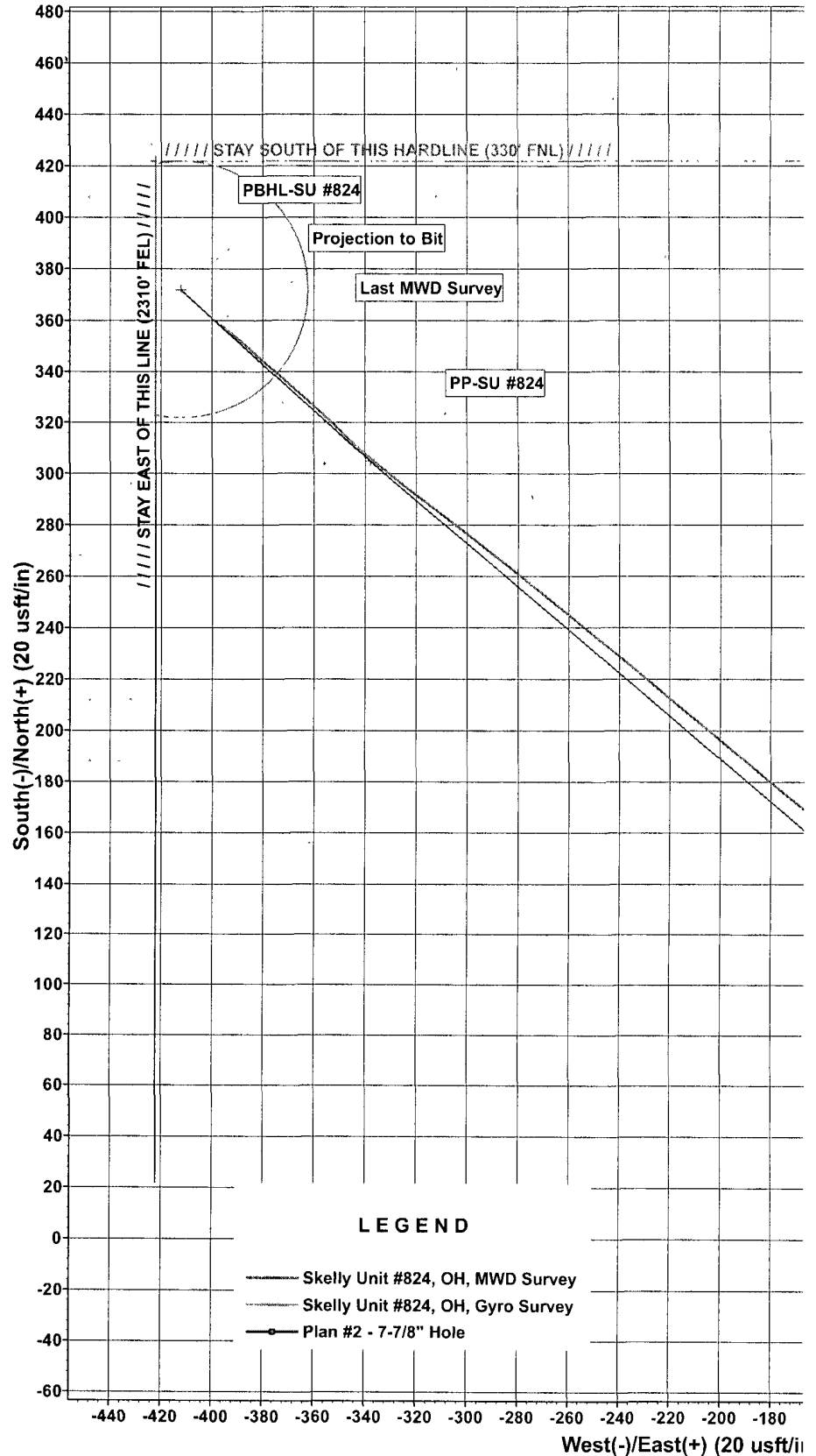
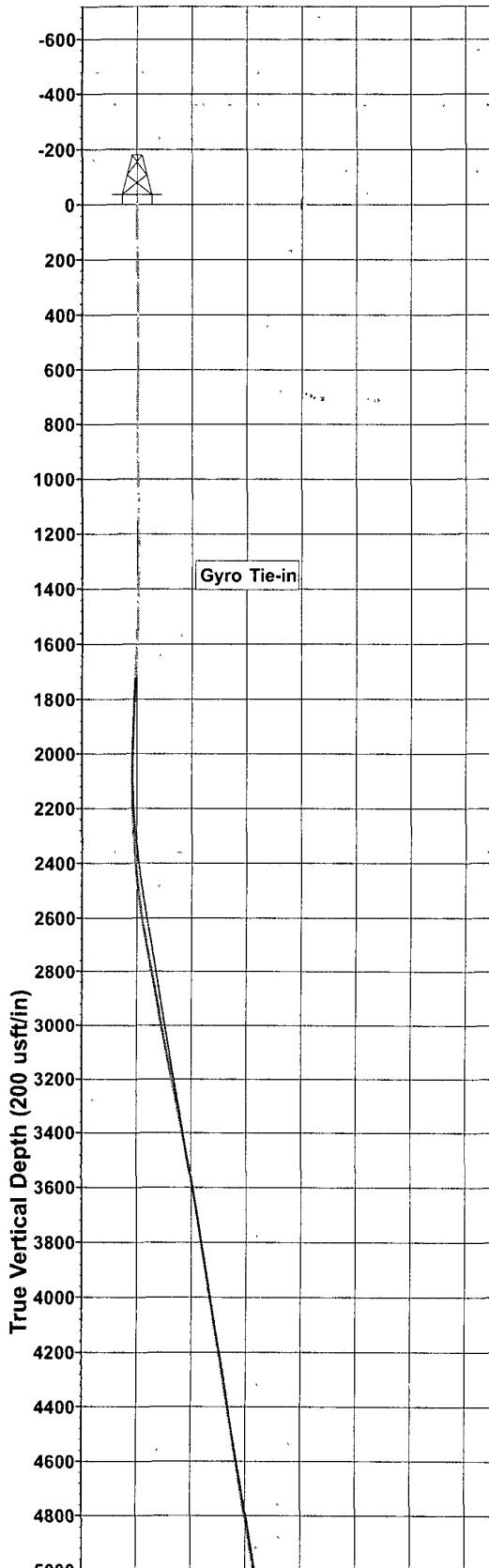
Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,724 22	1,723 81	-2 77	4 28	Gyro tie-in
6,854 00	6,811.08	359 88	-398 93	Last MWD Survey
6,910 00	6,867 03	361 33	-400 89	Projection to Bit

Checked By _____ Approved By _____ Date _____



Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Skelly Unit #824
Wellbore: OH
Design: Plan #2 - 7-7/8" Hole

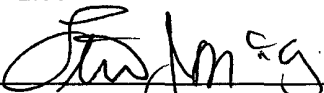


OPERATOR	COG
WELL/LEASE	Skelly Unit 824
COUNTY	Eddy

STATE OF NEW MEXICO
DEVIATION REPORT

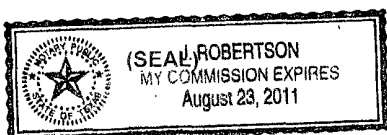
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936	0.75
1410	1.00
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1972	3.42
2067	2.40
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2255	3.21
2350	4.40
2446	6.80
2540	8.51
2636	9.49
2668	9.69
2732	10.11
2795	10.55
2858	11.50
2922	10.73
2985	10.05
3048	10.55
3112	10.83
3175	11.60
3239	11.28
3302	11.20
3366	10.98
3501	10.98
3565	10.26
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3691	8.77
3754	8.28
3817	8.86
3881	8.91
4070	9.50
4133	9.53
4196	9.45
4260	9.25
4324	9.40
4386	9.65
4449	9.53
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5654	2.78
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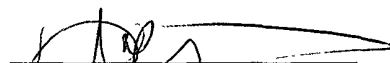
SIGNED BY:


STEVE MCCOY, VP-DRILLING

STATE OF TEXAS
COUNTY OF MIDLAND

ON THIS 25th DAY OF August, 2010, BEFORE ME, J ROBERTSON, A NOTARY
PUBLIC, PERSONALLY APPEARED STEVE MCCOY, WHO ACKNOWLEDGED AND EXECUTED
THIS DOCUMENT. WITNESS MY HAND AND OFFICIAL SEAL.




NOTARY PUBLIC