

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

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

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

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NMOC D ARTESIA

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-015-39696	26770	Fren;Glorieta-Yeso
Property Code	Property Name	Well Number
305607	SKELLY UNIT	641
OGRID No.	Operator Name	Elevation
229137	COG OPERATING, LLC	3943'

Surface Location									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	14	17-S	31-E		30	NORTH	330	EAST	EDDY

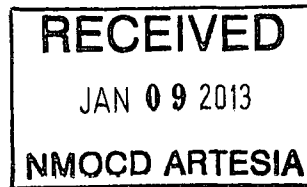
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	14	17-S	31-E		343	NORTH	384	EAST	EDDY
Dedicated Acres		Joint or Infill	Consolidation Code	Order No.					
40									

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

GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=670291.2 N X=653891.1 E LAT.=32.841713' N LONG.=103.832273' W		DETAIL 3940.8' 3945.1' 600' 3936.9' 3942.0'		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>Brian Maiorino</i> 11/14/12 Signature Date Brian Maiorino Printed Name	
BOTTOM HOLE LOCATION Y=669991.3 N X=653892.8 E		SECTION 11 SECTION 14		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. MARCH 15, 2011 Date Surveyed DSS Signature of Professional Surveyor Professional Surveyor NEW MEXICO 11.11.0598 Certificate No. GARY G. EDSON 12641 RONALD J. EDSON 3239	
Y=670314.8 N X=652901.0 E		Y=670323.3 N X=654220.8 E		Y=668994.0 N X=652908.7 E	
Y=669003.3 N X=654228.3 E		Y=669003.3 N X=654228.3 E		Y=669003.3 N X=654228.3 E	

30-015-39696



COG Operating LLC

Eddy County(NM27E)

Sec 14-T17S-R31E

Skelly Unit # 641

Wellbore #1

Survey: Complete Survey

Standard Survey Report

27 June, 2012

Archer
The well company

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well Skelly Unit # 641
Project:	Eddy County(NM27E)	TVD Reference:	WELL @ 3934.0usft (Original Well Elev)
Site:	Sec 14-T17S-R31E	MD Reference:	WELL @ 3934.0usft (Original Well Elev)
Well:	Skelly Unit # 641	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project:	Eddy County(NM27E), Surface Location: 915'FSL & 400'FWL, Top of Paddock 4000'TVD		
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:	Sec 14-T17S-R31E		
Site Position:	Map	From:	Map
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
Northing:	666,634.90 usft	Latitude:	32° 49' 54.162 N
Easting:	650,096.70 usft	Longitude:	103° 50' 40.857 W
Grid Convergence:			0.26 °

Well:	Skelly Unit # 641		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Ground Level:	3,934.0 usft

Wellbore:	Wellbore #1		
Magnetics	Model Name	Sample Date	
	IGRF2010	2012/05/04	
	Declination	Dip Angle	Field Strength
	(°)	(°)	(nT)
	7.64	60.69	48,867

Design:	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			188.86

Survey Program	Date	2012/06/27		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
100.0	1,900.0	VES Gyro (Wellbore #1)	GYD_DP_MS	Gyrodata gyro-compassing and drop
1,977.0	5,107.0	Archer MWD Survey (Wellbore #1)	MWD	MWD - Standard

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	0.94	232.34	100.0	-0.5	-0.6	0.6	0.94	0.94	0.00
200.0	0.68	196.47	200.0	-1.6	-1.5	1.8	0.56	-0.26	-35.87
300.0	0.70	184.75	300.0	-2.7	-1.7	3.0	0.14	0.02	-11.72
400.0	0.92	180.56	400.0	-4.2	-1.7	4.4	0.23	0.22	-4.19
500.0	0.93	173.79	500.0	-5.8	-1.7	6.0	0.11	0.01	-6.77
600.0	0.25	191.17	599.9	-6.8	-1.6	7.0	0.70	-0.68	17.38
700.0	0.38	219.51	699.9	-7.3	-1.9	7.5	0.20	0.13	28.34
800.0	0.91	232.89	799.9	-8.0	-2.7	8.3	0.55	0.53	13.38
900.0	0.59	264.73	899.9	-8.5	-3.9	9.0	0.51	-0.32	31.84



Great White Directional Services
Survey Report

Archer
The well company

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well Skelly Unit # 641
Project:	Eddy County(NM27E)	TVD Reference:	WELL @ 3934.0usft (Original Well Elev)
Site:	Sec 14-T17S-R31E	MD Reference:	WELL @ 3934.0usft (Original Well Elev)
Well:	Skelly Unit # 641	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

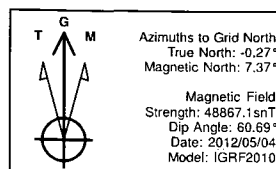
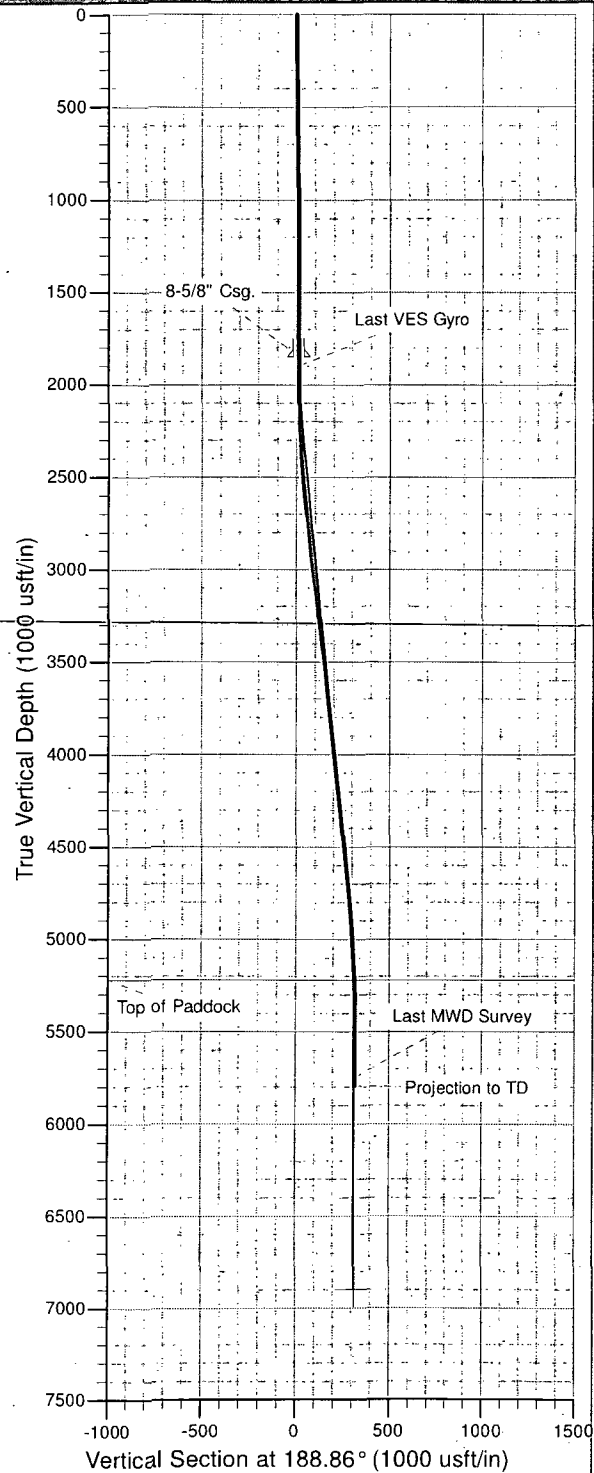
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.0	0.88	190.40	999.9	-9.3	-4.5	9.9	0.92	0.29	-74.33
1,100.0	0.52	198.77	1,099.9	-10.5	-4.8	11.1	0.37	-0.36	8.37
1,200.0	0.66	202.68	1,199.9	-11.5	-5.2	12.1	0.15	0.14	3.91
1,300.0	0.47	281.57	1,299.9	-11.9	-5.8	12.7	0.73	-0.19	78.89
1,400.0	0.65	346.84	1,399.9	-11.3	-6.3	12.1	0.62	0.18	65.27
1,500.0	0.61	341.98	1,499.9	-10.2	-6.6	11.1	0.07	-0.04	-4.86
1,600.0	0.58	247.47	1,599.9	-9.9	-7.2	10.9	0.87	-0.03	-94.51
1,700.0	0.29	204.54	1,699.9	-10.3	-7.8	11.4	0.42	-0.29	-42.93
1,800.0	1.23	195.29	1,799.9	-11.6	-8.2	12.7	0.94	0.94	-9.25
1,900.0	0.85	145.59	1,899.9	-13.3	-8.1	14.3	0.94	-0.38	-49.70
Last VES Gyro									
1,977.0	0.60	61.90	1,976.9	-13.5	-7.4	14.5	1.28	-0.32	-108.69
2,040.0	0.30	65.70	2,039.9	-13.3	-7.0	14.2	0.48	-0.48	6.03
2,135.0	1.40	175.90	2,134.9	-14.4	-6.6	15.2	1.61	1.16	116.00
2,197.0	1.80	169.40	2,196.8	-16.1	-6.4	16.9	0.71	0.65	-10.48
2,293.0	2.90	189.90	2,292.7	-20.0	-6.5	20.7	1.42	1.15	21.35
2,356.0	3.30	192.90	2,355.7	-23.3	-7.2	24.1	0.68	0.63	4.76
2,420.0	4.30	191.50	2,419.5	-27.4	-8.1	28.4	1.57	1.56	-2.19
2,483.0	5.00	189.20	2,482.3	-32.5	-9.0	33.5	1.15	1.11	-3.65
2,546.0	5.70	187.20	2,545.0	-38.3	-9.9	39.3	1.15	1.11	-3.17
2,609.0	6.40	187.00	2,607.7	-44.9	-10.7	46.0	1.11	1.11	-0.32
2,672.0	7.00	185.20	2,670.3	-52.2	-11.5	53.3	1.01	0.95	-2.86
2,774.0	6.30	184.70	2,771.6	-63.9	-12.5	65.1	0.69	-0.69	-0.49
2,837.0	6.30	185.00	2,834.2	-70.8	-13.1	72.0	0.05	0.00	0.48
2,901.0	6.40	191.20	2,897.8	-77.8	-14.1	79.1	1.08	0.16	9.69
2,964.0	6.60	193.30	2,960.4	-84.8	-15.6	86.2	0.49	0.32	3.33
3,026.0	7.30	191.00	3,021.9	-92.1	-17.1	93.7	1.21	1.13	-3.71
3,120.0	6.70	191.90	3,115.2	-103.4	-19.4	105.1	0.65	-0.64	0.96
3,215.0	5.80	194.60	3,209.7	-113.4	-21.8	115.4	1.00	-0.95	2.84
3,277.0	6.50	187.40	3,271.3	-119.9	-23.0	122.0	1.68	1.13	-11.61
3,340.0	6.90	187.70	3,333.9	-127.2	-24.0	129.4	0.64	0.63	0.48
3,403.0	6.90	190.40	3,396.4	-134.7	-25.2	137.0	0.51	0.00	4.29
3,498.0	6.50	188.10	3,490.8	-145.6	-27.0	148.0	0.51	-0.42	-2.42
3,561.0	6.60	189.10	3,553.4	-152.7	-28.0	155.2	0.24	0.16	1.59
3,657.0	6.40	189.70	3,648.7	-163.5	-29.8	166.1	0.22	-0.21	0.63
3,751.0	6.10	189.70	3,742.2	-173.5	-31.5	176.3	0.32	-0.32	0.00
3,846.0	5.80	190.20	3,836.7	-183.2	-33.2	186.2	0.32	-0.32	0.53
3,910.0	6.20	184.90	3,900.3	-189.9	-34.1	192.9	1.07	0.63	-8.28
4,004.0	6.50	185.30	3,993.7	-200.2	-35.0	203.2	0.32	0.32	0.43
4,099.0	6.30	184.90	4,088.2	-210.8	-36.0	213.8	0.22	-0.21	-0.42
4,193.0	6.40	185.10	4,181.6	-221.1	-36.9	224.2	0.11	0.11	0.21
4,287.0	6.40	186.60	4,275.0	-231.6	-37.9	234.6	0.18	0.00	1.60
4,350.0	5.70	191.20	4,337.6	-238.1	-38.9	241.3	1.35	-1.11	7.30

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well Skelly Unit # 641
Project:	Eddy County(NM27E)	TVD Reference:	WELL @ 3934.0usft (Original Well Elev)
Site:	Sec 14-T17S-R31E	MD Reference:	WELL @ 3934.0usft (Original Well Elev)
Well:	Skelly Unit # 641	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)	
4,445.0	5.90	189.60	4,432.2	-247.6	-40.7	250.9	0.27	0.21	-1.68	
4,543.0	5.60	191.10	4,529.7	-257.2	-42.4	260.7	0.34	-0.31	1.53	
4,633.0	5.80	194.00	4,619.2	-265.9	-44.4	269.6	0.39	0.22	3.22	
4,728.0	5.50	194.10	4,713.8	-275.0	-46.7	278.9	0.32	-0.32	0.11	
4,823.0	5.20	194.60	4,808.3	-283.6	-48.9	287.7	0.32	-0.32	0.53	
4,886.0	5.10	194.00	4,871.1	-289.1	-50.2	293.4	0.18	-0.16	-0.95	
4,980.0	3.50	185.00	4,964.8	-296.0	-51.5	300.4	1.84	-1.70	-9.57	
5,043.0	3.30	187.40	5,027.7	-299.7	-51.9	304.1	0.39	-0.32	3.81	
5,139.0	3.30	186.80	5,123.6	-305.2	-52.6	309.6	0.04	0.00	-0.63	
5,201.0	2.90	190.30	5,185.5	-308.5	-53.1	313.0	0.71	-0.65	5.65	
5,264.0	1.80	197.20	5,248.4	-311.0	-53.7	315.6	1.80	-1.75	10.95	
5,327.0	1.10	176.60	5,311.4	-312.6	-53.9	317.1	1.37	-1.11	-32.70	
5,389.0	0.10	121.50	5,373.4	-313.2	-53.8	317.7	1.69	-1.61	-88.87	
5,483.0	0.30	101.50	5,467.4	-313.3	-53.5	317.8	0.22	0.21	-21.28	
5,577.0	0.10	203.70	5,561.4	-313.4	-53.3	317.9	0.36	-0.21	108.72	
5,672.0	0.20	338.50	5,656.4	-313.3	-53.4	317.8	0.29	0.11	141.89	
5,767.0	0.10	256.30	5,751.4	-313.2	-53.6	317.7	0.22	-0.11	-86.53	
Last MWD Survey										
5,812.0	0.10	256.30	5,796.4	-313.2	-53.6	317.7	0.00	0.00	0.00	
Projection to TD										

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
1,900.0	1,899.9	-13.3	-8.1	Last VES Gyro
5,767.0	5,751.4	-313.2	-53.6	Last MWD Survey
5,812.0	5,796.4	-313.2	-53.6	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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Project: Eddy County(NM27E)
 Site: Sec 14-T17S-R31E
 Well: Skelly Unit # 641
 Wellbore: Wellbore #1
 Design: Skelly Unit # 641 Plan 062112 A1

WELL DETAILS: Skelly Unit # 641

Northing	Ground Level:	3934.0	Longitude
670291.20	Easting	653891.10	32° 50' 30.166 N
			103° 49' 56.184 W

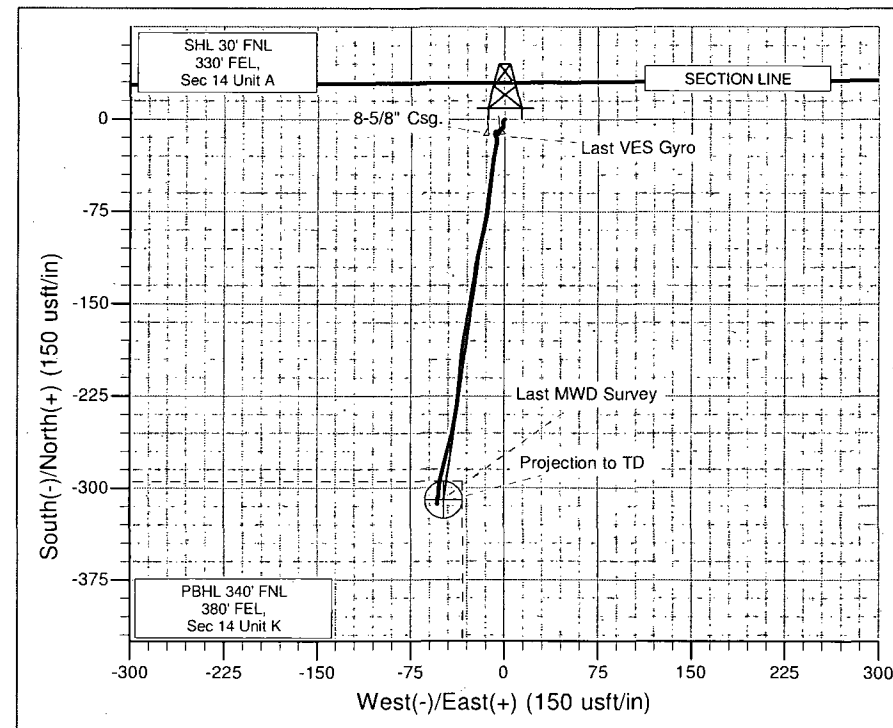
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1900.0	0.85	145.59	1899.9	-13.3	-8.1	0.00	0.00	14.3	
1950.0	0.85	145.59	1949.9	-13.9	-7.7	0.00	0.00	14.9	
2203.2	5.66	188.06	2202.6	-27.8	-8.3	2.00	48.96	28.7	
4951.5	5.66	188.06	4937.5	-296.1	-46.3	0.00	0.00	299.7	
5234.5	0.00	0.00	5220.0	-309.9	-48.3	2.00	180.00	313.6	
6914.5	0.00	0.00	6900.0	-309.9	-48.3	0.00	0.00	313.6	Skelly Unit # 641 PBHL

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
1949.9	1950.0	0.85	145.59	-13.9	-7.7	14.9	0.7	Start Build 2°/100'
2202.6	2203.2	5.66	188.06	-27.8	-8.3	28.7	14.6	Hold @ 5.66°
4937.5	4951.5	5.66	188.06	-296.1	-46.3	299.7	285.8	Start Drop -2°/100'
5220.0	5234.5	0.00	0.00	-309.9	-48.3	313.6	299.7	Hold to TD
6900.0	6914.5	0.00	0.00	-309.9	-48.3	313.6	299.7	TD at 6914.5

Surveys must be provided 3 times per day (6-7am) (3-4pm) (8-9pm). Halt drilling and call to discuss on ANY substantial doglegs greater than the 2°/100 MAX. Never exceed an inclination of 9.5°, follow plan inclinations. 60° to 90° survey course lengths (unless otherwise requested)



CONCHO

Archer
The well company