

DISTRICT I
1025 N. FRANCH DR., BOBBY, NM 86240

DISTRICT II
1301 V. GRAND AVENUE, ARIZONA, NM 86210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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 30-015-37084	Pool Code 26770	Pool Name FREN; GLORIETA-YESO
Property Code 305607	Property Name SKELLY UNIT	Well Number 638
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3878'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	15	17-S	31-E		1310	NORTH	1865	WEST	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
F	15	17-S	31-E		1055	NORTH	1658	WEST	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

	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. <u>Chasity Jackson</u> 10/26/09 Signature Date Chasity Jackson 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. <u>RONALD J. EIDSON</u> 10/26/09 Date Surveyed <u>RONALD J. EIDSON</u> Signature & Seal of Professional Surveyor
	Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3259



30-015-37084

COG Operating LLC

Eddy County, NM (NAN27 NME)

Skelly Unit #638

Skelly Unit #638

OH

Design: Actual

Standard Survey Report

23 September, 2009



Scientific Drilling



Scientific Drilling
Survey Report



Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Skelly Unit #638
Well: Skelly Unit #638
Wellbore: OH
Design: Actual

Local Co-ordinate Reference: Site Skelly Unit #638
TVD Reference: Grond Elev @ 3878 00ft (Rig ?)
MD Reference: Grond Elev @ 3878 00ft (Rig ?)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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 #638		
Site Position:		Northing:	668,951 00 ft
From:	Map	Easting:	645,534 10 ft
Position Uncertainty:	0 00 ft	Slot Radius:	0 "
		Latitude:	32° 50' 17 286 N
		Longitude:	103° 51' 34 207 W
		Grid Convergence:	0 26 °

Well	Skelly Unit #638		
Well Position	+N/-S	0 00 ft	Northing: 668,951 00 ft
	+E/-W	0 00 ft	Easting: 645,534 10 ft
Position Uncertainty	0 00 ft	Wellhead Elevation:	ft
		Latitude:	32° 50' 17 286 N
		Longitude:	103° 51' 34 207 W
		Ground Level:	3,878 00 ft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	2009/09/23	(°) 7 96
			Dip Angle (°) 60 77
			Field Strength (nT) 49,154

Design	Actual		
Audit Notes:			
Version:	1 0	Phase:	ACTUAL
		Tie On Depth:	0 00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0 00	0 00	0 00
			Direction (°) 210 01

Survey Program	Date 2009/09/23		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
100 00	1,798 00	Gyro Survey (OH)	Keeper
1,866 00	5,487 00	MWD Survey (OH)	MWD
			Description
			Standard Wireline Keeper ver 1 0 2
			MWD - Standard

Survey	Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
	Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
	(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)
	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
	100 00	0 07	187 11	100 00	-0 06	-0 01	0 06	0 07	0 07	0 00
	200 00	0 11	210 12	200 00	-0 20	-0 06	0 21	0 05	0 04	23 01
	300 00	0 22	170 11	300 00	-0 48	-0 08	0 45	0 15	0 11	-40 01
	400 00	0 19	151 80	400 00	-0 81	0 03	0 69	0 07	-0 03	-18 31
	500 00	0 04	238 04	500 00	-0 98	0 08	0 80	0 19	-0 15	86 24
	600 00	0 19	278 49	600 00	-0 97	-0 11	0 90	0 16	0 15	40 45
	700 00	0 51	301 61	700 00	-0 71	-0 66	0 94	0 34	0 32	23 12
	800 00	0 76	316 06	799 99	0 00	-1 49	0 75	0 29	0 25	14 45
	900 00	0 71	311 31	899 98	0 88	-2 42	0 44	0 08	-0 05	-4 75



Scientific Drilling

Survey Report



Scientific Drilling

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Well: Skelly Unit #638
Wellbore: OH
Design: Actual

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MD Reference: Grond Elev @ 3878 00ft (Rig ?)
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	0 91	317 76	999 97	1 88	-3 42	0 08	0 22	0 20	6 45
1,100 00	0 76	323 11	1,099 96	3 00	-4 35	-0 42	0 17	-0 15	5 35
1,200 00	0 99	14 09	1,199 95	4 37	-4 54	-1 51	0 78	0 23	50 98
1,300 00	1 37	57 91	1,299 93	5 84	-3 32	-3 40	0 95	0 38	43 82
1,400 00	1 78	61 22	1,399 89	7 22	-0 94	-5 78	0 42	0 41	3 31
1,500 00	2 17	64 10	1,499 83	8 80	2 12	-8 68	0 40	0 39	2 88
1,600 00	2 12	73 46	1,599 76	10 15	5 60	-11 59	0 35	-0 05	9 36
1,700 00	2 19	79 41	1,699 69	11 03	9 25	-14 18	0 23	0 07	5 95
1,798 00	1 82	73 75	1,797 63	11 81	12 58	-16 52	0 43	-0 38	-5 78
1,866 00	1 73	88 14	1,865 60	12 15	14 65	-17 84	0 67	-0 13	21 16
1,919 00	1 53	123 63	1,918 58	11 78	16 04	-18 22	1 91	-0 38	66 96
1,983 00	1 89	153 64	1,982 55	10 36	17 22	-17 58	1 49	0 56	46 89
2,045 00	2 49	177 08	2,044 51	8 10	17 74	-15 89	1 72	0 97	37 81
2,109 00	2 77	210 07	2,108 45	5 37	17 03	-13 17	2 37	0 44	51 55
2,172 00	3 79	210 14	2,171 34	2 25	15 23	-9 57	1 62	1 62	0 11
2,236 00	4 94	215 17	2,235 16	-1 83	12 58	-4 71	1 89	1 80	7 86
2,299 00	6 11	217 10	2,297 86	-6 72	8 99	1 32	1 88	1 86	3 06
2,363 00	6 89	213 01	2,361 45	-12 66	4 85	8 53	1 42	1 22	-6 39
2,426 00	7 95	214 45	2,423 92	-19 42	0 32	16 65	1 71	1 68	2 29
2,489 00	8 04	214 11	2,486 31	-26 66	-4 61	25 39	0 16	0 14	-0 54
2,553 00	8 71	211 40	2,549 63	-34 50	-9 65	34 70	1 21	1 05	-4 23
2,616 00	8 90	208 42	2,611 88	-42 86	-14 45	44 34	0 78	0 30	-4 73
2,679 00	9 63	203 44	2,674 06	-51 98	-18 87	54 45	1 72	1 16	-7 90
2,743 00	8 90	204 31	2,737 23	-61 40	-23 04	64 69	1 16	-1 14	1 36
2,806 00	9 56	205 80	2,799 41	-70 55	-27 32	74 76	1 11	1 05	2 37
2,870 00	10 07	210 05	2,862 48	-80 18	-32 43	85 65	1 38	0 80	6 64
2,933 00	9 64	211 98	2,924 55	-89 42	-37 99	96 43	0 86	-0 68	3 06
2,996 00	8 88	209 59	2,986 72	-98 13	-43 18	106 57	1 35	-1 21	-3 79
3,060 00	9 68	211 80	3,049 89	-106 99	-48 45	116 89	1 37	1 25	3 45
3,123 00	10 28	212 08	3,111 93	-116 26	-54 23	127 80	0 96	0 95	0 44
3,187 00	10 54	215 23	3,174 88	-125 88	-60 64	139 33	0 98	0 41	4 92
3,250 00	10 32	215 06	3,236 84	-135 20	-67 21	150 69	0 35	-0 35	-0 27
3,314 00	9 66	214 88	3,299 87	-144 30	-73 57	161 75	1 03	-1 03	-0 28
3,377 00	10 07	215 75	3,361 94	-153 11	-79 81	172 50	0 69	0 65	1 38
3,440 00	9 35	213 90	3,424 03	-161 83	-85 88	183 09	1 25	-1 14	-2 94
3,504 00	9 43	211 55	3,487 18	-170 61	-91 53	193 51	0 61	0 13	-3 67
3,567 00	8 93	210 88	3,549 37	-179 20	-96 74	203 56	0 81	-0 79	-1 06
3,630 00	8 45	210 13	3,611 65	-187 40	-101 57	213 08	0 78	-0 76	-1 19
3,694 00	8 79	210 11	3,674 92	-195 70	-106 38	222 67	0 53	0 53	-0 03
3,757 00	8 67	210 89	3,737 19	-203 94	-111 24	232 23	0 27	-0 19	1 24
3,821 00	8 24	209 10	3,800 50	-212 09	-115 94	241 64	0 79	-0 67	-2 80
3,884 00	8 33	209 20	3,862 84	-220 02	-120 36	250 72	0 14	0 14	0 16
3,948 00	8 98	211 44	3,926 11	-228 32	-125 23	260 35	1 14	1 02	3 50



Scientific Drilling

Survey Report



Scientific Drilling

Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Skelly Unit #638
Well: Skelly Unit #638
Wellbore: OH
Design: Actual

Local Co-ordinate Reference: Site Skelly Unit #638
TVD Reference: Grond Elev @ 3878 00ft (Rig ?)
MD Reference: Grond Elev @ 3878 00ft (Rig ?)
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)
4,011 00	8 71	209 44	3,988 36	-236 67	-130 14	270 03	0 65	-0 43	-3 17
4,075 00	9 38	214 28	4,051 57	-245 20	-135 46	280 08	1 58	1 05	7 56
4,138 00	9 85	214 57	4,113 68	-253 88	-141 41	290 57	0 75	0 75	0 46
4,201 00	9 68	215 35	4,175 77	-262 64	-147 53	301 22	0 34	-0 27	1 24
4,265 00	9 48	214 38	4,238 88	-271 38	-153 62	311 83	0 40	-0 31	-1 52
4,328 00	9 15	210 07	4,301 05	-280 00	-159 06	322 01	1 22	-0 52	-6 84
4,391 00	9 06	210 69	4,363 25	-288 60	-164 10	331 98	0 21	-0 14	0 98
4,454 00	8 67	206 83	4,425 50	-297 10	-168 78	341 68	1 13	-0 62	-6 13
4,518 00	9 40	214 31	4,488 71	-305 72	-173 90	351 71	2 16	1 14	11 69
4,581 00	8 50	215 52	4,550 94	-313 76	-179 51	361 48	1 46	-1 43	1 92
4,645 00	7 65	211 99	4,614 31	-321 22	-184 51	370 44	1 54	-1 33	-5 52
4,708 00	6 67	212 23	4,676 81	-327 87	-188 68	378 29	1 56	-1 56	0 38
4,771 00	5 89	210 17	4,739 44	-333 76	-192 26	385 18	1 29	-1 24	-3 27
4,835 00	4 81	206 49	4,803 16	-339 01	-195 11	391 14	1 77	-1 69	-5 75
4,898 00	4 08	217 94	4,865 97	-343 14	-197 66	396 00	1 82	-1 16	18 17
4,962 00	2 41	208 96	4,929 86	-346 11	-199 71	399 60	2 72	-2 61	-14 03
5,025 00	1 52	234 95	4,992 83	-347 75	-201 04	401 68	1 97	-1 41	41 25
5,064 00	1 26	239 31	5,031 81	-348 26	-201 83	402 52	0 72	-0 67	11 18
5,127 00	1 10	230 49	5,094 80	-349 00	-202 89	403 69	0 38	-0 25	-14 00
5,254 00	1 86	223 68	5,221 76	-351 27	-205 26	406 84	0 61	0 60	-5 36
5,317 00	1 14	211 65	5,284 74	-352 54	-206 29	408 46	1 24	-1 14	-19 10
5,381 00	0 81	206 55	5,348 73	-353 49	-206 83	409 55	0 53	-0 52	-7 97
5,444 00	1 26	182 20	5,411 72	-354 58	-207 06	410 60	0 98	0 71	-38 65
MWD Survey									
5,487 00	1 26	182 20	5,454 71	-355 52	-207 09	411 44	0 00	0 00	0 00
Projection to Bit									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
5,444 00	5,411 72	-354 58	-207 06	MWD Survey
5,487 00	5,454 71	-355 52	-207 09	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____



Scientific Drilling for COG Operating LLC
Site Eddy County, NM (NAN27 NME)
Well: Skelly Unit #638
Wellbore OH
Design: Plan #3 vs Actual - 7-7/8" Hole



Scientific Drilling

