

OCT 25 2007
OCD-ARTESIA

COG Operating LLC

Eddy County, NM (NAD 27 NME)

Wichita State #2

Wichita State #2

Wellbore #1

30 - 015 - 35880

Plan: Plan #1

Standard Planning Report

05 October, 2007



Scientific Drilling
Planning Report



Database:	EDM 2003 16 Single User Db	Local Co-ordinate Reference:	Well Wichita State #2
Company:	COG Operating LLC	TVD Reference:	WELL @ 3674 00ft (Ground Elev)
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	WELL @ 3674 00ft (Ground Elev)
Site:	Wichita State #2	North Reference:	Grid
Well:	Wichita State #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project	Eddy County, NM (NAD 27 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	Wichita State #2			
Site Position:		Northing:	667,003 40 ft	Latitude: 32° 49' 59 476 N
From:	Map	Easting:	607,657 20 ft	Longitude: 103° 58' 58 226 W
Position Uncertainty:	0 00 ft	Slot Radius:	ft	Grid Convergence: 0 19 °

Well	Wichita State #2			
Well Position	+N/-S	0 00 ft	Northing:	667,003 40 ft
	+E/-W	0 00 ft	Easting:	607,657 20 ft
Position Uncertainty		0 00 ft	Wellhead Elevation:	ft
			Ground Level:	3,674 00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/5/2007	8 25	60 78	49,327

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0 00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0 00	0 00	0 00	149 98

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2,800 00	0 00	0 00	2,800 00	0 00	0 00	0 00	0 00	0 00	0 00	
3,443 84	12 88	149 98	3,438 44	-62 38	36 05	2 00	2 00	23 29	149 98	
5,917 62	12 88	149 98	5,850 00	-539 70	311 90	0 00	0 00	0 00	0 00	PBHL-Wichita State #

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Planned 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
2,800 00	0 00	0 00	2,800 00	0 00	0 00	0 00	0 00	0 00	0 00
KOP 2800' Start 2.0°/100'									
2,900 00	2 00	149 98	2,899 98	-1 51	0 87	1 75	2 00	2 00	0 00
3,000 00	4 00	149 98	2,999 84	-6 04	3 49	6 98	2 00	2 00	0 00
3,100 00	6 00	149 98	3,099 45	-13 59	7 85	15 69	2 00	2 00	0 00
3,200 00	8 00	149 98	3,198 70	-24 14	13 95	27 88	2 00	2 00	0 00
3,300 00	10 00	149 98	3,297 47	-37 68	21 78	43 52	2 00	2 00	0 00
3,400 00	12 00	149 98	3,395 62	-54 20	31 32	62 60	2 00	2 00	0 00
3,443 84	12 88	149 98	3,438 44	-62 38	36 05	72 05	2 00	2 00	0 00
EOC hold 12.88°									
3,500 00	12 88	149 98	3,493 18	-73 21	42 31	84 56	0 00	0 00	0 00
3,600 00	12 88	149 98	3,590 67	-92 51	53 46	106 85	0 00	0 00	0 00
3,700 00	12 88	149 98	3,688 15	-111 80	64 61	129 13	0 00	0 00	0 00
3,800 00	12 88	149 98	3,785 64	-131 10	75 76	151 42	0 00	0 00	0 00
3,900 00	12 88	149 98	3,883 12	-150 39	86 92	173 70	0 00	0 00	0 00
4,000 00	12 88	149 98	3,980 61	-169 69	98 07	195 99	0 00	0 00	0 00
4,100 00	12 88	149 98	4,078 09	-188 99	109 22	218 27	0 00	0 00	0 00
4,200 00	12 88	149 98	4,175 58	-208 28	120 37	240 56	0 00	0 00	0 00
4,300 00	12 88	149 98	4,273 06	-227 58	131 52	262 85	0 00	0 00	0 00
4,327 48	12 88	149 98	4,299 85	-232 88	134 58	268 97	0 00	0 00	0 00
PP-Wichita State #2									
4,400 00	12 88	149 98	4,370 55	-246 87	142 67	285 13	0 00	0 00	0 00
4,500 00	12 88	149 98	4,468 03	-266 17	153 82	307 42	0 00	0 00	0 00
4,600 00	12 88	149 98	4,565 52	-285 46	164 97	329 70	0 00	0 00	0 00
4,700 00	12 88	149 98	4,663 00	-304 76	176 12	351 99	0 00	0 00	0 00
4,800 00	12 88	149 98	4,760 49	-324 05	187 27	374 27	0 00	0 00	0 00
4,900 00	12 88	149 98	4,857 97	-343 35	198 43	396 56	0 00	0 00	0 00
5,000 00	12 88	149 98	4,955 46	-362 64	209 58	418 85	0 00	0 00	0 00
5,100 00	12 88	149 98	5,052 94	-381 94	220 73	441 13	0 00	0 00	0 00
5,200 00	12 88	149 98	5,150 43	-401 23	231 88	463 42	0 00	0 00	0 00
5,300 00	12 88	149 98	5,247 91	-420 53	243 03	485 70	0 00	0 00	0 00
5,400 00	12 88	149 98	5,345 40	-439 82	254 18	507 99	0 00	0 00	0 00
5,500 00	12 88	149 98	5,442 88	-459 12	265 33	530 27	0 00	0 00	0 00
5,600 00	12 88	149 98	5,540 37	-478 41	276 48	552 56	0 00	0 00	0 00
5,700 00	12 88	149 98	5,637 85	-497 71	287 63	574 85	0 00	0 00	0 00
5,800 00	12 88	149 98	5,735 34	-517 01	298 78	597 13	0 00	0 00	0 00
5,900 00	12 88	149 98	5,832 82	-536 30	309 94	619 42	0 00	0 00	0 00
5,917 62	12 88	149 98	5,850 00	-539 70	311 90	623 34	0 00	0 00	0 00
PBHL-Wichita State #2									

Scientific Drilling
Planning Report



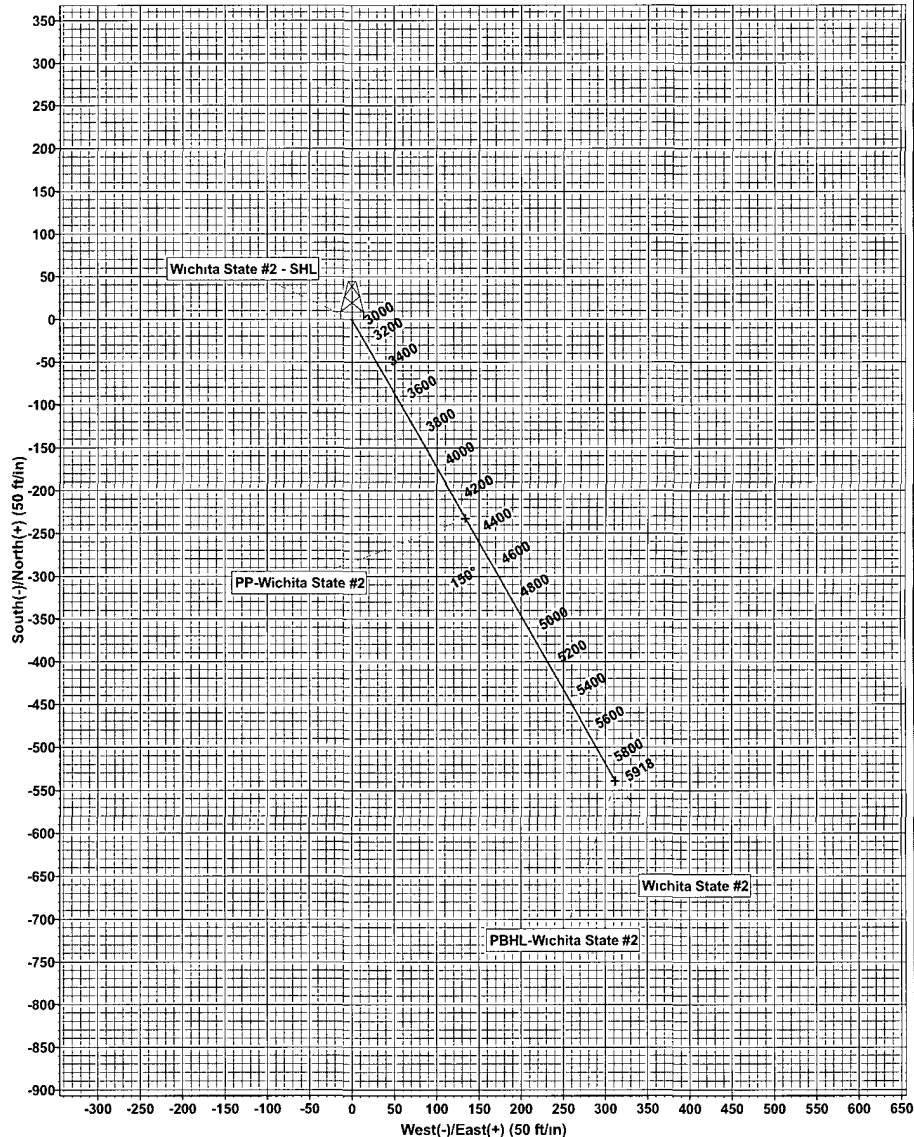
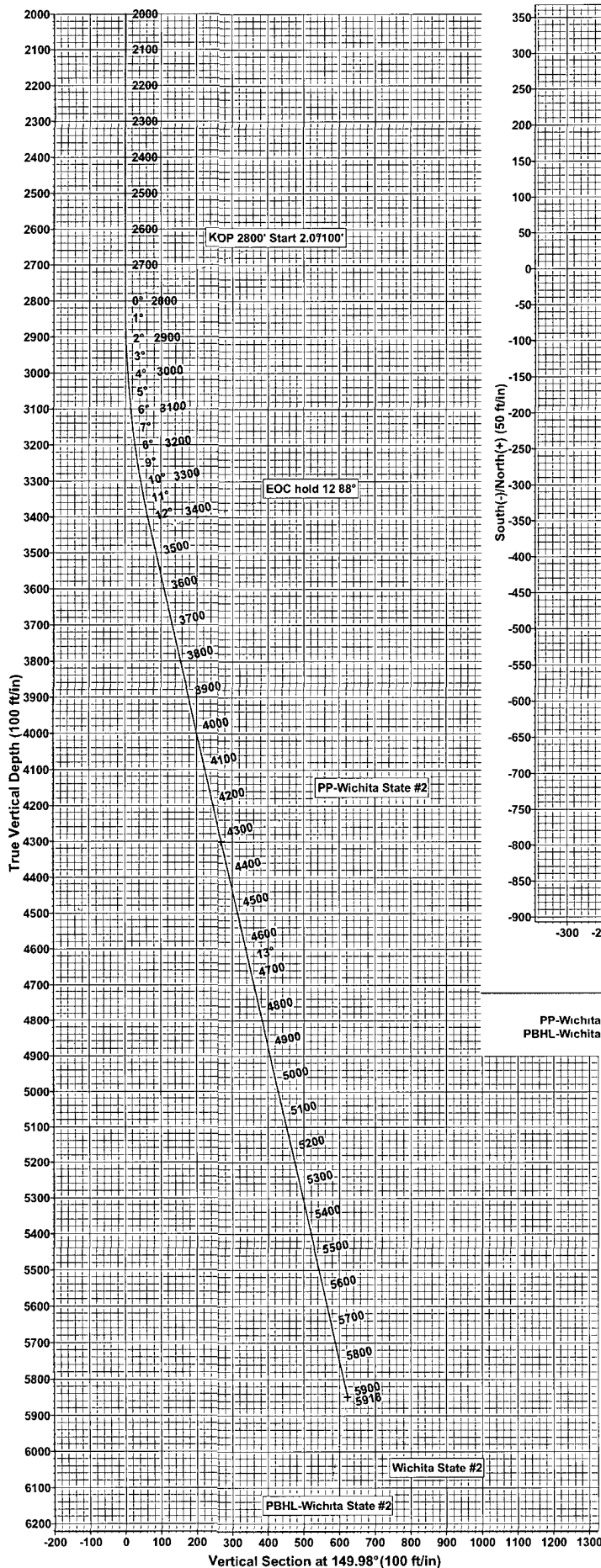
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Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
PBHL-Wichita State #2	0 00	0 00	5,850 00	-539 70	311 90	666,463 70	607,969 10	32° 49' 54 125 N	103° 58' 54 592 W
- plan hits target									
- Point									
PP-Wichita State #2	0 00	0 00	4,300 00	-232 33	134 26	666,771 07	607,791 46	32° 49' 57 173 N	103° 58' 56 662 W
- plan hits target									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
2,800 00	2,800 00	0 00	0 00	KOP 2800' Start 2 0°/100'
3,443 84	3,438 44	-62 38	36 05	EOC hold 12 88°

COG Operating LLC

Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAD 27 NME)
Well: Wichita State #2
Wellbore: Wellbore #1
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WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PP-Wichita State #2	4300.00	-232.33	134.26	666771.07	607791.46	32°49' 57.173 N	103°58' 56.662 W	Point
PBHL-Wichita State #2	5850.00	-539.70	311.90	666463.70	607969.10	32°49' 54.125 N	103°58' 54.592 W	Point

AZIMUTH CORRECTIONS
ALL AZIMUTHS MUST BE CORRECTED TO GRID
GRID CORRECTIONS MUST BE APPLIED BEFORE PLOTTING
To convert a Magnetic Direction to a Grid Direction, Add 8.06°
To convert a True Direction to a Grid Direction, Subtract 0.19°



Azimuths to Grid North
True North: -0.19°
Magnetic North: 8.06°
Magnetic Field
Strength 49326.95nT
Dip Angle: 60.78°
Date: 10/5/2007
Model IGRF200510

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	0.00	
3	3443.84	12.88	149.98	3438.44	-62.38	36.05	2.00	149.98	72.05	
4	5917.62	12.88	149.98	5850.00	-539.70	311.90	0.00	0.00	623.34	PBHL-Wichita State #2

WELL DETAILS: Wichita State #2

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	667003.40	607657.20	32°49' 59.476 N	103°58' 58.226 W	

PROJECT DETAILS: Eddy County, NM (NAD 27 NME) Plan: Plan #1 (Wichita State #2/Wellbore #1)

Geodetic System	US State Plane 1927 (Exact solution)	Created By:	Julio Pina	Date:	05-Oct-07
Datum:	NAD 1927 (NADCON CONUS)	Checked:		Date:	
Ellipsoid:	Clarke 1866	Reviewed:		Date:	
Zone:	New Mexico East 3001	Approved:		Date:	
System Datum:	Mean Sea Level				