

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

State of New Mexico
Energy, Minerals and Natural Resources Department

DEC 4 2007

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30 015 35945	Pool Code 96718	Pool Name LOCO HILLS; GLORIETA-YESO
Property Code 302513	Property Name JUNIPER STATE	Well Number 5
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3664'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	17	17-S	30-E		990	SOUTH	100	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
M	16	17-S	30-E		990	SOUTH	330	WEST	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

SECTION 17 SECTION 16 GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=665801.8 N X=606881.7 E LAT.=32.829892° N LONG.=103.985378° W P.P. Project Area Producing Area GRID AZ = 89°50'59" HORIZ. DIST. = 430.0' 100' SURF 330' 990' 990' DETAIL 3666.1' 3666.2' 600' 600' 3659.4' 3658.5'	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>Phyllis A. Edwards</i> 10-22-07 Signature Date Phyllis A. Edwards Printed Name Regulatory Analyst 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. SEAL OF THE STATE OF NEW MEXICO PROFESSIONAL SURVEYOR 3239 DATE SURVEYED: FEB 22, 2007 AR Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3239
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DEC 4 2007
OCD-ARTESIA

COG Operating LLC

Eddy County, NM (NAD 27 NME)

Juniper State #5

Juniper State #5

Wellbore #1

Plan: Plan #1

Standard Planning Report

29 November, 2007



Scientific Drilling

Planning Report



Database:	EDM 2003 16 Single User Db	Local Co-ordinate Reference:	Well Juniper State #5
Company:	COG Operating LLC	TVD Reference:	WELL @ 3664 00ft (Ground Elev)
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	WELL @ 3664 00ft (Ground Elev)
Site:	Juniper State #5	North Reference:	Grid
Well:	Juniper State #5	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	Juniper State #5		
Site Position:		Northing:	665,801 80 ft
From:	Map	Easting:	606,881 70 ft
Position Uncertainty:	0 00 ft	Slot Radius:	ft
		Latitude:	32° 49' 47 611 N
		Longitude:	103° 59' 7 362 W
		Grid Convergence:	0 19 °

Well	Juniper State #5		
Well Position	+N/-S	0 00 ft	Northing: 665,801 80 ft
	+E/-W	0 00 ft	Easting: 606,881 70 ft
Position Uncertainty	0 00 ft	Wellhead Elevation:	ft
		Latitude:	32° 49' 47 611 N
		Longitude:	103° 59' 7 362 W
		Ground Level:	3,664 00 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF200510	11/29/2007	8 23
			Dip Angle
			(°)
			60 77
			Field Strength
			(nT)
			49,310

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0 00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0 00	0 00	0 00
			Direction
			(°)
			89 90

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(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	
1,300 00	0 00	0 00	1,300 00	0 00	0 00	0 00	0 00	0 00	0 00	
1,780 11	9 60	89 90	1,777 86	0 07	40 14	2 00	2 00	18 72	89 90	
5,960 82	9 60	89 90	5,900 00	1 31	737 50	0 00	0 00	0 00	0 00	PBHL-Juniper State #

Scientific Drilling

Planning Report



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Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	WELL @ 3664 00ft (Ground Elev)
Site:	Juniper State #5	North Reference:	Grid
Well:	Juniper State #5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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
1,300 00	0 00	0 00	1,300 00	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start 2.00°/100'									
1,400 00	2 00	89 90	1,399 98	0 00	1 75	1 75	2 00	2 00	0 00
1,500 00	4 00	89 90	1,499 84	0 01	6 98	6 98	2 00	2 00	0 00
1,600 00	6 00	89 90	1,599 45	0 03	15 69	15 69	2 00	2 00	0 00
1,700 00	8 00	89 90	1,698 70	0 05	27 88	27 88	2 00	2 00	0 00
1,780 11	9 60	89 90	1,777 87	0 07	40 14	40 14	2 00	2 00	0 00
EOC hold 9.60°									
1,800 00	9 60	89 90	1,797 48	0 08	43 45	43 45	0 00	0 00	0 00
1,900 00	9 60	89 90	1,896 08	0 11	60 13	60 14	0 00	0 00	0 00
2,000 00	9 60	89 90	1,994 68	0 14	76 82	76 82	0 00	0 00	0 00
2,100 00	9 60	89 90	2,093 27	0 17	93 50	93 50	0 00	0 00	0 00
2,200 00	9 60	89 90	2,191 87	0 20	110 18	110 18	0 00	0 00	0 00
2,300 00	9 60	89 90	2,290 47	0 23	126 86	126 86	0 00	0 00	0 00
2,400 00	9 60	89 90	2,389 07	0 25	143 54	143 54	0 00	0 00	0 00
2,500 00	9 60	89 90	2,487 67	0 28	160 22	160 22	0 00	0 00	0 00
2,600 00	9 60	89 90	2,586 27	0 31	176 90	176 90	0 00	0 00	0 00
2,700 00	9 60	89 90	2,684 87	0 34	193 58	193 58	0 00	0 00	0 00
2,800 00	9 60	89 90	2,783 47	0 37	210 26	210 26	0 00	0 00	0 00
2,900 00	9 60	89 90	2,882 07	0 40	226 94	226 94	0 00	0 00	0 00
3,000 00	9 60	89 90	2,980 66	0 43	243 62	243 62	0 00	0 00	0 00
3,100 00	9 60	89 90	3,079 26	0 46	260 30	260 30	0 00	0 00	0 00
3,200 00	9 60	89 90	3,177 86	0 49	276 98	276 98	0 00	0 00	0 00
3,300 00	9 60	89 90	3,276 46	0 52	293 66	293 66	0 00	0 00	0 00
3,400 00	9 60	89 90	3,375 06	0 55	310 34	310 34	0 00	0 00	0 00
3,500 00	9 60	89 90	3,473 66	0 58	327 02	327 02	0 00	0 00	0 00
3,600 00	9 60	89 90	3,572 26	0 61	343 70	343 70	0 00	0 00	0 00
3,700 00	9 60	89 90	3,670 86	0 64	360 38	360 38	0 00	0 00	0 00
3,800 00	9 60	89 90	3,769 46	0 67	377 06	377 07	0 00	0 00	0 00
3,900 00	9 60	89 90	3,868 06	0 70	393 75	393 75	0 00	0 00	0 00
4,000 00	9 60	89 90	3,966 65	0 73	410 43	410 43	0 00	0 00	0 00
4,100 00	9 60	89 90	4,065 25	0 76	427 11	427 11	0 00	0 00	0 00
4,200 00	9 60	89 90	4,163 85	0 79	443 79	443 79	0 00	0 00	0 00
4,236 66	9 60	89 90	4,200 00	0 80	449 90	449 90	0 00	0 00	0 00
TG1-Juniper State #5									
4,300 00	9 60	89 90	4,262 45	0 82	460 47	460 47	0 00	0 00	0 00
4,400 00	9 60	89 90	4,361 05	0 85	477 15	477 15	0 00	0 00	0 00
4,500 00	9 60	89 90	4,459 65	0 88	493 83	493 83	0 00	0 00	0 00
4,600 00	9 60	89 90	4,558 25	0 91	510 51	510 51	0 00	0 00	0 00
4,700 00	9 60	89 90	4,656 85	0 94	527 19	527 19	0 00	0 00	0 00
4,800 00	9 60	89 90	4,755 45	0 97	543 87	543 87	0 00	0 00	0 00
4,900 00	9 60	89 90	4,854 05	1 00	560 55	560 55	0 00	0 00	0 00
5,000 00	9 60	89 90	4,952 64	1 03	577 23	577 23	0 00	0 00	0 00
5,100 00	9 60	89 90	5,051 24	1 05	593 91	593 91	0 00	0 00	0 00
5,200 00	9 60	89 90	5,149 84	1 08	610 59	610 59	0 00	0 00	0 00
5,300 00	9 60	89 90	5,248 44	1 11	627 27	627 27	0 00	0 00	0 00
5,400 00	9 60	89 90	5,347 04	1 14	643 95	643 95	0 00	0 00	0 00
5,500 00	9 60	89 90	5,445 64	1 17	660 63	660 63	0 00	0 00	0 00
5,600 00	9 60	89 90	5,544 24	1 20	677 31	677 31	0 00	0 00	0 00
5,700 00	9 60	89 90	5,642 84	1 23	693 99	694 00	0 00	0 00	0 00
5,800 00	9 60	89 90	5,741 44	1 26	710 67	710 68	0 00	0 00	0 00
5,900 00	9 60	89 90	5,840 04	1 29	727 36	727 36	0 00	0 00	0 00

Scientific Drilling
Planning Report



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Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	WELL @ 3664 00ft (Ground Elev)
Site:	Juniper State #5	North Reference:	Grid
Well:	Juniper State #5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

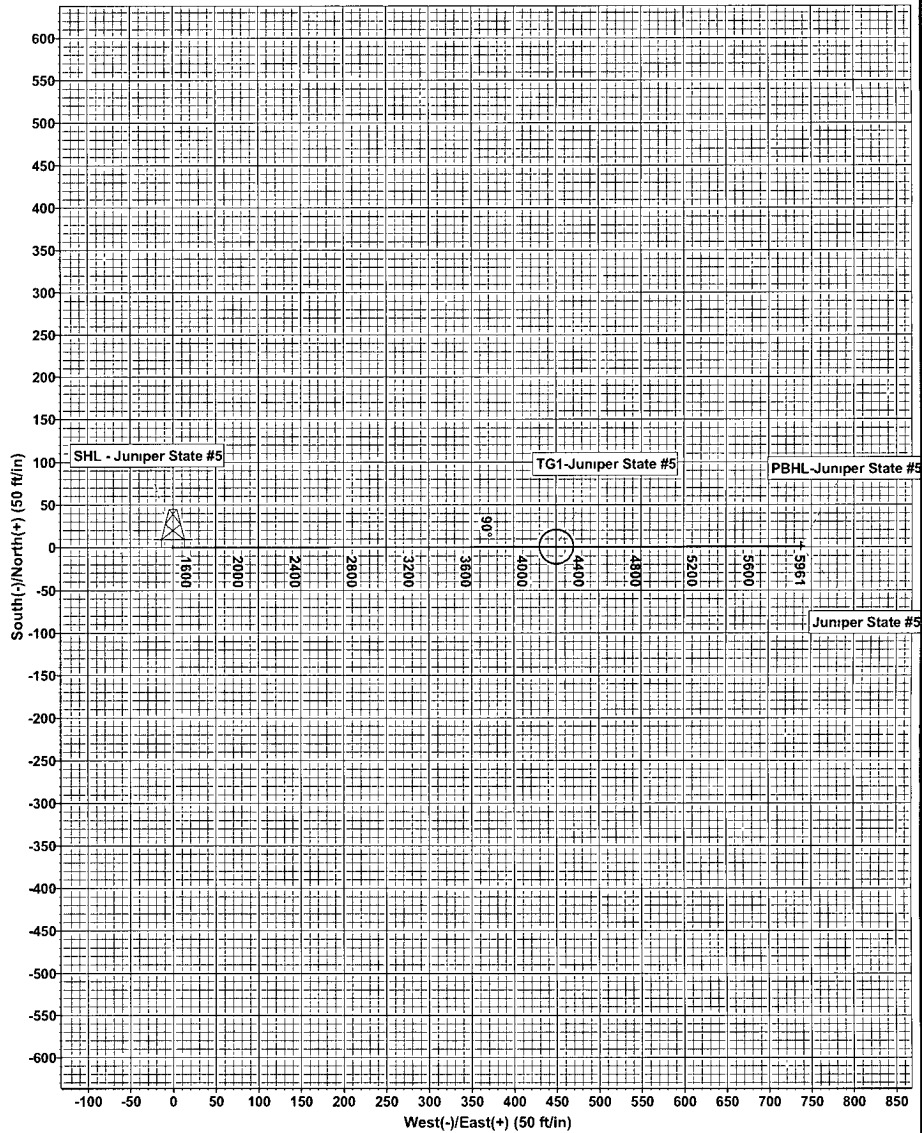
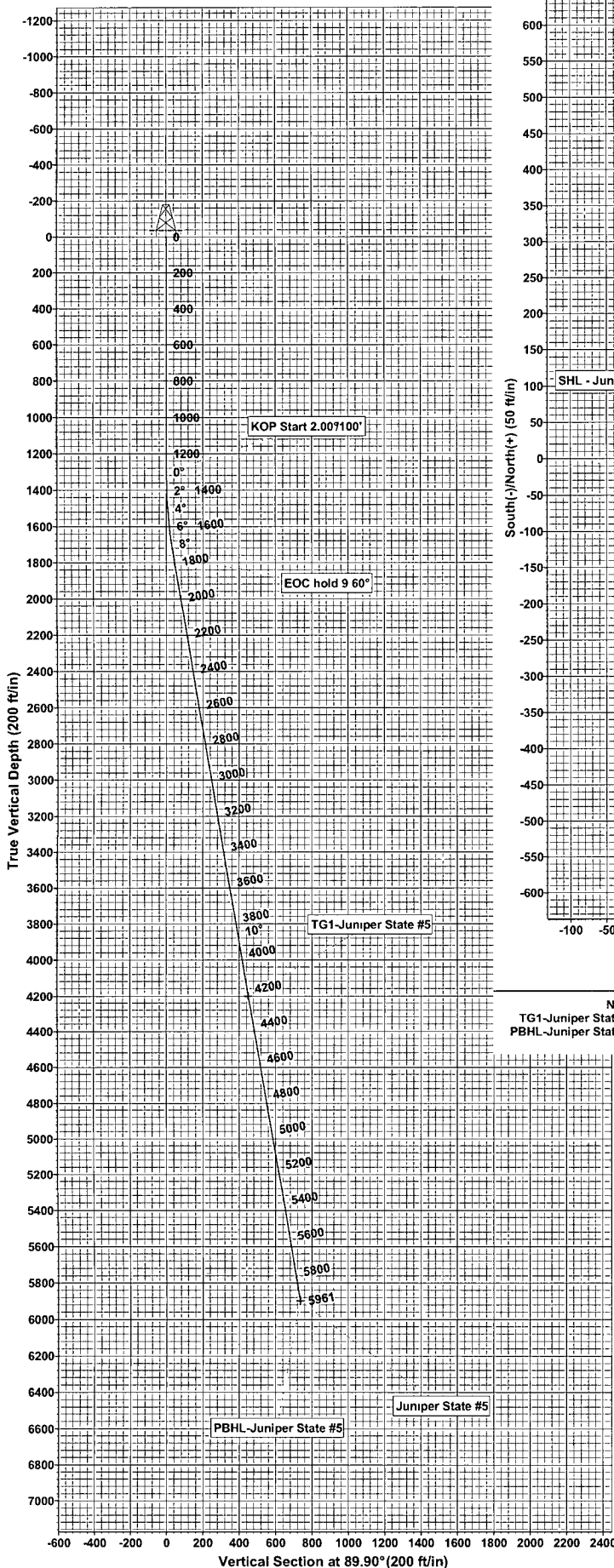
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,960 82	9 60	89 90	5,900 00	1 31	737 50	737 50	0 00	0 00	0 00
PBHL-Juniper State #5									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
TG1-Juniper State #5	0 00	0 00	4,200 00	0 80	449 90	665,802 60	607,331 60	32° 49' 47 605 N	103° 59' 2 089 W
- plan hits target									
- Circle (radius 20 00)									
PBHL-Juniper State #5	0 00	0 00	5,900 00	1 31	737 50	665,803 11	607,619 20	32° 49' 47 600 N	103° 58' 58 718 W
- plan hits target									
- Point									

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,300 00	1,300.00	0 00	0 00	KOP Start 2 00°/100'	
1,780 11	1,777 87	0 07	40 14	EOC hold 9 60°	

COG Operating LLC

Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAD 27 NME)
Well: Juniper State #5
Wellbore: Wellbore #1
Design: Plan #1



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TG1-Juniper State #5	4200.00	0.80	448.90	665802.60	607331.60	29° 49' 47.605 N	103° 59' 2.089 W	Circle (Radius: 20.00)
PBHL-Juniper State #5	5900.00	1.31	737.50	665803.11	607619.20	29° 49' 47.600 N	103° 58' 58.718 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 8.05°
To convert a True Direction to a Grid Direction, Subtract 0.19°



Azimuths to Grid North
True North -0.19°
Magnetic North 8.05°
Magnetic Field
Strength 49310 1snT
Dip Angle: 60.77°
Date 11/29/2007
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	1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	
3	1780.11	9.60	89.90	1777.86	0.07	40.14	2.00	89.90	40.14	
4	5960.82	9.60	89.90	5900.00	1.31	737.50	0.00	0.00	737.50	PBHL-Juniper State #5

WELL DETAILS: Juniper State #5

Ground Level: 3664.00			
+N/-S	+E/-W	Northing	Easting
0.00	0.00	665801.80	606881.70
		Latitude	Longitude
		32° 49' 47.611 N	103° 59' 7.362 W

PROJECT DETAILS Eddy County, NM (NAD 27 NME) Plan: Plan #1 (Juniper State #5/Wellbore #1)

Geodetic System: US State Plane 1927 (Exact solution)	Created By: Julio Pina	Date: 29-Nov-07
Datum: NAD 1927 (NADCON CONUS)		
Ellipsoid: Clarke 1866	Checked: _____	Date: _____
Zone: New Mexico East 3001		
System Datum: Mean Sea Level	Reviewed: _____	Date: _____
	Approved: _____	Date: _____