

Submit 1 Copy To Appropriate District
Office

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Ave., 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

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-103

October 13, 2009

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-015-45531
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐ NM OIL CONSERVATION DISTRICT		5. Indicate Type of Lease STATE ☒ FEE ☐
2. Name of Operator COG Operating LLC		6. State Oil & Gas Lease No.
3. Address of Operator 2208 W. Main Street, Artesia, NM 88210		7. Lease Name or Unit Agreement Name SRO 5 State Com
4. Well Location Unit Letter <u>B</u> : <u>314</u> feet from the <u>North</u> line and <u>895</u> feet from the <u>East</u> line Section <u>5</u> Township <u>26S</u> Range <u>28E</u> NMPM <u>Eddy</u> County		8. Well Number 504H
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3007.4'		9. OGRID Number 229137
		10. Pool name or Wildcat Delaware River; Bone Spring

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
OTHER: ☒ SHL Change

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

COG Operating LLC respectfully requests approval for the following changes to the original approved APD.

SHL

From: 314' FNL & 645' FEL Section 5, T26S, R28E
To: 314' FNL & 895' FEL Section 5, T26S, R28E

X C102 attached.

Directional plan attached.
Ac attached

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Mayte Reyes TITLE: Senior Regulatory Analyst DATE: 1/30/2019

Type or print name: Mayte Reyes E-mail address: mreyes1@conchoresources.com PHONE: (575) 748-6945

For State Use Only

APPROVED BY: Reynold W. Padany TITLE: Geologist DATE: 2-25-19
Conditions of Approval (if any):

DISTRICT I
1025 N. FRANCHIS DR., ROSA, NM 88240
Phone: (505) 833-8101 Fax: (505) 833-0720

DISTRICT II
811 E. FIRST ST., ARTESIA, NM 88210
Phone: (505) 748-1853 Fax: (505) 748-9780

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6175 Fax: (505) 334-6170

DISTRICT IV
1025 N. FRANCHIS DR., SANTA FE, NM 87505
Phone: (505) 476-3400 Fax: (505) 476-3400

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-45531	Pool Code 16800	Pool Name Delaware River; Bone Spring
Property Code 322993	Property Name SRO 5 STATE COM	Well Number 504H
OCRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3007.4'

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	5	26-S	28-E		314	NORTH	895	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
P	8	26-S	28-E		50	SOUTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

**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**

NAD 83 NME <u>SURFACE LOCATION</u> Y=392213.7 N X=612460.3 E LAT.=32.078067° N LONG.=104.103702° W STATE SECTION 5 SECTION 8 NAD 83 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=381999.7 N X=612966.9 E LAT.=32.049986° N LONG.=104.102137° W	Y=392526.9 N X=612019.9 E 314 S.L. 895 Y=392529.2 N X=613351.3 E FTP 100' FSL & 330' FEL Y=382478.6 N X=613022.5 E LAT.=32.078655° N LONG.=104.101885° W GRID AZ. TO FTP 69°04'42" GRID AZ. - 180°18'20" HORZ. DIST. - 10429.1' Y=381941.9 N X=611981.3 E B.H. 50' Y=381952.3 N X=613296.7 E LTP 100' FSL & 330' FEL Y=382048.7 N X=612967.2 E LAT.=32.050124° N LONG.=104.102135° W	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>Mayte Reyes</i> Signature Date Mayte Reyes Printed Name mreyes1@concho.com E-mail Address 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. JANUARY 14, 2018 Date of Survey Signature & Seal of Professional Surveyor <i>Chad L. Harcrow</i> 1/16/19 Certificate No. CHAD HARCROW 17777 W.O. # 19-69 DRAWN BY: JR
---	---	--



CONCHO

NM OIL CONSERVATION
ARTESIA DISTRICT

JAN 31 2019

RECEIVED

COG Operating L L C

Eddy County, NM (NAD 27 NME)

Sec 05,T-26-S,R28-E

SRO 5 State Com 504H

30-015-45531

Wellbore #1

Plan: Plan #2

Standard Survey Report

28 January, 2019



INTEGRITY
DIRECTIONAL

Company: COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec 05,T-26-S,R28-E
Well: SRO 5 State Com 504H
Wellbore: Wellbore #1
Design: Plan #2

Local Co-ordinate Reference: Site Sec 05,T-26-S,R28-E
TVD Reference: KB=30' @ 3037.40usft (Nabors 894)
MD Reference: KB=30' @ 3037.40usft (Nabors 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

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	Sec 05,T-26-S,R28-E		
Site Position:		Northing:	392,156.20 usft
From:	Map	Easting:	571,275.90 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.07794
		Longitude:	-104.10322
		Grid Convergence:	0.12 °

Well	SRO 5 State Com 504H		
Well Position	+N/-S	0.00 usft	Northing: 392,156.20 usft
	+E/-W	0.00 usft	Easting: 571,275.90 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32.07794
		Longitude:	-104.10322
		Ground Level:	3,007.40 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM	12/31/2018	7.13
		Dip Angle (°)	59.77
		Field Strength (nT)	47,874

Design	Plan #2		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	Direction (°)
	0.00	0.00	177.16

Survey Tool Program	Date 1/28/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
0.00	18,224.08	Plan #2 (Wellbore #1)	MWD
			Description
			MWD - Standard

Planned 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	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00

Company: COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec 05,T-26-S,R28-E
Well: SRO 5 State Com 504H
Wellbore: Wellbore #1
Design: Plan #2

Local Co-ordinate Reference: Site Sec 05,T-26-S,R28-E
TVD Reference: KB=30' @ 3037.40usft (Nabors 894)
MD Reference: KB=30' @ 3037.40usft (Nabors 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Planned 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	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	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
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	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
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Company: COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec 05,T-26-S,R28-E
Well: SRO 5 State Com 504H
Wellbore: Wellbore #1
Design: Plan #2

Local Co-ordinate Reference: Site Sec 05,T-26-S,R28-E
TVD Reference: KB=30' @ 3037.40usft (Nabors 894)
MD Reference: KB=30' @ 3037.40usft (Nabors 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Planned 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)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
5,700.00	2.00	34.97	5,699.98	1.43	1.00	-1.38	2.00	2.00	0.00
5,800.00	4.00	34.97	5,799.84	5.72	4.00	-5.51	2.00	2.00	0.00
5,900.00	6.00	34.97	5,899.45	12.86	8.99	-12.40	2.00	2.00	0.00
6,000.00	8.00	34.97	5,998.70	22.85	15.98	-22.03	2.00	2.00	0.00
6,100.00	10.00	34.97	6,097.47	35.67	24.94	-34.39	2.00	2.00	0.00
6,111.31	10.23	34.97	6,108.60	37.29	26.08	-35.96	2.00	2.00	0.00
Start 1217.99 hold at 6111.31 MD									
6,200.00	10.23	34.97	6,195.88	50.20	35.10	-48.40	0.00	0.00	0.00
6,300.00	10.23	34.97	6,294.29	64.75	45.28	-62.43	0.00	0.00	0.00
6,400.00	10.23	34.97	6,392.70	79.30	55.45	-76.45	0.00	0.00	0.00
6,500.00	10.23	34.97	6,491.12	93.84	65.63	-90.48	0.00	0.00	0.00
6,600.00	10.23	34.97	6,589.53	108.39	75.80	-104.51	0.00	0.00	0.00
6,700.00	10.23	34.97	6,687.94	122.94	85.97	-118.53	0.00	0.00	0.00
6,800.00	10.23	34.97	6,786.35	137.49	96.15	-132.56	0.00	0.00	0.00
6,900.00	10.23	34.97	6,884.76	152.04	106.32	-146.59	0.00	0.00	0.00
7,000.00	10.23	34.97	6,983.17	166.59	116.50	-160.62	0.00	0.00	0.00
7,100.00	10.23	34.97	7,081.58	181.14	126.67	-174.64	0.00	0.00	0.00
7,200.00	10.23	34.97	7,180.00	195.69	136.84	-188.67	0.00	0.00	0.00
7,300.00	10.23	34.97	7,278.41	210.24	147.02	-202.70	0.00	0.00	0.00
7,329.30	10.23	34.97	7,307.24	214.50	150.00	-206.81	0.00	0.00	0.00
Start DLS 10.00 TFO 124.10									
7,400.00	8.55	78.23	7,377.08	220.72	158.75	-212.59	10.00	-2.37	61.20
7,500.00	14.08	123.14	7,475.27	215.58	176.26	-206.59	10.00	5.52	44.90
7,600.00	22.84	138.83	7,570.09	194.27	199.28	-184.16	10.00	8.76	15.69
7,700.00	32.30	145.90	7,658.65	157.44	227.10	-146.00	10.00	9.47	7.07
7,800.00	42.00	149.99	7,738.27	106.22	258.90	-93.26	10.00	9.69	4.09
7,900.00	51.79	152.77	7,806.53	42.15	293.69	-27.55	10.00	9.79	2.78
8,000.00	61.64	154.89	7,861.35	-32.82	330.43	49.14	10.00	9.84	2.12
8,100.00	71.51	156.64	7,901.07	-116.40	368.00	134.48	10.00	9.87	1.75
8,200.00	81.39	158.20	7,924.47	-206.06	405.25	225.88	10.00	9.88	1.56
8,287.56	90.05	159.50	7,931.00	-287.42	436.71	308.69	10.00	9.89	1.48
Start DLS 4.00 TFO 90.05									
8,300.00	90.05	160.00	7,930.99	-299.09	441.02	320.57	4.00	0.00	4.00
8,400.00	90.05	164.00	7,930.91	-394.18	471.92	417.06	4.00	0.00	4.00
8,500.00	90.04	168.00	7,930.83	-491.19	496.11	515.15	4.00	0.00	4.00
8,600.00	90.04	172.00	7,930.76	-589.65	513.48	614.35	4.00	0.00	4.00
8,700.00	90.03	176.00	7,930.70	-689.08	523.93	714.18	4.00	0.00	4.00
8,800.00	90.03	180.00	7,930.65	-789.00	527.42	814.15	4.00	0.00	4.00
8,803.25	90.03	180.13	7,930.65	-792.25	527.42	817.40	4.00	0.00	4.00
Start 9421.57 hold at 8803.25 MD									

Company: COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec 05,T-26-S,R28-E
Well: SRO 5 State Com 504H
Wellbore: Wellbore #1
Design: Plan #2

Local Co-ordinate Reference: Site Sec 05,T-26-S,R28-E
TVD Reference: KB=30' @ 3037.40usft (Nabors 894)
MD Reference: KB=30' @ 3037.40usft (Nabors 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Planned 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)
8,900.00	90.03	180.13	7,930.60	-889.00	527.20	914.01	0.00	0.00	0.00
9,000.00	90.03	180.13	7,930.55	-989.00	526.98	1,013.88	0.00	0.00	0.00
9,100.00	90.03	180.13	7,930.50	-1,089.00	526.76	1,113.75	0.00	0.00	0.00
9,200.00	90.03	180.13	7,930.45	-1,189.00	526.53	1,213.61	0.00	0.00	0.00
9,300.00	90.03	180.13	7,930.40	-1,289.00	526.31	1,313.48	0.00	0.00	0.00
9,400.00	90.03	180.13	7,930.35	-1,389.00	526.09	1,413.34	0.00	0.00	0.00
9,500.00	90.03	180.13	7,930.30	-1,489.00	525.87	1,513.21	0.00	0.00	0.00
9,600.00	90.03	180.13	7,930.25	-1,589.00	525.64	1,613.08	0.00	0.00	0.00
9,700.00	90.03	180.13	7,930.20	-1,689.00	525.42	1,712.94	0.00	0.00	0.00
9,800.00	90.03	180.13	7,930.15	-1,788.99	525.20	1,812.81	0.00	0.00	0.00
9,900.00	90.03	180.13	7,930.10	-1,888.99	524.97	1,912.67	0.00	0.00	0.00
10,000.00	90.03	180.13	7,930.06	-1,988.99	524.75	2,012.54	0.00	0.00	0.00
10,100.00	90.03	180.13	7,930.01	-2,088.99	524.53	2,112.41	0.00	0.00	0.00
10,200.00	90.03	180.13	7,929.96	-2,188.99	524.30	2,212.27	0.00	0.00	0.00
10,300.00	90.03	180.13	7,929.91	-2,288.99	524.08	2,312.14	0.00	0.00	0.00
10,400.00	90.03	180.13	7,929.86	-2,388.99	523.86	2,412.00	0.00	0.00	0.00
10,500.00	90.03	180.13	7,929.81	-2,488.99	523.63	2,511.87	0.00	0.00	0.00
10,600.00	90.03	180.13	7,929.76	-2,588.99	523.41	2,611.74	0.00	0.00	0.00
10,700.00	90.03	180.13	7,929.71	-2,688.99	523.19	2,711.60	0.00	0.00	0.00
10,800.00	90.03	180.13	7,929.66	-2,788.99	522.96	2,811.47	0.00	0.00	0.00
10,900.00	90.03	180.13	7,929.61	-2,888.99	522.74	2,911.33	0.00	0.00	0.00
11,000.00	90.03	180.13	7,929.56	-2,988.99	522.52	3,011.20	0.00	0.00	0.00
11,100.00	90.03	180.13	7,929.51	-3,088.99	522.30	3,111.07	0.00	0.00	0.00
11,200.00	90.03	180.13	7,929.46	-3,188.99	522.07	3,210.93	0.00	0.00	0.00
11,300.00	90.03	180.13	7,929.41	-3,288.99	521.85	3,310.80	0.00	0.00	0.00
11,400.00	90.03	180.13	7,929.37	-3,388.99	521.63	3,410.66	0.00	0.00	0.00
11,500.00	90.03	180.13	7,929.32	-3,488.99	521.40	3,510.53	0.00	0.00	0.00
11,600.00	90.03	180.13	7,929.27	-3,588.99	521.18	3,610.40	0.00	0.00	0.00
11,700.00	90.03	180.13	7,929.22	-3,688.99	520.96	3,710.26	0.00	0.00	0.00
11,800.00	90.03	180.13	7,929.17	-3,788.99	520.73	3,810.13	0.00	0.00	0.00
11,900.00	90.03	180.13	7,929.12	-3,888.99	520.51	3,909.99	0.00	0.00	0.00
12,000.00	90.03	180.13	7,929.07	-3,988.99	520.29	4,009.86	0.00	0.00	0.00
12,100.00	90.03	180.13	7,929.02	-4,088.99	520.06	4,109.73	0.00	0.00	0.00
12,200.00	90.03	180.13	7,928.97	-4,188.99	519.84	4,209.59	0.00	0.00	0.00
12,300.00	90.03	180.13	7,928.92	-4,288.99	519.62	4,309.46	0.00	0.00	0.00
12,400.00	90.03	180.13	7,928.87	-4,388.99	519.40	4,409.32	0.00	0.00	0.00
12,500.00	90.03	180.13	7,928.82	-4,488.99	519.17	4,509.19	0.00	0.00	0.00
12,600.00	90.03	180.13	7,928.77	-4,588.99	518.95	4,609.06	0.00	0.00	0.00
12,700.00	90.03	180.13	7,928.72	-4,688.99	518.73	4,708.92	0.00	0.00	0.00
12,800.00	90.03	180.13	7,928.67	-4,788.99	518.50	4,808.79	0.00	0.00	0.00
12,900.00	90.03	180.13	7,928.63	-4,888.99	518.28	4,908.65	0.00	0.00	0.00
13,000.00	90.03	180.13	7,928.58	-4,988.99	518.06	5,008.52	0.00	0.00	0.00
13,100.00	90.03	180.13	7,928.53	-5,088.99	517.83	5,108.39	0.00	0.00	0.00

Company: COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec 05,T-26-S,R28-E
Well: SRO 5 State Com 504H
Wellbore: Wellbore #1
Design: Plan #2

Local Co-ordinate Reference: Site Sec 05,T-26-S,R28-E
TVD Reference: KB=30' @ 3037.40usft (Nabors 894)
MD Reference: KB=30' @ 3037.40usft (Nabors 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Planned 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)
13,200.00	90.03	180.13	7,928.48	-5,188.99	517.61	5,208.25	0.00	0.00	0.00
13,300.00	90.03	180.13	7,928.43	-5,288.99	517.39	5,308.12	0.00	0.00	0.00
13,400.00	90.03	180.13	7,928.38	-5,388.99	517.16	5,407.98	0.00	0.00	0.00
13,500.00	90.03	180.13	7,928.33	-5,488.99	516.94	5,507.85	0.00	0.00	0.00
13,600.00	90.03	180.13	7,928.28	-5,588.98	516.72	5,607.72	0.00	0.00	0.00
13,700.00	90.03	180.13	7,928.23	-5,688.98	516.50	5,707.58	0.00	0.00	0.00
13,800.00	90.03	180.13	7,928.18	-5,788.98	516.27	5,807.45	0.00	0.00	0.00
13,900.00	90.03	180.13	7,928.13	-5,888.98	516.05	5,907.31	0.00	0.00	0.00
14,000.00	90.03	180.13	7,928.08	-5,988.98	515.83	6,007.18	0.00	0.00	0.00
14,100.00	90.03	180.13	7,928.03	-6,088.98	515.60	6,107.05	0.00	0.00	0.00
14,200.00	90.03	180.13	7,927.98	-6,188.98	515.38	6,206.91	0.00	0.00	0.00
14,300.00	90.03	180.13	7,927.94	-6,288.98	515.16	6,306.78	0.00	0.00	0.00
14,400.00	90.03	180.13	7,927.89	-6,388.98	514.93	6,406.64	0.00	0.00	0.00
14,500.00	90.03	180.13	7,927.84	-6,488.98	514.71	6,506.51	0.00	0.00	0.00
14,600.00	90.03	180.13	7,927.79	-6,588.98	514.49	6,606.38	0.00	0.00	0.00
14,700.00	90.03	180.13	7,927.74	-6,688.98	514.26	6,706.24	0.00	0.00	0.00
14,800.00	90.03	180.13	7,927.69	-6,788.98	514.04	6,806.11	0.00	0.00	0.00
14,900.00	90.03	180.13	7,927.64	-6,888.98	513.82	6,905.97	0.00	0.00	0.00
15,000.00	90.03	180.13	7,927.59	-6,988.98	513.59	7,005.84	0.00	0.00	0.00
15,100.00	90.03	180.13	7,927.54	-7,088.98	513.37	7,105.71	0.00	0.00	0.00
15,200.00	90.03	180.13	7,927.49	-7,188.98	513.15	7,205.57	0.00	0.00	0.00
15,300.00	90.03	180.13	7,927.44	-7,288.98	512.93	7,305.44	0.00	0.00	0.00
15,400.00	90.03	180.13	7,927.39	-7,388.98	512.70	7,405.30	0.00	0.00	0.00
15,500.00	90.03	180.13	7,927.34	-7,488.98	512.48	7,505.17	0.00	0.00	0.00
15,600.00	90.03	180.13	7,927.29	-7,588.98	512.26	7,605.04	0.00	0.00	0.00
15,700.00	90.03	180.13	7,927.25	-7,688.98	512.03	7,704.90	0.00	0.00	0.00
15,800.00	90.03	180.13	7,927.20	-7,788.98	511.81	7,804.77	0.00	0.00	0.00
15,900.00	90.03	180.13	7,927.15	-7,888.98	511.59	7,904.63	0.00	0.00	0.00
16,000.00	90.03	180.13	7,927.10	-7,988.98	511.36	8,004.50	0.00	0.00	0.00
16,100.00	90.03	180.13	7,927.05	-8,088.98	511.14	8,104.37	0.00	0.00	0.00
16,200.00	90.03	180.13	7,927.00	-8,188.98	510.92	8,204.23	0.00	0.00	0.00
16,300.00	90.03	180.13	7,926.95	-8,288.98	510.69	8,304.10	0.00	0.00	0.00
16,400.00	90.03	180.13	7,926.90	-8,388.98	510.47	8,403.96	0.00	0.00	0.00
16,500.00	90.03	180.13	7,926.85	-8,488.98	510.25	8,503.83	0.00	0.00	0.00
16,600.00	90.03	180.13	7,926.80	-8,588.98	510.03	8,603.70	0.00	0.00	0.00
16,700.00	90.03	180.13	7,926.75	-8,688.98	509.80	8,703.56	0.00	0.00	0.00
16,800.00	90.03	180.13	7,926.70	-8,788.98	509.58	8,803.43	0.00	0.00	0.00
16,900.00	90.03	180.13	7,926.65	-8,888.98	509.36	8,903.29	0.00	0.00	0.00
17,000.00	90.03	180.13	7,926.60	-8,988.98	509.13	9,003.16	0.00	0.00	0.00
17,100.00	90.03	180.13	7,926.55	-9,088.98	508.91	9,103.03	0.00	0.00	0.00
17,200.00	90.03	180.13	7,926.51	-9,188.98	508.69	9,202.89	0.00	0.00	0.00
17,300.00	90.03	180.13	7,926.46	-9,288.98	508.46	9,302.76	0.00	0.00	0.00
17,400.00	90.03	180.13	7,926.41	-9,388.98	508.24	9,402.62	0.00	0.00	0.00
17,500.00	90.03	180.13	7,926.36	-9,488.97	508.02	9,502.49	0.00	0.00	0.00

Company: COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec 05,T-26-S,R28-E
Well: SRO 5 State Com 504H
Wellbore: Wellbore #1
Design: Plan #2

Local Co-ordinate Reference: Site Sec 05,T-26-S,R28-E
TVD Reference: KB=30' @ 3037.40usft (Nabors 894)
MD Reference: KB=30' @ 3037.40usft (Nabors 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Planned 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)
17,600.00	90.03	180.13	7,926.31	-9,588.97	507.79	9,602.36	0.00	0.00	0.00
17,700.00	90.03	180.13	7,926.26	-9,688.97	507.57	9,702.22	0.00	0.00	0.00
17,800.00	90.03	180.13	7,926.21	-9,788.97	507.35	9,802.09	0.00	0.00	0.00
17,900.00	90.03	180.13	7,926.16	-9,888.97	507.12	9,901.95	0.00	0.00	0.00
18,000.00	90.03	180.13	7,926.11	-9,988.97	506.90	10,001.82	0.00	0.00	0.00
18,100.00	90.03	180.13	7,926.06	-10,088.97	506.68	10,101.69	0.00	0.00	0.00
18,200.00	90.03	180.13	7,926.01	-10,188.97	506.46	10,201.55	0.00	0.00	0.00
18,224.83	90.03	180.13	7,926.00	-10,213.80	506.40	10,226.35	0.00	0.00	0.00
TD at 18224.83									

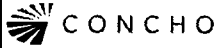
Design Targets
Target Name

- hit/miss target - Shape - Point	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SRO 5 State Com 504	0.00	0.00	7,926.00	-10,213.80	506.40	381,942.40	571,782.30	32.04986	-104.10165
- plan hits target center									
SRO 5 State Com 504	0.00	0.00	7,926.02	-10,163.80	506.70	381,992.40	571,782.60	32.05000	-104.10165
- plan misses target center by 0.19usft at 18174.83usft MD (7926.02 TVD, -10163.80 N, 506.51 E)									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5600	5600	0	0	Start Build 2.00
6111	6109	37	26	Start 1217.99 hold at 6111.31 MD
7329	7307	214	150	Start DLS 10.00 TFO 124.10
8288	7931	-287	437	Start DLS 4.00 TFO 90.05
8803	7931	-792	527	Start 9421.57 hold at 8803.25 MD
18,225	7926	-10,214	506	TD at 18224.83

Checked By: _____ Approved By: _____ Date: _____



COG Operating L.L.C.
Project: Eddy County, NM (NAD 27 NME)
Site: Sec 05, T-26-S, R28-E
Well: SRO 5 State Com 504H
Wellbore: Wellbore #1
Plan: Plan #2 (SRO 5 State Com 504H Wellbore #1)
Nabors 894

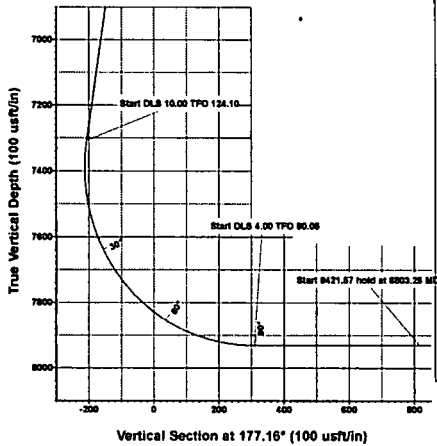
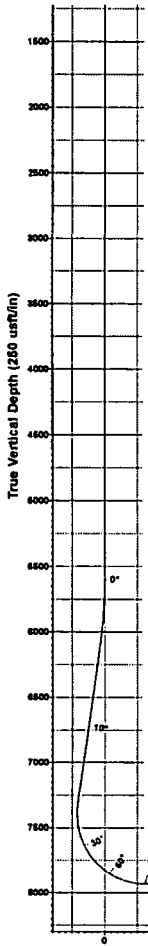
WELL DETAILS: SRO 5 State Com 504H

Ground Elevation: 3007.40
RKB Elevation: KB=30' @ 3037.40usft (Nabors 894)
Rig Name: Nabors 894

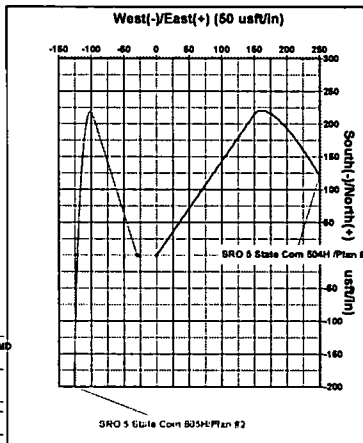
Northing 392156.20 Easting 571275.90 Latitude 32.07794 Longitude -104.10321

Planned Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
3	6111.31	10.23	34.97	6108.80	37.29	26.08	2.00	34.97	-35.96	Start 1217.99 hold at 6111.31 MD
4	7329.30	10.23	34.97	7307.24	214.50	150.00	0.00	0.00	-206.81	Start DLS 10.00 TFO 124.10
5	8287.56	90.05	159.50	7931.00	-287.42	436.71	10.00	124.10	308.69	Start DLS 4.00 TFO 90.05
6	8803.25	90.03	180.13	7930.65	-792.25	527.42	4.00	90.05	617.40	Start 9421.57 hold at 8803.25 MD
7	16224.63	90.03	180.13	7926.00	-10213.80	508.40	0.00	0.00	10226.35	TD at 16224.63

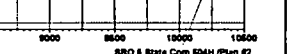
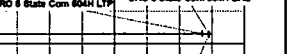
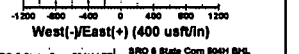
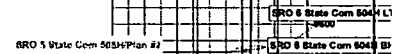
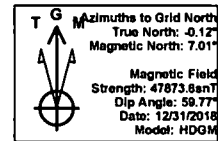


Vertical Section at 177.16° (100 usft/in)



SRO 5 State Com 504H Plan #2

PROJECT DETAILS: Eddy County, NM (NAD 27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid



Vertical Section at 177.16° (250 usft/in)