

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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 & Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED

Form C-104
Revised August 1, 2011

MAILED 2018
Submit one copy to appropriate District Office

DISTRICT II-ARTESIA O.C.D. AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address COG Operating LLC 600 W. Illinois Avenue Midland, TX 79701		² OGRID Number 229137
		³ Reason for Filing Code/ Effective Date NW Effective 12/12/2018
⁴ API Number 30-015-45111	⁵ Pool Name Dodd; Glorieta-Upper Yeso	⁶ Pool Code 97917
⁷ Property Code 308195	⁸ Property Name Dodd Federal Unit	⁹ Well Number 925H

II. ¹⁰ Surface Location

UI or lot no. O	Section 15	Township 17S	Range 29E	Lot Idn	Feet from the 10	North/South Line South	Feet from the 1510	East/West line East	County Eddy
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¹¹ Bottom Hole Location

UL or lot no. O	Section 10	Township 17S	Range 29E	Lot Idn	Feet from the 20	North/South line South	Feet from the 1478	East/West line East	County Eddy
¹² Lse Code F	¹³ Producing Method Code P	¹⁴ Gas Connection Date 12/12/2018	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
	Navajo	O
	Frontier	G

IV. Well Completion Data

²¹ Spud Date 10/10/18	²² Ready Date 10/06/2018	²³ TD 9543 MD/ 4658 TVD	²⁴ PBTB 9515	²⁵ Perforations 4832 - 9425	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17-1/2	13-3/8	316	450		
12-1/4	9-5/8	875	600		
8-3/4	7	3867			
8-3/4	5-1/2	9679	1000		
	2-7/8	5059			

V. Well Test Data

³¹ Date New Oil 12/16/2018	³² Gas Delivery Date 12/16/18	³³ Test Date 12/19/18	³⁴ Test Length 24 hrs	³⁵ Tbg. Pressure 85	³⁶ Csg. Pressure 150
³⁷ Choke Size	³⁸ Oil 327	³⁹ Water 1539	⁴⁰ Gas 147		⁴¹ Test Method P

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Dana King</i> Printed name: Dana King Title: Permit Specialist E-mail Address: dking@concho.com Date: Phone: 432-818-2267		OIL CONSERVATION DIVISION Approved by: <i>Karen Sharp</i> Title: <i>Staff Mgr</i> Approval Date: <i>5-30-19</i> Pending BLM approvals will subsequently be reviewed and scanned
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District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45111		² Pool Code 97917		³ Pool Name Dodd; Glorieta-Upper Yeso	
⁴ Property Code 308195		⁵ Property Name DODD FEDERAL UNIT			⁶ Well Number 925H
⁷ GRID NO. 229137		⁸ Operator Name COG OPERATING, LLC			⁹ Elevation 3568'

¹⁰ Surface Location									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
0	15	17S	29E		10	SOUTH	1510	EAST	EDDY

¹¹ 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
0	10	17S	29E		20	SOUTH	1478	EAST	EDDY
¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

DETAIL "A" SEE DETAIL "A"	GEODETTIC DATA NAD 83 GRID - NM EAST SURFACE LOCATION (SL) N 664832.4 - E 625614.8 LAT: 32.8273507° N LONG: 104.0589689° W LAT: 32°49'38.4622" N LONG: 104°03'32.2877" W KICK OF POINT (KOP) 70' - FSL/1500' - FEL (SEC.15) N 664892.1 - E 625625.1 LAT: 32.8275146° N LONG: 104.0589348° W LAT: 32°49'39.0527" N LONG: 104°03'32.1852" W MD=4,078.00/TVD=4,076.09 FIRST TAKE POINT (FTP) 584' - FSL/1498' - FEL (SEC.15) N 665406.6 - E 625625.6 LAT: 32.8291534° N LONG: 104.0612156° W LAT: 32°49'44.1441" N LONG: 104°03'32.1433" W MD=4,915.00/TVD=4,712.86 CORNER DATA NAD 83 GRID - NM EAST A: FOUND BRASS CAP "1914" N: 664818.7 - E: 62136.6 B: FOUND 1/2" REBAR N: 670102.9 - E: 621822.7 C: FOUND BRASS CAP "1914" N: 672745.1 - E: 621808.9 D: FOUND BRASS CAP "1914" N: 675385.4 - E: 621807.5 E: FOUND BRASS CAP "1914" N: 675387.2 - E: 624453.5 F: FOUND 1/2" REBAR N: 675393.5 - E: 627091.5 G: FOUND BRASS CAP "1914" N: 672752.3 - E: 627088.9 H: FOUND ALUM. CAP ILLEGIBLE N: 670108.2 - E: 627111.4 I: FOUND BRASS CAP "1914" N: 667468.3 - E: 627117.8 J: FOUND BRASS CAP "1914" N: 664824.0 - E: 627124.4 K: FOUND 1" IRON PIPE N: 664821.2 - E: 624477.3 CALCULATED POINTS 1: N 670105.6 - E 624467.0 2: N 671427.1 - E 624463.6 3: N 671428.7 - E 625786.1 4: N 670105.9 - E 625789.2 5: N 664822.6 - E 625800.9	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Dana King</i> 5/30/2019 Signature Date Dana King Printed Name dking@concho.com E-mail Address ¹⁸ 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. 10-13-2017 Date of Survey Signature and Seal of Professional Surveyor 19680 Certificate Number 12/17/18 AS DRILL
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RR-C-Job No.: LS1709630D2

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
NMLC028731A1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other _____

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.
NMNM111789X2. Name of Operator
COG OPERATING LLC Contact: ROBYN RUSSELL
E-Mail: rrussell@concho.com8. Lease Name and Well No.
DODD FEDERAL UNIT 925H3. Address 600 W. ILLINOIS AVE
MIDLAND, TX 797013a. Phone No. (include area code)
Ph: 432-685-43859. API Well No.
30-015-45111

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

10. Field and Pool, or Exploratory
DODD; GLORIETA-UPPER YESOAt surface Sec 15 T17S R29E Mer NMP
SWSE 10FSL 1510FEL
At top prod interval reported below Sec 15 T17S R29E Mer NMP
SWSE 10FSL 1510FEL
At total depth Sec 10 T17S R29E Mer NMP
SWSE 20FSL 1478FEL11. Sec., T., R., M., or Block and Survey
or Area Sec 15 T17S R29E Mer NMP12. County or Parish
EDDY 13. State
NM14. Date Spudded
10/10/201815. Date T.D. Reached
10/19/201816. Date Completed
☐ D & A ☒ Ready to Prod.
12/12/201817. Elevations (DF, KB, RT, GL)*
3568 GL18. Total Depth: MD
TVD 9648
468819. Plug Back T.D.: MD
TVD 965020. Depth Bridge Plug Set: MD
TVD21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
CN22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 J55	54.5		316		450		0	
12.250	9.625 J55	40.0		875		600		0	
8.750	7.000 L80	29.0		3867					
8.750	5.500 L80	20.0		9679		1000		0	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	5059							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) BLINEBRY	4915	9543	4915 TO 9543			OPEN SLEEVES
B)						
C)						
D)						

26. Perforation Record

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
4815 TO 9543	ACIDIZE W/36,600 GALS 15% ACID, FRAC W/34,844 GALS TREATED WATER, 3,671,934 GALS SLICK WATER,

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
12/16/2018	12/19/2018	24	→	327.0	147.0	1539.0	39.8	0.60	ELECTRIC PUMPING UNIT
Choke Size	Tbg. Press. Flwg. SI	Csg. Press. 150.0	24 Hr. Rate →	Oil BBL 327	Gas MCF 147	Water BBL 1539	Gas:Oil Ratio 450	Well Status POW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #453635 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
RUSTLER	147		ANHYDRITE	RUSTLER	147
YATES	928		DOLOMITE & SANDSTONE	YATES	928
GRAYBURG	2205		DOLOMITE & SANDSTONE	GRAYBURG	2205
SAN ANDRES	2495		DOLOMITE & ANYDRITE	SAN ANDRES	2495
GLORIETA	3921		SANDSTONE & SILTSTONE	GLORIETA	3921
PADDOCK	4000		DOLOMITE	PADDOCK	4000
BLINEBRY	4451		DOLOMITE	BLINEBRY	4451

32. Additional remarks (include plugging procedure):

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7 Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #453635 Verified by the BLM Well Information System.
For COG OPERATING LLC, sent to the Carlsbad**

Name (please print) ROBYN RUSSELLTitle REGULATORY ANALYSTSignature (Electronic Submission)Date 02/07/2019

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

COG

SURVEY REPORT

DODD FEDERAL UNIT #925H

TRINIDAD #436

10/10/2018



Scientific Drilling

The Ultimate Partner In Wellbore Placement

SURVEY REPORT**DODD FEDERAL UNIT #925H****DEFINITIVE KEEPER GYRO SURVEY**

CUSTOMER COG
PROJECT Dodd Federal Unit #925H
FIELD Dodd Federal Unit #925H

SDI JOB NO. OP013708
SDI DISTRICT Midland
SDI KIT/UNIT

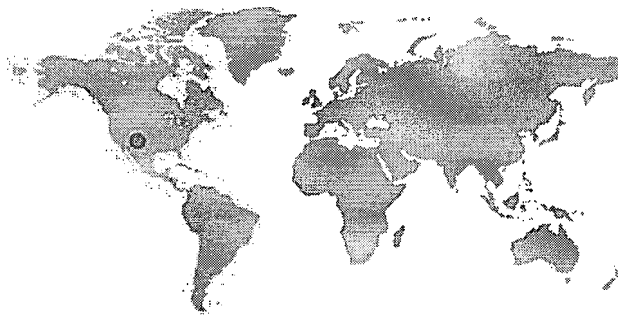
SITE INFORMATION

Site Name Dodd Federal Unit #925H
Lat/Long 32.8388822° N, 104.0542913° W
Northing 669,009.7 ft
Easting 585,704.9 ft

Section
Township
Range

MAP INFORMATION

North Reference Grid North
Grid Correction -0.15 deg
System US State Plane 1927
Datum North American Datum 1927 (Clarke 1866)
Map Zone New Mexico East: 3001

**WELL INFORMATION**

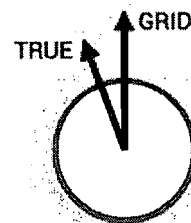
Lat/Long 32.827235° N, 104.0584595° W
Northing 664,769 ft
Easting 584,435.7 ft
UWI 30-015-45111

DEPTH AND ELEVATION REFERENCE

Ground Level 3568 ft above Mean Sea Level
Reference Datum RKB
Reference Height 16.5 ft above G.L.
Reference Elevation 3584.5 ft

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 0.18°
Calculation Method Minimum Curvature

**LOCAL GRAVITY REFERENCE INFORMATION**

Local Gravity 998.536 mG [computed]
True to Grid subtract 0.15°

WELL NOTES

Keeper Gyro Survey ran in 4 1/2 IF Drill Pipe to 270'

OPERATORS

C. Booher

SDI Operator Name (Printed)

SIGNATURE

DATE

MD	INC	AZIM	TVD	VS	IN/S	E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	ft/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
50.00	0.12	236.77	50.00	-0.03	-0.03	-0.05	0.25	0.05	236.77
75.00	0.17	187.36	75.00	-0.08	-0.08	-0.07	0.51	0.11	221.98
100.00	0.24	205.18	100.00	-0.16	-0.16	-0.10	0.39	0.19	211.22
125.00	0.20	205.45	125.00	-0.25	-0.25	-0.14	0.17	0.29	209.25
150.00	0.20	211.50	150.00	-0.33	-0.33	-0.18	0.08	0.37	209.06
175.00	0.23	226.46	175.00	-0.40	-0.40	-0.24	0.25	0.46	211.12
200.00	0.28	241.91	200.00	-0.46	-0.46	-0.33	0.35	0.57	215.65
225.00	0.18	245.24	225.00	-0.51	-0.51	-0.42	0.42	0.66	219.72
250.00	0.20	280.36	250.00	-0.52	-0.52	-0.50	0.46	0.72	224.08
270.00	0.24	312.24	270.00	-0.48	-0.48	-0.56	0.64	0.74	229.59



PHOENIX
TECHNOLOGY SERVICES

COG Operating LLC

Eddy County, NM (NAD83 NME)

Dodd Federal Unit

#925H

OH / 63690

Survey: Phoenix MWD Surveys

Standard Survey Report

20 October, 2018





Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #925H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	RKB @ 3584.50usft (Trinidad 436)
Site:	Dodd Federal Unit	MD Reference:	RKB @ 3584.50usft (Trinidad 436)
Well:	#925H	North Reference:	Grid
Wellbore:	OH / 63690	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 436)	Database:	USA Compass

Project	Eddy County, NM (NAD83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Dodd Federal Unit		
Site Position:		Northing:	669,073.16 usft
From:	Map	Easting:	626,883.92 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 50' 20.39158 N
		Longitude:	104° 3' 17.28311 W
		Grid Convergence:	0.15 °

Well	#925H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 49' 38.46225 N
		Longitude:	104° 3' 32.28774 W
		Ground Level:	3,568.00 usft

Wellbore	OH / 63690				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	10/1/2018	7.49	60.60	48,126.02103067

Design	Surveys (Trinidad 436)			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	0.18

Survey Program	Date 10/20/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
355.00	9,707.00	Phoenix MWD Surveys (OH / 63690)	MWD+HDGM	OWSG Rev.2 MWD + HDGM

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)	
270.00	0.24	312.24	270.00	-0.48	-0.56	-0.48	0.00	0.00	0.00	
Tie In										
355.00	1.53	326.13	354.99	0.58	-1.32	0.58	1.53	1.52	16.34	
First Phoenix MWD Survey										
418.00	1.72	327.68	417.96	2.08	-2.30	2.07	0.31	0.30	2.46	
482.00	1.76	331.12	481.93	3.75	-3.29	3.74	0.17	0.06	5.38	
545.00	1.54	332.82	544.91	5.35	-4.14	5.34	0.36	-0.35	2.70	
608.00	1.35	334.85	607.89	6.78	-4.84	6.76	0.31	-0.30	3.22	
672.00	1.26	336.11	671.87	8.10	-5.45	8.09	0.15	-0.14	1.97	
735.00	1.11	340.01	734.86	9.31	-5.94	9.29	0.27	-0.24	6.19	

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #925H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	RKB @ 3584.50usft (Trinidad 436)
Site:	Dodd Federal Unit	MD Reference:	RKB @ 3584.50usft (Trinidad 436)
Well:	#925H	North Reference:	Grid
Wellbore:	OH / 63690	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 436)	Database:	USA Compass

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)
798.00	0.87	328.46	797.85	10.29	-6.40	10.27	0.49	-0.38	-18.33
933.00	0.64	329.77	932.84	11.82	-7.31	11.79	0.17	-0.17	0.97
995.00	0.62	14.96	994.83	12.44	-7.40	12.42	0.78	-0.03	72.89
1,058.00	2.14	37.50	1,057.81	13.70	-6.60	13.68	2.52	2.41	35.78
1,121.00	1.95	32.02	1,120.77	15.54	-5.31	15.53	0.43	-0.30	-8.70
1,184.00	2.69	30.96	1,183.72	17.72	-3.98	17.71	1.18	1.17	-1.68
1,247.00	4.20	25.18	1,246.60	21.08	-2.24	21.07	2.46	2.40	-9.17
1,310.00	4.01	19.08	1,309.44	25.25	-0.54	25.24	0.76	-0.30	-9.68
1,373.00	3.54	21.58	1,372.31	29.14	0.90	29.14	0.79	-0.75	3.97
1,436.00	3.65	12.39	1,435.18	32.90	2.04	32.91	0.93	0.17	-14.59
1,499.00	3.70	351.95	1,498.06	36.87	2.19	36.88	2.07	0.08	-32.44
1,562.00	3.42	345.74	1,560.94	40.71	1.44	40.71	0.76	-0.44	-9.86
1,625.00	3.19	350.78	1,623.83	44.26	0.70	44.26	0.59	-0.37	8.00
1,688.00	2.51	3.02	1,686.75	47.37	0.49	47.37	1.44	-1.08	19.43
1,751.00	2.17	358.88	1,749.70	49.94	0.54	49.94	0.60	-0.54	-6.57
1,814.00	2.21	0.34	1,812.65	52.35	0.52	52.35	0.11	0.06	2.32
1,877.00	1.33	337.54	1,875.62	54.24	0.25	54.24	1.76	-1.40	-36.19
1,940.00	0.75	268.49	1,938.62	54.90	-0.44	54.90	2.02	-0.92	-109.60
2,003.00	0.96	253.71	2,001.61	54.74	-1.36	54.74	0.48	0.33	-23.46
2,065.00	0.88	258.86	2,063.60	54.50	-2.33	54.50	0.19	-0.13	8.31
2,128.00	1.07	261.62	2,126.59	54.33	-3.38	54.31	0.31	0.30	4.38
2,191.00	1.05	262.88	2,189.58	54.17	-4.54	54.15	0.05	-0.03	2.00
2,254.00	0.92	264.50	2,252.57	54.05	-5.61	54.03	0.21	-0.21	2.57
2,317.00	0.89	256.81	2,315.56	53.89	-6.59	53.87	0.20	-0.05	-12.21
2,380.00	0.78	245.21	2,378.56	53.60	-7.46	53.57	0.32	-0.17	-18.41
2,443.00	0.65	250.61	2,441.55	53.30	-8.19	53.27	0.23	-0.21	8.57
2,506.00	0.79	262.61	2,504.55	53.12	-8.95	53.09	0.33	0.22	19.05
2,567.00	0.61	247.54	2,565.54	52.95	-9.67	52.91	0.42	-0.30	-24.70
2,630.00	0.18	318.56	2,628.54	52.89	-10.05	52.86	0.92	-0.68	112.73
2,693.00	0.90	76.64	2,691.54	53.08	-9.63	53.05	1.58	1.14	187.43
2,756.00	1.16	76.95	2,754.53	53.34	-8.53	53.31	0.41	0.41	0.49
2,819.00	1.43	72.07	2,817.51	53.72	-7.16	53.70	0.46	0.43	-7.75
2,882.00	1.40	72.71	2,880.49	54.19	-5.68	54.18	0.05	-0.05	1.02
2,945.00	1.22	72.34	2,943.48	54.63	-4.30	54.61	0.29	-0.29	-0.59
3,009.00	1.19	71.39	3,007.46	55.05	-3.02	55.04	0.06	-0.05	-1.48
3,072.00	1.14	60.26	3,070.45	55.57	-1.86	55.56	0.37	-0.08	-17.67
3,135.00	1.31	69.11	3,133.44	56.13	-0.64	56.13	0.40	0.27	14.05
3,198.00	1.41	56.94	3,196.42	56.81	0.68	56.81	0.48	0.16	-19.32
3,261.00	1.28	55.43	3,259.40	57.63	1.91	57.64	0.21	-0.21	-2.40
3,323.00	1.11	77.26	3,321.39	58.16	3.07	58.17	0.78	-0.27	35.21
3,386.00	1.42	122.17	3,384.37	57.88	4.32	57.89	1.60	0.49	71.29
3,450.00	1.46	124.66	3,448.35	56.99	5.66	57.01	0.12	0.06	3.89
3,512.00	1.72	131.61	3,510.33	55.93	7.01	55.95	0.52	0.42	11.21

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #925H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	RKB @ 3584.50usft (Trinidad 436)
Site:	Dodd Federal Unit	MD Reference:	RKB @ 3584.50usft (Trinidad 436)
Well:	#925H	North Reference:	Grid
Wellbore:	OH / 63690	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 436)	Database:	USA Compass

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)
3,575.00	1.62	124.81	3,573.30	54.79	8.45	54.82	0.35	-0.16	-10.79
3,639.00	1.55	121.55	3,637.28	53.82	9.93	53.85	0.18	-0.11	-5.09
3,701.00	1.43	121.12	3,699.26	52.98	11.30	53.02	0.19	-0.19	-0.69
3,764.00	0.86	114.78	3,762.24	52.38	12.41	52.42	0.93	-0.90	-10.06
3,827.00	0.30	23.74	3,825.24	52.33	12.90	52.37	1.45	-0.89	-144.51
3,889.00	1.05	351.76	3,887.24	53.04	12.89	53.08	1.31	1.21	-51.58
3,952.00	2.23	340.72	3,950.21	54.77	12.40	54.81	1.93	1.87	-17.52
4,016.00	2.32	331.42	4,014.16	57.08	11.37	57.12	0.59	0.14	-14.53
4,047.00	2.19	336.12	4,045.14	58.17	10.83	58.21	0.73	-0.42	15.16
4,078.00	3.79	347.12	4,076.09	59.72	10.36	59.75	5.46	5.16	35.48
4,110.00	6.84	357.22	4,107.95	62.65	10.03	62.68	9.93	9.53	31.56
4,141.00	10.49	0.28	4,138.59	67.32	9.96	67.35	11.86	11.77	9.87
4,173.00	14.42	0.83	4,169.83	74.22	10.03	74.25	12.29	12.28	1.72
4,204.00	18.16	2.60	4,199.58	82.91	10.30	82.94	12.17	12.06	5.71
4,223.00	20.22	2.59	4,217.53	89.15	10.59	89.18	10.86	10.86	-0.04
FTP: 4223' MD									
4,267.00	25.00	2.58	4,258.13	106.04	11.35	106.08	10.86	10.86	-0.03
4,330.00	32.46	0.12	4,313.34	136.29	11.98	136.33	11.99	11.84	-3.90
4,393.00	38.99	1.34	4,364.46	173.05	12.48	173.09	10.43	10.37	1.94
4,456.00	45.43	1.18	4,411.10	215.34	13.41	215.38	10.22	10.22	-0.25
4,518.00	46.11	0.74	4,454.35	259.76	14.15	259.81	1.21	1.10	-0.71
4,581.00	46.43	0.78	4,497.89	305.28	14.76	305.33	0.51	0.51	0.06
4,644.00	46.67	0.80	4,541.22	351.02	15.39	351.06	0.38	0.38	0.03
4,706.00	47.60	0.42	4,583.40	396.46	15.87	396.50	1.57	1.50	-0.61
4,770.00	54.29	357.47	4,623.70	446.11	14.90	446.15	11.05	10.45	-4.61
4,833.00	60.21	357.48	4,657.77	499.02	12.56	499.05	9.40	9.40	0.02
4,896.00	66.39	359.02	4,686.07	555.24	10.87	555.28	10.05	9.81	2.44
4,959.00	69.44	1.16	4,709.75	613.61	10.97	613.64	5.77	4.84	3.40
4,990.00	71.64	1.38	4,720.08	642.83	11.62	642.86	7.13	7.10	0.71
5,022.00	75.28	1.59	4,729.19	673.49	12.41	673.53	11.39	11.38	0.66
5,053.00	79.84	1.29	4,735.86	703.75	13.17	703.78	14.74	14.71	-0.97
5,085.00	82.92	2.44	4,740.66	735.36	14.20	735.40	10.26	9.63	3.59
5,148.00	88.30	1.82	4,745.48	798.11	16.54	798.16	8.60	8.54	-0.98
5,211.00	89.18	1.64	4,746.86	861.07	18.44	861.12	1.43	1.40	-0.29
5,274.00	90.75	0.20	4,746.90	924.05	19.45	924.11	3.38	2.49	-2.29
5,337.00	91.10	0.30	4,745.89	987.05	19.72	987.10	0.58	0.56	0.16
5,400.00	91.16	359.58	4,744.64	1,050.03	19.66	1,050.09	1.15	0.10	-1.14
5,463.00	91.33	359.04	4,743.28	1,113.01	18.90	1,113.07	0.90	0.27	-0.86
5,526.00	91.49	358.05	4,741.72	1,175.97	17.30	1,176.02	1.59	0.25	-1.57
5,589.00	91.64	356.72	4,740.00	1,238.88	14.43	1,238.92	2.12	0.24	-2.11
5,653.00	91.64	356.74	4,738.17	1,302.75	10.78	1,302.78	0.03	0.00	0.03
5,716.00	92.06	357.18	4,736.14	1,365.63	7.44	1,365.65	0.97	0.67	0.70
5,778.00	92.26	357.56	4,733.80	1,427.52	4.60	1,427.53	0.69	0.32	0.61
5,841.00	91.07	357.21	4,731.97	1,490.43	1.72	1,490.43	1.97	-1.89	-0.56



Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #925H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	RKB @ 3584.50usft (Trinidad 436)
Site:	Dodd Federal Unit	MD Reference:	RKB @ 3584.50usft (Trinidad 436)
Well:	#925H	North Reference:	Grid
Wellbore:	OH / 63690	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 436)	Database:	USA Compass

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)
5,904.00	91.38	357.13	4,730.62	1,553.34	-1.39	1,553.32	0.51	0.49	-0.13
5,967.00	91.21	356.23	4,729.20	1,616.21	-5.04	1,616.19	1.45	-0.27	-1.43
6,030.00	89.75	356.43	4,728.67	1,679.08	-9.07	1,679.04	2.34	-2.32	0.32
6,093.00	90.01	357.30	4,728.80	1,741.99	-12.51	1,741.94	1.44	0.41	1.38
6,156.00	89.85	358.78	4,728.88	1,804.95	-14.67	1,804.89	2.36	-0.25	2.35
6,219.00	90.41	0.34	4,728.74	1,867.94	-15.15	1,867.89	2.63	0.89	2.48
6,282.00	91.12	2.63	4,727.90	1,930.91	-13.52	1,930.86	3.81	1.13	3.63
6,345.00	91.42	2.49	4,726.50	1,993.83	-10.71	1,993.79	0.53	0.48	-0.22
6,408.00	91.76	2.54	4,724.75	2,056.75	-7.94	2,056.71	0.55	0.54	0.08
6,471.00	92.01	2.08	4,722.68	2,119.66	-5.40	2,119.64	0.83	0.40	-0.73
6,534.00	91.55	1.77	4,720.72	2,182.60	-3.29	2,182.58	0.88	-0.73	-0.49
6,597.00	91.58	0.49	4,719.00	2,245.56	-2.05	2,245.54	2.03	0.05	-2.03
6,660.00	91.79	0.28	4,717.15	2,308.53	-1.62	2,308.51	0.47	0.33	-0.33
6,722.00	91.16	359.81	4,715.55	2,370.51	-1.58	2,370.49	1.27	-1.02	-0.76
6,785.00	90.78	359.69	4,714.49	2,433.50	-1.85	2,433.48	0.63	-0.60	-0.19
6,848.00	88.91	359.78	4,714.66	2,496.50	-2.14	2,496.48	2.97	-2.97	0.14
6,911.00	89.25	359.95	4,715.67	2,559.49	-2.29	2,559.47	0.60	0.54	0.27
6,974.00	89.35	359.84	4,716.44	2,622.48	-2.41	2,622.46	0.24	0.16	-0.17
7,038.00	89.65	359.96	4,717.00	2,686.48	-2.52	2,686.46	0.50	0.47	0.19
7,101.00	89.64	0.28	4,717.39	2,749.48	-2.39	2,749.46	0.51	-0.02	0.51
7,164.00	89.99	0.48	4,717.59	2,812.48	-1.97	2,812.46	0.64	0.56	0.32
7,227.00	90.32	0.37	4,717.42	2,875.47	-1.50	2,875.46	0.55	0.52	-0.17
7,290.00	90.58	359.88	4,716.93	2,938.47	-1.36	2,938.45	0.88	0.41	-0.78
7,352.00	90.92	359.75	4,716.12	3,000.47	-1.56	3,000.45	0.59	0.55	-0.21
7,415.00	91.12	359.58	4,714.99	3,063.46	-1.93	3,063.43	0.42	0.32	-0.27
7,478.00	91.35	359.49	4,713.64	3,126.44	-2.44	3,126.42	0.39	0.37	-0.14
7,541.00	91.72	359.59	4,711.95	3,189.41	-2.95	3,189.39	0.61	0.59	0.16
7,604.00	92.44	359.67	4,709.66	3,252.37	-3.35	3,252.34	1.15	1.14	0.13
7,667.00	93.39	0.70	4,706.46	3,315.29	-3.15	3,315.26	2.22	1.51	1.63
7,730.00	94.03	3.95	4,702.38	3,378.10	-0.60	3,378.08	5.25	1.02	5.16
7,793.00	94.65	5.67	4,697.61	3,440.69	4.66	3,440.69	2.89	0.98	2.73
7,825.00	92.75	4.67	4,695.55	3,472.49	7.54	3,472.50	6.71	-5.94	-3.13
7,856.00	91.44	3.55	4,694.41	3,503.39	9.76	3,503.40	5.56	-4.23	-3.61
7,888.00	90.15	2.29	4,693.97	3,535.34	11.39	3,535.36	5.63	-4.03	-3.94
7,920.00	89.56	1.48	4,694.05	3,567.33	12.44	3,567.35	3.13	-1.84	-2.53
7,982.00	90.41	1.03	4,694.07	3,629.31	13.80	3,629.34	1.55	1.37	-0.73
8,045.00	91.49	1.07	4,693.02	3,692.29	14.96	3,692.32	1.72	1.71	0.06
8,108.00	90.19	0.55	4,692.10	3,755.28	15.85	3,755.31	2.22	-2.06	-0.83
8,171.00	90.93	0.20	4,691.48	3,818.27	16.26	3,818.30	1.30	1.17	-0.56
8,234.00	89.70	359.85	4,691.14	3,881.27	16.29	3,881.30	2.03	-1.95	-0.56
8,297.00	90.27	359.28	4,691.15	3,944.27	15.81	3,944.30	1.28	0.90	-0.90
8,360.00	91.16	359.08	4,690.37	4,007.25	14.91	4,007.28	1.45	1.41	-0.32
8,423.00	90.08	358.88	4,689.69	4,070.24	13.79	4,070.26	1.74	-1.71	-0.32

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #925H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	RKB @ 3584.50usft (Trinidad 436)
Site:	Dodd Federal Unit	MD Reference:	RKB @ 3584.50usft (Trinidad 436)
Well:	#925H	North Reference:	Grid
Wellbore:	OH / 63690	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 436)	Database:	USA Compass

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)
8,486.00	90.58	358.64	4,689.32	4,133.22	12.42	4,133.24	0.88	0.79	-0.38
8,549.00	89.70	358.43	4,689.17	4,196.20	10.81	4,196.22	1.44	-1.40	-0.33
8,612.00	90.30	358.19	4,689.17	4,259.18	8.95	4,259.18	1.03	0.95	-0.38
8,675.00	90.99	358.33	4,688.46	4,322.14	7.04	4,322.14	1.12	1.10	0.22
8,738.00	89.53	359.04	4,688.17	4,385.12	5.59	4,385.12	2.58	-2.32	1.13
8,801.00	90.33	358.94	4,688.25	4,448.11	4.48	4,448.10	1.28	1.27	-0.16
8,864.00	90.73	358.98	4,687.67	4,511.10	3.34	4,511.09	0.64	0.63	0.06
8,926.00	88.88	0.05	4,687.88	4,573.09	2.82	4,573.08	3.45	-2.98	1.73
8,989.00	89.82	359.94	4,688.59	4,636.09	2.81	4,636.07	1.50	1.49	-0.17
9,053.00	90.68	359.78	4,688.31	4,700.09	2.65	4,700.07	1.37	1.34	-0.25
9,116.00	91.22	0.19	4,687.27	4,763.08	2.64	4,763.06	1.08	0.86	0.65
9,179.00	89.16	0.77	4,687.06	4,826.07	3.17	4,826.06	3.40	-3.27	0.92
9,242.00	90.01	0.83	4,687.52	4,889.06	4.05	4,889.05	1.35	1.35	0.10
9,304.00	90.36	0.56	4,687.32	4,951.06	4.80	4,951.05	0.71	0.56	-0.44
9,367.00	89.53	2.24	4,687.38	5,014.04	6.34	5,014.03	2.97	-1.32	2.67
9,430.00	90.16	2.33	4,687.55	5,076.99	8.85	5,076.99	1.01	1.00	0.14
9,493.00	90.50	2.53	4,687.19	5,139.93	11.52	5,139.94	0.63	0.54	0.32
9,556.00	89.11	2.73	4,687.40	5,202.86	14.41	5,202.88	2.23	-2.21	0.32
9,616.00	89.94	2.94	4,687.90	5,262.78	17.38	5,262.81	1.42	1.38	0.35
LTP: 9616' MD									
9,619.00	89.98	2.95	4,687.90	5,265.78	17.53	5,265.81	1.42	1.38	0.35
Final Phoenix MWD Survey									
9,648.00	90.19	2.90	4,687.86	5,294.74	19.01	5,294.78	0.74	0.72	-0.17
Projection to TD									
9,707.00	90.19	2.90	4,687.66	5,353.67	22.00	5,353.71	0.00	0.00	0.00

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
270.00	270.00	-0.48	-0.56	Tie In
355.00	354.99	0.58	-1.32	First Phoenix MWD Survey
4,223.00	4,217.53	89.15	10.59	FTP: 4223' MD
9,616.00	4,687.90	5,262.78	17.38	LTP: 9616' MD
9,619.00	4,687.90	5,265.78	17.53	Final Phoenix MWD Survey
9,648.00	4,687.86	5,294.74	19.01	Projection to TD