

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

OCT 01 2015

RECEIVED

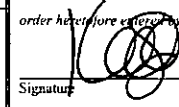
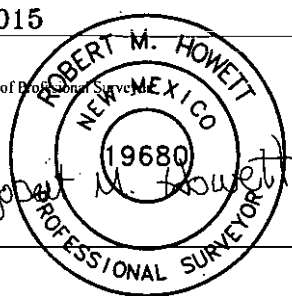
Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

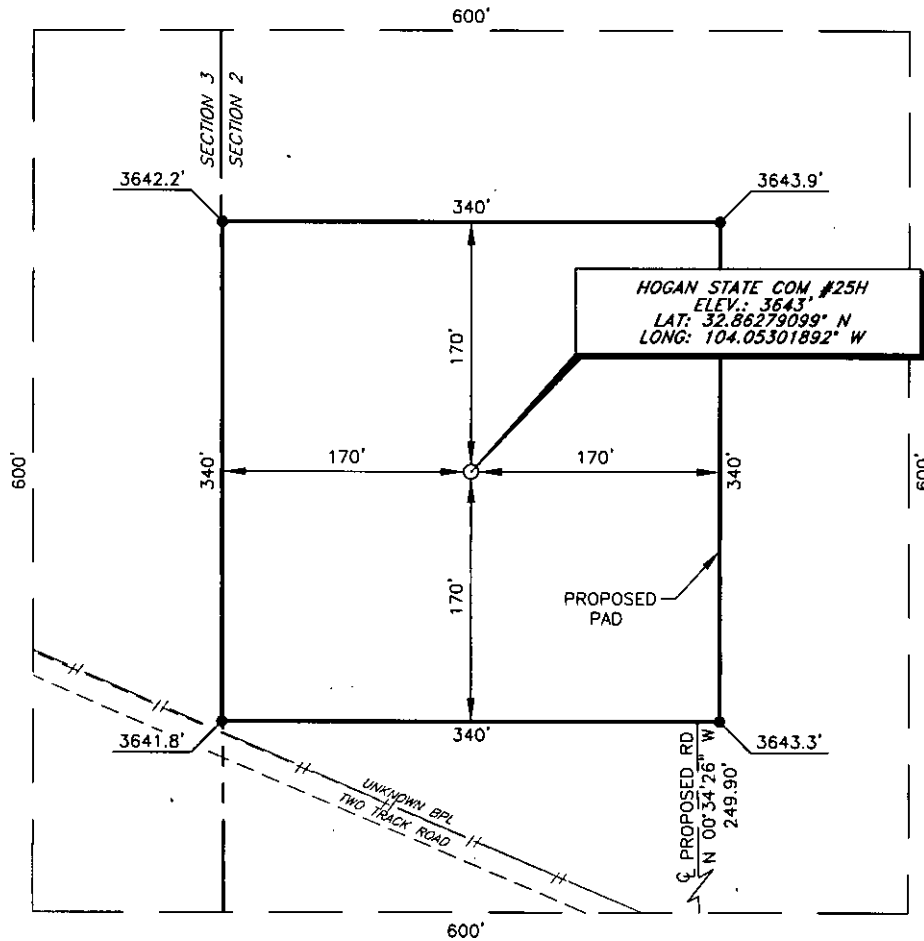
WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015- 43398		² Pool Code 96610		³ Pool Name Empire; Glorieta Yeso East	
⁴ Property Code 39291		⁵ Property Name HOGAN STATE COM			⁶ Well Number 25H
⁷ GRID NO. 229137		⁸ Operator Name COG OPERATING, LLC			⁹ Elevation 3643'
¹⁰ Surface Location					
UL or lot no. L	Section 2	Township 17S	Range 29E	Lot Idn	Feet from the 2380
				North/South line SOUTH	Feet From the 170
				East/West line WEST	County EDDY
¹¹ Bottom Hole Location If Different From Surface					
UL or lot no. I	Section 2	Township 17S	Range 29E	Lot Idn	Feet from the 2310
				North/South line SOUTH	Feet from the 330
				East/West line EAST	County 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.

¹⁶ GEODETIC DATA NAD 27 GRID - NM EAST SURFACE LOCATION N 677708.9 - E 586072.6 LAT: 32.86279099° N LONG: 104.05301892° W BOTTOM HOLE N 677632.3 - E 590869.2		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. Signature:  Date: 9-2-15 Printed Name: Kelly J. Holly E-mail Address: kholly@concho.com	
¹⁸ CORNER DATA NAD 27 GRID - NM EAST 1: CALCULATED CORNER N 676650.5 - E 585907.0 2: CALCULATED CORNER N 676642.0 - E 591199.7		D: FOUND BRASS CAP "1914" N 680599.8 - E 588550.2 E: FOUND BRASS CAP "1916" N 680599.9 - E 591196.5 F: FOUND BRASS CAP "1914" N 677961.6 - E 591198.9 G: FOUND BRASS CAP "1914" N 675322.5 - E 591200.4	
H: FOUND BRASS CAP "1914" N 675322.9 - E 588553.7 S 89°05'03" E (GRID) 4,798.41' (HORIZ.) Producing Area Project Area Estimated Completed Interval: 2310 FSL 695 FWL		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. Date of Survey: 6-19-2015 Signature and Seal of Professional Surveyor:  Certificate Number: 19680	

COG OPERATING, LLC
HOGAN STATE COM #25H
(2380' FSL & 170' FWL)
SECTION 2, T17S, R29E
N. M. P. M., EDDY CO., NEW MEXICO



DIRECTIONS TO LOCATION



From the intersection of CR-215 (Keweenaw Road) and US Hwy. 82;
Go North on CR-215 approx. 3.0 miles to a two track road;
Turn left and go Southwest approx. 0.6 miles;
Turn right and continue Northwest on two track road approx. 0.5 miles;
Location is approx. 263 feet North of the two track road.

SCALE: 1" = 100'
0 50 100
BEARINGS ARE
NAD 27 GRID - NM EAST
DISTANCES ARE
GROUND.

Firm No.: TX 10193838 NM 4655451

Copyright 2015 - All Rights Reserved

NO.	REVISION	DATE
JOB NO.:	LS1505260	
DWG. NO.:	1505260PAD	

RRC

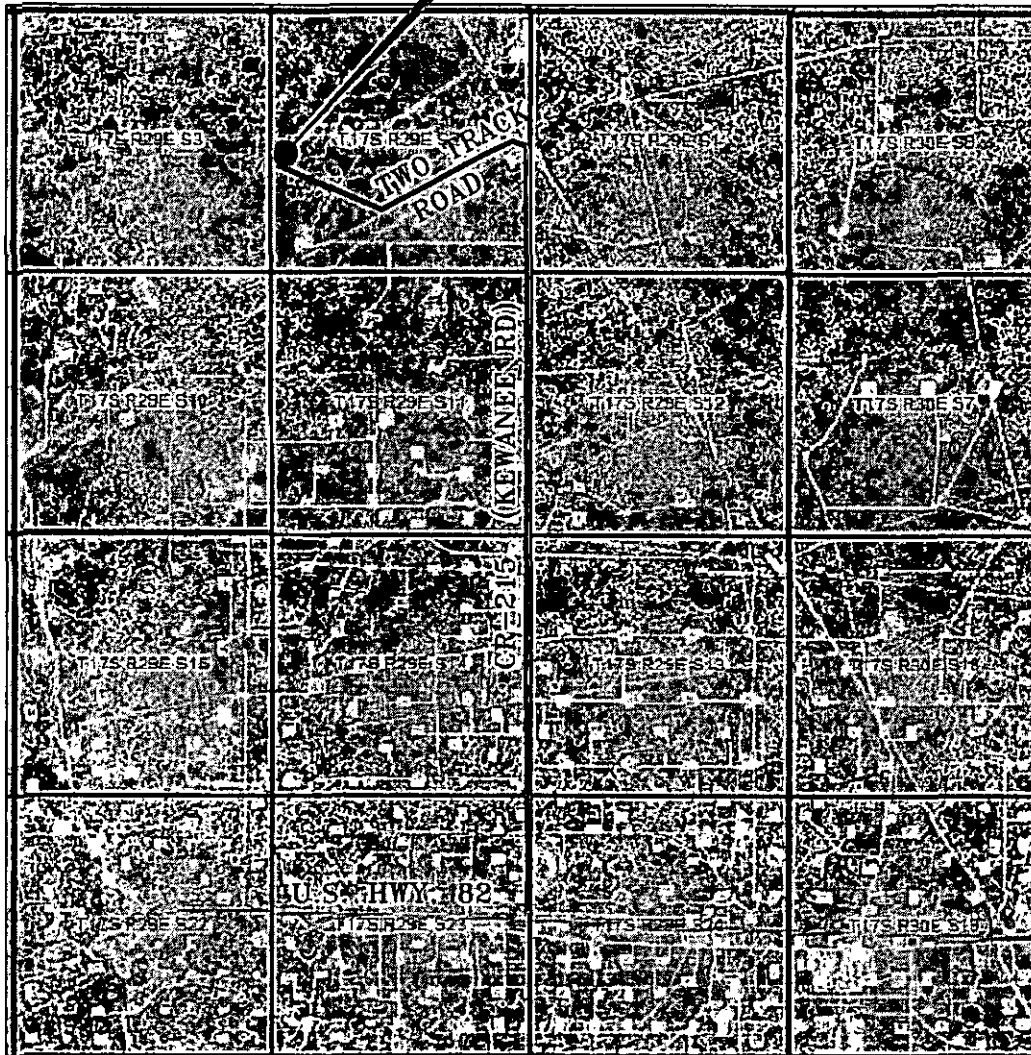
308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 100'
DATE: 6-19-15
SURVEYED BY: ER/BC
DRAWN BY: JC
APPROVED BY: RMH
SHEET : 1 OF 1

VICINITY MAP

NOT TO SCALE

HOGAN STATE COM #25H



*SECTION 2, TWP. 17 SOUTH, RGE. 29 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO*

OPERATOR: COG Operating, LLC
LEASE: Hogan State Com
WELL NO.: 25H

LOCATION: 2380' FSL & 170' FWL
ELEVATION: 3643'

Firm No.: TX 10193838 NM 4655451

Copyright 2015 - All Rights Reserved

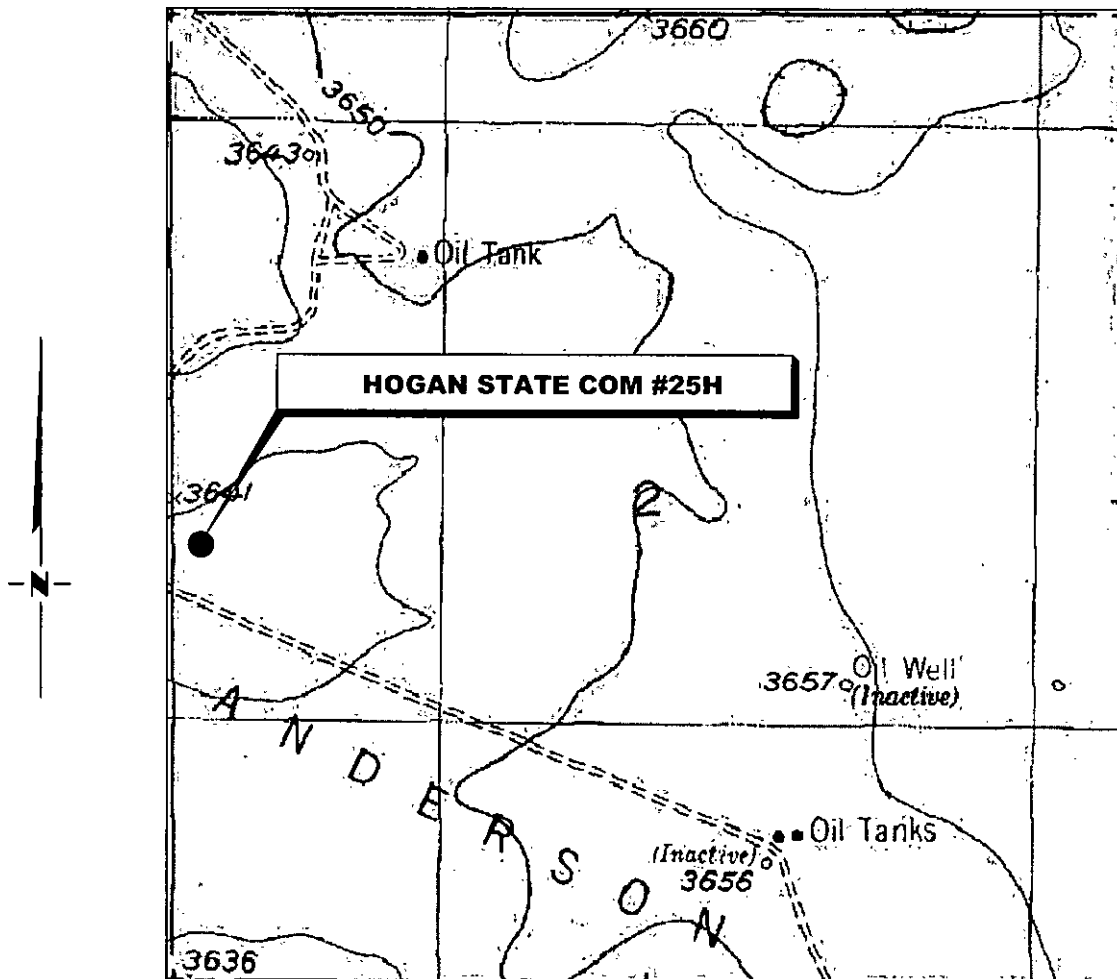
NO.	REVISION	DATE
JOB NO.: LS1505260		
DWG. NO.: 1505260VM		

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N.T.S.
DATE: 6-19-15
SURVEYED BY: ER/BC
DRAWN BY: JC
APPROVED BY: RMH
SHEET : 1 OF 1

LOCATION VERIFICATION MAP



SECTION 2, TWP. 17 SOUTH, RGE. 29 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: COG Operating, LLC
LEASE: Hogan State Com
WELL NO.: 25H
ELEVATION: 3643'

LOCATION: 2380' FSL & 170' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Red Lake SE, NM (1955)

Firm No.: TX 10193838 NM 4655451

Copyright 2015 - All Rights Reserved

NO.	REVISION	DATE
JOB NO.: LS1505260		
DWG. NO.: 1505260LVM		

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 1000'
DATE: 6-19-15
SURVEYED BY: ER/BC
DRAWN BY: JC
APPROVED BY: RMH
SHEET : 1 OF 1



COG Operating LLC

Eddy County, NM

Hogan State Com #25H

SHL: 2380' FSL, 170' FWL, Sec 2, T17S, R29E, Unit L

PP: 2310' FSL, 695.2' FWL, Sec 2, T17S, R29E, Unit L

BHL: 2310' FSL, 330' FEL, Sec 2, T17S, R29E, Unit I

Plan: Plan #1

Standard Planning Report

13 August, 2015





TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Hogan State Com #25H
Company:	COG Operating LLC	TVD Reference:	KB @ 3655.0usft (United 43)
Project:	Eddy County, NM	MD Reference:	KB @ 3655.0usft (United 43)
Site:	Hogan State Com #25H	North Reference:	Grid
Well:	SHL: 2380' FSL, 170' FWL, Sec 2, T17S, R29E, Unit L	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 2310' FSL, 330' FEL, Sec 2, T17S, R29E, Unit I		
Design:	Plan #1		

Project	Eddy County, NM		
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	Hogan State Com #25H		
Site Position:	From: Map	Northing: 677,708.90 usft	Latitude: 32° 51' 46.047 N
		Easting: 586,072.60 usft	Longitude: 104° 3' 10.868 W
Position Uncertainty:	0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.15 °

Well	SHL: 2380' FSL, 170' FWL, Sec 2, T17S, R29E, Unit L		
Well Position	+N/-S 0.0 usft	Northing: 677,708.90 usft	Latitude: 32° 51' 46.047 N
	+E/-W 0.0 usft	Easting: 586,072.60 usft	Longitude: 104° 3' 10.868 W
Position Uncertainty	0.0 usft	Wellhead Elevation: 0.0 usft	Ground Level: 3,643.0 usft

Wellbore	BHL: 2310' FSL, 330' FEL, Sec 2, T17S, R29E, Unit I				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/13/2015	7.42	60.59	48,455

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	90.91

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,429.2	0.00	0.00	4,429.2	0.0	0.0	0.00	0.00	0.00	0.00	
5,256.5	91.00	97.49	4,950.0	-69.1	525.4	11.00	11.00	0.00	97.49	
5,510.3	91.00	89.87	4,945.6	-85.4	778.5	3.00	0.00	-3.00	-89.94	
9,529.0	91.00	89.87	4,875.5	-76.6	4,796.6	0.00	0.00	0.00	0.00	BHL (HSC #25H/OH)



TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Hogan State Com #25H
Company:	COG Operating LLC	TVD Reference:	KB @ 3655.0usft (United 43)
Project:	Eddy County, NM	MD Reference:	KB @ 3655.0usft (United 43)
Site:	Hogan State Com #25H	North Reference:	Grid
Well:	SHL: 2380' FSL, 170' FWL, Sec 2, T17S, R29E, Unit L	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 2310' FSL, 330' FEL, Sec 2, T17S, R29E, Unit I		
Design:	Plan #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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,429.2	0.00	0.00	4,429.2	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 11.00									
4,450.0	2.29	97.49	4,450.0	-0.1	0.4	0.4	11.00	11.00	0.00
4,500.0	7.79	97.49	4,499.8	-0.6	4.8	4.8	11.00	11.00	0.00
4,550.0	13.29	97.49	4,548.9	-1.8	13.8	13.9	11.00	11.00	0.00
4,600.0	18.79	97.49	4,597.0	-3.6	27.5	27.6	11.00	11.00	0.00
4,650.0	24.29	97.49	4,643.4	-6.0	45.7	45.8	11.00	11.00	0.00



TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Hogan State Com #25H
Company:	COG Operating LLC	TVD Reference:	KB @ 3655.0usft (United 43)
Project:	Eddy County, NM	MD Reference:	KB @ 3655.0usft (United 43)
Site:	Hogan State Com #25H	North Reference:	Grid
Well:	SHL: 2380' FSL, 170' FWL, Sec 2, T17S, R29E, Unit L	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 2310' FSL, 330' FEL, Sec 2, T17S, R29E, Unit I		
Design:	Plan #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)
4,700.0	29.79	97.49	4,688.0	-9.0	68.2	68.4	11.00	11.00	0.00
4,750.0	35.29	97.49	4,730.1	-12.5	94.9	95.1	11.00	11.00	0.00
4,800.0	40.79	97.49	4,769.5	-16.5	125.4	125.7	11.00	11.00	0.00
4,850.0	46.29	97.49	4,805.7	-21.0	159.6	159.9	11.00	11.00	0.00
4,900.0	51.79	97.49	4,838.5	-25.9	197.0	197.4	11.00	11.00	0.00
4,950.0	57.29	97.49	4,867.5	-31.2	237.3	237.8	11.00	11.00	0.00
5,000.0	62.79	97.49	4,892.4	-36.8	280.3	280.8	11.00	11.00	0.00
5,050.0	68.29	97.49	4,913.1	-42.8	325.4	326.0	11.00	11.00	0.00
5,100.0	73.79	97.49	4,929.4	-48.9	372.2	373.0	11.00	11.00	0.00
5,150.0	79.29	97.49	4,941.0	-55.3	420.4	421.3	11.00	11.00	0.00
5,200.0	84.79	97.49	4,947.9	-61.7	469.5	470.4	11.00	11.00	0.00
5,250.0	90.29	97.49	4,950.1	-68.2	519.0	520.0	11.00	11.00	0.00
5,256.5	91.00	97.49	4,950.0	-69.1	525.4	526.5	11.00	11.00	0.00
EOC/TURN - Start DLS 3.00 TFO -89.94									
5,300.0	91.00	96.18	4,949.2	-74.3	568.6	569.8	3.00	0.00	-3.00
5,400.0	91.00	93.18	4,947.5	-82.4	668.3	669.5	3.00	0.00	-3.00
5,500.0	91.00	90.18	4,945.7	-85.4	768.2	769.5	3.00	0.00	-3.00
5,510.3	91.00	89.87	4,945.6	-85.4	778.5	779.7	3.00	0.00	-3.00
END TURN - Start 4018.7 hold at 6510.3 MD									
5,600.0	91.00	89.87	4,944.0	-85.2	868.2	869.5	0.00	0.00	0.00
5,700.0	91.00	89.87	4,942.3	-85.0	968.2	969.4	0.00	0.00	0.00
5,800.0	91.00	89.87	4,940.5	-84.7	1,068.2	1,069.4	0.00	0.00	0.00
5,900.0	91.00	89.87	4,938.8	-84.5	1,168.2	1,169.4	0.00	0.00	0.00
6,000.0	91.00	89.87	4,937.0	-84.3	1,268.1	1,269.3	0.00	0.00	0.00
6,100.0	91.00	89.87	4,935.3	-84.1	1,368.1	1,369.3	0.00	0.00	0.00
6,200.0	91.00	89.87	4,933.5	-83.9	1,468.1	1,469.3	0.00	0.00	0.00
6,300.0	91.00	89.87	4,931.8	-83.6	1,568.1	1,569.2	0.00	0.00	0.00
6,400.0	91.00	89.87	4,930.0	-83.4	1,668.1	1,669.2	0.00	0.00	0.00
6,500.0	91.00	89.87	4,928.3	-83.2	1,768.1	1,769.2	0.00	0.00	0.00
6,600.0	91.00	89.87	4,926.6	-83.0	1,868.0	1,869.1	0.00	0.00	0.00
6,700.0	91.00	89.87	4,924.8	-82.8	1,968.0	1,969.1	0.00	0.00	0.00
6,800.0	91.00	89.87	4,923.1	-82.6	2,068.0	2,069.1	0.00	0.00	0.00
6,900.0	91.00	89.87	4,921.3	-82.3	2,168.0	2,169.0	0.00	0.00	0.00
7,000.0	91.00	89.87	4,919.6	-82.1	2,268.0	2,269.0	0.00	0.00	0.00
7,100.0	91.00	89.87	4,917.8	-81.9	2,368.0	2,369.0	0.00	0.00	0.00
7,200.0	91.00	89.87	4,916.1	-81.7	2,468.0	2,468.9	0.00	0.00	0.00
7,300.0	91.00	89.87	4,914.4	-81.5	2,567.9	2,568.9	0.00	0.00	0.00
7,400.0	91.00	89.87	4,912.6	-81.2	2,667.9	2,668.9	0.00	0.00	0.00
7,500.0	91.00	89.87	4,910.9	-81.0	2,767.9	2,768.9	0.00	0.00	0.00
7,600.0	91.00	89.87	4,909.1	-80.8	2,867.9	2,868.8	0.00	0.00	0.00
7,700.0	91.00	89.87	4,907.4	-80.6	2,967.9	2,968.8	0.00	0.00	0.00
7,800.0	91.00	89.87	4,905.6	-80.4	3,067.9	3,068.8	0.00	0.00	0.00
7,900.0	91.00	89.87	4,903.9	-80.2	3,167.8	3,168.7	0.00	0.00	0.00
8,000.0	91.00	89.87	4,902.2	-79.9	3,267.8	3,268.7	0.00	0.00	0.00
8,100.0	91.00	89.87	4,900.4	-79.7	3,367.8	3,368.7	0.00	0.00	0.00
8,200.0	91.00	89.87	4,898.7	-79.5	3,467.8	3,468.6	0.00	0.00	0.00
8,300.0	91.00	89.87	4,896.9	-79.3	3,567.8	3,568.6	0.00	0.00	0.00
8,400.0	91.00	89.87	4,895.2	-79.1	3,667.8	3,668.6	0.00	0.00	0.00
8,500.0	91.00	89.87	4,893.4	-78.8	3,767.8	3,768.5	0.00	0.00	0.00
8,600.0	91.00	89.87	4,891.7	-78.6	3,867.7	3,868.5	0.00	0.00	0.00
8,700.0	91.00	89.87	4,890.0	-78.4	3,967.7	3,968.5	0.00	0.00	0.00
8,800.0	91.00	89.87	4,888.2	-78.2	4,067.7	4,068.4	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Hogan State Com #25H
Company:	COG Operating LLC	TVD Reference:	KB @ 3655.0usft (United 43)
Project:	Eddy County, NM	MD Reference:	KB @ 3655.0usft (United 43)
Site:	Hogan State Com #25H	North Reference:	Grid
Well:	SHL: 2380' FSL, 170' FWL, Sec 2, T17S, R29E, Unit L	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 2310' FSL, 330' FEL, Sec 2, T17S, R29E, Unit I		
Design:	Plan #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)	
8,900.0	91.00	89.87	4,886.5	-78.0	4,167.7	4,168.4	0.00	0.00	0.00	
9,000.0	91.00	89.87	4,884.7	-77.8	4,267.7	4,268.4	0.00	0.00	0.00	
9,100.0	91.00	89.87	4,883.0	-77.5	4,367.7	4,368.3	0.00	0.00	0.00	
9,200.0	91.00	89.87	4,881.2	-77.3	4,467.6	4,468.3	0.00	0.00	0.00	
9,300.0	91.00	89.87	4,879.5	-77.1	4,567.6	4,568.3	0.00	0.00	0.00	
9,400.0	91.00	89.87	4,877.7	-76.9	4,667.6	4,668.2	0.00	0.00	0.00	
9,500.0	91.00	89.87	4,876.0	-76.7	4,767.6	4,768.2	0.00	0.00	0.00	
9,529.0	91.00	89.87	4,875.5	-76.6	4,796.6	4,797.2	0.00	0.00	0.00	
TD at 9529.0										

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude		
BHL (HSC #25H/OH) - plan hits target center - Point	0.00	0.00	4,875.5	-76.6	4,796.6	677,632.30	590,869.20	32° 51' 45.160 N 104° 2' 14.635 W		
PP/EOC (HSC #25H/OH) - plan hits target center - Point	0.00	0.00	4,950.0	-69.1	525.5	677,639.81	586,598.07	32° 51' 45.350 N 104° 3' 4.710 W		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
4,429.2	4,429.2	0.0	0.0	KOP - Start Build 11.00	
5,256.5	4,950.0	-69.1	525.4	EOC/TURN - Start DLS 3.00 TFO -89.94	
5,510.3	4,945.6	-85.4	778.5	END TURN - Start 4018.7 hold at 5510.3 MD	
9,529.0	4,875.5	-76.6	4,796.6	TD at 9529.0	



Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	0.0
2	4429.2	0.00	0.00	4429.2	0.0	0.0	0.00	0.00	0.0	0.0
3	5256.5	91.00	97.49	4950.0	-69.1	525.4	11.00	97.49	526.5	0.0
4	5510.3	91.00	89.87	4945.6	-85.4	778.5	3.00	-89.94	779.7	0.0
5	9529.0	91.00	89.87	4875.5	-76.6	4796.6	0.00	0.00	4797.2	BHL (HSC #25H/OH)

COG Operating LLC

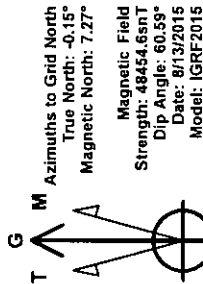
Project: Eddy County, NM

Site: Hogan State Cor #25H

Well: SHL: 2380' FSL, 170' FWL, Sec 2, T17S, R29E, Unit L

Wellbore: BHL: 2310' FSL, 330' FEL, Sec 2, T17S, R29E, Unit I

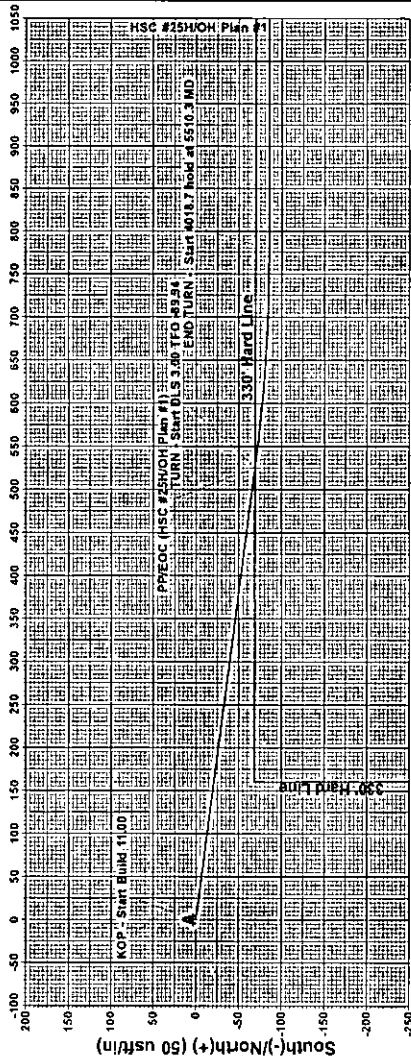
Plan: Plan #1 (SHL: 2380' FSL, 170' FWL, Sec 2, T17S, R29E, Unit L/BHL: 2310' FSL, 330' FEL, Sec 2, T17S, R29E, Unit I)



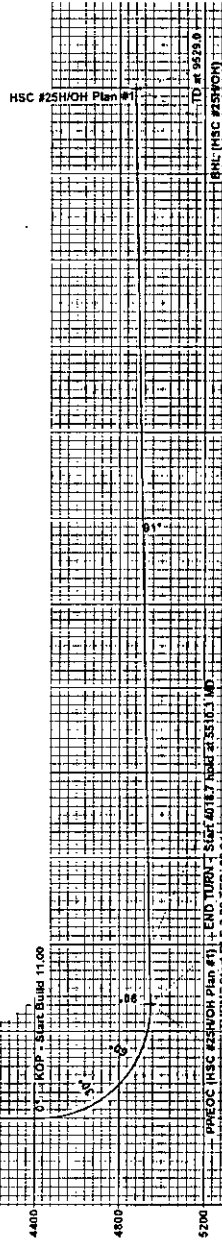
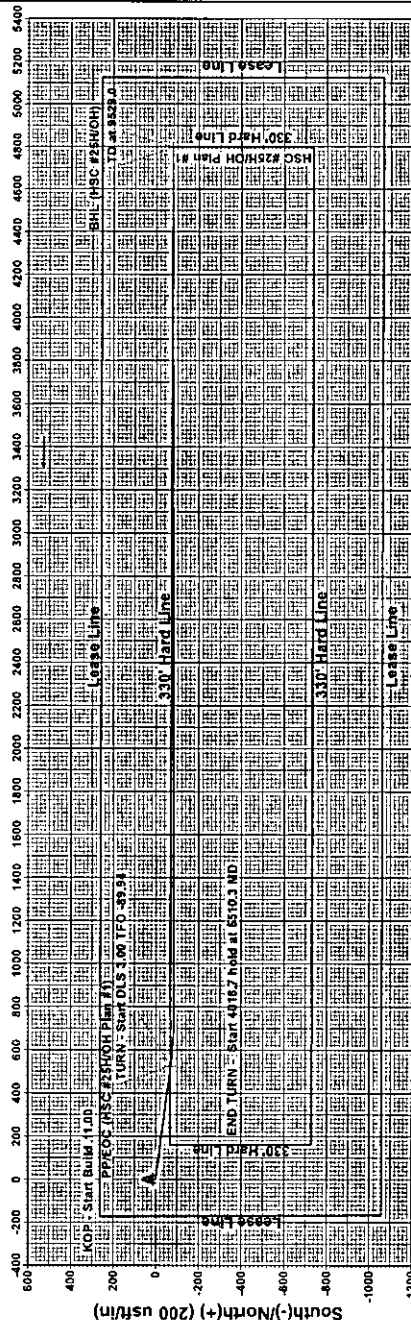
Ground Elevation: 3643.0
RKB Elevation: KB @ 3655.0usft (United 43)

Northing 677708.90
Easting 586072.60
Latitude 32° 51' 46.047 N
Longitude 104° 3' 10.868 W

West(-)/East(+) (50 usft/in)



West(-)/East(+) (200 usft/in)



Vertical Section at 90.91° (200 usft/in)

Terra Directional Services LLC

322 Spring Hill Drive, Suite A300, Spring, Tx 77386

Phone: 432-425-7532

PROJECT DETAILS: Eddy County, NM
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

