

NM OIL CONSERVATION

ARTESIA DISTRICT

SEP 28 2015

Form C-102

Revised August 1, 2011

RECEIVED
One copy to appropriate District Office

☐ AMENDED REPORT

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

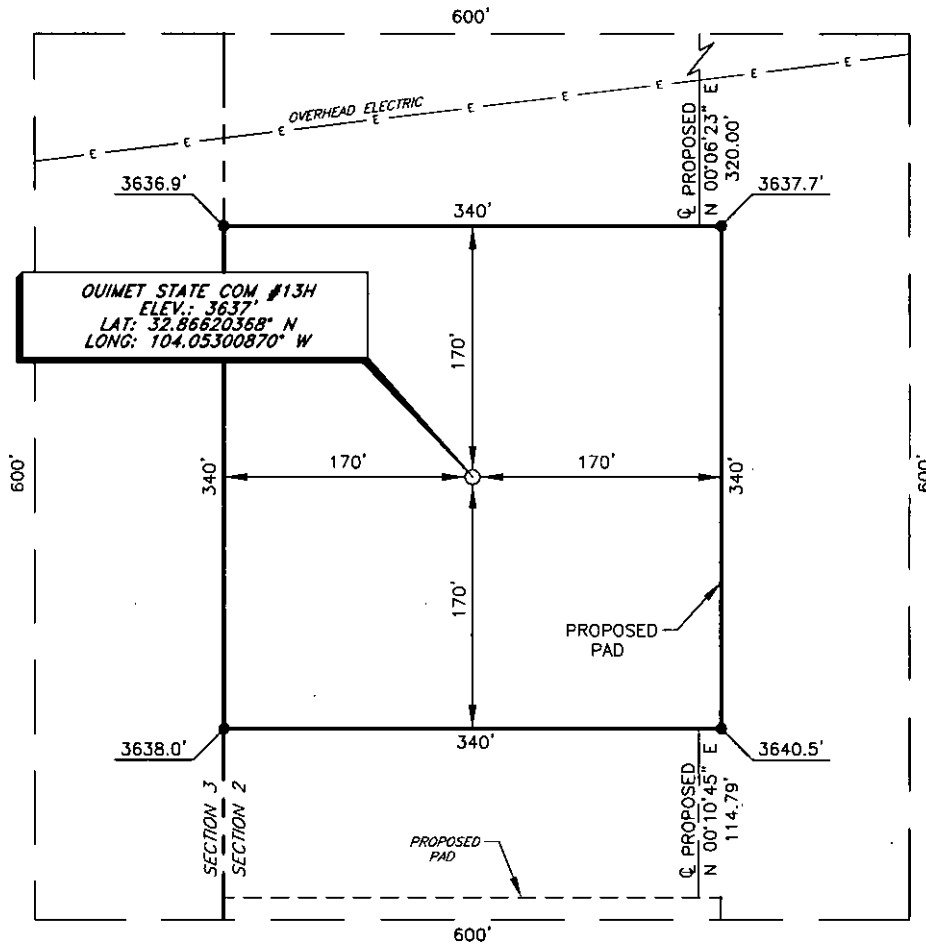
1 API Number 30-015- 43384		2 Pool Code 96610		3 Pool Name Empire; Glorieta Yeso East					
4 Property Code 39292		5 Property Name OUMET STATE COM						6 Well Number 13H	
7 GRID NO. 229137		8 Operator Name COG OPERATING, LLC						9 Elevation 3637'	
10 Surface Location									
UL or lot no. E	Section 2	Township 17S	Range 29E	Lot Idn	Feet from the 1650	North/South line NORTH	Feet From the 170	East/West line WEST	County EDDY
11 Bottom Hole Location If Different From Surface									
UL or lot no. H	Section 2	Township 17S	Range 29E	Lot Idn	Feet from the 1648	North/South line NORTH	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.

		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: 9-24-15 Printed Name: Kelly J. Holly E-mail Address: kholly@concho.com
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: 6-23-2015 Signature and Seal of Professional Surveyor: Certificate Number: 19680		GEODETIC DATA NAD 27 GRID - NM EAST SURFACE LOCATION N 678950.5 - E 586072.5 LAT: 32.86620368° N LONG: 104.05300870° W BOTTOM HOLE N 678951.9 - E 590868.1 CORNER DATA NAD 27 GRID - NM EAST A: FOUND 1/2" REBAR N 675329.9 - E 585912.5 B: FOUND BRASS CAP "1914" N 677971.0 - E 585901.6 C: FOUND BRASS CAP "1914" N 680600.2 - E 585904.0 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 1: CALCULATED CORNER N 679290.7 - E 585902.8 2: CALCULATED CORNER N 679281.3 - E 591197.7

RRC - Firm No.: TX 10193838 NM 4655451 - Job No.: LS1505270

COG OPERATING, LLC
 OUIMET STATE COM #13H
 (1650' FNL & 170' FWL)
 SECTION 2, T17S, R29E
 N. M. P. M., EDDY CO., NEW MEXICO



DIRECTIONS TO LOCATION



From the intersection of CR-215 (Kewanee Road) and US Hwy. 82;
 Go North on CR-215 approx. 3.0 miles to a two track road on the left;
 Turn left stay left and go Southwest approx. 0.6 miles;
 Turn right and continue Northwest on two tract road approx. 0.5 miles
 to proposed road on right;
 Turn right and follow proposed road North approx. 0.2 miles;
 Location is approx. 160 feet on the left.

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

Firm No.: TX 10193838 NM 4655451

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NO.	REVISION	DATE
JOB NO.:	LS1505270	
DWG. NO.:	1505270PAD	

RRC

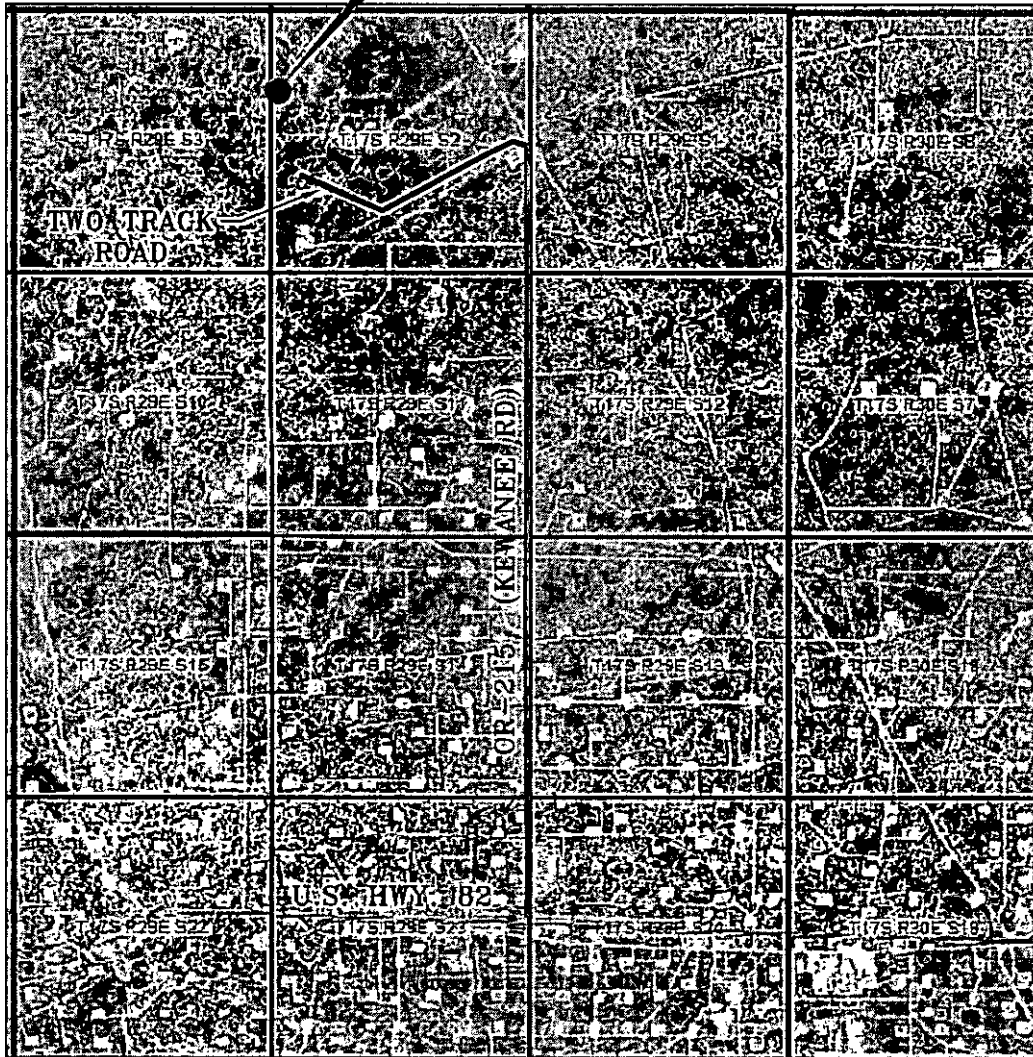
308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 100'
DATE: 6-23-15
SURVEYED BY: BC/ER
DRAWN BY: JC
APPROVED BY: RMH
SHEET : 1 OF 1

VICINITY MAP

NOT TO SCALE

OUIMET STATE COM #13H



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

OPERATOR: COG Operating, LLC
LEASE: Ouimet State Com
WELL NO.: 13H

LOCATION: 1650' FNL & 170' FWL
ELEVATION: 3637'

Firm No.: TX 10193838 NM 4555451

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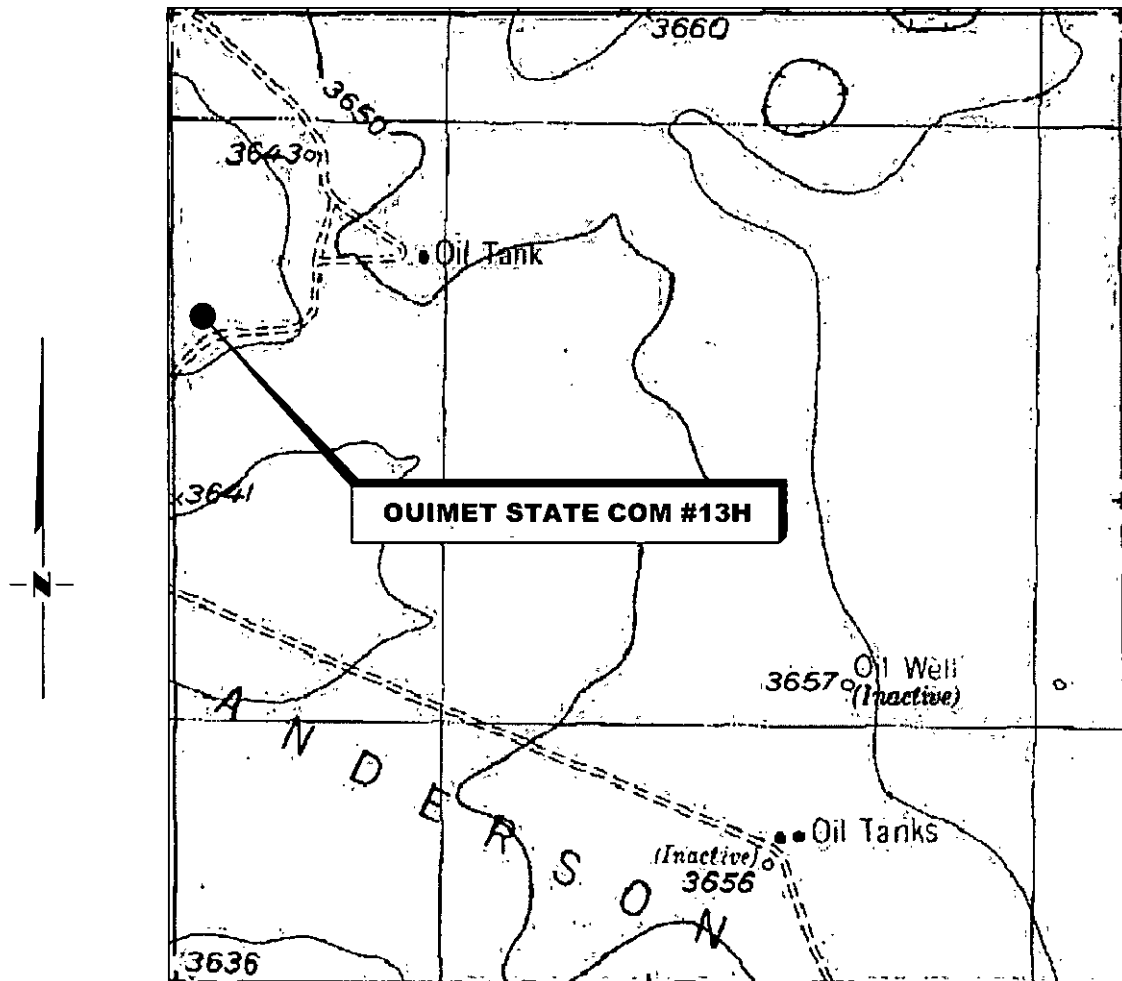
NO.	REVISION	DATE
JOB NO.: LS1505270		
DWG. NO.: 1505270VM		

RRC

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

SCALE: N.T.S.
DATE: 6-23-15
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: Ouimet State Com
WELL NO.: 13H
ELEVATION: 3637'

LOCATION: 1650' FNL & 170' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Red Lake SE, NM (1955)

Firm No.: TX 10193838 NM 4655451

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NO.	REVISION	DATE
JOB NO.: LS1505270		
DWG. NO.: 1505270LVM		

RRC

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

SCALE: 1" = 1000'
DATE: 6-23-15
SURVEYED BY: ER/BC
DRAWN BY: JC
APPROVED BY: RMH
SHEET : 1 OF 1



NM OIL CONSERVATION

ARTESIA DISTRICT

SEP 28 2015

RECEIVED

COG Operating LLC

Eddy County, NM

Ouimet State Com #13H

SHL: 1650' FNL, 170' FWL, Sec 2, T17S, R29E, Unit E

PP: 1650' FNL, 330' FWL, Sec 2, T17S, R29E, Unit E

EOC: 1649.8' FNL, 700' FWL, Sec 2, T17S, R29E, Unit E

BHL: 1648' FNL, 330' FEL, Sec 2, T17S, R29E, Unit H

Plan: Plan #1

Standard Survey Report

13 July, 2015





TDS
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Ouimet State Com #13H
Project:	Eddy County, NM	TVD Reference:	KB @ 3649.0usft (United 43)
Site:	Ouimet State Com #13H	MD Reference:	KB @ 3649.0usft (United 43)
Well:	SHL: 1650' FNL, 170' FWL, Sec 2, T17S, R29E, Unit E	North Reference:	Grid
Wellbore:	BHL: 1648' FNL, 330' FEL, Sec 2, T17S, R29E, Unit H	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

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	Ouimet State Com #13H		
Site Position:	Map	Northings:	678,950.50 usft
From:		Easting:	586,072.50 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 51' 58.333 N
		Longitude:	104° 3' 10.831 W
		Grid Convergence:	0.15 °

Well:	SHL: 1650' FNL, 170' FWL, Sec 2, T17S, R29E, Unit E		
Well Position	+N/-S	0.0 usft	Northings:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 51' 58.333 N
		Longitude:	104° 3' 10.831 W
		Ground Level:	3,637.0 usft

Wellbore	BHL: 1648' FNL, 330' FEL, Sec 2, T17S, R29E, Unit H		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	7/13/2015	7.43
			Dip Angle
			(°)
			60.60
			Field Strength
			(nT)
			48,465

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			89.98

Survey Tool Program	Date 7/13/2015		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
0.0	8,872.8	Plan #1 (BHL: 1648' FNL, 330' FEL, Sec 2,	MWD
			MWD - Standard

Planned Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/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	



TDS
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Ouimet State Com #13H
Project:	Eddy County, NM	TVD Reference:	KB @ 3649.0usft (United 43)
Site:	Ouimet State Com #13H	MD Reference:	KB @ 3649.0usft (United 43)
Well:	SHL: 1650' FNL, 170' FWL, Sec 2, T17S, R29E, Unit E	North Reference:	Grid
Wellbore:	BHL: 1648' FNL, 330' FEL, Sec 2, T17S, R29E, Unit H	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

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)
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
3,779.2	0.00	0.00	3,779.2	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start DLS 11.00 TFO 89.98									
3,800.0	2.29	89.98	3,800.0	0.0	0.4	0.4	11.00	11.00	0.00
3,850.0	7.79	89.98	3,849.8	0.0	4.8	4.8	11.00	11.00	0.00
3,900.0	13.29	89.98	3,898.9	0.0	13.9	13.9	11.00	11.00	0.00
3,950.0	18.79	89.98	3,947.0	0.0	27.8	27.8	11.00	11.00	0.00
4,000.0	24.29	89.98	3,993.4	0.0	46.1	46.1	11.00	11.00	0.00
4,050.0	29.79	89.98	4,038.0	0.0	68.8	68.8	11.00	11.00	0.00
4,100.0	35.29	89.98	4,080.1	0.0	95.7	95.7	11.00	11.00	0.00
4,150.0	40.79	89.98	4,119.5	0.0	126.5	126.5	11.00	11.00	0.00
4,200.0	46.29	89.98	4,155.7	0.0	160.9	160.9	11.00	11.00	0.00
4,250.0	51.79	89.98	4,188.5	0.1	198.7	198.7	11.00	11.00	0.00
4,300.0	57.29	89.98	4,217.5	0.1	239.4	239.4	11.00	11.00	0.00



TDS
Survey Report



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Site:	Ouimet State Com #13H	MD Reference:	KB @ 3649.0usft (United 43)
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Wellbore:	BHL: 1648' FNL, 330' FEL, Sec 2, T17S, R29E, Unit H	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

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)
4,350.0	62.79	89.98	4,242.4	0.1	282.7	282.7	11.00	11.00	0.00
4,400.0	68.29	89.98	4,263.1	0.1	328.2	328.2	11.00	11.00	0.00
4,450.0	73.79	89.98	4,279.4	0.1	375.4	375.4	11.00	11.00	0.00
4,500.0	79.29	89.98	4,291.0	0.1	424.1	424.1	11.00	11.00	0.00
4,550.0	84.79	89.98	4,297.9	0.1	473.6	473.6	11.00	11.00	0.00
4,600.0	90.29	89.98	4,300.1	0.2	523.5	523.5	11.00	11.00	0.00
4,606.5	91.00	89.98	4,300.0	0.2	530.0	530.0	11.00	11.00	0.00
EOC - Start 4266.3 hold at 4606.5 MD									
4,700.0	91.00	89.98	4,298.4	0.2	623.5	623.5	0.00	0.00	0.00
4,800.0	91.00	89.98	4,296.6	0.2	723.5	723.5	0.00	0.00	0.00
4,900.0	91.00	89.98	4,294.9	0.2	823.4	823.4	0.00	0.00	0.00
5,000.0	91.00	89.98	4,293.1	0.3	923.4	923.4	0.00	0.00	0.00
5,100.0	91.00	89.98	4,291.4	0.3	1,023.4	1,023.4	0.00	0.00	0.00
5,200.0	91.00	89.98	4,289.6	0.3	1,123.4	1,123.4	0.00	0.00	0.00
5,300.0	91.00	89.98	4,287.9	0.4	1,223.4	1,223.4	0.00	0.00	0.00
5,400.0	91.00	89.98	4,286.1	0.4	1,323.4	1,323.4	0.00	0.00	0.00
5,500.0	91.00	89.98	4,284.4	0.4	1,423.4	1,423.4	0.00	0.00	0.00
5,600.0	91.00	89.98	4,282.7	0.4	1,523.3	1,523.3	0.00	0.00	0.00
5,700.0	91.00	89.98	4,280.9	0.5	1,623.3	1,623.3	0.00	0.00	0.00
5,800.0	91.00	89.98	4,279.2	0.5	1,723.3	1,723.3	0.00	0.00	0.00
5,900.0	91.00	89.98	4,277.4	0.5	1,823.3	1,823.3	0.00	0.00	0.00
6,000.0	91.00	89.98	4,275.7	0.6	1,923.3	1,923.3	0.00	0.00	0.00
6,100.0	91.00	89.98	4,273.9	0.6	2,023.3	2,023.3	0.00	0.00	0.00
6,200.0	91.00	89.98	4,272.2	0.6	2,123.2	2,123.2	0.00	0.00	0.00
6,300.0	91.00	89.98	4,270.4	0.6	2,223.2	2,223.2	0.00	0.00	0.00
6,400.0	91.00	89.98	4,268.7	0.7	2,323.2	2,323.2	0.00	0.00	0.00
6,500.0	91.00	89.98	4,266.9	0.7	2,423.2	2,423.2	0.00	0.00	0.00
6,600.0	91.00	89.98	4,265.2	0.7	2,523.2	2,523.2	0.00	0.00	0.00
6,700.0	91.00	89.98	4,263.5	0.8	2,623.2	2,623.2	0.00	0.00	0.00
6,800.0	91.00	89.98	4,261.7	0.8	2,723.2	2,723.2	0.00	0.00	0.00
6,900.0	91.00	89.98	4,260.0	0.8	2,823.1	2,823.1	0.00	0.00	0.00
7,000.0	91.00	89.98	4,258.2	0.9	2,923.1	2,923.1	0.00	0.00	0.00
7,100.0	91.00	89.98	4,256.5	0.9	3,023.1	3,023.1	0.00	0.00	0.00
7,200.0	91.00	89.98	4,254.7	0.9	3,123.1	3,123.1	0.00	0.00	0.00
7,300.0	91.00	89.98	4,253.0	0.9	3,223.1	3,223.1	0.00	0.00	0.00
7,400.0	91.00	89.98	4,251.2	1.0	3,323.1	3,323.1	0.00	0.00	0.00
7,500.0	91.00	89.98	4,249.5	1.0	3,423.0	3,423.0	0.00	0.00	0.00
7,600.0	91.00	89.98	4,247.8	1.0	3,523.0	3,523.0	0.00	0.00	0.00
7,700.0	91.00	89.98	4,246.0	1.1	3,623.0	3,623.0	0.00	0.00	0.00
7,800.0	91.00	89.98	4,244.3	1.1	3,723.0	3,723.0	0.00	0.00	0.00
7,900.0	91.00	89.98	4,242.5	1.1	3,823.0	3,823.0	0.00	0.00	0.00
8,000.0	91.00	89.98	4,240.8	1.1	3,923.0	3,923.0	0.00	0.00	0.00
8,100.0	91.00	89.98	4,239.0	1.2	4,023.0	4,023.0	0.00	0.00	0.00



TDS
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Ouimet State Com #13H
Project:	Eddy County, NM	TVD Reference:	KB @ 3649.0usft (United 43)
Site:	Ouimet State Com #13H	MD Reference:	KB @ 3649.0usft (United 43)
Well:	SHL: 1650' FNL, 170' FWL, Sec 2, T17S, R29E, Unit E	North Reference:	Grid
Wellbore:	BHL: 1648' FNL, 330' FEL, Sec 2, T17S, R29E, Unit H	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

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)	
8,200.0	91.00	89.98	4,237.3	1.2	4,122.9	4,122.9	0.00	0.00	0.00	
8,300.0	91.00	89.98	4,235.5	1.2	4,222.9	4,222.9	0.00	0.00	0.00	
8,400.0	91.00	89.98	4,233.8	1.3	4,322.9	4,322.9	0.00	0.00	0.00	
8,500.0	91.00	89.98	4,232.0	1.3	4,422.9	4,422.9	0.00	0.00	0.00	
8,600.0	91.00	89.98	4,230.3	1.3	4,522.9	4,522.9	0.00	0.00	0.00	
8,700.0	91.00	89.98	4,228.6	1.3	4,622.9	4,622.9	0.00	0.00	0.00	
8,800.0	91.00	89.98	4,226.8	1.4	4,722.8	4,722.8	0.00	0.00	0.00	
8,872.8	91.00	89.98	4,225.5	1.4	4,795.6	4,795.6	0.00	0.00	0.00	
TD at 8872.8										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PP (OSC #13H/OH Plan - hit/miss target - Shape - Point	0.00	0.00	4,154.8	0.0	160.0	678,950.54	586,232.50	32° 51' 58.329 N	104° 3' 8.955 W	
PBHL (OSC #13H/OH) - plan hits target center - Point	0.00	0.00	4,225.5	1.4	4,795.6	678,951.90	590,868.10	32° 51' 58.218 N	104° 2' 14.605 W	
EOC (OSC #13H/OH Pl - plan hits target center - Point	0.00	0.00	4,300.0	0.2	530.0	678,950.65	586,602.49	32° 51' 58.321 N	104° 3' 4.617 W	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
3779	3779	+N/-S (usft)	+E/-W (usft)	KOP - Start DLS 11.00 TFO 89.98	
4606	4300	0	530	EOC - Start 4266.3 hold at 4606.5 MD	
8873	4226	1	4796	TD at 8872.8	

Checked By: _____ Approved By: _____ Date: _____

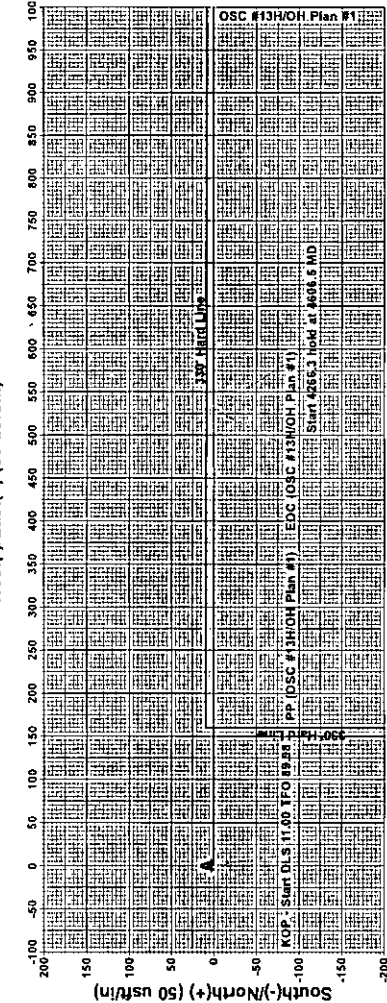


Section Details

Ground Elevation: 3637.0
RKB Elevation: KB @ 3649.0usft (United 43)

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	3779.2	0.00	0.00	3779.2	0.0	0.0	0.00	0.00	0.0	0.0
3	4606.5	91.00	89.98	4300.0	0.2	530.0	11.00	89.98	530.0	0.0
4	8872.8	91.00	89.98	4225.5	1.4	4795.6	0.00	0.00	4795.6	PBHL (OSC #13H/OH)

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



COG Operating LLC

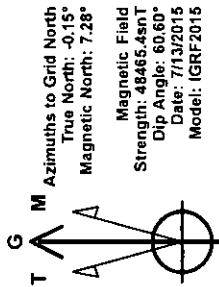
Project: Eddy County, NM

Site: Oilmet State Com #13H

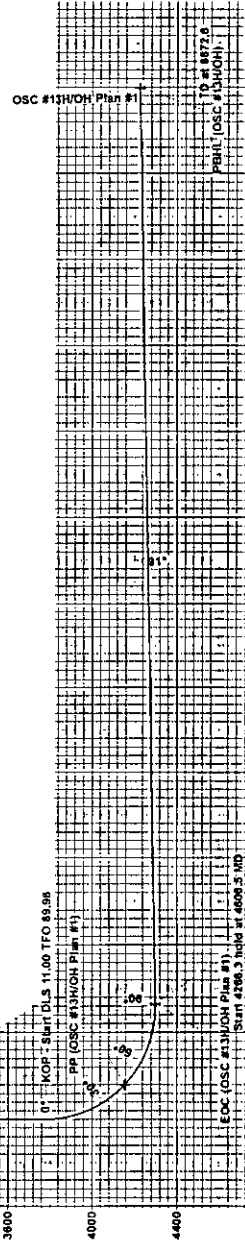
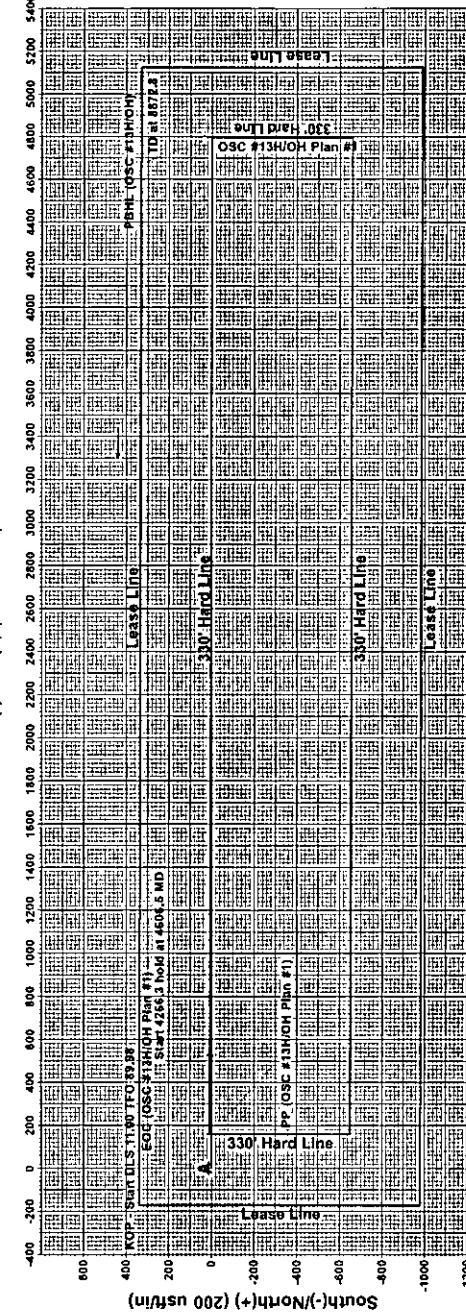
Well: SHL: 1650' FNL, 170' FWL, Sec 2, T17S, R29E, Unit E

Wellbore: BHL: 1648' FNL, 330' FEL, Sec 2, T17S, R29E, Unit H

Plan: Plan #1 (SHL: 1650' FNL, 170' FWL, Sec 2, T17S, R29E, Unit E; BHL: 1648' FNL, 330' FEL, Sec 2, T17S, R29E, Unit H)



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



Vertical Section at 89.98° (200 usf/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

