

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-015-45746
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Daisy 24 State Com
8. Well Number 502H
9. OGRID Number 229137
10. Pool name or Wildcat Hay Hallow; Bone Spring, North 30216

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.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

COG Operating LLC

3. Address of Operator

600 W. Illinois Ave., Midland, TX 79701

4. Well Location

Unit Letter D : 275 feet from the North line and 415 feet from the West line
Section 24 Township 25S Range 27E NMPM County Eddy

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3051' GR

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 ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ☐

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 to change the BHL of this well

FROM: 50' FSL 760' FWL, Sec 25, T25S, R27E, Unit M

TO: 50' FSL 990' FWL, Sec 25, T25S, R27E, Unit M

X Attached are the revised C102 and directional plan.

RECEIVED

MAR 18 2019

DISTRICT II-ARTESIA O.C.D.

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

TITLE

Regulatory Analyst

DATE

03/15/19

Type or print name

Robyn M. Russell

E-mail address:

Russell@concho.com

PHONE:

(432) 685-4385

For State Use Only

APPROVED BY:

TITLE

Geo Logist

DATE

3-20-19

Conditions of Approval (if any):

RECEIVED

DISTRICT I
1625 N. FRANCHER 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) 748-0720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 478-3460 Fax: (505) 478-3462

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

to appropriate
District Office

DISTRICT II-ARTESIA-OGD

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-45746	Pool Code 30216	Pool Name Hay Hollow; Bone Spring, North
Property Code 325001	Property Name DAISY 24 STATE COM	Well Number 502H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3051.0'

Surface Location

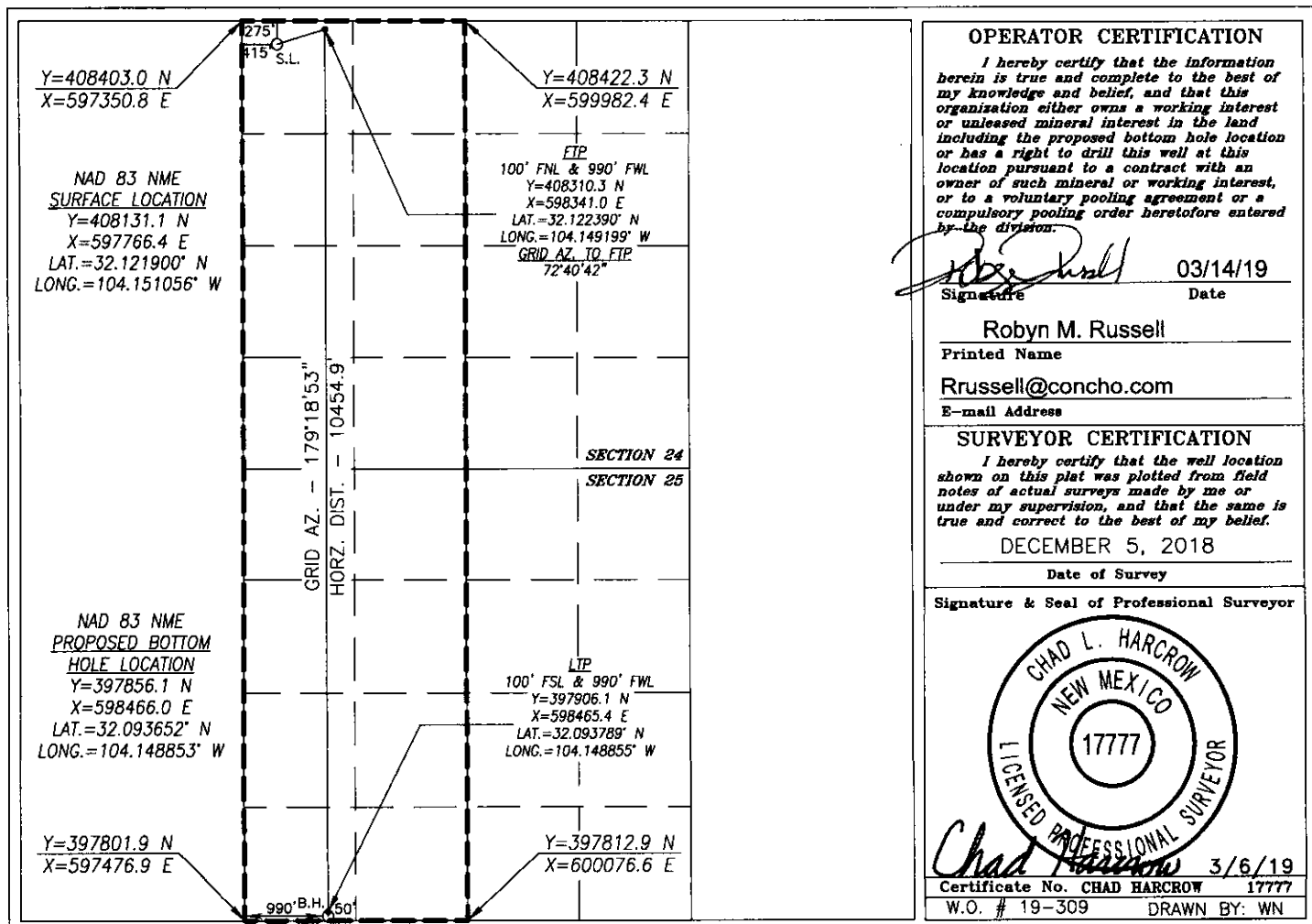
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	24	25-S	27-E		275	NORTH	415	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	25	25-S	27-E		50	SOUTH	990	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

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



RW 3-20-19



C O N C H O

RECEIVED

MAR 18 2019

DISTRICT II-ARTESIA O.C.D.

COG Operating L L C

Eddy County, NM (NAD 27 NME)

Sec. 24, T 25S. , R 27 E

Daisy State Com #502H

Wellbore #1

Plan: Plan #2

Standard Survey Report

11 March, 2019



INTEGRITY
DIRECTIONAL

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Well:	Daisy State Com #502H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	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. 24, T 25S., R 27 E		
Site Position:		Northing:	408,345.40 usft
From:	Map	Easting:	556,167.10 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.12253
		Longitude:	-104.15191
		Grid Convergence:	0.10 °

Well	Daisy State Com #502H		
Well Position	+N/-S	0.00 usft	Northing: 408,073.50 usft
	+E/-W	0.00 usft	Easting: 556,582.70 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Ground Level:	3,051.00 usft

Wellbore	Wellbore #1		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/31/2018	7.23	59.83	47,878

Design	Plan #2		
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Audit Notes:			
Version:		Phase: PLAN	Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	176.11

Survey Tool Program		Date 3/11/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	18,074.76	Plan #2 (Wellbore #1)	MWD	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	

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Well:	Daisy State Com #502H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	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	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Well:	Daisy State Com #502H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	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	50.19	5,699.98	1.12	1.34	-1.02	2.00	2.00	0.00
5,800.00	4.00	50.19	5,799.84	4.47	5.36	-4.09	2.00	2.00	0.00
5,900.00	6.00	50.19	5,899.45	10.05	12.06	-9.20	2.00	2.00	0.00
6,000.00	8.00	50.19	5,998.70	17.85	21.42	-16.35	2.00	2.00	0.00
6,099.48	9.99	50.19	6,096.95	27.80	33.37	-25.47	2.00	2.00	0.00
Start 1100.35 hold at 6099.48 MD									
6,100.00	9.99	50.19	6,097.47	27.86	33.43	-25.53	0.00	0.00	0.00
6,200.00	9.99	50.19	6,195.95	38.97	46.76	-35.70	0.00	0.00	0.00
6,300.00	9.99	50.19	6,294.43	50.07	60.09	-45.88	0.00	0.00	0.00
6,400.00	9.99	50.19	6,392.92	61.18	73.41	-56.05	0.00	0.00	0.00
6,500.00	9.99	50.19	6,491.40	72.28	86.74	-66.23	0.00	0.00	0.00
6,600.00	9.99	50.19	6,589.89	83.39	100.07	-76.40	0.00	0.00	0.00
6,700.00	9.99	50.19	6,688.37	94.49	113.39	-86.57	0.00	0.00	0.00
6,800.00	9.99	50.19	6,786.85	105.60	126.72	-96.75	0.00	0.00	0.00
6,900.00	9.99	50.19	6,885.34	116.70	140.04	-106.92	0.00	0.00	0.00
7,000.00	9.99	50.19	6,983.82	127.81	153.37	-117.10	0.00	0.00	0.00
7,100.00	9.99	50.19	7,082.31	138.91	166.70	-127.27	0.00	0.00	0.00
7,199.83	9.99	50.19	7,180.62	150.00	180.00	-137.43	0.00	0.00	0.00
Start DLS 10.00 TFO 107.75									
7,200.00	9.99	50.19	7,180.79	150.02	180.02	-137.45	0.00	0.00	0.00
7,300.00	11.76	104.60	7,279.23	153.00	196.59	-139.29	10.02	1.77	54.40
7,400.00	19.36	129.73	7,375.60	139.80	219.26	-124.59	10.00	7.61	25.13
7,500.00	28.45	140.19	7,466.97	110.83	247.33	-93.78	10.00	9.09	10.46
7,600.00	37.98	145.81	7,550.55	66.97	279.95	-47.80	10.00	9.52	5.62
7,700.00	47.67	149.42	7,623.82	9.55	316.14	11.94	10.00	9.70	3.62
7,800.00	57.45	152.06	7,684.54	-59.69	354.78	83.65	10.00	9.78	2.64
7,900.00	67.28	154.18	7,730.87	-138.64	394.72	165.13	10.00	9.82	2.11
8,000.00	77.13	156.01	7,761.40	-224.91	434.73	253.91	10.00	9.85	1.83
8,100.00	86.99	157.69	7,775.20	-315.86	473.60	347.30	10.00	9.86	1.69
8,130.57	90.00	158.20	7,776.00	-344.18	485.07	376.33	10.00	9.86	1.65
Start DLS 4.00 TFO 89.67									
8,200.00	90.02	160.98	7,776.00	-409.25	509.29	442.89	4.00	0.02	4.00
8,300.00	90.04	164.98	7,775.95	-504.85	538.56	540.26	4.00	0.02	4.00
8,400.00	90.06	168.98	7,775.86	-602.26	561.09	638.97	4.00	0.02	4.00
8,500.00	90.08	172.98	7,775.73	-701.00	576.77	738.55	4.00	0.02	4.00
8,600.00	90.11	176.98	7,775.57	-800.59	585.52	838.51	4.00	0.02	4.00
8,658.54	90.12	179.32	7,775.45	-859.10	587.41	897.01	4.00	0.02	4.00
Start 9416.39 hold at 8658.54 MD									
8,700.00	90.12	179.32	7,775.37	-900.56	587.90	938.40	0.00	0.00	0.00
8,800.00	90.12	179.32	7,775.16	-1,000.55	589.09	1,038.25	0.00	0.00	0.00

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
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Well:	Daisy State Com #502H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	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	90.12	179.32	7,774.95	-1,100.54	590.28	1,138.09	0.00	0.00	0.00
9,000.00	90.12	179.32	7,774.75	-1,200.53	591.47	1,237.93	0.00	0.00	0.00
9,100.00	90.12	179.32	7,774.54	-1,300.53	592.66	1,337.77	0.00	0.00	0.00
9,200.00	90.12	179.32	7,774.33	-1,400.52	593.85	1,437.62	0.00	0.00	0.00
9,300.00	90.12	179.32	7,774.13	-1,500.51	595.04	1,537.46	0.00	0.00	0.00
9,400.00	90.12	179.32	7,773.92	-1,600.51	596.23	1,637.30	0.00	0.00	0.00
9,500.00	90.12	179.32	7,773.71	-1,700.50	597.42	1,737.14	0.00	0.00	0.00
9,600.00	90.12	179.32	7,773.51	-1,800.49	598.61	1,836.99	0.00	0.00	0.00
9,700.00	90.12	179.32	7,773.30	-1,900.48	599.80	1,936.83	0.00	0.00	0.00
9,800.00	90.12	179.32	7,773.10	-2,000.48	600.99	2,036.67	0.00	0.00	0.00
9,900.00	90.12	179.32	7,772.89	-2,100.47	602.18	2,136.51	0.00	0.00	0.00
10,000.00	90.12	179.32	7,772.68	-2,200.46	603.36	2,236.36	0.00	0.00	0.00
10,100.00	90.12	179.32	7,772.48	-2,300.45	604.55	2,336.20	0.00	0.00	0.00
10,200.00	90.12	179.32	7,772.27	-2,400.45	605.74	2,436.04	0.00	0.00	0.00
10,300.00	90.12	179.32	7,772.06	-2,500.44	606.93	2,535.89	0.00	0.00	0.00
10,400.00	90.12	179.32	7,771.86	-2,600.43	608.12	2,635.73	0.00	0.00	0.00
10,500.00	90.12	179.32	7,771.65	-2,700.43	609.31	2,735.57	0.00	0.00	0.00
10,600.00	90.12	179.32	7,771.44	-2,800.42	610.50	2,835.41	0.00	0.00	0.00
10,700.00	90.12	179.32	7,771.24	-2,900.41	611.69	2,935.26	0.00	0.00	0.00
10,800.00	90.12	179.32	7,771.03	-3,000.40	612.88	3,035.10	0.00	0.00	0.00
10,900.00	90.12	179.32	7,770.82	-3,100.40	614.07	3,134.94	0.00	0.00	0.00
11,000.00	90.12	179.32	7,770.62	-3,200.39	615.26	3,234.78	0.00	0.00	0.00
11,100.00	90.12	179.32	7,770.41	-3,300.38	616.45	3,334.63	0.00	0.00	0.00
11,200.00	90.12	179.32	7,770.20	-3,400.37	617.64	3,434.47	0.00	0.00	0.00
11,300.00	90.12	179.32	7,770.00	-3,500.37	618.83	3,534.31	0.00	0.00	0.00
11,400.00	90.12	179.32	7,769.79	-3,600.36	620.01	3,634.15	0.00	0.00	0.00
11,500.00	90.12	179.32	7,769.58	-3,700.35	621.20	3,734.00	0.00	0.00	0.00
11,600.00	90.12	179.32	7,769.38	-3,800.35	622.39	3,833.84	0.00	0.00	0.00
11,700.00	90.12	179.32	7,769.17	-3,900.34	623.58	3,933.68	0.00	0.00	0.00
11,800.00	90.12	179.32	7,768.96	-4,000.33	624.77	4,033.52	0.00	0.00	0.00
11,900.00	90.12	179.32	7,768.76	-4,100.32	625.96	4,133.37	0.00	0.00	0.00
12,000.00	90.12	179.32	7,768.55	-4,200.32	627.15	4,233.21	0.00	0.00	0.00
12,100.00	90.12	179.32	7,768.34	-4,300.31	628.34	4,333.05	0.00	0.00	0.00
12,200.00	90.12	179.32	7,768.14	-4,400.30	629.53	4,432.90	0.00	0.00	0.00
12,300.00	90.12	179.32	7,767.93	-4,500.29	630.72	4,532.74	0.00	0.00	0.00
12,400.00	90.12	179.32	7,767.72	-4,600.29	631.91	4,632.58	0.00	0.00	0.00
12,500.00	90.12	179.32	7,767.52	-4,700.28	633.10	4,732.42	0.00	0.00	0.00
12,600.00	90.12	179.32	7,767.31	-4,800.27	634.29	4,832.27	0.00	0.00	0.00
12,700.00	90.12	179.32	7,767.10	-4,900.26	635.48	4,932.11	0.00	0.00	0.00
12,800.00	90.12	179.32	7,766.90	-5,000.26	636.67	5,031.95	0.00	0.00	0.00
12,900.00	90.12	179.32	7,766.69	-5,100.25	637.85	5,131.79	0.00	0.00	0.00
13,000.00	90.12	179.32	7,766.48	-5,200.24	639.04	5,231.64	0.00	0.00	0.00
13,100.00	90.12	179.32	7,766.28	-5,300.24	640.23	5,331.48	0.00	0.00	0.00

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site:	Sec. 24, T 25S. , R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Well:	Daisy State Com #502H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	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	90.12	179.32	7,766.07	-5,400.23	641.42	5,431.32	0.00	0.00	0.00
13,300.00	90.12	179.32	7,765.86	-5,500.22	642.61	5,531.16	0.00	0.00	0.00
13,400.00	90.12	179.32	7,765.66	-5,600.21	643.80	5,631.01	0.00	0.00	0.00
13,500.00	90.12	179.32	7,765.45	-5,700.21	644.99	5,730.85	0.00	0.00	0.00
13,600.00	90.12	179.32	7,765.24	-5,800.20	646.18	5,830.69	0.00	0.00	0.00
13,700.00	90.12	179.32	7,765.04	-5,900.19	647.37	5,930.53	0.00	0.00	0.00
13,800.00	90.12	179.32	7,764.83	-6,000.18	648.56	6,030.38	0.00	0.00	0.00
13,900.00	90.12	179.32	7,764.62	-6,100.18	649.75	6,130.22	0.00	0.00	0.00
14,000.00	90.12	179.32	7,764.42	-6,200.17	650.94	6,230.06	0.00	0.00	0.00
14,100.00	90.12	179.32	7,764.21	-6,300.16	652.13	6,329.91	0.00	0.00	0.00
14,200.00	90.12	179.32	7,764.01	-6,400.16	653.32	6,429.75	0.00	0.00	0.00
14,300.00	90.12	179.32	7,763.80	-6,500.15	654.50	6,529.59	0.00	0.00	0.00
14,400.00	90.12	179.32	7,763.59	-6,600.14	655.69	6,629.43	0.00	0.00	0.00
14,500.00	90.12	179.32	7,763.39	-6,700.13	656.88	6,729.28	0.00	0.00	0.00
14,600.00	90.12	179.32	7,763.18	-6,800.13	658.07	6,829.12	0.00	0.00	0.00
14,700.00	90.12	179.32	7,762.97	-6,900.12	659.26	6,928.96	0.00	0.00	0.00
14,800.00	90.12	179.32	7,762.77	-7,000.11	660.45	7,028.80	0.00	0.00	0.00
14,900.00	90.12	179.32	7,762.56	-7,100.10	661.64	7,128.65	0.00	0.00	0.00
15,000.00	90.12	179.32	7,762.35	-7,200.10	662.83	7,228.49	0.00	0.00	0.00
15,100.00	90.12	179.32	7,762.15	-7,300.09	664.02	7,328.33	0.00	0.00	0.00
15,200.00	90.12	179.32	7,761.94	-7,400.08	665.21	7,428.17	0.00	0.00	0.00
15,300.00	90.12	179.32	7,761.73	-7,500.08	666.40	7,528.02	0.00	0.00	0.00
15,400.00	90.12	179.32	7,761.53	-7,600.07	667.59	7,627.86	0.00	0.00	0.00
15,500.00	90.12	179.32	7,761.32	-7,700.06	668.78	7,727.70	0.00	0.00	0.00
15,600.00	90.12	179.32	7,761.11	-7,800.05	669.97	7,827.54	0.00	0.00	0.00
15,700.00	90.12	179.32	7,760.91	-7,900.05	671.15	7,927.39	0.00	0.00	0.00
15,800.00	90.12	179.32	7,760.70	-8,000.04	672.34	8,027.23	0.00	0.00	0.00
15,900.00	90.12	179.32	7,760.49	-8,100.03	673.53	8,127.07	0.00	0.00	0.00
16,000.00	90.12	179.32	7,760.29	-8,200.02	674.72	8,226.92	0.00	0.00	0.00
16,100.00	90.12	179.32	7,760.08	-8,300.02	675.91	8,326.76	0.00	0.00	0.00
16,200.00	90.12	179.32	7,759.87	-8,400.01	677.10	8,426.60	0.00	0.00	0.00
16,300.00	90.12	179.32	7,759.67	-8,500.00	678.29	8,526.44	0.00	0.00	0.00
16,400.00	90.12	179.32	7,759.46	-8,600.00	679.48	8,626.29	0.00	0.00	0.00
16,500.00	90.12	179.32	7,759.25	-8,699.99	680.67	8,726.13	0.00	0.00	0.00
16,600.00	90.12	179.32	7,759.05	-8,799.98	681.86	8,825.97	0.00	0.00	0.00
16,700.00	90.12	179.32	7,758.84	-8,899.97	683.05	8,925.81	0.00	0.00	0.00
16,800.00	90.12	179.32	7,758.63	-8,999.97	684.24	9,025.66	0.00	0.00	0.00
16,900.00	90.12	179.32	7,758.43	-9,099.96	685.43	9,125.50	0.00	0.00	0.00
17,000.00	90.12	179.32	7,758.22	-9,199.95	686.62	9,225.34	0.00	0.00	0.00
17,100.00	90.12	179.32	7,758.01	-9,299.94	687.81	9,325.18	0.00	0.00	0.00
17,200.00	90.12	179.32	7,757.81	-9,399.94	688.99	9,425.03	0.00	0.00	0.00
17,300.00	90.12	179.32	7,757.60	-9,499.93	690.18	9,524.87	0.00	0.00	0.00
17,400.00	90.12	179.32	7,757.39	-9,599.92	691.37	9,624.71	0.00	0.00	0.00
17,500.00	90.12	179.32	7,757.19	-9,699.92	692.56	9,724.55	0.00	0.00	0.00

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Well:	Daisy State Com #502H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	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	90.12	179.32	7,756.98	-9,799.91	693.75	9,824.40	0.00	0.00	0.00
17,700.00	90.12	179.32	7,756.77	-9,899.90	694.94	9,924.24	0.00	0.00	0.00
17,800.00	90.12	179.32	7,756.57	-9,999.89	696.13	10,024.08	0.00	0.00	0.00
17,900.00	90.12	179.32	7,756.36	-10,099.89	697.32	10,123.93	0.00	0.00	0.00
18,000.00	90.12	179.32	7,756.15	-10,199.88	698.51	10,223.77	0.00	0.00	0.00
18,074.93	90.12	179.32	7,756.00	-10,274.80	699.40	10,298.58	0.00	0.00	0.00
TD at 18074.93									

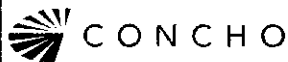
Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Daisy State Com #50:	0.00	0.00	0.00	177.50	344.60	408,251.00	556,927.30	32.12227	-104.14945
- plan misses target center by 387.63usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Daisy State Com #50:	0.00	0.00	7,756.00	-10,274.80	699.40	397,798.70	557,282.10	32.09353	-104.14836
- plan hits target center									
- Point									
Daisy State Com #50:	0.00	0.00	7,756.10	-10,224.80	698.80	397,848.70	557,281.50	32.09367	-104.14837
- plan misses target center by 24.92usft at 18000.00usft MD (7756.15 TVD, -10199.88 N, 698.51 E)									
- Point									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
578.00	578.00	TOS		0.00		
2,020.00	2,020.00	BOS (Fletcher)		0.00		
2,214.00	2,214.00	LMAR (Top Delaware)		0.00		
2,250.00	2,250.00	BLCN		0.00		
3,067.00	3,067.00	CYCN		0.00		
4,263.00	4,263.00	BYCN				
5,881.45	5,881.00	Bone Sprg (BSGL)				
6,180.76	6,177.00	U Avalon Sh				
6,420.39	6,413.00	L Avalon Sh				
6,757.50	6,745.00	B Avalon Sh				
6,812.33	6,799.00	FBSG_sand				
7,388.80	7,365.00	SBSG_sand				

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site:	Sec. 24, T 25S. , R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Well:	Daisy State Com #502H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	EDM 5000.1

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
6099	6097	28	33	Start 1100.35 hold at 6099.48 MD
7200	7181	150	180	Start DLS 10.00 TFO 107.75
8131	7776	-344	485	Start DLS 4.00 TFO 89.67
8659	7775	-859	587	Start 9416.39 hold at 8658.54 MD
18,075	7756	-10,275	699	TD at 18074.93

Checked By: _____ Approved By: _____ Date: _____



COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec. 24, T 25S., R 27 E
Well: Daisy State Com #502H
Wellbore: Wellbore #1
Plan: Plan #2 (Daisy State Com #502H/Wellbore #1)
Nabors 894

WELL DETAILS: Daisy State Com #502H

Ground Elevation:: 3051.00
RKB Elevation: KB=30' @ 3081.00usft (Nabors 894)
Rig Name: Nabors 894

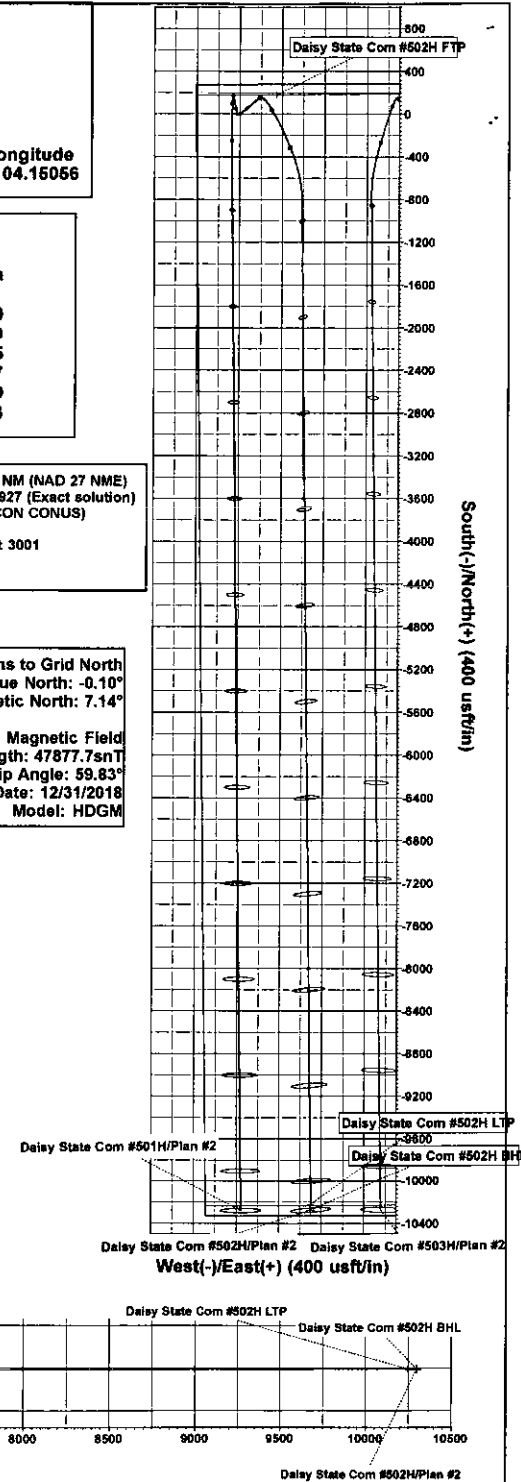
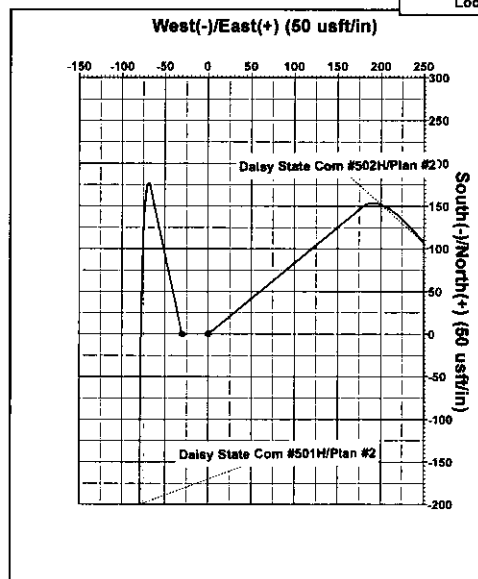
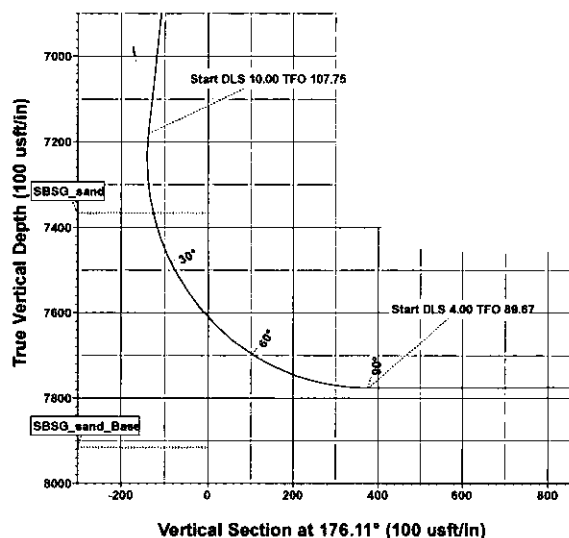
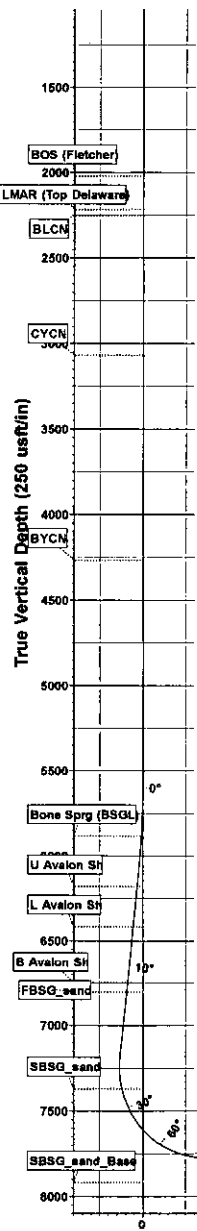
Northing 408073.50 Easting 556582.70 Latitude 32.12178 Longitude -104.15056

Planned Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	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	6099.48	9.99	50.19	6096.96	27.80	33.37	2.00	50.19	-25.47	Start 1100.35 hold at 6099.48 MD
4	7199.83	9.99	50.19	7180.62	150.00	180.00	0.00	0.00	-137.43	Start DLS 10.00 TFO 107.75
5	8130.57	90.00	158.20	7776.00	-344.18	485.07	10.00	107.75	376.33	Start DLS 4.00 TFO 89.67
6	8658.54	90.12	179.32	7775.45	-859.10	587.41	4.00	89.67	897.01	Start 9416.39 hold at 8658.54 MD
7	18074.93	90.12	179.32	7756.00-10274.80	699.40	0.00	0.00	10298.58		TD at 18074.93

PROJECT DETAILS: Eddy County, NM (NAD 27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1886
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Azimuths to Grid North
True North: -0.10°
Magnetic North: 7.14°
Magnetic Field
Strength: 47877.7snT
Dip Angle: 59.63°
Date: 12/31/2018
Model: HDGM



Vertical Section at 176.11° (250 usft/in)



C O N C H O

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MAR 18 2019

DISTRICT II-ARTESIA O.C.D.

COG Operating L L C

Eddy County, NM (NAD 27 NME)

Sec. 24, T 25S. , R 27 E

Daisy State Com #502H

Wellbore #1

Plan #2

Anticollision Report

11 March, 2019



INTEGRITY
DIRECTIONAL



Anticollision Report



Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S. , R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 19,999.96 u
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Circular Conic
Casing Method:	Not applied

Survey Tool Program		Date	3/11/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	18,074.76	Plan #2 (Wellbore #1)	MWD	MWD - Standard	

Summary							
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning	
Offset Well - Wellbore - Design							
Sec. 24, T 25S. , R 27 E							
Daisy State Com #501H - Wellbore #1 - Plan #2	5,600.00	5,600.00	30.00	5.12	1.206	Level 2, CC, ES, SF	
Daisy State Com #503H - Wellbore #1 - Plan #2	18,074.93	18,009.99	655.18	278.00	1.737	CC, ES, SF	

Offset Design Sec. 24, T 25S. , R 27 E - Daisy State Com #501H - Wellbore #1 - Plan #2											Offset Site Error: 0.00 usft		
Survey Program: 0-MWD											Offset Well Error: 0.00 usft		
Reference		Offset		Semi Major Axis		Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-90.57	-0.30	-30.00	30.00				
100.00	100.00	100.00	100.00	0.08	0.08	-90.57	-0.30	-30.00	30.00	29.84	0.16	190.684	
200.00	200.00	200.00	200.00	0.30	0.30	-90.57	-0.30	-30.00	30.00	29.39	0.61	49.437	
300.00	300.00	300.00	300.00	0.53	0.53	-90.57	-0.30	-30.00	30.00	28.95	1.06	28.400	
400.00	400.00	400.00	400.00	0.75	0.75	-90.57	-0.30	-30.00	30.00	28.50	1.51	19.922	
500.00	500.00	500.00	500.00	0.98	0.98	-90.57	-0.30	-30.00	30.00	28.05	1.96	15.342	
600.00	600.00	600.00	600.00	1.20	1.20	-90.57	-0.30	-30.00	30.00	27.60	2.40	12.475	
700.00	700.00	700.00	700.00	1.43	1.43	-90.57	-0.30	-30.00	30.00	27.15	2.85	10.510	
800.00	800.00	800.00	800.00	1.65	1.65	-90.57	-0.30	-30.00	30.00	26.70	3.30	9.080	
900.00	900.00	900.00	900.00	1.88	1.88	-90.57	-0.30	-30.00	30.00	26.25	3.75	7.993	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-90.57	-0.30	-30.00	30.00	25.80	4.20	7.138	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-90.57	-0.30	-30.00	30.00	25.35	4.65	6.448	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-90.57	-0.30	-30.00	30.00	24.90	5.10	5.880	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-90.57	-0.30	-30.00	30.00	24.45	5.55	5.404	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-90.57	-0.30	-30.00	30.00	24.00	6.00	4.999	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-90.57	-0.30	-30.00	30.00	23.55	6.45	4.651	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-90.57	-0.30	-30.00	30.00	23.10	6.90	4.348	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-90.57	-0.30	-30.00	30.00	22.65	7.35	4.082	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-90.57	-0.30	-30.00	30.00	22.20	7.80	3.847	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-90.57	-0.30	-30.00	30.00	21.75	8.25	3.637	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-90.57	-0.30	-30.00	30.00	21.30	8.70	3.449	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-90.57	-0.30	-30.00	30.00	20.85	9.15	3.280	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-90.57	-0.30	-30.00	30.00	20.40	9.60	3.126	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-90.57	-0.30	-30.00	30.00	19.95	10.05	2.986	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-90.57	-0.30	-30.00	30.00	19.50	10.50	2.858	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Sec. 24, T 25S., R 27 E - Daisy State Com #501H - Wellbore #1 - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-90.57	-0.30	-30.00	30.00	19.06	10.95	2.741		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-90.57	-0.30	-30.00	30.00	18.61	11.40	2.633		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-90.57	-0.30	-30.00	30.00	18.16	11.85	2.533		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-90.57	-0.30	-30.00	30.00	17.71	12.29	2.440		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-90.57	-0.30	-30.00	30.00	17.26	12.74	2.354		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-90.57	-0.30	-30.00	30.00	16.81	13.19	2.274		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-90.57	-0.30	-30.00	30.00	16.36	13.64	2.199		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-90.57	-0.30	-30.00	30.00	15.91	14.09	2.129		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-90.57	-0.30	-30.00	30.00	15.46	14.54	2.063		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-90.57	-0.30	-30.00	30.00	15.01	14.99	2.001		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-90.57	-0.30	-30.00	30.00	14.56	15.44	1.943		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-90.57	-0.30	-30.00	30.00	14.11	15.89	1.888		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-90.57	-0.30	-30.00	30.00	13.66	16.34	1.836		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-90.57	-0.30	-30.00	30.00	13.21	16.79	1.787		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-90.57	-0.30	-30.00	30.00	12.76	17.24	1.740		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-90.57	-0.30	-30.00	30.00	12.31	17.69	1.696		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-90.57	-0.30	-30.00	30.00	11.86	18.14	1.654		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-90.57	-0.30	-30.00	30.00	11.41	18.59	1.614		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-90.57	-0.30	-30.00	30.00	10.96	19.04	1.576		
4,400.00	4,400.00	4,400.00	4,400.00	9.74	9.74	-90.57	-0.30	-30.00	30.00	10.51	19.49	1.540		
4,500.00	4,500.00	4,500.00	4,500.00	9.97	9.97	-90.57	-0.30	-30.00	30.00	10.06	19.94	1.505		
4,600.00	4,600.00	4,600.00	4,600.00	10.19	10.19	-90.57	-0.30	-30.00	30.00	9.62	20.39	1.472 Level 3		
4,700.00	4,700.00	4,700.00	4,700.00	10.42	10.42	-90.57	-0.30	-30.00	30.00	9.17	20.84	1.440 Level 3		
4,800.00	4,800.00	4,800.00	4,800.00	10.64	10.64	-90.57	-0.30	-30.00	30.00	8.72	21.29	1.409 Level 3		
4,900.00	4,900.00	4,900.00	4,900.00	10.87	10.87	-90.57	-0.30	-30.00	30.00	8.27	21.73	1.380 Level 3		
5,000.00	5,000.00	5,000.00	5,000.00	11.09	11.09	-90.57	-0.30	-30.00	30.00	7.82	22.18	1.352 Level 3		
5,100.00	5,100.00	5,100.00	5,100.00	11.32	11.32	-90.57	-0.30	-30.00	30.00	7.37	22.63	1.326 Level 3		
5,200.00	5,200.00	5,200.00	5,200.00	11.54	11.54	-90.57	-0.30	-30.00	30.00	6.92	23.08	1.300 Level 3		
5,300.00	5,300.00	5,300.00	5,300.00	11.77	11.77	-90.57	-0.30	-30.00	30.00	6.47	23.53	1.275 Level 3		
5,400.00	5,400.00	5,400.00	5,400.00	11.99	11.99	-90.57	-0.30	-30.00	30.00	6.02	23.98	1.251 Level 3		
5,500.00	5,500.00	5,500.00	5,500.00	12.22	12.22	-90.57	-0.30	-30.00	30.00	5.57	24.43	1.228 Level 2		
5,566.67	5,566.67	5,566.67	5,566.67	12.37	12.37	-90.57	-0.30	-30.00	30.00	5.27	24.73	1.213 Level 2		
5,600.00	5,600.00	5,600.00	5,600.00	12.44	12.44	-90.57	-0.30	-30.00	30.00	5.12	24.88	1.206 Level 2, CC, ES, SF		
5,700.00	5,699.98	5,699.76	5,699.74	12.66	12.66	-139.66	1.40	-30.36	31.71	6.38	25.33	1.252 Level 3		
5,800.00	5,799.84	5,799.32	5,799.16	12.88	12.89	-136.95	6.48	-31.45	36.87	11.11	25.77	1.431 Level 3		
5,900.00	5,899.45	5,898.50	5,897.96	13.09	13.11	-133.79	14.89	-33.25	45.59	19.38	26.21	1.740		
6,000.00	5,998.70	5,997.22	5,995.95	13.32	13.33	-130.98	26.55	-35.75	57.89	31.24	26.65	2.172		
6,099.48	6,096.95	6,095.56	6,093.42	13.54	13.55	-130.27	39.34	-38.48	72.85	45.76	27.10	2.689		
6,200.00	6,195.95	6,194.76	6,191.73	13.78	13.78	-130.82	52.25	-41.25	89.10	61.54	27.56	3.233		
6,300.00	6,294.43	6,293.44	6,289.54	14.02	14.01	-131.20	65.09	-43.99	105.27	77.24	28.03	3.756		
6,400.00	6,392.92	6,392.12	6,387.34	14.26	14.25	-131.48	77.93	-46.74	121.44	92.93	28.51	4.259		
6,500.00	6,491.40	6,490.80	6,485.15	14.52	14.49	-131.69	90.77	-49.49	137.62	108.62	29.00	4.745		
6,600.00	6,589.89	6,589.49	6,582.95	14.77	14.73	-131.86	103.60	-52.24	153.79	124.29	29.50	5.213		
6,700.00	6,688.37	6,688.17	6,680.76	15.04	14.97	-132.00	116.44	-54.98	169.97	139.96	30.01	5.664		
6,800.00	6,786.85	6,786.85	6,778.56	15.31	15.22	-132.11	129.28	-57.73	186.15	155.62	30.53	6.098		
6,900.00	6,885.34	6,885.53	6,876.37	15.58	15.47	-132.20	142.12	-60.48	202.33	171.28	31.05	6.516		
7,000.00	6,983.82	6,984.21	6,974.17	15.86	15.72	-132.29	154.96	-63.23	218.50	186.92	31.58	6.919		
7,100.00	7,082.31	7,082.90	7,071.98	16.14	15.97	-132.35	167.80	-65.97	234.68	202.57	32.12	7.307		
7,199.83	7,180.62	7,184.99	7,173.51	16.43	16.20	-133.27	177.39	-68.78	250.39	217.76	32.63	7.674		
7,250.00	7,230.08	7,236.65	7,225.12	16.56	16.28	-164.58	175.92	-70.13	258.66	225.82	32.84	7.876		
7,300.00	7,279.23	7,287.33	7,275.41	16.68	16.35	-168.77	169.98	-71.40	268.56	235.53	33.03	8.131		
7,350.00	7,327.86	7,337.17	7,324.17	16.79	16.40	-151.17	159.81	-72.57	280.03	246.83	33.20	8.435		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Sec. 24, T 25S., R 27 E - Daisy State Com #501H - Wellbore #1 - Plan #2												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)					
7,400.00	7,375.60	7,386.18	7,371.08	16.91	16.45	139.60	145.72	-73.65	293.00	259.65	33.35	8.784	
7,450.00	7,422.09	7,434.37	7,415.88	17.02	16.49	131.33	128.01	-74.63	307.36	273.86	33.51	9.174	
7,500.00	7,466.97	7,481.80	7,458.36	17.13	16.53	124.94	106.96	-75.51	322.98	289.32	33.66	9.596	
7,550.00	7,509.90	7,528.52	7,498.36	17.25	16.56	119.69	82.87	-76.29	339.71	305.90	33.81	10.047	
7,600.00	7,550.55	7,574.61	7,535.77	17.37	16.61	115.20	55.98	-76.97	357.39	323.42	33.98	10.518	
7,650.00	7,588.62	7,620.14	7,570.50	17.51	16.65	111.24	26.55	-77.55	375.88	341.72	34.16	11.004	
7,700.00	7,623.82	7,665.23	7,602.47	17.67	16.69	107.69	-5.21	-78.02	395.01	360.65	34.36	11.497	
7,750.00	7,655.87	7,709.96	7,631.63	17.85	16.73	104.47	-39.12	-78.40	414.62	380.03	34.58	11.989	
7,800.00	7,684.54	7,754.44	7,657.92	18.07	16.83	101.52	-74.99	-78.67	434.54	399.65	34.89	12.453	
7,850.00	7,709.60	7,798.79	7,681.28	18.33	16.95	98.82	-112.67	-78.85	454.63	419.36	35.28	12.888	
7,900.00	7,730.87	7,843.12	7,701.65	18.63	17.10	96.35	-152.03	-78.93	474.74	439.00	35.73	13.285	
7,950.00	7,748.17	7,887.53	7,718.95	18.98	17.29	94.09	-192.92	-78.90	494.70	458.44	36.27	13.640	
8,000.00	7,761.40	7,932.15	7,733.09	19.38	17.50	92.04	-235.23	-78.78	514.40	477.52	36.88	13.948	
8,050.00	7,770.43	7,977.08	7,743.96	19.82	17.74	90.19	-278.80	-78.56	533.67	496.10	37.57	14.205	
8,100.00	7,775.20	8,022.42	7,751.44	20.31	18.02	88.54	-323.51	-78.23	552.40	514.07	38.33	14.413	
8,130.57	7,776.00	8,050.38	7,754.28	20.62	18.20	87.63	-351.33	-77.98	563.52	524.70	38.82	14.516	
8,200.00	7,776.00	8,115.24	7,755.96	21.33	18.69	87.93	-416.14	-77.26	586.93	546.92	40.01	14.669	
8,300.00	7,775.95	8,211.18	7,755.76	22.37	19.49	88.05	-512.07	-76.13	615.06	573.20	41.86	14.694	
8,400.00	7,775.86	8,308.85	7,755.57	23.45	20.43	88.13	-609.73	-74.97	636.42	592.54	43.89	14.501	
8,500.00	7,775.73	8,407.77	7,755.37	24.56	21.50	88.19	-708.65	-73.80	650.93	604.87	46.06	14.132	
8,600.00	7,775.57	8,507.46	7,755.16	25.68	22.67	88.22	-808.33	-72.62	668.50	610.16	48.35	13.621	
8,658.54	7,775.45	8,565.98	7,755.04	26.33	23.40	88.23	-866.85	-71.93	659.70	609.98	49.73	13.286	
8,700.00	7,775.37	8,607.45	7,754.96	26.79	23.93	88.23	-908.31	-71.44	659.71	608.99	50.72	13.007	
8,800.00	7,775.16	8,707.45	7,754.76	27.98	25.25	88.23	-1,008.30	-70.26	659.71	606.49	53.23	12.394	
8,900.00	7,774.95	8,807.45	7,754.56	29.22	26.64	88.23	-1,108.29	-69.08	659.72	603.86	55.86	11.810	
9,000.00	7,774.75	8,907.45	7,754.35	30.52	28.08	88.23	-1,208.29	-67.90	659.73	601.13	58.60	11.258	
9,100.00	7,774.54	9,007.45	7,754.15	31.88	29.56	88.23	-1,308.28	-66.72	659.74	598.30	61.43	10.739	
9,200.00	7,774.33	9,107.45	7,753.95	33.27	31.08	88.23	-1,408.27	-65.53	659.74	595.40	64.35	10.253	
9,300.00	7,774.13	9,207.45	7,753.75	34.71	32.63	88.23	-1,508.27	-64.35	659.75	592.42	67.34	9.798	
9,400.00	7,773.92	9,307.45	7,753.54	36.18	34.21	88.23	-1,608.26	-63.17	659.76	589.37	70.39	9.374	
9,500.00	7,773.71	9,407.45	7,753.34	37.68	35.81	88.23	-1,708.25	-61.99	659.77	586.28	73.49	8.978	
9,600.00	7,773.51	9,507.45	7,753.14	39.21	37.43	88.23	-1,808.24	-60.81	659.77	583.13	76.64	8.608	
9,700.00	7,773.30	9,607.45	7,752.94	40.77	39.07	88.23	-1,908.24	-59.62	659.78	579.94	79.84	8.264	
9,800.00	7,773.10	9,707.45	7,752.74	42.34	40.73	88.23	-2,008.23	-58.44	659.79	576.71	83.07	7.942	
9,900.00	7,772.89	9,807.45	7,752.53	43.94	42.40	88.23	-2,108.22	-57.26	659.79	573.45	86.34	7.642	
10,000.00	7,772.68	9,907.45	7,752.33	45.55	44.09	88.23	-2,208.21	-56.08	659.80	570.16	89.64	7.360	
10,100.00	7,772.48	10,007.45	7,752.13	47.18	45.79	88.23	-2,308.21	-54.90	659.81	566.84	92.97	7.097	
10,200.00	7,772.27	10,107.45	7,751.93	48.83	47.49	88.23	-2,408.20	-53.71	659.82	563.50	96.32	6.850	
10,300.00	7,772.06	10,207.45	7,751.72	50.48	49.21	88.23	-2,508.19	-52.53	659.82	560.14	99.69	6.619	
10,400.00	7,771.86	10,307.45	7,751.52	52.15	50.93	88.23	-2,608.19	-51.35	659.83	556.75	103.08	6.401	
10,500.00	7,771.65	10,407.45	7,751.32	53.83	52.66	88.23	-2,708.18	-50.17	659.84	553.35	106.49	6.196	
10,600.00	7,771.44	10,507.45	7,751.12	55.52	54.40	88.23	-2,808.17	-48.99	659.85	549.93	109.92	6.003	
10,700.00	7,771.24	10,607.45	7,750.91	57.22	56.14	88.24	-2,908.16	-47.80	659.85	546.50	113.36	5.821	
10,800.00	7,771.03	10,707.45	7,750.71	58.92	57.89	88.24	-3,008.16	-46.62	659.86	543.05	116.81	5.649	
10,900.00	7,770.82	10,807.45	7,750.51	60.63	59.64	88.24	-3,108.15	-45.44	659.87	539.59	120.28	5.486	
11,000.00	7,770.62	10,907.45	7,750.31	62.35	61.40	88.24	-3,208.14	-44.26	659.88	536.12	123.76	5.332	
11,100.00	7,770.41	11,007.45	7,750.10	64.08	63.16	88.24	-3,308.14	-43.08	659.88	532.64	127.24	5.186	
11,200.00	7,770.20	11,107.45	7,749.90	65.81	64.93	88.24	-3,408.13	-41.90	659.89	529.15	130.74	5.047	
11,300.00	7,770.00	11,207.45	7,749.70	67.55	66.70	88.24	-3,508.12	-40.71	659.90	525.65	134.25	4.916	
11,400.00	7,769.79	11,307.45	7,749.50	69.29	68.47	88.24	-3,608.11	-39.53	659.90	522.14	137.76	4.790	
11,500.00	7,769.58	11,407.45	7,749.29	71.04	70.25	88.24	-3,708.11	-38.35	659.91	518.63	141.28	4.671	
11,600.00	7,769.38	11,507.45	7,749.09	72.79	72.03	88.24	-3,808.10	-37.17	659.92	515.10	144.81	4.557	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Sec. 24, T 25S., R 27 E - Daisy State Com #501H - Wellbore #1 - Plan #2														Offset Site Error:	0.00 usft
Survey Program: 0-MWD														Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
11,700.00	7,769.17	11,607.45	7,748.89	74.54	73.81	88.24	-3,908.09	-35.99	659.93	511.58	148.35	4.448			
11,800.00	7,768.96	11,707.45	7,748.69	76.30	75.59	88.24	-4,008.09	-34.80	659.93	508.04	151.89	4.345			
11,900.00	7,768.76	11,807.45	7,748.49	78.06	77.38	88.24	-4,108.08	-33.62	659.94	504.50	155.44	4.246			
12,000.00	7,768.55	11,907.45	7,748.28	79.82	79.17	88.24	-4,208.07	-32.44	659.95	500.96	158.99	4.151			
12,100.00	7,768.34	12,007.45	7,748.08	81.59	80.96	88.24	-4,308.06	-31.26	659.96	497.41	162.55	4.060			
12,200.00	7,768.14	12,107.45	7,747.88	83.36	82.75	88.24	-4,408.06	-30.08	659.96	493.85	166.11	3.973			
12,300.00	7,767.93	12,207.45	7,747.68	85.14	84.54	88.24	-4,508.05	-28.89	659.97	490.29	169.68	3.890			
12,400.00	7,767.72	12,307.45	7,747.47	86.91	86.34	88.24	-4,608.04	-27.71	659.98	486.73	173.25	3.809			
12,500.00	7,767.52	12,407.45	7,747.27	88.69	88.13	88.24	-4,708.04	-26.53	659.98	483.16	176.82	3.732			
12,600.00	7,767.31	12,507.45	7,747.07	90.47	89.93	88.24	-4,808.03	-25.35	659.99	479.59	180.40	3.659			
12,700.00	7,767.10	12,607.45	7,746.87	92.25	91.73	88.24	-4,908.02	-24.17	660.00	476.02	183.98	3.587			
12,800.00	7,766.90	12,707.45	7,746.66	94.03	93.53	88.24	-5,008.01	-22.99	660.01	472.44	187.56	3.519			
12,900.00	7,766.69	12,807.45	7,746.46	95.82	95.33	88.24	-5,108.01	-21.80	660.01	468.86	191.15	3.453			
13,000.00	7,766.48	12,907.45	7,746.26	97.61	97.13	88.24	-5,208.00	-20.62	660.02	465.28	194.74	3.389			
13,100.00	7,766.28	13,007.45	7,746.06	99.40	98.94	88.24	-5,307.99	-19.44	660.03	461.69	198.33	3.328			
13,200.00	7,766.07	13,107.45	7,745.85	101.19	100.74	88.24	-5,407.98	-18.26	660.04	458.11	201.93	3.269			
13,300.00	7,765.86	13,207.45	7,745.65	102.98	102.55	88.25	-5,507.98	-17.08	660.04	454.52	205.53	3.211			
13,400.00	7,765.66	13,307.45	7,745.45	104.77	104.36	88.25	-5,607.97	-15.89	660.05	450.92	209.13	3.156			
13,500.00	7,765.45	13,407.45	7,745.25	106.56	106.16	88.25	-5,707.96	-14.71	660.06	447.33	212.73	3.103			
13,600.00	7,765.24	13,507.45	7,745.05	108.36	107.97	88.25	-5,807.96	-13.53	660.06	443.73	216.33	3.051			
13,700.00	7,765.04	13,607.45	7,744.84	110.16	109.78	88.25	-5,907.95	-12.35	660.07	440.13	219.94	3.001			
13,800.00	7,764.83	13,707.45	7,744.64	111.96	111.59	88.25	-6,007.94	-11.17	660.08	436.53	223.55	2.953			
13,900.00	7,764.62	13,807.45	7,744.44	113.75	113.40	88.25	-6,107.93	-9.98	660.09	432.93	227.16	2.906			
14,000.00	7,764.42	13,907.45	7,744.24	115.55	115.21	88.25	-6,207.93	-8.80	660.09	429.33	230.77	2.860			
14,100.00	7,764.21	14,007.45	7,744.03	117.36	117.02	88.25	-6,307.92	-7.62	660.10	425.72	234.38	2.816			
14,200.00	7,764.01	14,107.45	7,743.83	119.16	118.84	88.25	-6,407.91	-6.44	660.11	422.11	237.99	2.774			
14,300.00	7,763.80	14,207.45	7,743.63	120.96	120.65	88.25	-6,507.91	-5.26	660.12	418.51	241.61	2.732			
14,400.00	7,763.59	14,307.45	7,743.43	122.76	122.46	88.25	-6,607.90	-4.07	660.12	414.90	245.23	2.692			
14,500.00	7,763.39	14,407.45	7,743.22	124.57	124.28	88.25	-6,707.89	-2.89	660.13	411.28	248.85	2.653			
14,600.00	7,763.18	14,507.45	7,743.02	126.37	126.09	88.25	-6,807.88	-1.71	660.14	407.67	252.47	2.615			
14,700.00	7,762.97	14,607.45	7,742.82	128.18	127.91	88.25	-6,907.88	-0.53	660.14	404.06	256.09	2.578			
14,800.00	7,762.77	14,707.45	7,742.62	129.99	129.72	88.25	-7,007.87	0.65	660.15	400.44	259.71	2.542			
14,900.00	7,762.56	14,807.45	7,742.41	131.79	131.54	88.25	-7,107.86	1.83	660.16	396.83	263.33	2.507			
15,000.00	7,762.35	14,907.45	7,742.21	133.60	133.35	88.25	-7,207.86	3.02	660.17	393.21	266.96	2.473			
15,100.00	7,762.15	15,007.45	7,742.01	135.41	135.17	88.25	-7,307.85	4.20	660.17	389.59	270.58	2.440			
15,200.00	7,761.94	15,107.45	7,741.81	137.22	136.99	88.25	-7,407.84	5.38	660.18	385.97	274.21	2.408			
15,300.00	7,761.73	15,207.45	7,741.61	139.03	138.80	88.25	-7,507.83	6.56	660.19	382.35	277.84	2.376			
15,400.00	7,761.53	15,307.45	7,741.40	140.84	140.62	88.25	-7,607.83	7.74	660.20	378.73	281.46	2.346			
15,500.00	7,761.32	15,407.45	7,741.20	142.65	142.44	88.25	-7,707.82	8.93	660.20	375.11	285.09	2.316			
15,600.00	7,761.11	15,507.45	7,741.00	144.46	144.26	88.25	-7,807.81	10.11	660.21	371.49	288.72	2.287			
15,700.00	7,760.91	15,607.45	7,740.80	146.28	146.08	88.25	-7,907.81	11.29	660.22	367.86	292.35	2.258			
15,800.00	7,760.70	15,707.45	7,740.59	148.09	147.90	88.25	-8,007.80	12.47	660.22	364.24	295.99	2.231			
15,900.00	7,760.49	15,807.45	7,740.39	149.90	149.72	88.26	-8,107.79	13.65	660.23	360.61	299.62	2.204			
16,000.00	7,760.29	15,907.45	7,740.19	151.71	151.54	88.26	-8,207.78	14.84	660.24	356.99	303.25	2.177			
16,100.00	7,760.08	16,007.45	7,739.99	153.53	153.36	88.26	-8,307.78	16.02	660.25	353.36	306.88	2.151			
16,200.00	7,759.87	16,107.45	7,739.78	155.34	155.18	88.26	-8,407.77	17.20	660.25	349.73	310.52	2.126			
16,300.00	7,759.67	16,207.45	7,739.58	157.16	157.00	88.26	-8,507.76	18.38	660.26	346.11	314.15	2.102			
16,400.00	7,759.46	16,307.45	7,739.38	158.97	158.82	88.26	-8,607.75	19.56	660.27	342.48	317.79	2.078			
16,500.00	7,759.25	16,407.45	7,739.18	160.79	160.64	88.26	-8,707.75	20.74	660.28	338.85	321.43	2.054			
16,600.00	7,759.05	16,507.45	7,738.97	162.60	162.46	88.26	-8,807.74	21.93	660.28	335.22	325.06	2.031			
16,700.00	7,758.84	16,607.45	7,738.77	164.42	164.28	88.26	-8,907.73	23.11	660.29	331.59	328.70	2.009			
16,800.00	7,758.63	16,707.45	7,738.57	166.24	166.10	88.26	-9,007.73	24.29	660.30	327.96	332.34	1.987			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S. , R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Sec. 24, T 25S. , R 27 E - Daisy State Com #501H - Wellbore #1 - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
16,900.00	7,758.43	16,807.45	7,738.37	168.05	167.93	88.26	-9,107.72	25.47	660.30	324.33	335.98	1.965		
17,000.00	7,758.22	16,907.45	7,738.17	169.87	169.75	88.26	-9,207.71	26.65	660.31	320.69	339.62	1.944		
17,100.00	7,758.01	17,007.45	7,737.96	171.69	171.57	88.26	-9,307.70	27.84	660.32	317.06	343.26	1.924		
17,200.00	7,757.81	17,107.45	7,737.76	173.50	173.39	88.26	-9,407.70	29.02	660.33	313.43	346.90	1.904		
17,300.00	7,757.60	17,207.45	7,737.56	175.32	175.22	88.26	-9,507.69	30.20	660.33	309.80	350.54	1.884		
17,400.00	7,757.39	17,307.45	7,737.36	177.14	177.04	88.26	-9,607.68	31.38	660.34	306.16	354.18	1.864		
17,500.00	7,757.19	17,407.45	7,737.15	178.96	178.86	88.26	-9,707.68	32.56	660.35	302.53	357.82	1.845		
17,600.00	7,756.98	17,507.45	7,736.95	180.78	180.68	88.26	-9,807.67	33.75	660.36	298.89	361.46	1.827		
17,700.00	7,756.77	17,607.45	7,736.75	182.60	182.51	88.26	-9,907.66	34.93	660.36	295.26	365.11	1.809		
17,800.00	7,756.57	17,707.45	7,736.55	184.42	184.33	88.26	-10,007.65	36.11	660.37	291.62	368.75	1.791		
17,900.00	7,756.36	17,807.45	7,736.34	186.24	186.15	88.26	-10,107.65	37.29	660.38	287.99	372.39	1.773		
18,000.00	7,756.15	17,907.45	7,736.14	188.06	187.98	88.26	-10,207.64	38.47	660.38	284.35	376.03	1.756		
18,042.22	7,756.07	17,949.66	7,736.06	188.82	188.75	88.26	-10,249.85	38.97	660.39	282.81	377.57	1.749		
18,074.93	7,756.00	17,977.41	7,736.00	189.42	189.25	88.26	-10,277.60	39.30	660.41	281.73	378.67	1.744		

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design												Sec. 24, T 25S., R 27 E - Daisy State Com #503H - Wellbore #1 - Plan #2		Offset Site Error: 0.00 usft	
Survey Program: 0-MWVD												Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis		Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor		
0.00	0.00	2.00	2.00	0.00	0.00	89.58	11.30	1,555.00	1,555.04						
100.00	100.00	102.00	102.00	0.08	0.09	89.58	11.30	1,555.00	1,555.04	1,554.87	0.17	9,349.295			
200.00	200.00	202.00	202.00	0.30	0.31	89.58	11.30	1,555.00	1,555.04	1,554.43	0.62	2,524.995			
300.00	300.00	302.00	302.00	0.53	0.54	89.58	11.30	1,555.00	1,555.04	1,553.98	1.07	1,459.596			
400.00	400.00	402.00	402.00	0.75	0.76	89.58	11.30	1,555.00	1,555.04	1,553.53	1.51	1,026.482			
500.00	500.00	502.00	502.00	0.98	0.99	89.58	11.30	1,555.00	1,555.04	1,553.08	1.96	791.589			
600.00	600.00	602.00	602.00	1.20	1.21	89.58	11.30	1,555.00	1,555.04	1,552.63	2.41	644.179			
700.00	700.00	702.00	702.00	1.43	1.44	89.58	11.30	1,555.00	1,555.04	1,552.18	2.86	543.052			
800.00	800.00	802.00	802.00	1.65	1.66	89.58	11.30	1,555.00	1,555.04	1,551.73	3.31	469.368			
900.00	900.00	902.00	902.00	1.88	1.89	89.58	11.30	1,555.00	1,555.04	1,551.28	3.76	413.291			
1,000.00	1,000.00	1,002.00	1,002.00	2.10	2.11	89.58	11.30	1,555.00	1,555.04	1,550.83	4.21	369.183			
1,100.00	1,100.00	1,102.00	1,102.00	2.33	2.34	89.58	11.30	1,555.00	1,555.04	1,550.38	4.66	333.582			
1,200.00	1,200.00	1,202.00	1,202.00	2.55	2.56	89.58	11.30	1,555.00	1,555.04	1,549.93	5.11	304.243			
1,300.00	1,300.00	1,302.00	1,302.00	2.78	2.78	89.58	11.30	1,555.00	1,555.04	1,549.48	5.56	279.648			
1,400.00	1,400.00	1,402.00	1,402.00	3.00	3.01	89.58	11.30	1,555.00	1,555.04	1,549.03	6.01	258.732			
1,500.00	1,500.00	1,502.00	1,502.00	3.23	3.23	89.58	11.30	1,555.00	1,555.04	1,548.58	6.46	240.727			
1,600.00	1,600.00	1,602.00	1,602.00	3.45	3.46	89.58	11.30	1,555.00	1,555.04	1,548.13	6.91	225.065			
1,700.00	1,700.00	1,702.00	1,702.00	3.67	3.68	89.58	11.30	1,555.00	1,555.04	1,547.68	7.36	211.316			
1,800.00	1,800.00	1,802.00	1,802.00	3.90	3.91	89.58	11.30	1,555.00	1,555.04	1,547.23	7.81	199.150			
1,900.00	1,900.00	1,902.00	1,902.00	4.12	4.13	89.58	11.30	1,555.00	1,555.04	1,546.78	8.26	188.309			
2,000.00	2,000.00	2,002.00	2,002.00	4.35	4.36	89.58	11.30	1,555.00	1,555.04	1,546.33	8.71	178.588			
2,100.00	2,100.00	2,102.00	2,102.00	4.57	4.58	89.58	11.30	1,555.00	1,555.04	1,545.88	9.16	169.821			
2,200.00	2,200.00	2,202.00	2,202.00	4.80	4.81	89.58	11.30	1,555.00	1,555.04	1,545.43	9.61	161.874			
2,300.00	2,300.00	2,302.00	2,302.00	5.02	5.03	89.58	11.30	1,555.00	1,555.04	1,544.99	10.06	154.638			
2,400.00	2,400.00	2,402.00	2,402.00	5.25	5.26	89.58	11.30	1,555.00	1,555.04	1,544.54	10.51	148.021			
2,500.00	2,500.00	2,502.00	2,502.00	5.47	5.48	89.58	11.30	1,555.00	1,555.04	1,544.09	10.96	141.947			
2,600.00	2,600.00	2,602.00	2,602.00	5.70	5.71	89.58	11.30	1,555.00	1,555.04	1,543.64	11.40	136.352			
2,700.00	2,700.00	2,702.00	2,702.00	5.92	5.93	89.58	11.30	1,555.00	1,555.04	1,543.19	11.85	131.181			
2,800.00	2,800.00	2,802.00	2,802.00	6.15	6.16	89.58	11.30	1,555.00	1,555.04	1,542.74	12.30	126.388			
2,900.00	2,900.00	2,902.00	2,902.00	6.37	6.38	89.58	11.30	1,555.00	1,555.04	1,542.29	12.75	121.933			
3,000.00	3,000.00	3,002.00	3,002.00	6.60	6.61	89.58	11.30	1,555.00	1,555.04	1,541.84	13.20	117.782			
3,100.00	3,100.00	3,102.00	3,102.00	6.82	6.83	89.58	11.30	1,555.00	1,555.04	1,541.39	13.65	113.903			
3,200.00	3,200.00	3,202.00	3,202.00	7.05	7.06	89.58	11.30	1,555.00	1,555.04	1,540.94	14.10	110.272			
3,300.00	3,300.00	3,302.00	3,302.00	7.27	7.28	89.58	11.30	1,555.00	1,555.04	1,540.49	14.55	106.866			
3,400.00	3,400.00	3,402.00	3,402.00	7.50	7.50	89.58	11.30	1,555.00	1,555.04	1,540.04	15.00	103.663			
3,500.00	3,500.00	3,502.00	3,502.00	7.72	7.73	89.58	11.30	1,555.00	1,555.04	1,539.59	15.45	100.647			
3,600.00	3,600.00	3,602.00	3,602.00	7.95	7.95	89.58	11.30	1,555.00	1,555.04	1,539.14	15.90	97.802			
3,700.00	3,700.00	3,702.00	3,702.00	8.17	8.18	89.58	11.30	1,555.00	1,555.04	1,538.69	16.35	95.113			
3,800.00	3,800.00	3,802.00	3,802.00	8.40	8.40	89.58	11.30	1,555.00	1,555.04	1,538.24	16.80	92.567			
3,900.00	3,900.00	3,902.00	3,902.00	8.62	8.63	89.58	11.30	1,555.00	1,555.04	1,537.79	17.25	90.155			
4,000.00	4,000.00	4,002.00	4,002.00	8.84	8.85	89.58	11.30	1,555.00	1,555.04	1,537.34	17.70	87.865			
4,100.00	4,100.00	4,102.00	4,102.00	9.07	9.08	89.58	11.30	1,555.00	1,555.04	1,536.89	18.15	85.688			
4,200.00	4,200.00	4,202.00	4,202.00	9.29	9.30	89.58	11.30	1,555.00	1,555.04	1,536.44	18.60	83.617			
4,300.00	4,300.00	4,302.00	4,302.00	9.52	9.53	89.58	11.30	1,555.00	1,555.04	1,535.99	19.05	81.644			
4,400.00	4,400.00	4,402.00	4,402.00	9.74	9.75	89.58	11.30	1,555.00	1,555.04	1,535.54	19.50	79.761			
4,500.00	4,500.00	4,502.00	4,502.00	9.97	9.98	89.58	11.30	1,555.00	1,555.04	1,535.10	19.95	77.964			
4,600.00	4,600.00	4,602.00	4,602.00	10.19	10.20	89.58	11.30	1,555.00	1,555.04	1,534.65	20.40	76.245			
4,700.00	4,700.00	4,702.00	4,702.00	10.42	10.43	89.58	11.30	1,555.00	1,555.04	1,534.20	20.84	74.601			
4,800.00	4,800.00	4,802.00	4,802.00	10.64	10.65	89.58	11.30	1,555.00	1,555.04	1,533.75	21.29	73.026			
4,900.00	4,900.00	4,902.00	4,902.00	10.87	10.88	89.58	11.30	1,555.00	1,555.04	1,533.30	21.74	71.516			
5,000.00	5,000.00	5,002.00	5,002.00	11.09	11.10	89.58	11.30	1,555.00	1,555.04	1,532.85	22.19	70.068			
5,100.00	5,100.00	5,102.00	5,102.00	11.32	11.33	89.58	11.30	1,555.00	1,555.04	1,532.40	22.64	68.677			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Sec. 24, T 25S., R 27 E - Daisy State Com #503H - Wellbore #1 - Plan #2												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,200.00	5,200.00	5,202.00	5,202.00	11.54	11.55	89.58	11.30	1,555.00	1,555.04	1,531.95	23.09	67.340	
5,300.00	5,300.00	5,302.00	5,302.00	11.77	11.78	89.58	11.30	1,555.00	1,555.04	1,531.50	23.54	66.054	
5,400.00	5,400.00	5,402.00	5,402.00	11.99	12.00	89.58	11.30	1,555.00	1,555.04	1,531.05	23.99	64.816	
5,500.00	5,500.00	5,502.00	5,502.00	12.22	12.23	89.58	11.30	1,555.00	1,555.04	1,530.60	24.44	63.624	
5,600.00	5,600.00	5,602.65	5,602.65	12.44	12.45	89.58	11.30	1,555.00	1,555.04	1,530.15	24.89	62.472	
5,700.00	5,699.98	5,734.95	5,734.90	12.66	12.75	39.37	14.13	1,553.55	1,552.61	1,527.20	25.41	61.109	
5,800.00	5,799.84	5,866.66	5,866.27	12.88	13.04	39.32	22.33	1,549.33	1,545.41	1,519.50	25.92	59.630	
5,900.00	5,899.45	5,978.35	5,977.32	13.09	13.29	39.29	32.93	1,543.88	1,533.87	1,507.48	26.38	58.135	
6,000.00	5,998.70	6,077.28	6,075.64	13.32	13.51	39.39	42.68	1,538.86	1,519.50	1,492.67	26.83	56.636	
6,099.48	6,096.95	6,175.30	6,173.06	13.54	13.74	39.61	52.34	1,533.89	1,502.56	1,475.28	27.28	55.082	
6,200.00	6,195.95	6,274.11	6,271.26	13.78	13.97	39.66	62.08	1,528.88	1,484.11	1,456.37	27.74	53.497	
6,300.00	6,294.43	6,372.40	6,368.95	14.02	14.19	39.70	71.77	1,523.90	1,465.77	1,437.56	28.21	51.956	
6,400.00	6,392.92	6,470.70	6,466.64	14.26	14.43	39.75	81.46	1,518.92	1,447.42	1,418.73	28.69	50.451	
6,500.00	6,491.40	6,569.00	6,564.33	14.52	14.66	39.80	91.15	1,513.93	1,429.08	1,399.90	29.18	48.981	
6,600.00	6,589.89	6,667.29	6,662.02	14.77	14.90	39.84	100.84	1,508.95	1,410.74	1,381.07	29.67	47.546	
6,700.00	6,688.37	6,765.59	6,759.71	15.04	15.13	39.89	110.53	1,503.97	1,392.40	1,362.22	30.17	46.148	
6,800.00	6,786.85	6,863.88	6,857.40	15.31	15.37	39.95	120.22	1,498.98	1,374.05	1,343.37	30.68	44.785	
6,900.00	6,885.34	6,962.18	6,955.09	15.58	15.62	40.00	129.91	1,494.00	1,355.71	1,324.52	31.20	43.457	
7,000.00	6,983.82	7,060.48	7,052.78	15.86	15.86	40.05	139.60	1,489.02	1,337.38	1,305.66	31.72	42.165	
7,100.00	7,082.31	7,158.77	7,150.47	16.14	16.10	40.11	149.29	1,484.03	1,319.04	1,286.79	32.25	40.906	
7,199.83	7,180.62	7,368.27	7,357.82	16.43	16.48	41.60	159.88	1,465.43	1,297.35	1,264.44	32.91	39.418	
7,250.00	7,230.08	7,469.83	7,453.29	16.56	16.63	12.75	109.39	1,449.85	1,282.33	1,249.15	33.19	38.639	
7,300.00	7,279.23	7,566.87	7,529.35	16.68	16.75	-11.48	70.51	1,433.53	1,264.27	1,230.84	33.43	37.821	
7,350.00	7,327.86	7,631.79	7,589.12	16.79	16.86	-26.82	28.35	1,417.59	1,243.66	1,210.00	33.65	36.957	
7,400.00	7,375.60	7,696.90	7,635.95	16.91	16.97	-36.38	-14.26	1,402.55	1,220.92	1,187.04	33.88	36.040	
7,450.00	7,422.09	7,754.30	7,672.78	17.02	17.10	-42.91	-55.96	1,388.51	1,196.41	1,162.29	34.12	35.068	
7,500.00	7,466.97	7,805.73	7,701.91	17.13	17.25	-47.87	-96.26	1,375.46	1,170.39	1,136.01	34.38	34.042	
7,550.00	7,509.90	7,852.55	7,725.04	17.25	17.42	-52.00	-135.08	1,363.26	1,143.11	1,108.44	34.67	32.971	
7,600.00	7,550.55	7,895.82	7,743.41	17.37	17.61	-55.67	-172.53	1,351.80	1,114.74	1,079.76	34.98	31.863	
7,650.00	7,588.62	7,936.38	7,757.91	17.51	17.82	-59.11	-208.81	1,340.95	1,085.48	1,050.15	35.33	30.725	
7,700.00	7,623.82	7,974.87	7,769.17	17.67	18.04	-62.44	-244.13	1,330.61	1,055.50	1,019.79	35.71	29.560	
7,750.00	7,655.87	8,011.81	7,777.64	17.85	18.27	-65.71	-278.69	1,320.70	1,024.94	988.82	36.12	28.375	
7,800.00	7,684.54	8,047.63	7,783.63	18.07	18.52	-68.96	-312.67	1,311.13	993.99	957.41	36.58	27.171	
7,850.00	7,709.60	8,082.66	7,787.35	18.33	18.77	-72.19	-346.23	1,301.85	962.79	925.69	37.10	25.952	
7,900.00	7,730.87	8,117.18	7,788.93	18.63	19.04	-75.41	-379.51	1,292.81	931.51	893.84	37.67	24.728	
7,950.00	7,748.17	8,142.50	7,789.00	18.98	19.24	-78.88	-403.99	1,286.34	900.45	862.23	38.22	23.558	
8,000.00	7,761.40	8,165.88	7,789.00	19.38	19.43	-82.35	-426.69	1,280.73	870.10	831.29	38.81	22.421	
8,050.00	7,770.43	8,200.00	7,788.99	19.82	19.70	-85.60	-459.97	1,273.21	840.74	801.21	39.52	21.271	
8,100.00	7,775.20	8,200.00	7,788.99	20.31	19.70	-89.06	-459.97	1,273.21	812.57	772.57	40.01	20.311	
8,130.57	7,776.00	8,232.99	7,788.97	20.62	19.97	-90.94	-492.31	1,266.69	795.61	755.02	40.59	19.601	
8,200.00	7,776.00	8,271.81	7,788.95	21.33	20.30	-90.94	-530.54	1,259.98	760.51	718.88	41.62	18.271	
8,300.00	7,775.95	8,331.59	7,788.89	22.37	20.83	-90.96	-589.73	1,251.68	718.24	675.05	43.19	16.628	
8,400.00	7,775.86	8,400.00	7,788.80	23.45	21.46	-90.97	-657.83	1,245.22	686.48	641.56	44.92	15.283	
8,500.00	7,775.73	8,461.66	7,788.70	24.56	22.08	-90.97	-719.42	1,242.19	665.77	619.13	46.64	14.275	
8,600.00	7,775.57	8,535.07	7,788.56	25.68	22.84	-90.96	-792.82	1,241.94	656.56	608.05	48.51	13.534	
8,658.54	7,775.45	8,593.60	7,788.44	26.33	23.47	-90.96	-851.34	1,242.64	655.37	605.56	49.80	13.160	
8,700.00	7,775.37	8,635.06	7,788.35	26.79	23.96	-90.96	-892.80	1,243.13	655.36	604.61	50.75	12.914	
8,800.00	7,775.16	8,735.06	7,788.15	27.98	25.16	-90.96	-992.79	1,244.32	655.36	602.23	53.14	12.334	
8,900.00	7,774.95	8,835.06	7,787.94	29.22	26.43	-90.96	-1,092.78	1,245.51	655.36	599.71	55.66	11.775	
9,000.00	7,774.75	8,935.06	7,787.73	30.52	27.77	-90.96	-1,192.78	1,246.69	655.36	597.07	58.29	11.242	
9,100.00	7,774.54	9,035.06	7,787.53	31.88	29.16	-90.96	-1,292.77	1,247.88	655.36	594.32	61.04	10.737	
9,200.00	7,774.33	9,135.06	7,787.32	33.27	30.60	-90.96	-1,392.76	1,249.07	655.35	591.49	63.87	10.261	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Sec. 24, T 25S., R 27 E - Daisy State Com #503H - Wellbore #1 - Plan #2														Offset Site Error:	0.00 usft
Survey Program: 0-MWD														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
9,300.00	7,774.13	9,235.06	7,787.12	34.71	32.07	-90.96	-1,492.76	1,250.25	655.35	588.57	66.78	9.814			
9,400.00	7,773.92	9,335.06	7,786.91	36.18	33.58	-90.96	-1,592.75	1,251.44	655.35	585.59	69.76	9.394			
9,500.00	7,773.71	9,435.06	7,786.70	37.68	35.12	-90.96	-1,692.74	1,252.63	655.35	582.54	72.81	9.001			
9,600.00	7,773.51	9,535.06	7,786.50	39.21	36.69	-90.96	-1,792.73	1,253.82	655.35	579.44	75.90	8.634			
9,700.00	7,773.30	9,635.06	7,786.29	40.77	38.28	-90.96	-1,892.73	1,255.00	655.35	576.30	79.05	8.290			
9,800.00	7,773.10	9,735.06	7,786.08	42.34	39.90	-90.96	-1,992.72	1,256.19	655.34	573.10	82.24	7.969			
9,900.00	7,772.89	9,835.06	7,785.88	43.94	41.53	-90.96	-2,092.71	1,257.38	655.34	569.88	85.47	7.668			
10,000.00	7,772.68	9,935.06	7,785.67	45.55	43.17	-90.96	-2,192.70	1,258.57	655.34	566.61	88.73	7.386			
10,100.00	7,772.48	10,035.06	7,785.47	47.18	44.83	-90.96	-2,292.70	1,259.75	655.34	563.32	92.02	7.122			
10,200.00	7,772.27	10,135.06	7,785.26	48.83	46.51	-90.96	-2,392.69	1,260.94	655.34	560.00	95.33	6.874			
10,300.00	7,772.06	10,235.06	7,785.05	50.48	48.19	-90.96	-2,492.68	1,262.13	655.33	556.66	98.68	6.641			
10,400.00	7,771.86	10,335.06	7,784.85	52.15	49.89	-90.96	-2,592.68	1,263.31	655.33	553.29	102.04	6.422			
10,500.00	7,771.65	10,435.06	7,784.64	53.83	51.59	-90.96	-2,692.67	1,264.50	655.33	549.91	105.42	6.216			
10,600.00	7,771.44	10,535.06	7,784.43	55.52	53.31	-90.96	-2,792.66	1,265.69	655.33	546.50	108.83	6.022			
10,700.00	7,771.24	10,635.06	7,784.23	57.22	55.03	-90.96	-2,892.65	1,266.88	655.33	543.08	112.24	5.838			
10,800.00	7,771.03	10,735.06	7,784.02	58.92	56.76	-90.96	-2,992.65	1,268.06	655.32	539.65	115.68	5.665			
10,900.00	7,770.82	10,835.06	7,783.81	60.63	58.49	-90.96	-3,092.64	1,269.25	655.32	536.20	119.12	5.501			
11,000.00	7,770.62	10,935.06	7,783.61	62.35	60.23	-90.96	-3,192.63	1,270.44	655.32	532.74	122.58	5.346			
11,100.00	7,770.41	11,035.06	7,783.40	64.08	61.97	-90.96	-3,292.62	1,271.63	655.32	529.26	126.05	5.199			
11,200.00	7,770.20	11,135.06	7,783.20	65.81	63.72	-90.96	-3,392.62	1,272.81	655.32	525.78	129.54	5.059			
11,300.00	7,770.00	11,235.06	7,782.99	67.55	65.48	-90.96	-3,492.61	1,274.00	655.31	522.29	133.03	4.926			
11,400.00	7,769.79	11,335.06	7,782.78	69.29	67.24	-90.96	-3,592.60	1,275.19	655.31	518.78	136.53	4.800			
11,500.00	7,769.58	11,435.06	7,782.58	71.04	69.00	-90.96	-3,692.60	1,276.38	655.31	515.27	140.04	4.680			
11,600.00	7,769.38	11,535.06	7,782.37	72.79	70.77	-90.96	-3,792.59	1,277.56	655.31	511.75	143.55	4.565			
11,700.00	7,769.17	11,635.06	7,782.16	74.54	72.53	-90.96	-3,892.58	1,278.75	655.31	508.23	147.08	4.456			
11,800.00	7,768.96	11,735.06	7,781.96	76.30	74.31	-90.96	-3,992.57	1,279.94	655.30	504.70	150.61	4.351			
11,900.00	7,768.76	11,835.06	7,781.75	78.06	76.08	-90.96	-4,092.57	1,281.12	655.30	501.16	154.14	4.251			
12,000.00	7,768.55	11,935.06	7,781.54	79.82	77.86	-90.96	-4,192.56	1,282.31	655.30	497.62	157.68	4.156			
12,100.00	7,768.34	12,035.06	7,781.34	81.59	79.64	-90.96	-4,292.55	1,283.50	655.30	494.07	161.23	4.064			
12,200.00	7,768.14	12,135.06	7,781.13	83.36	81.42	-90.96	-4,392.54	1,284.69	655.30	490.51	164.78	3.977			
12,300.00	7,767.93	12,235.06	7,780.93	85.14	83.21	-90.96	-4,492.54	1,285.87	655.29	486.95	168.34	3.893			
12,400.00	7,767.72	12,335.06	7,780.72	86.91	84.99	-90.96	-4,592.53	1,287.06	655.29	483.39	171.90	3.812			
12,500.00	7,767.52	12,435.06	7,780.51	88.69	86.78	-90.96	-4,692.52	1,288.25	655.29	479.82	175.47	3.734			
12,600.00	7,767.31	12,535.06	7,780.31	90.47	88.57	-90.96	-4,792.52	1,289.44	655.29	476.25	179.04	3.660			
12,700.00	7,767.10	12,635.06	7,780.10	92.25	90.36	-90.96	-4,892.51	1,290.62	655.29	472.67	182.61	3.588			
12,800.00	7,766.90	12,735.06	7,779.89	94.03	92.16	-90.96	-4,992.50	1,291.81	655.28	469.09	186.19	3.519			
12,900.00	7,766.69	12,835.06	7,779.69	95.82	93.95	-90.96	-5,092.49	1,293.00	655.28	465.51	189.77	3.453			
13,000.00	7,766.48	12,935.06	7,779.48	97.61	95.75	-90.96	-5,192.49	1,294.18	655.28	461.93	193.35	3.389			
13,100.00	7,766.28	13,035.06	7,779.28	99.40	97.54	-90.96	-5,292.48	1,295.37	655.28	458.34	196.94	3.327			
13,200.00	7,766.07	13,135.06	7,779.07	101.19	99.34	-90.96	-5,392.47	1,296.56	655.28	454.75	200.53	3.268			
13,300.00	7,765.86	13,235.06	7,778.86	102.98	101.14	-90.96	-5,492.46	1,297.75	655.27	451.15	204.12	3.210			
13,400.00	7,765.66	13,335.06	7,778.66	104.77	102.94	-90.96	-5,592.46	1,298.93	655.27	447.56	207.71	3.155			
13,500.00	7,765.45	13,435.06	7,778.45	106.56	104.75	-90.96	-5,692.45	1,300.12	655.27	443.96	211.31	3.101			
13,600.00	7,765.24	13,535.06	7,778.24	108.36	106.55	-90.96	-5,792.44	1,301.31	655.27	440.36	214.91	3.049			
13,700.00	7,765.04	13,635.06	7,778.04	110.16	108.35	-90.96	-5,892.44	1,302.50	655.27	436.76	218.51	2.999			
13,800.00	7,764.83	13,735.06	7,777.83	111.96	110.16	-90.96	-5,992.43	1,303.68	655.26	433.15	222.11	2.950			
13,900.00	7,764.62	13,835.06	7,777.62	113.75	111.96	-90.96	-6,092.42	1,304.87	655.26	429.54	225.72	2.903			
14,000.00	7,764.42	13,935.06	7,777.42	115.55	113.77	-90.96	-6,192.41	1,306.06	655.26	425.94	229.32	2.857			
14,100.00	7,764.21	14,035.06	7,777.21	117.36	115.58	-90.96	-6,292.41	1,307.25	655.26	422.32	232.93	2.813			
14,200.00	7,764.01	14,135.06	7,777.01	119.16	117.39	-90.96	-6,392.40	1,308.43	655.26	418.71	236.54	2.770			
14,300.00	7,763.80	14,235.06	7,776.80	120.96	119.19	-90.96	-6,492.39	1,309.62	655.25	415.10	240.15	2.728			
14,400.00	7,763.59	14,335.06	7,776.59	122.76	121.00	-90.96	-6,592.39	1,310.81	655.25	411.48	243.77	2.688			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



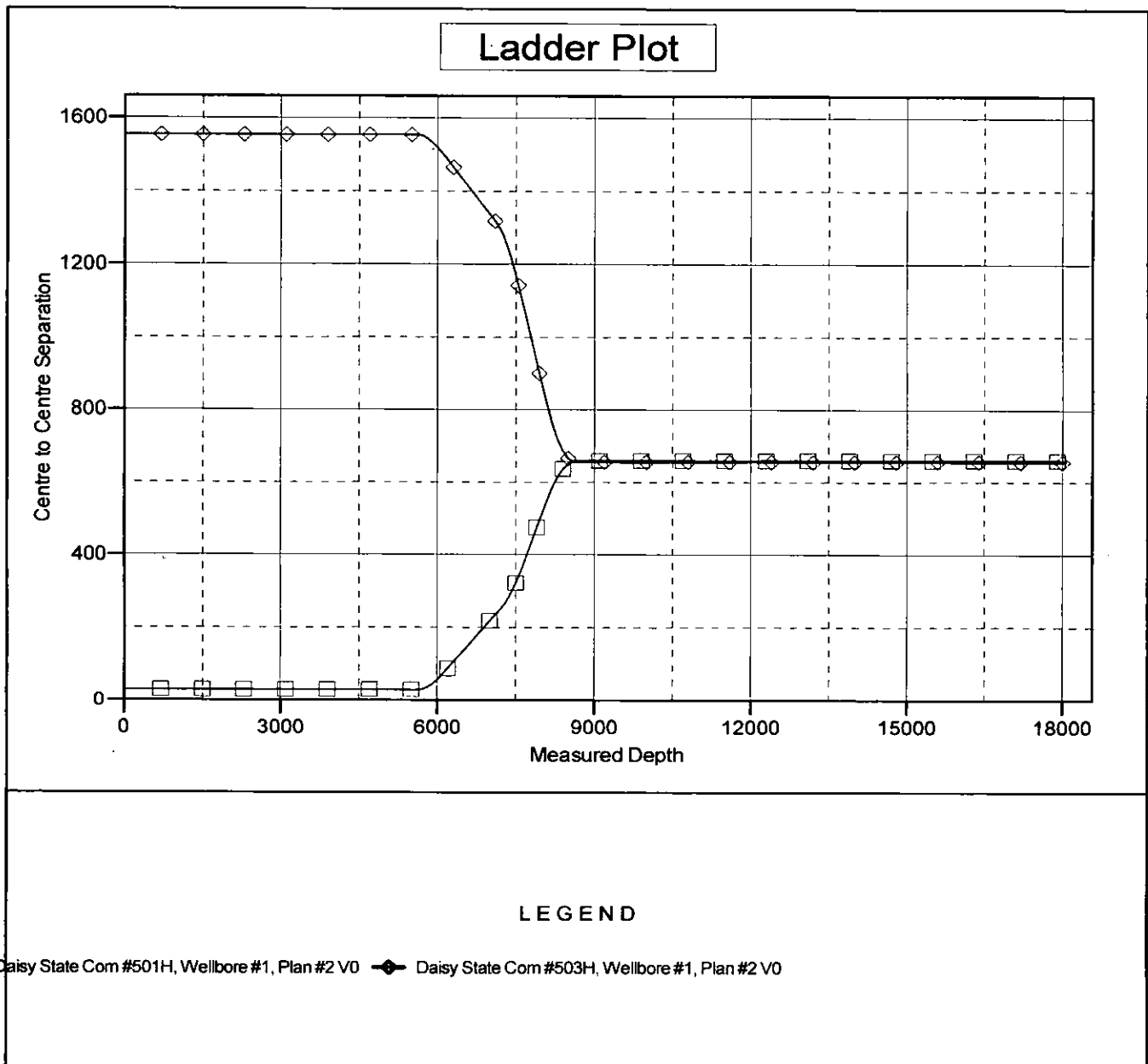
Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S, R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Sec. 24, T 25S, R 27 E - Daisy State Com #503H - Wellbore #1 - Plan #2													Offset Site Error: 0.00 usft	
Survey Program: 0-MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
14,500.00	7,763.39	14,435.06	7,776.39	124.57	122.81	-90.96	-6,692.38	1,311.99	655.25	407.87	247.38	2.649		
14,600.00	7,763.18	14,535.06	7,776.18	126.37	124.62	-90.96	-6,792.37	1,313.18	655.25	404.25	251.00	2.611		
14,700.00	7,762.97	14,635.06	7,775.97	128.18	126.44	-90.96	-6,892.36	1,314.37	655.25	400.63	254.62	2.573		
14,800.00	7,762.77	14,735.06	7,775.77	129.99	128.25	-90.96	-6,992.36	1,315.56	655.24	397.01	258.23	2.537		
14,900.00	7,762.56	14,835.06	7,775.56	131.79	130.06	-90.96	-7,092.35	1,316.74	655.24	393.39	261.85	2.502		
15,000.00	7,762.35	14,935.06	7,775.36	133.60	131.87	-90.96	-7,192.34	1,317.93	655.24	389.76	265.48	2.468		
15,100.00	7,762.15	15,035.06	7,775.15	135.41	133.69	-90.96	-7,292.33	1,319.12	655.24	386.14	269.10	2.435		
15,200.00	7,761.94	15,135.06	7,774.94	137.22	135.50	-90.96	-7,392.33	1,320.31	655.24	382.51	272.72	2.403		
15,300.00	7,761.73	15,235.06	7,774.74	139.03	137.31	-90.96	-7,492.32	1,321.49	655.23	378.89	276.35	2.371		
15,400.00	7,761.53	15,335.06	7,774.53	140.84	139.13	-90.96	-7,592.31	1,322.68	655.23	375.26	279.97	2.340		
15,500.00	7,761.32	15,435.06	7,774.32	142.65	140.94	-90.96	-7,692.31	1,323.87	655.23	371.63	283.60	2.310		
15,600.00	7,761.11	15,535.06	7,774.12	144.46	142.76	-90.96	-7,792.30	1,325.05	655.23	368.00	287.22	2.281		
15,700.00	7,760.91	15,635.06	7,773.91	146.28	144.58	-90.96	-7,892.29	1,326.24	655.23	364.37	290.85	2.253		
15,800.00	7,760.70	15,735.06	7,773.70	148.09	146.39	-90.96	-7,992.28	1,327.43	655.22	360.74	294.48	2.225		
15,900.00	7,760.49	15,835.06	7,773.50	149.90	148.21	-90.96	-8,092.28	1,328.62	655.22	357.11	298.11	2.198		
16,000.00	7,760.29	15,935.06	7,773.29	151.71	150.03	-90.96	-8,192.27	1,329.80	655.22	353.48	301.74	2.171		
16,100.00	7,760.08	16,035.06	7,773.09	153.53	151.84	-90.96	-8,292.26	1,330.99	655.22	349.84	305.37	2.146		
16,200.00	7,759.87	16,135.06	7,772.88	155.34	153.66	-90.96	-8,392.25	1,332.18	655.22	346.21	309.01	2.120		
16,300.00	7,759.67	16,235.06	7,772.67	157.16	155.48	-90.96	-8,492.25	1,333.37	655.21	342.58	312.64	2.096		
16,400.00	7,759.46	16,335.06	7,772.47	158.97	157.30	-90.96	-8,592.24	1,334.55	655.21	338.94	316.27	2.072		
16,500.00	7,759.25	16,435.06	7,772.26	160.79	159.12	-90.96	-8,692.23	1,335.74	655.21	335.30	319.91	2.048		
16,600.00	7,759.05	16,535.06	7,772.05	162.60	160.94	-90.96	-8,792.23	1,336.93	655.21	331.67	323.54	2.025		
16,700.00	7,758.84	16,635.06	7,771.85	164.42	162.76	-90.96	-8,892.22	1,338.12	655.21	328.03	327.18	2.003		
16,800.00	7,758.63	16,735.06	7,771.64	166.24	164.58	-90.96	-8,992.21	1,339.30	655.20	324.39	330.81	1.981		
16,900.00	7,758.43	16,835.06	7,771.43	168.05	166.40	-90.96	-9,092.20	1,340.49	655.20	320.75	334.45	1.959		
17,000.00	7,758.22	16,935.06	7,771.23	169.87	168.22	-90.96	-9,192.20	1,341.68	655.20	317.11	338.09	1.938		
17,100.00	7,758.01	17,035.06	7,771.02	171.69	170.04	-90.96	-9,292.19	1,342.86	655.20	313.47	341.72	1.917		
17,200.00	7,757.81	17,135.06	7,770.82	173.50	171.86	-90.96	-9,392.18	1,344.05	655.20	309.83	345.36	1.897		
17,300.00	7,757.60	17,235.06	7,770.61	175.32	173.68	-90.96	-9,492.17	1,345.24	655.19	306.19	349.00	1.877		
17,400.00	7,757.39	17,335.06	7,770.40	177.14	175.50	-90.96	-9,592.17	1,346.43	655.19	302.55	352.64	1.858		
17,500.00	7,757.19	17,435.06	7,770.20	178.96	177.32	-90.96	-9,692.16	1,347.61	655.19	298.91	356.28	1.839		
17,600.00	7,756.98	17,535.06	7,769.99	180.78	179.14	-90.96	-9,792.15	1,348.80	655.19	295.27	359.92	1.820		
17,700.00	7,756.77	17,635.06	7,769.78	182.60	180.96	-90.96	-9,892.15	1,349.99	655.19	291.63	363.56	1.802		
17,800.00	7,756.57	17,735.06	7,769.58	184.42	182.78	-90.96	-9,992.14	1,351.18	655.18	287.98	367.20	1.784		
17,900.00	7,756.36	17,835.06	7,769.37	186.24	184.61	-90.96	-10,092.13	1,352.36	655.18	284.34	370.84	1.767		
18,000.00	7,756.15	17,935.06	7,769.17	188.06	186.43	-90.96	-10,192.12	1,353.55	655.18	280.69	374.49	1.750		
18,074.93	7,756.00	18,009.99	7,769.01	189.42	187.76	-90.96	-10,267.05	1,354.44	655.18	278.00	377.18	1.737 CC, ES, SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S. , R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

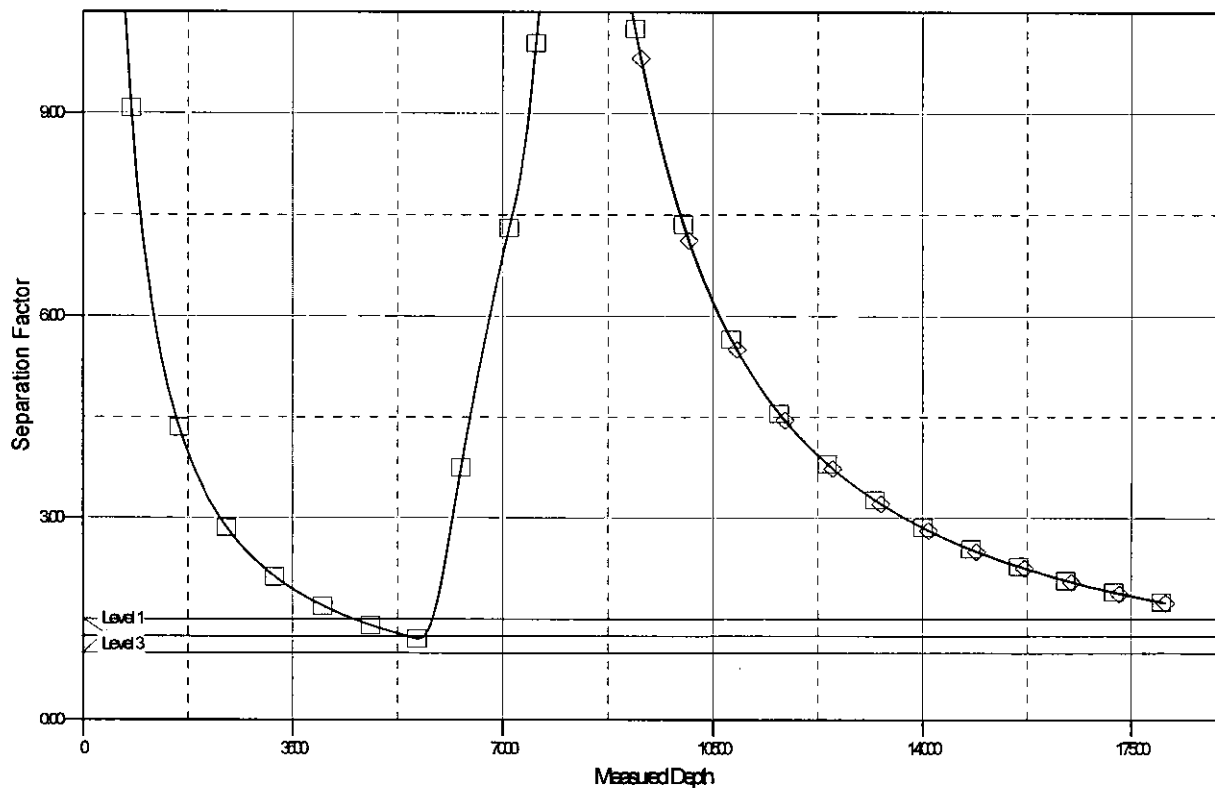
Reference Depths are relative to KB=30' @ 3081.00usft (Nabors 894) Coordinates are relative to: Daisy State Com #502H
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is -104.33334 Grid Convergence at Surface is: 0.10°



Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #502H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Reference Site:	Sec. 24, T 25S. , R 27 E	MD Reference:	KB=30' @ 3081.00usft (Nabors 894)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB=30' @ 3081.00usft (Nabors 894) Coordinates are relative to: Daisy State Com #502H
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is -104.33334 Grid Convergence at Surface is: 0.10°

Separation Factor Plot



LEGEND

Daisy State Com #501H, Wellbore #1, Plan #2 V0  Daisy State Com #503H, Wellbore #1, Plan #2 V0 