

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. 30-015-45747
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 503H
9. OGRID Number 229137
10. Pool name or Wildcat Hay Hallow; Bone Spring, North 30216
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3057' GR

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 <u>C</u> : <u>275</u> feet from the <u>North</u> line and <u>1970</u> feet from the <u>West</u> line Section <u>24</u> Township <u>25S</u> Range <u>27E</u> NMPM County <u>Eddy</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3057' 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 1420' FWL, Sec 25, T25S, R27E, Unit N

RECEIVED

TO: 50' FSL 1645' FWL, Sec 25, T25S, R27E, Unit N

MAR 18 2019

* Attached are the revised C102 and directional plan.

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 Robyn M. Russell 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 Raymond M. Bodany TITLE Geologist DATE 3-20-19
Conditions of Approval (if any):

RECEIVED

MAR 18 2019

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (505) 393-0161 Fax: (505) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720

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) 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, New Mexico 87505

DISTRICT II-ARTESIA O.C.D. Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-45747		Pool Code 30216	Pool Name Hay Hollow; Bone Spring, North
Property Code 325001	Property Name DAISY 24 STATE COM		Well Number 503H
OCRID No. 229137	Operator Name COG OPERATING, LLC		Elevation 3057.0'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	24	25-S	27-E		275	NORTH	1970	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
N	25	25-S	27-E		50	SOUTH	1645	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

Y=408403.0 N X=597350.8 E NAD 83 NME SURFACE LOCATION Y=408422.3 N X=599982.4 E 100' FNL & 1645' FWL Y=408315.0 N X=598996.0 E LAT.=32.122400° N LONG.=104.147083° W GRID AZ. TO FTP 297°56'56" SECTION 24 SECTION 25 GRID AZ. - 179°18'52" HORZ. DIST. - 10456.9' NAD 83 NME PROPOSED BOTTOM HOLE LOCATION Y=397858.9 N X=599121.1 E LAT.=32.093656° N LONG.=104.146738° W 100' FSL & 1645' FWL Y=397908.9 N X=599120.5 E LAT.=32.093794° N LONG.=104.146739° W Y=397801.9 N X=597476.9 E Y=397812.9 N X=600076.6 E 1645' B.H. 50'	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>Robyn M. Russell</i> Date: 03/14/19 Printed Name: Robyn M. Russell E-mail Address: Rrussell@concho.com 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. DECEMBER 5, 2018 Date of Survey Signature & Seal of Professional Surveyor CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR Signature: <i>Chad L. Harcrow</i> Date: 3/6/19 Certificate No. CHAD HARCROW 17777 W.O. # 19-310 DRAWN BY: WN
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Rup 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 #503H

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 #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Well:	Daisy State Com #503H	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		
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Site Position:		Northing:	408,345.40 usft	Latitude:	32.12253
From:	Map	Easting:	556,167.10 usft	Longitude:	-104.15191
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.10 °

Well	Daisy State Com #503H				
Well Position	+N/-S	0.00 usft	Northing:	408,084.80 usft	Latitude: 32.12180
	+E/-W	0.00 usft	Easting:	558,137.70 usft	Longitude: -104.14554
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft	Ground Level: 3,057.00 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	47,880

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	181.12

Survey Tool Program	Date 3/11/2019				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	18,014.34	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 #503H	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 #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandrell Freedom)
Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandrell Freedom)
Well:	Daisy State Com #503H	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	332.78	5,699.98	1.55	-0.80	-1.54	2.00	2.00	0.00
5,800.00	4.00	332.78	5,799.84	6.21	-3.19	-6.14	2.00	2.00	0.00
5,900.00	6.00	332.78	5,899.45	13.96	-7.18	-13.81	2.00	2.00	0.00
5,918.21	6.36	332.78	5,917.56	15.70	-8.07	-15.54	2.00	2.00	0.00
Start 1260.95 hold at 5918.21 MD									
6,000.00	6.36	332.78	5,998.84	23.76	-12.22	-23.52	0.00	0.00	0.00
6,100.00	6.36	332.78	6,098.23	33.62	-17.29	-33.28	0.00	0.00	0.00
6,200.00	6.36	332.78	6,197.61	43.48	-22.36	-43.03	0.00	0.00	0.00
6,300.00	6.36	332.78	6,296.99	53.34	-27.43	-52.79	0.00	0.00	0.00
6,400.00	6.36	332.78	6,396.38	63.19	-32.50	-62.55	0.00	0.00	0.00
6,500.00	6.36	332.78	6,495.76	73.05	-37.57	-72.30	0.00	0.00	0.00
6,600.00	6.36	332.78	6,595.14	82.91	-42.64	-82.06	0.00	0.00	0.00
6,700.00	6.36	332.78	6,694.53	92.77	-47.71	-91.82	0.00	0.00	0.00
6,800.00	6.36	332.78	6,793.91	102.62	-52.78	-101.58	0.00	0.00	0.00
6,900.00	6.36	332.78	6,893.30	112.48	-57.85	-111.33	0.00	0.00	0.00
7,000.00	6.36	332.78	6,992.68	122.34	-62.92	-121.09	0.00	0.00	0.00
7,100.00	6.36	332.78	7,092.06	132.20	-67.99	-130.85	0.00	0.00	0.00
7,179.16	6.36	332.78	7,170.74	140.00	-72.00	-138.57	0.00	0.00	0.00
Start DLS 10.00 TFO -137.61									
7,200.00	5.02	316.53	7,191.47	141.69	-73.16	-140.24	10.00	-6.43	-78.00
7,300.00	8.52	225.00	7,290.98	139.62	-81.43	-138.01	10.00	3.50	-91.53
7,400.00	17.88	208.43	7,388.26	120.84	-94.01	-118.98	10.00	9.36	-16.57
7,500.00	27.68	203.21	7,480.36	85.90	-110.52	-83.73	10.00	9.80	-5.22
7,600.00	37.58	200.59	7,564.47	35.88	-130.45	-33.33	10.00	9.90	-2.63
7,700.00	47.52	198.93	7,638.05	-27.71	-153.20	30.70	10.00	9.94	-1.65
7,800.00	57.48	197.74	7,698.85	-102.94	-178.07	106.39	10.00	9.96	-1.20
7,900.00	67.44	196.78	7,745.03	-187.52	-204.32	191.46	10.00	9.96	-0.95
8,000.00	77.41	195.96	7,775.19	-278.87	-231.13	283.33	10.00	9.97	-0.83
8,100.00	87.38	195.20	7,788.40	-374.23	-257.71	379.19	10.00	9.97	-0.76
8,126.26	90.00	195.00	7,789.00	-399.57	-264.55	404.66	10.00	9.97	-0.75
Start DLS 4.00 TFO -89.56									
8,200.00	90.02	192.05	7,788.99	-471.27	-281.79	476.67	4.00	0.03	-4.00
8,300.00	90.05	188.05	7,788.92	-569.71	-299.24	575.44	4.00	0.03	-4.00
8,400.00	90.08	184.05	7,788.80	-669.13	-309.78	675.05	4.00	0.03	-4.00
8,500.00	90.11	180.05	7,788.63	-769.05	-313.36	775.01	4.00	0.03	-4.00
8,518.27	90.12	179.32	7,788.59	-787.32	-313.26	793.28	4.00	0.03	-4.00
Start 9496.77 hold at 8518.27 MD									
8,600.00	90.12	179.32	7,788.43	-869.04	-312.29	874.97	0.00	0.00	0.00
8,700.00	90.12	179.32	7,788.22	-969.04	-311.10	974.92	0.00	0.00	0.00
8,800.00	90.12	179.32	7,788.01	-1,069.03	-309.91	1,074.87	0.00	0.00	0.00

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandrift Freedom)
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Well:	Daisy State Com #503H	North Reference:	Grid
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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	7,787.81	-1,169.02	-308.72	1,174.82	0.00	0.00	0.00
9,000.00	90.12	179.32	7,787.60	-1,269.01	-307.54	1,274.77	0.00	0.00	0.00
9,100.00	90.12	179.32	7,787.39	-1,369.01	-306.35	1,374.72	0.00	0.00	0.00
9,200.00	90.12	179.32	7,787.19	-1,469.00	-305.16	1,474.67	0.00	0.00	0.00
9,300.00	90.12	179.32	7,786.98	-1,568.99	-303.97	1,574.62	0.00	0.00	0.00
9,400.00	90.12	179.32	7,786.78	-1,668.99	-302.79	1,674.57	0.00	0.00	0.00
9,500.00	90.12	179.32	7,786.57	-1,768.98	-301.60	1,774.52	0.00	0.00	0.00
9,600.00	90.12	179.32	7,786.36	-1,868.97	-300.41	1,874.47	0.00	0.00	0.00
9,700.00	90.12	179.32	7,786.16	-1,968.96	-299.23	1,974.42	0.00	0.00	0.00
9,800.00	90.12	179.32	7,785.95	-2,068.96	-298.04	2,074.37	0.00	0.00	0.00
9,900.00	90.12	179.32	7,785.74	-2,168.95	-296.85	2,174.32	0.00	0.00	0.00
10,000.00	90.12	179.32	7,785.54	-2,268.94	-295.66	2,274.27	0.00	0.00	0.00
10,100.00	90.12	179.32	7,785.33	-2,368.93	-294.48	2,374.22	0.00	0.00	0.00
10,200.00	90.12	179.32	7,785.12	-2,468.93	-293.29	2,474.18	0.00	0.00	0.00
10,300.00	90.12	179.32	7,784.92	-2,568.92	-292.10	2,574.13	0.00	0.00	0.00
10,400.00	90.12	179.32	7,784.71	-2,668.91	-290.91	2,674.08	0.00	0.00	0.00
10,500.00	90.12	179.32	7,784.51	-2,768.91	-289.73	2,774.03	0.00	0.00	0.00
10,600.00	90.12	179.32	7,784.30	-2,868.90	-288.54	2,873.98	0.00	0.00	0.00
10,700.00	90.12	179.32	7,784.09	-2,968.89	-287.35	2,973.93	0.00	0.00	0.00
10,800.00	90.12	179.32	7,783.89	-3,068.88	-286.16	3,073.88	0.00	0.00	0.00
10,900.00	90.12	179.32	7,783.68	-3,168.88	-284.98	3,173.83	0.00	0.00	0.00
11,000.00	90.12	179.32	7,783.47	-3,268.87	-283.79	3,273.78	0.00	0.00	0.00
11,100.00	90.12	179.32	7,783.27	-3,368.86	-282.60	3,373.73	0.00	0.00	0.00
11,200.00	90.12	179.32	7,783.06	-3,468.85	-281.42	3,473.68	0.00	0.00	0.00
11,300.00	90.12	179.32	7,782.86	-3,568.85	-280.23	3,573.63	0.00	0.00	0.00
11,400.00	90.12	179.32	7,782.65	-3,668.84	-279.04	3,673.58	0.00	0.00	0.00
11,500.00	90.12	179.32	7,782.44	-3,768.83	-277.85	3,773.53	0.00	0.00	0.00
11,600.00	90.12	179.32	7,782.24	-3,868.83	-276.67	3,873.48	0.00	0.00	0.00
11,700.00	90.12	179.32	7,782.03	-3,968.82	-275.48	3,973.43	0.00	0.00	0.00
11,800.00	90.12	179.32	7,781.82	-4,068.81	-274.29	4,073.38	0.00	0.00	0.00
11,900.00	90.12	179.32	7,781.62	-4,168.80	-273.10	4,173.34	0.00	0.00	0.00
12,000.00	90.12	179.32	7,781.41	-4,268.80	-271.92	4,273.29	0.00	0.00	0.00
12,100.00	90.12	179.32	7,781.20	-4,368.79	-270.73	4,373.24	0.00	0.00	0.00
12,200.00	90.12	179.32	7,781.00	-4,468.78	-269.54	4,473.19	0.00	0.00	0.00
12,300.00	90.12	179.32	7,780.79	-4,568.77	-268.36	4,573.14	0.00	0.00	0.00
12,400.00	90.12	179.32	7,780.59	-4,668.77	-267.17	4,673.09	0.00	0.00	0.00
12,500.00	90.12	179.32	7,780.38	-4,768.76	-265.98	4,773.04	0.00	0.00	0.00
12,600.00	90.12	179.32	7,780.17	-4,868.75	-264.79	4,872.99	0.00	0.00	0.00
12,700.00	90.12	179.32	7,779.97	-4,968.75	-263.61	4,972.94	0.00	0.00	0.00
12,800.00	90.12	179.32	7,779.76	-5,068.74	-262.42	5,072.89	0.00	0.00	0.00
12,900.00	90.12	179.32	7,779.55	-5,168.73	-261.23	5,172.84	0.00	0.00	0.00
13,000.00	90.12	179.32	7,779.35	-5,268.72	-260.04	5,272.79	0.00	0.00	0.00
13,100.00	90.12	179.32	7,779.14	-5,368.72	-258.86	5,372.74	0.00	0.00	0.00

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Well:	Daisy State Com #503H	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	7,778.93	-5,468.71	-257.67	5,472.69	0.00	0.00	0.00
13,300.00	90.12	179.32	7,778.73	-5,568.70	-256.48	5,572.64	0.00	0.00	0.00
13,400.00	90.12	179.32	7,778.52	-5,668.69	-255.29	5,672.59	0.00	0.00	0.00
13,500.00	90.12	179.32	7,778.32	-5,768.69	-254.11	5,772.54	0.00	0.00	0.00
13,600.00	90.12	179.32	7,778.11	-5,868.68	-252.92	5,872.50	0.00	0.00	0.00
13,700.00	90.12	179.32	7,777.90	-5,968.67	-251.73	5,972.45	0.00	0.00	0.00
13,800.00	90.12	179.32	7,777.70	-6,068.67	-250.55	6,072.40	0.00	0.00	0.00
13,900.00	90.12	179.32	7,777.49	-6,168.66	-249.36	6,172.35	0.00	0.00	0.00
14,000.00	90.12	179.32	7,777.28	-6,268.65	-248.17	6,272.30	0.00	0.00	0.00
14,100.00	90.12	179.32	7,777.08	-6,368.64	-246.98	6,372.25	0.00	0.00	0.00
14,200.00	90.12	179.32	7,776.87	-6,468.64	-245.80	6,472.20	0.00	0.00	0.00
14,300.00	90.12	179.32	7,776.67	-6,568.63	-244.61	6,572.15	0.00	0.00	0.00
14,400.00	90.12	179.32	7,776.46	-6,668.62	-243.42	6,672.10	0.00	0.00	0.00
14,500.00	90.12	179.32	7,776.25	-6,768.61	-242.23	6,772.05	0.00	0.00	0.00
14,600.00	90.12	179.32	7,776.05	-6,868.61	-241.05	6,872.00	0.00	0.00	0.00
14,700.00	90.12	179.32	7,775.84	-6,968.60	-239.86	6,971.95	0.00	0.00	0.00
14,800.00	90.12	179.32	7,775.63	-7,068.59	-238.67	7,071.90	0.00	0.00	0.00
14,900.00	90.12	179.32	7,775.43	-7,168.59	-237.49	7,171.85	0.00	0.00	0.00
15,000.00	90.12	179.32	7,775.22	-7,268.58	-236.30	7,271.80	0.00	0.00	0.00
15,100.00	90.12	179.32	7,775.01	-7,368.57	-235.11	7,371.75	0.00	0.00	0.00
15,200.00	90.12	179.32	7,774.81	-7,468.56	-233.92	7,471.70	0.00	0.00	0.00
15,300.00	90.12	179.32	7,774.60	-7,568.56	-232.74	7,571.66	0.00	0.00	0.00
15,400.00	90.12	179.32	7,774.40	-7,668.55	-231.55	7,671.61	0.00	0.00	0.00
15,500.00	90.12	179.32	7,774.19	-7,768.54	-230.36	7,771.56	0.00	0.00	0.00
15,600.00	90.12	179.32	7,773.98	-7,868.53	-229.17	7,871.51	0.00	0.00	0.00
15,700.00	90.12	179.32	7,773.78	-7,968.53	-227.99	7,971.46	0.00	0.00	0.00
15,800.00	90.12	179.32	7,773.57	-8,068.52	-226.80	8,071.41	0.00	0.00	0.00
15,900.00	90.12	179.32	7,773.36	-8,168.51	-225.61	8,171.36	0.00	0.00	0.00
16,000.00	90.12	179.32	7,773.16	-8,268.51	-224.42	8,271.31	0.00	0.00	0.00
16,100.00	90.12	179.32	7,772.95	-8,368.50	-223.24	8,371.26	0.00	0.00	0.00
16,200.00	90.12	179.32	7,772.75	-8,468.49	-222.05	8,471.21	0.00	0.00	0.00
16,300.00	90.12	179.32	7,772.54	-8,568.48	-220.86	8,571.16	0.00	0.00	0.00
16,400.00	90.12	179.32	7,772.33	-8,668.48	-219.68	8,671.11	0.00	0.00	0.00
16,500.00	90.12	179.32	7,772.13	-8,768.47	-218.49	8,771.06	0.00	0.00	0.00
16,600.00	90.12	179.32	7,771.92	-8,868.46	-217.30	8,871.01	0.00	0.00	0.00
16,700.00	90.12	179.32	7,771.71	-8,968.46	-216.11	8,970.96	0.00	0.00	0.00
16,800.00	90.12	179.32	7,771.51	-9,068.45	-214.93	9,070.91	0.00	0.00	0.00
16,900.00	90.12	179.32	7,771.30	-9,168.44	-213.74	9,170.86	0.00	0.00	0.00
17,000.00	90.12	179.32	7,771.09	-9,268.43	-212.55	9,270.82	0.00	0.00	0.00
17,100.00	90.12	179.32	7,770.89	-9,368.43	-211.36	9,370.77	0.00	0.00	0.00
17,200.00	90.12	179.32	7,770.68	-9,468.42	-210.18	9,470.72	0.00	0.00	0.00
17,300.00	90.12	179.32	7,770.48	-9,568.41	-208.99	9,570.67	0.00	0.00	0.00
17,400.00	90.12	179.32	7,770.27	-9,668.40	-207.80	9,670.62	0.00	0.00	0.00
17,500.00	90.12	179.32	7,770.06	-9,768.40	-206.62	9,770.57	0.00	0.00	0.00

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Site:	Sec. 24, T 25S, R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Well:	Daisy State Com #503H	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	7,769.86	-9,868.39	-205.43	9,870.52	0.00	0.00	0.00
17,700.00	90.12	179.32	7,769.65	-9,968.38	-204.24	9,970.47	0.00	0.00	0.00
17,800.00	90.12	179.32	7,769.44	-10,068.38	-203.05	10,070.42	0.00	0.00	0.00
17,900.00	90.12	179.32	7,769.24	-10,168.37	-201.87	10,170.37	0.00	0.00	0.00
18,000.00	90.12	179.32	7,769.03	-10,268.36	-200.68	10,270.32	0.00	0.00	0.00
18,015.04	90.12	179.32	7,769.00	-10,283.40	-200.50	10,285.35	0.00	0.00	0.00
TD at 18015.04									

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	171.00	-550.40	408,255.80	557,587.30	32.12228	-104.14732
- plan misses target center by 576.35usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Daisy State Com #50:	0.00	0.00	7,769.00	-10,283.40	-200.50	397,801.40	557,937.20	32.09353	-104.14625
- plan hits target center									
- Point									
Daisy State Com #50:	0.00	0.00	7,769.10	-10,233.40	-201.10	397,851.40	557,936.60	32.09367	-104.14625
- plan misses target center by 0.01usft at 17965.04usft MD (7769.10 TVD, -10233.40 N, -201.09 E)									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
580.00	580.00	TOS		0.00	
2,022.00	2,022.00	BOS (Fletcher)		0.00	
2,216.00	2,216.00	LMAR (Top Delaware)		0.00	
2,252.00	2,252.00	BLCN		0.00	
3,069.00	3,069.00	CYCN		0.00	
4,265.00	4,265.00	BYCN			
5,883.46	5,883.00	Bone Sprg (BSGL)			
6,181.28	6,179.00	U Avalon Sh			
6,418.74	6,415.00	L Avalon Sh			
6,752.80	6,747.00	B Avalon Sh			
6,807.13	6,801.00	FBSG_sand			
7,377.79	7,367.00	SBSG_sand			

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Site:	Sec. 24, T 25S. , R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Well:	Daisy State Com #503H	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
5918	5918	16	-8	Start 1260.95 hold at 5918.21 MD
7179	7171	140	-72	Start DLS 10.00 TFO -137.61
8126	7789	-400	-265	Start DLS 4.00 TFO -89.56
8518	7789	-787	-313	Start 9496.77 hold at 8518.27 MD
18,015	7769	-10,283	-201	TD at 18015.04

Checked By: _____	Approved By: _____	Date: _____
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COG Operating L L C
 Project: Eddy County, NM (NAD 27 NME)
 Site: Sec. 24, T 25S., R 27 E
 Well: Daisy State Com #503H
 Wellbore: Wellbore #1
 Plan: Plan #2 (Daisy State Com #503H/Wellbore #1)
 Scandril Freedom

WELL DETAILS: Daisy State Com #503H

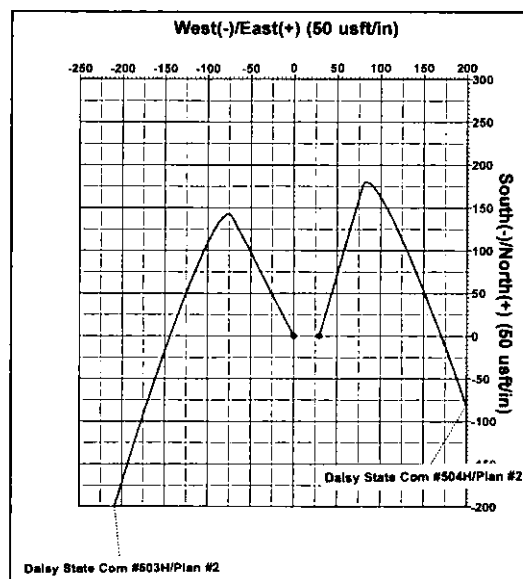
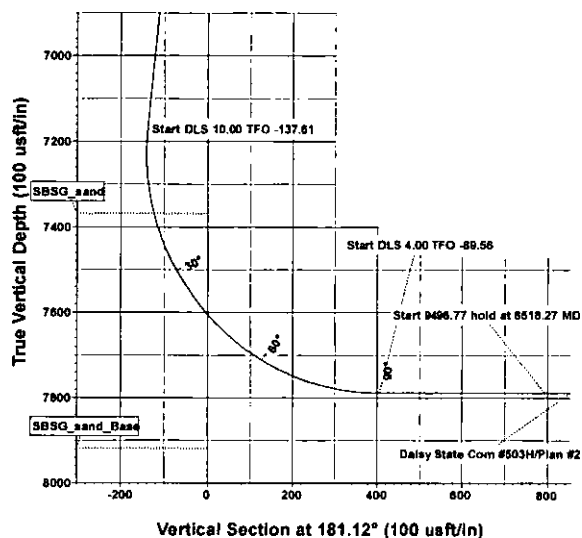
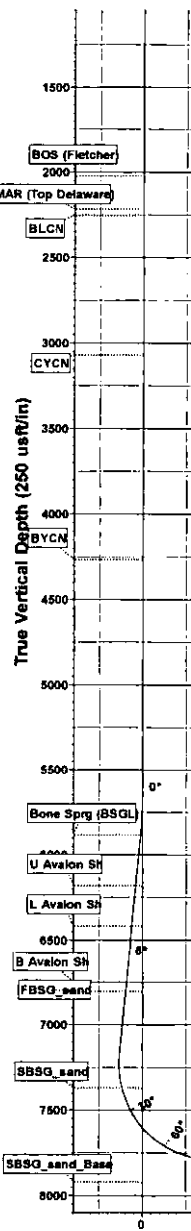
Ground Elevation:: 3057.00
 RKB Elevation: KB=26' @ 3083.00usft (Scandril Freedom)
 Rig Name: Scandril Freedom

Northing 408084.80 Easting 558137.70 Latitude 32.12180 Longitude -104.14554

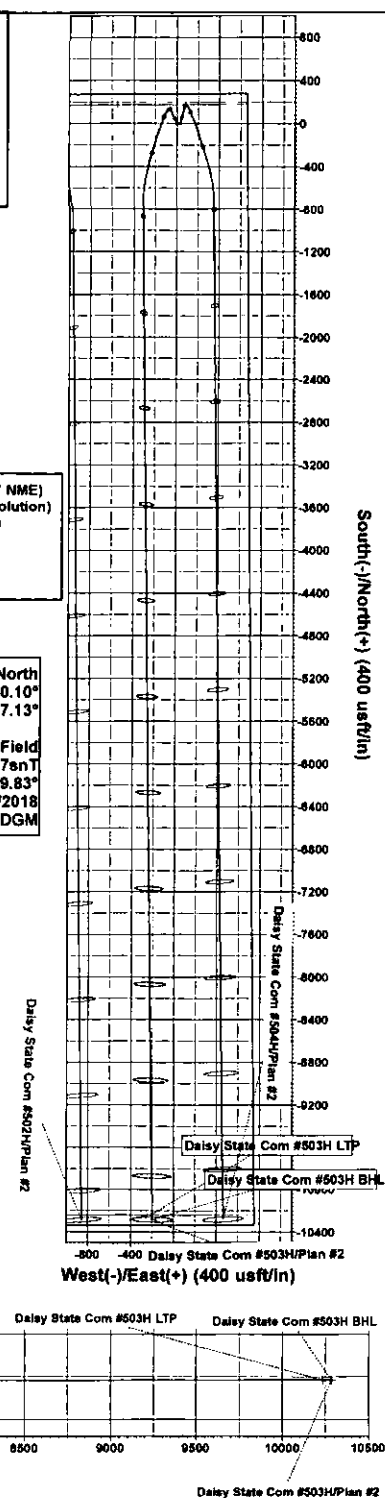
Planned Section Details

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	Start Build 2.00
2	5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	0.00	0.00	Start 1260.95 hold at 5918.21 MD
3	5918.21	6.36	332.78	5917.56	15.70	-8.07	2.00	332.78	-15.54	Start DLS 10.00 TFO -137.61
4	7179.16	6.36	332.78	7170.74	140.00	-72.00	0.00	0.00	-138.57	Start DLS 4.00 TFO -89.56
5	8126.26	90.00	195.00	7789.00	-399.57	-264.55	10.00	-137.61	404.66	Start 9496.77 hold at 8518.27 MD
6	8518.27	90.12	179.32	7788.59	-787.32	-313.26	4.00	-89.56	793.28	TD at 18015.04
7	18015.04	90.12	179.32	7769.00	-10283.40	-200.50	0.00	0.0010285.35		

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



South(-)/North(+) (50 usf/in)
 Azimuths to Grid North
 True North: -0.10°
 Magnetic North: 7.13°
 Magnetic Field
 Strength: 47879.7nT
 Dip Angle: 59.83°
 Date: 12/31/2018
 Model: HDGM



Vertical Section at 181.12° (250 usf/in)

Daisy State Com #503H/Plan #2



C O N C H O

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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 #503H

Wellbore #1

Plan #2

Anticollision Report

11 March, 2019





Anticollision Report



Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandrell Freedom)
Reference Site:	Sec. 24, T 25S, R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandrell Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 19,999.96 u	Error Surface:	Circular Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	3/11/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	18,014.34	Plan #2 (Wellbore #1)	MWD	MWD - Standard	

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 #502H - Wellbore #1 - Plan #2	18,010.01	18,074.93	655.18	278.00	1.737 CC	
Daisy State Com #502H - Wellbore #1 - Plan #2	18,015.04	18,074.93	655.20	277.94	1.737 ES, SF	
Daisy State Com #504H - Wellbore #1 - Plan #2	5,566.60	5,566.80	29.90	5.16	1.209 Level 2, CC	
Daisy State Com #504H - Wellbore #1 - Plan #2	5,600.00	5,600.20	29.90	5.01	1.201 Level 2, ES, SF	

Offset Design										Sec. 24, T 25S, R 27 E - Daisy State Com #502H - 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	-90.42	-11.30	-1,555.00	1,555.04				
100.00	100.00	98.00	98.00	0.08	0.08	-90.42	-11.30	-1,555.00	1,555.04	1,554.88		0.16	9,703.336
200.00	200.00	198.00	198.00	0.31	0.30	-90.42	-11.30	-1,555.00	1,555.04	1,554.43		0.61	2,562.402
300.00	300.00	298.00	298.00	0.53	0.52	-90.42	-11.30	-1,555.00	1,555.04	1,553.98		1.06	1,472.018
400.00	400.00	398.00	398.00	0.76	0.75	-90.42	-11.30	-1,555.00	1,555.04	1,553.54		1.51	1,032.610
500.00	500.00	498.00	498.00	0.98	0.97	-90.42	-11.30	-1,555.00	1,555.04	1,553.09		1.96	795.228
600.00	600.00	598.00	598.00	1.21	1.20	-90.42	-11.30	-1,555.00	1,555.04	1,552.64		2.40	646.588
700.00	700.00	698.00	698.00	1.43	1.42	-90.42	-11.30	-1,555.00	1,555.04	1,552.19		2.85	544.763
800.00	800.00	798.00	798.00	1.66	1.65	-90.42	-11.30	-1,555.00	1,555.04	1,551.74		3.30	470.645
900.00	900.00	898.00	898.00	1.88	1.87	-90.42	-11.30	-1,555.00	1,555.04	1,551.29		3.75	414.281
1,000.00	1,000.00	998.00	998.00	2.11	2.10	-90.42	-11.30	-1,555.00	1,555.04	1,550.84		4.20	369.973
1,100.00	1,100.00	1,098.00	1,098.00	2.33	2.32	-90.42	-11.30	-1,555.00	1,555.04	1,550.39		4.65	334.226
1,200.00	1,200.00	1,198.00	1,198.00	2.56	2.55	-90.42	-11.30	-1,555.00	1,555.04	1,549.94		5.10	304.779
1,300.00	1,300.00	1,298.00	1,298.00	2.78	2.77	-90.42	-11.30	-1,555.00	1,555.04	1,549.49		5.55	280.101
1,400.00	1,400.00	1,398.00	1,398.00	3.01	3.00	-90.42	-11.30	-1,555.00	1,555.04	1,549.04		6.00	259.119
1,500.00	1,500.00	1,498.00	1,498.00	3.23	3.22	-90.42	-11.30	-1,555.00	1,555.04	1,548.59		6.45	241.062
1,600.00	1,600.00	1,598.00	1,598.00	3.45	3.45	-90.42	-11.30	-1,555.00	1,555.04	1,548.14		6.90	225.358
1,700.00	1,700.00	1,698.00	1,698.00	3.68	3.67	-90.42	-11.30	-1,555.00	1,555.04	1,547.69		7.35	211.575
1,800.00	1,800.00	1,798.00	1,798.00	3.90	3.90	-90.42	-11.30	-1,555.00	1,555.04	1,547.24		7.80	199.380
1,900.00	1,900.00	1,898.00	1,898.00	4.13	4.12	-90.42	-11.30	-1,555.00	1,555.04	1,546.79		8.25	188.515
2,000.00	2,000.00	1,998.00	1,998.00	4.35	4.34	-90.42	-11.30	-1,555.00	1,555.04	1,546.34		8.70	178.772
2,100.00	2,100.00	2,098.00	2,098.00	4.58	4.57	-90.42	-11.30	-1,555.00	1,555.04	1,545.89		9.15	169.987
2,200.00	2,200.00	2,198.00	2,198.00	4.80	4.79	-90.42	-11.30	-1,555.00	1,555.04	1,545.44		9.60	162.025

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 #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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 #502H - 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)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,300.00	2,300.00	2,298.00	2,298.00	5.03	5.02	-90.42	-11.30	-1,555.00	1,555.04	1,544.99	10.05	154.776	
2,400.00	2,400.00	2,398.00	2,398.00	5.25	5.24	-90.42	-11.30	-1,555.00	1,555.04	1,544.54	10.50	148.147	
2,500.00	2,500.00	2,498.00	2,498.00	5.48	5.47	-90.42	-11.30	-1,555.00	1,555.04	1,544.09	10.95	142.063	
2,600.00	2,600.00	2,598.00	2,598.00	5.70	5.69	-90.42	-11.30	-1,555.00	1,555.04	1,543.65	11.40	136.459	
2,700.00	2,700.00	2,698.00	2,698.00	5.93	5.92	-90.42	-11.30	-1,555.00	1,555.04	1,543.20	11.85	131.281	
2,800.00	2,800.00	2,798.00	2,798.00	6.15	6.14	-90.42	-11.30	-1,555.00	1,555.04	1,542.75	12.29	126.481	
2,900.00	2,900.00	2,898.00	2,898.00	6.38	6.37	-90.42	-11.30	-1,555.00	1,555.04	1,542.30	12.74	122.019	
3,000.00	3,000.00	2,998.00	2,998.00	6.60	6.59	-90.42	-11.30	-1,555.00	1,555.04	1,541.85	13.19	117.862	
3,100.00	3,100.00	3,098.00	3,098.00	6.83	6.82	-90.42	-11.30	-1,555.00	1,555.04	1,541.40	13.64	113.978	
3,200.00	3,200.00	3,198.00	3,198.00	7.05	7.04	-90.42	-11.30	-1,555.00	1,555.04	1,540.95	14.09	110.343	
3,300.00	3,300.00	3,298.00	3,298.00	7.28	7.27	-90.42	-11.30	-1,555.00	1,555.04	1,540.50	14.54	106.932	
3,400.00	3,400.00	3,398.00	3,398.00	7.50	7.49	-90.42	-11.30	-1,555.00	1,555.04	1,540.05	14.99	103.725	
3,500.00	3,500.00	3,498.00	3,498.00	7.73	7.72	-90.42	-11.30	-1,555.00	1,555.04	1,539.60	15.44	100.706	
3,600.00	3,600.00	3,598.00	3,598.00	7.95	7.94	-90.42	-11.30	-1,555.00	1,555.04	1,539.15	15.89	97.857	
3,700.00	3,700.00	3,698.00	3,698.00	8.17	8.17	-90.42	-11.30	-1,555.00	1,555.04	1,538.70	16.34	95.165	
3,800.00	3,800.00	3,798.00	3,798.00	8.40	8.39	-90.42	-11.30	-1,555.00	1,555.04	1,538.25	16.79	92.617	
3,900.00	3,900.00	3,898.00	3,898.00	8.62	8.62	-90.42	-11.30	-1,555.00	1,555.04	1,537.80	17.24	90.202	
4,000.00	4,000.00	3,998.00	3,998.00	8.85	8.84	-90.42	-11.30	-1,555.00	1,555.04	1,537.35	17.69	87.910	
4,100.00	4,100.00	4,098.00	4,098.00	9.07	9.06	-90.42	-11.30	-1,555.00	1,555.04	1,536.90	18.14	85.731	
4,200.00	4,200.00	4,198.00	4,198.00	9.30	9.29	-90.42	-11.30	-1,555.00	1,555.04	1,536.45	18.59	83.658	
4,300.00	4,300.00	4,298.00	4,298.00	9.52	9.51	-90.42	-11.30	-1,555.00	1,555.04	1,536.00	19.04	81.682	
4,400.00	4,400.00	4,398.00	4,398.00	9.75	9.74	-90.42	-11.30	-1,555.00	1,555.04	1,535.55	19.49	79.798	
4,500.00	4,500.00	4,498.00	4,498.00	9.97	9.96	-90.42	-11.30	-1,555.00	1,555.04	1,535.10	19.94	77.999	
4,600.00	4,600.00	4,598.00	4,598.00	10.20	10.19	-90.42	-11.30	-1,555.00	1,555.04	1,534.65	20.39	76.279	
4,700.00	4,700.00	4,698.00	4,698.00	10.42	10.41	-90.42	-11.30	-1,555.00	1,555.04	1,534.21	20.84	74.633	
4,800.00	4,800.00	4,798.00	4,798.00	10.65	10.64	-90.42	-11.30	-1,555.00	1,555.04	1,533.76	21.29	73.057	
4,900.00	4,900.00	4,898.00	4,898.00	10.87	10.86	-90.42	-11.30	-1,555.00	1,555.04	1,533.31	21.73	71.546	
5,000.00	5,000.00	4,998.00	4,998.00	11.10	11.09	-90.42	-11.30	-1,555.00	1,555.04	1,532.86	22.18	70.096	
5,100.00	5,100.00	5,098.00	5,098.00	11.32	11.31	-90.42	-11.30	-1,555.00	1,555.04	1,532.41	22.63	68.704	
5,200.00	5,200.00	5,198.00	5,198.00	11.55	11.54	-90.42	-11.30	-1,555.00	1,555.04	1,531.96	23.08	67.366	
5,300.00	5,300.00	5,298.00	5,298.00	11.77	11.76	-90.42	-11.30	-1,555.00	1,555.04	1,531.51	23.53	66.079	
5,400.00	5,400.00	5,398.00	5,398.00	12.00	11.99	-90.42	-11.30	-1,555.00	1,555.04	1,531.06	23.98	64.841	
5,500.00	5,500.00	5,498.00	5,498.00	12.22	12.21	-90.42	-11.30	-1,555.00	1,555.04	1,530.61	24.43	63.648	
5,600.00	5,600.00	5,598.00	5,598.00	12.45	12.44	-90.42	-11.30	-1,555.00	1,555.04	1,530.16	24.88	62.498	
5,700.00	5,699.98	5,768.63	5,768.54	12.67	12.81	-63.24	-8.12	-1,551.19	1,552.02	1,526.55	25.48	60.917	
5,800.00	5,799.84	5,939.53	5,938.73	12.89	13.18	-63.34	1.57	-1,539.56	1,542.82	1,516.75	26.07	59.173	
5,900.00	5,899.45	6,104.54	6,101.94	13.11	13.55	-63.52	17.07	-1,520.96	1,527.53	1,500.87	26.67	57.281	
5,918.21	5,917.56	6,122.44	6,119.57	13.16	13.59	-63.57	19.05	-1,518.57	1,524.22	1,497.47	26.75	56.979	
6,000.00	5,998.84	6,202.84	6,198.75	13.34	13.78	-63.54	27.98	-1,507.86	1,509.21	1,482.09	27.12	55.645	
6,100.00	6,098.23	6,301.14	6,295.55	13.56	14.02	-63.49	38.90	-1,494.76	1,490.87	1,463.28	27.58	54.047	
6,200.00	6,197.61	6,399.43	6,392.36	13.79	14.26	-63.45	49.81	-1,481.66	1,472.52	1,444.46	28.06	52.485	
6,300.00	6,296.99	6,497.73	6,489.16	14.03	14.51	-63.40	60.73	-1,468.56	1,454.17	1,425.64	28.54	50.959	
6,400.00	6,396.38	6,596.02	6,585.97	14.26	14.76	-63.35	71.65	-1,455.46	1,435.83	1,406.81	29.02	49.471	
6,500.00	6,495.76	6,694.32	6,682.78	14.50	15.02	-63.31	82.56	-1,442.36	1,417.49	1,387.97	29.52	48.019	
6,600.00	6,595.14	6,792.62	6,779.58	14.73	15.29	-63.26	93.48	-1,429.27	1,399.14	1,369.12	30.02	46.605	
6,700.00	6,694.53	6,890.91	6,876.39	14.97	15.56	-63.21	104.39	-1,416.17	1,380.80	1,350.27	30.53	45.226	
6,800.00	6,793.91	6,989.21	6,973.19	15.22	15.83	-63.15	115.31	-1,403.07	1,362.46	1,331.42	31.05	43.884	
6,900.00	6,893.30	7,087.50	7,070.00	15.46	16.11	-63.10	126.23	-1,389.97	1,344.12	1,312.56	31.57	42.578	
7,000.00	6,992.68	7,185.80	7,166.81	15.71	16.39	-63.04	137.14	-1,376.87	1,325.79	1,293.69	32.10	41.306	
7,100.00	7,092.06	7,278.23	7,268.86	15.96	17.59	-71.37	11.82	-1,246.99	1,293.71	1,260.16	33.55	38.561	
7,179.16	7,170.74	7,834.66	7,702.30	16.15	18.24	-77.81	-97.37	-1,186.46	1,258.19	1,223.80	34.40	36.580	
7,200.00	7,191.47	7,858.51	7,713.49	16.20	18.37	-61.82	-116.15	-1,176.93	1,248.76	1,214.18	34.58	36.115	

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 #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Reference Site:	Sec. 24, T 25S. , R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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 #502H - 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			
7,250.00	7,241.32	7,905.73	7,733.05	16.29	18.67	-1.42	-154.71	-1,157.98	1,225.29	1,190.33	34.96	35.047			
7,300.00	7,290.98	7,944.24	7,746.39	16.38	18.94	29.89	-187.35	-1,142.52	1,200.85	1,165.53	35.32	34.000			
7,350.00	7,340.09	7,977.69	7,756.01	16.46	19.20	41.76	-216.46	-1,129.14	1,175.55	1,139.89	35.66	32.969			
7,400.00	7,388.26	8,008.01	7,763.13	16.53	19.45	48.05	-243.35	-1,117.10	1,149.51	1,113.52	35.98	31.947			
7,450.00	7,435.14	8,038.31	7,768.38	16.60	19.70	52.32	-268.83	-1,105.96	1,122.81	1,086.51	36.30	30.931			
7,500.00	7,480.36	8,063.28	7,772.11	16.67	19.95	55.67	-293.39	-1,095.46	1,095.57	1,058.95	36.62	29.918			
7,550.00	7,523.58	8,089.38	7,774.55	16.74	20.20	58.58	-317.36	-1,085.43	1,067.86	1,030.92	36.94	28.908			
7,600.00	7,564.47	8,114.93	7,775.79	16.81	20.46	61.24	-340.98	-1,075.76	1,039.78	1,002.52	37.27	27.901			
7,650.00	7,602.72	8,130.57	7,776.00	16.89	20.62	64.29	-355.48	-1,069.93	1,011.49	973.98	37.50	26.970			
7,700.00	7,638.05	8,152.08	7,776.00	16.98	20.83	66.93	-375.52	-1,062.09	983.18	945.37	37.81	26.004			
7,750.00	7,670.17	8,169.85	7,776.00	17.09	21.01	69.72	-392.15	-1,055.84	955.07	916.97	38.10	25.067			
7,800.00	7,698.85	8,200.00	7,776.00	17.23	21.33	71.93	-420.55	-1,045.71	927.33	888.77	38.56	24.051			
7,850.00	7,723.87	8,200.00	7,776.00	17.41	21.33	75.41	-420.55	-1,045.71	899.83	861.10	38.74	23.229			
7,900.00	7,745.03	8,233.54	7,775.98	17.63	21.67	77.54	-452.38	-1,035.15	872.66	833.36	39.30	22.205			
7,950.00	7,762.18	8,257.94	7,775.97	17.89	21.92	80.05	-475.69	-1,027.94	846.09	806.27	39.81	21.251			
8,000.00	7,775.19	8,300.00	7,775.95	18.19	22.37	82.23	-516.15	-1,016.44	820.38	779.82	40.56	20.226			
8,050.00	7,783.95	8,300.00	7,775.95	18.53	22.37	85.25	-516.15	-1,016.44	794.98	754.08	40.90	19.438			
8,100.00	7,788.40	8,338.76	7,775.92	18.90	22.78	87.68	-553.71	-1,006.91	770.46	728.78	41.69	18.483			
8,128.26	7,789.00	8,353.83	7,775.91	19.11	22.94	89.05	-568.39	-1,003.47	758.04	715.99	42.06	18.024			
8,200.00	7,788.99	8,400.00	7,775.86	19.70	23.45	89.04	-613.56	-993.91	726.28	683.13	43.15	16.830			
8,300.00	7,788.92	8,460.54	7,775.79	20.54	24.12	89.05	-673.21	-983.60	692.23	647.57	44.66	15.501			
8,400.00	7,788.80	8,526.50	7,775.69	21.46	24.85	89.05	-738.62	-975.24	669.17	622.85	46.32	14.448			
8,500.00	7,788.63	8,600.00	7,775.57	22.46	25.68	89.04	-811.89	-969.48	657.62	609.48	48.14	13.661			
8,518.27	7,788.59	8,600.00	7,775.57	22.65	25.68	89.04	-811.89	-969.48	656.78	608.45	48.33	13.589			
8,600.00	7,788.43	8,664.96	7,775.44	23.54	26.40	89.04	-876.81	-967.51	655.37	605.42	49.94	13.122			
8,700.00	7,788.22	8,764.96	7,775.23	24.72	27.56	89.04	-976.81	-966.32	655.36	603.08	52.28	12.535			
8,800.00	7,788.01	8,864.96	7,775.03	25.97	28.78	89.04	-1,076.80	-965.13	655.36	600.61	54.76	11.969			
8,900.00	7,787.81	8,964.96	7,774.82	27.29	30.07	89.04	-1,176.79	-963.95	655.36	598.00	57.35	11.426			
9,000.00	7,787.60	9,064.96	7,774.61	28.66	31.40	89.04	-1,276.78	-962.76	655.36	595.30	60.06	10.911			
9,100.00	7,787.39	9,164.96	7,774.41	30.08	32.78	89.04	-1,376.78	-961.57	655.36	592.49	62.86	10.425			
9,200.00	7,787.19	9,264.96	7,774.20	31.55	34.20	89.04	-1,476.77	-960.38	655.35	589.60	65.75	9.967			
9,300.00	7,786.98	9,364.96	7,773.99	33.05	35.66	89.04	-1,576.76	-959.19	655.35	586.64	68.71	9.538			
9,400.00	7,786.78	9,464.96	7,773.79	34.58	37.15	89.04	-1,676.76	-958.00	655.35	583.62	71.73	9.136			
9,500.00	7,786.57	9,564.96	7,773.58	36.14	38.67	89.04	-1,776.75	-956.81	655.35	580.54	74.81	8.760			
9,600.00	7,786.36	9,664.96	7,773.37	37.72	40.22	89.04	-1,876.74	-955.62	655.35	577.40	77.94	8.408			
9,700.00	7,786.16	9,764.96	7,773.17	39.33	41.79	89.04	-1,976.73	-954.43	655.34	574.23	81.12	8.079			
9,800.00	7,785.95	9,864.96	7,772.96	40.95	43.38	89.04	-2,076.73	-953.24	655.34	571.01	84.33	7.771			
9,900.00	7,785.74	9,964.96	7,772.75	42.59	44.99	89.04	-2,176.72	-952.05	655.34	567.76	87.58	7.483			
10,000.00	7,785.54	10,064.96	7,772.55	44.25	46.61	89.04	-2,276.71	-950.86	655.34	564.48	90.86	7.213			
10,100.00	7,785.33	10,164.96	7,772.34	45.92	48.25	89.04	-2,376.70	-949.67	655.34	561.17	94.17	6.959			
10,200.00	7,785.12	10,264.96	7,772.13	47.60	49.90	89.04	-2,476.70	-948.48	655.33	557.83	97.50	6.721			
10,300.00	7,784.92	10,364.96	7,771.93	49.29	51.57	89.04	-2,576.69	-947.30	655.33	554.47	100.86	6.498			
10,400.00	7,784.71	10,464.96	7,771.72	50.99	53.24	89.04	-2,676.68	-946.11	655.33	551.09	104.23	6.287			
10,500.00	7,784.51	10,564.96	7,771.51	52.70	54.93	89.04	-2,776.68	-944.92	655.33	547.70	107.63	6.089			
10,600.00	7,784.30	10,664.96	7,771.31	54.42	56.62	89.04	-2,876.67	-943.73	655.33	544.28	111.04	5.902			
10,700.00	7,784.09	10,764.96	7,771.10	56.15	58.32	89.04	-2,976.66	-942.54	655.32	540.85	114.47	5.725			
10,800.00	7,783.89	10,864.96	7,770.89	57.88	60.03	89.04	-3,076.65	-941.35	655.32	537.41	117.91	5.558			
10,900.00	7,783.68	10,964.96	7,770.69	59.62	61.75	89.04	-3,176.65	-940.16	655.32	533.95	121.37	5.399			
11,000.00	7,783.47	11,064.96	7,770.48	61.36	63.47	89.04	-3,276.64	-938.97	655.32	530.48	124.84	5.249			
11,100.00	7,783.27	11,164.96	7,770.28	63.11	65.20	89.04	-3,376.63	-937.78	655.32	527.00	128.31	5.107			
11,200.00	7,783.06	11,264.96	7,770.07	64.86	66.94	89.04	-3,476.62	-936.59	655.31	523.51	131.80	4.972			
11,300.00	7,782.86	11,364.96	7,769.86	66.62	68.68	89.04	-3,576.62	-935.40	655.31	520.01	135.30	4.843			

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 #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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 #502H - 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			
11,400.00	7,782.65	11,464.96	7,769.66	68.38	70.42	89.04	-3,676.61	-934.21	655.31	516.50	138.81	4.721			
11,500.00	7,782.44	11,564.96	7,769.45	70.15	72.17	89.04	-3,776.60	-933.02	655.31	512.99	142.32	4.605			
11,600.00	7,782.24	11,664.96	7,769.24	71.91	73.93	89.04	-3,876.60	-931.83	655.31	509.47	145.84	4.493			
11,700.00	7,782.03	11,764.96	7,769.04	73.69	75.68	89.04	-3,976.59	-930.64	655.30	505.94	149.37	4.387			
11,800.00	7,781.82	11,864.96	7,768.83	75.46	77.44	89.04	-4,076.58	-929.46	655.30	502.40	152.90	4.286			
11,900.00	7,781.62	11,964.96	7,768.62	77.24	79.21	89.04	-4,176.57	-928.27	655.30	498.86	156.44	4.189			
12,000.00	7,781.41	12,064.96	7,768.42	79.01	80.97	89.04	-4,276.57	-927.08	655.30	495.31	159.99	4.096			
12,100.00	7,781.20	12,164.96	7,768.21	80.80	82.74	89.04	-4,376.56	-925.89	655.30	491.76	163.54	4.007			
12,200.00	7,781.00	12,264.96	7,768.00	82.58	84.51	89.04	-4,476.55	-924.70	655.29	488.20	167.09	3.922			
12,300.00	7,780.79	12,364.96	7,767.80	84.37	86.29	89.04	-4,576.54	-923.51	655.29	484.64	170.65	3.840			
12,400.00	7,780.59	12,464.96	7,767.59	86.15	88.07	89.04	-4,676.54	-922.32	655.29	481.07	174.22	3.761			
12,500.00	7,780.38	12,564.96	7,767.38	87.94	89.84	89.04	-4,776.53	-921.13	655.29	477.50	177.79	3.686			
12,600.00	7,780.17	12,664.96	7,767.18	89.73	91.63	89.04	-4,876.52	-919.94	655.29	473.93	181.36	3.613			
12,700.00	7,779.97	12,764.96	7,766.97	91.53	93.41	89.04	-4,976.52	-918.75	655.28	470.35	184.94	3.543			
12,800.00	7,779.76	12,864.96	7,766.76	93.32	95.19	89.04	-5,076.51	-917.56	655.28	466.77	188.51	3.476			
12,900.00	7,779.55	12,964.96	7,766.56	95.12	96.98	89.04	-5,176.50	-916.37	655.28	463.18	192.10	3.411			
13,000.00	7,779.35	13,064.96	7,766.35	96.91	98.77	89.04	-5,276.49	-915.18	655.28	459.60	195.68	3.349			
13,100.00	7,779.14	13,164.96	7,766.14	98.71	100.56	89.04	-5,376.49	-913.99	655.28	456.01	199.27	3.288			
13,200.00	7,778.93	13,264.96	7,765.94	100.51	102.35	89.04	-5,476.48	-912.81	655.27	452.41	202.86	3.230			
13,300.00	7,778.73	13,364.96	7,765.73	102.31	104.14	89.04	-5,576.47	-911.62	655.27	448.82	206.45	3.174			
13,400.00	7,778.52	13,464.96	7,765.52	104.11	105.94	89.04	-5,676.46	-910.43	655.27	445.22	210.05	3.120			
13,500.00	7,778.32	13,564.96	7,765.32	105.92	107.73	89.04	-5,776.46	-909.24	655.27	441.62	213.65	3.067			
13,600.00	7,778.11	13,664.96	7,765.11	107.72	109.53	89.04	-5,876.45	-908.05	655.27	438.02	217.25	3.016			
13,700.00	7,777.90	13,764.96	7,764.90	109.52	111.33	89.04	-5,976.44	-906.86	655.26	434.41	220.85	2.967			
13,800.00	7,777.70	13,864.96	7,764.70	111.33	113.12	89.04	-6,076.43	-905.67	655.26	430.81	224.45	2.919			
13,900.00	7,777.49	13,964.96	7,764.49	113.14	114.92	89.04	-6,176.43	-904.48	655.26	427.20	228.06	2.873			
14,000.00	7,777.28	14,064.96	7,764.28	114.94	116.72	89.04	-6,276.42	-903.29	655.26	423.59	231.67	2.828			
14,100.00	7,777.08	14,164.96	7,764.08	116.75	118.53	89.04	-6,376.41	-902.10	655.26	419.98	235.28	2.785			
14,200.00	7,776.87	14,264.96	7,763.87	118.56	120.33	89.04	-6,476.41	-900.91	655.25	416.37	238.89	2.743			
14,300.00	7,776.67	14,364.96	7,763.66	120.37	122.13	89.04	-6,576.40	-899.72	655.25	412.75	242.50	2.702			
14,400.00	7,776.46	14,464.96	7,763.46	122.18	123.94	89.04	-6,676.39	-898.53	655.25	409.13	246.12	2.662			
14,500.00	7,776.25	14,564.96	7,763.25	123.99	125.74	89.04	-6,776.38	-897.34	655.25	405.52	249.73	2.624			
14,600.00	7,776.05	14,664.96	7,763.04	125.80	127.55	89.04	-6,876.38	-896.15	655.25	401.90	253.35	2.586			
14,700.00	7,775.84	14,764.96	7,762.84	127.61	129.35	89.04	-6,976.37	-894.97	655.24	398.28	256.97	2.550			
14,800.00	7,775.63	14,864.96	7,762.63	129.42	131.16	89.04	-7,076.36	-893.78	655.24	394.66	260.59	2.514			
14,900.00	7,775.43	14,964.96	7,762.42	131.24	132.97	89.04	-7,176.35	-892.59	655.24	391.03	264.21	2.480			
15,000.00	7,775.22	15,064.96	7,762.22	133.05	134.78	89.04	-7,276.35	-891.40	655.24	387.41	267.83	2.446			
15,100.00	7,775.01	15,164.96	7,762.01	134.86	136.59	89.04	-7,376.34	-890.21	655.24	383.79	271.45	2.414			
15,200.00	7,774.81	15,264.96	7,761.81	136.68	138.40	89.04	-7,476.33	-889.02	655.23	380.16	275.07	2.382			
15,300.00	7,774.60	15,364.96	7,761.60	138.49	140.21	89.04	-7,576.33	-887.83	655.23	376.53	278.70	2.351			
15,400.00	7,774.40	15,464.96	7,761.39	140.31	142.02	89.04	-7,676.32	-886.64	655.23	372.90	282.33	2.321			
15,500.00	7,774.19	15,564.96	7,761.19	142.12	143.83	89.04	-7,776.31	-885.45	655.23	369.28	285.95	2.291			
15,600.00	7,773.98	15,664.96	7,760.98	143.94	145.64	89.04	-7,876.30	-884.26	655.23	365.65	289.58	2.263			
15,700.00	7,773.78	15,764.96	7,760.77	145.76	147.45	89.04	-7,976.30	-883.07	655.22	362.02	293.21	2.235			
15,800.00	7,773.57	15,864.96	7,760.57	147.57	149.27	89.04	-8,076.29	-881.88	655.22	358.38	296.84	2.207			
15,900.00	7,773.36	15,964.96	7,760.36	149.39	151.08	89.04	-8,176.28	-880.69	655.22	354.75	300.47	2.181			
16,000.00	7,773.16	16,064.96	7,760.15	151.21	152.89	89.04	-8,276.27	-879.50	655.22	351.12	304.10	2.155			
16,100.00	7,772.95	16,164.96	7,759.95	153.03	154.71	89.04	-8,376.27	-878.32	655.22	347.48	307.73	2.129			
16,200.00	7,772.75	16,264.96	7,759.74	154.84	156.52	89.04	-8,476.26	-877.13	655.21	343.85	311.36	2.104			
16,300.00	7,772.54	16,364.96	7,759.53	156.66	158.34	89.04	-8,576.25	-875.94	655.21	340.21	315.00	2.080			
16,400.00	7,772.33	16,464.96	7,759.33	158.48	160.15	89.04	-8,676.25	-874.75	655.21	336.58	318.63	2.056			
16,500.00	7,772.13	16,564.96	7,759.12	160.30	161.97	89.04	-8,776.24	-873.56	655.21	332.94	322.27	2.033			

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 #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandrell Freedom)
Reference Site:	Sec. 24, T 25S, R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandrell Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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													Offset Site Error:	
Survey Program: 0-MWD													Offset Well Error:	
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		
16,600.00	7,771.92	16,664.96	7,758.91	162.12	163.78	89.04	-8,876.23	-872.37	655.21	329.30	325.90	2.010		
16,700.00	7,771.71	16,764.96	7,758.71	163.94	165.60	89.04	-8,976.22	-871.18	655.20	325.67	329.54	1.988		
16,800.00	7,771.51	16,864.96	7,758.50	165.76	167.42	89.04	-9,076.22	-869.99	655.20	322.03	333.17	1.967		
16,900.00	7,771.30	16,964.96	7,758.29	167.58	169.23	89.04	-9,176.21	-868.80	655.20	318.39	336.81	1.945		
17,000.00	7,771.09	17,064.96	7,758.09	169.40	171.05	89.04	-9,276.20	-867.61	655.20	314.75	340.45	1.925		
17,100.00	7,770.89	17,164.96	7,757.88	171.22	172.87	89.04	-9,376.19	-866.42	655.20	311.11	344.09	1.904		
17,200.00	7,770.68	17,264.96	7,757.67	173.04	174.69	89.04	-9,476.19	-865.23	655.19	307.47	347.73	1.884		
17,300.00	7,770.48	17,364.96	7,757.47	174.86	176.50	89.04	-9,576.18	-864.04	655.19	303.83	351.36	1.865		
17,400.00	7,770.27	17,464.96	7,757.26	176.68	178.32	89.04	-9,676.17	-862.85	655.19	300.19	355.00	1.846		
17,500.00	7,770.06	17,564.96	7,757.05	178.50	180.14	89.04	-9,776.17	-861.67	655.19	296.54	358.64	1.827		
17,600.00	7,769.86	17,664.96	7,756.85	180.32	181.96	89.04	-9,876.16	-860.48	655.19	292.90	362.28	1.808		
17,700.00	7,769.65	17,764.96	7,756.64	182.15	183.78	89.04	-9,976.15	-859.29	655.18	289.26	365.93	1.790		
17,800.00	7,769.44	17,864.96	7,756.43	183.97	185.60	89.04	-10,076.14	-858.10	655.18	285.62	369.57	1.773		
17,900.00	7,769.24	17,964.96	7,756.23	185.79	187.42	89.04	-10,176.14	-856.91	655.18	281.97	373.21	1.756		
18,000.00	7,769.03	18,064.96	7,756.02	187.61	189.24	89.04	-10,276.13	-855.72	655.18	278.33	376.85	1.739		
18,010.01	7,769.01	18,074.93	7,756.00	187.76	189.42	89.04	-10,286.10	-855.60	655.18	278.00	377.18	1.737 CC		
18,015.04	7,769.00	18,074.93	7,756.00	187.84	189.42	89.04	-10,286.10	-855.60	655.20	277.94	377.26	1.737 ES, SF		

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandill Freedom)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandill Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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 #504H - 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	0.20	0.20	0.00	0.00	89.62	0.20	29.90	29.90			
100.00	100.00	100.20	100.20	0.08	0.08	89.62	0.20	29.90	29.90	29.73	0.17	179.286
200.00	200.00	200.20	200.20	0.31	0.31	89.62	0.20	29.90	29.90	29.28	0.62	48.516
300.00	300.00	300.20	300.20	0.53	0.53	89.62	0.20	29.90	29.90	28.83	1.07	28.054
400.00	400.00	400.20	400.20	0.76	0.76	89.62	0.20	29.90	29.90	28.39	1.52	19.732
500.00	500.00	500.20	500.20	0.98	0.98	89.62	0.20	29.90	29.90	27.94	1.96	15.217
600.00	600.00	600.20	600.20	1.21	1.21	89.62	0.20	29.90	29.90	27.49	2.41	12.384
700.00	700.00	700.20	700.20	1.43	1.43	89.62	0.20	29.90	29.90	27.04	2.86	10.440
800.00	800.00	800.20	800.20	1.66	1.66	89.62	0.20	29.90	29.90	26.59	3.31	9.024
900.00	900.00	900.20	900.20	1.88	1.88	89.62	0.20	29.90	29.90	26.14	3.76	7.946
1,000.00	1,000.00	1,000.20	1,000.20	2.11	2.11	89.62	0.20	29.90	29.90	25.69	4.21	7.098
1,100.00	1,100.00	1,100.20	1,100.20	2.33	2.33	89.62	0.20	29.90	29.90	25.24	4.66	6.414
1,200.00	1,200.00	1,200.20	1,200.20	2.56	2.56	89.62	0.20	29.90	29.90	24.79	5.11	5.850
1,300.00	1,300.00	1,300.20	1,300.20	2.78	2.78	89.62	0.20	29.90	29.90	24.34	5.56	5.377
1,400.00	1,400.00	1,400.20	1,400.20	3.01	3.01	89.62	0.20	29.90	29.90	23.89	6.01	4.975
1,500.00	1,500.00	1,500.20	1,500.20	3.23	3.23	89.62	0.20	29.90	29.90	23.44	6.46	4.628
1,600.00	1,600.00	1,600.20	1,600.20	3.45	3.46	89.62	0.20	29.90	29.90	22.99	6.91	4.327
1,700.00	1,700.00	1,700.20	1,700.20	3.68	3.68	89.62	0.20	29.90	29.90	22.54	7.36	4.063
1,800.00	1,800.00	1,800.20	1,800.20	3.90	3.90	89.62	0.20	29.90	29.90	22.09	7.81	3.829
1,900.00	1,900.00	1,900.20	1,900.20	4.13	4.13	89.62	0.20	29.90	29.90	21.64	8.26	3.621
2,000.00	2,000.00	2,000.20	2,000.20	4.35	4.35	89.62	0.20	29.90	29.90	21.19	8.71	3.434
2,100.00	2,100.00	2,100.20	2,100.20	4.58	4.58	89.62	0.20	29.90	29.90	20.74	9.16	3.265
2,200.00	2,200.00	2,200.20	2,200.20	4.80	4.80	89.62	0.20	29.90	29.90	20.29	9.61	3.112
2,300.00	2,300.00	2,300.20	2,300.20	5.03	5.03	89.62	0.20	29.90	29.90	19.84	10.06	2.973
2,400.00	2,400.00	2,400.20	2,400.20	5.25	5.25	89.62	0.20	29.90	29.90	19.39	10.51	2.846
2,500.00	2,500.00	2,500.20	2,500.20	5.48	5.48	89.62	0.20	29.90	29.90	18.95	10.96	2.729
2,600.00	2,600.00	2,600.20	2,600.20	5.70	5.70	89.62	0.20	29.90	29.90	18.50	11.41	2.622
2,700.00	2,700.00	2,700.20	2,700.20	5.93	5.93	89.62	0.20	29.90	29.90	18.05	11.85	2.522
2,800.00	2,800.00	2,800.20	2,800.20	6.15	6.15	89.62	0.20	29.90	29.90	17.60	12.30	2.430
2,900.00	2,900.00	2,900.20	2,900.20	6.38	6.38	89.62	0.20	29.90	29.90	17.15	12.75	2.344
3,000.00	3,000.00	3,000.20	3,000.20	6.60	6.60	89.62	0.20	29.90	29.90	16.70	13.20	2.265
3,100.00	3,100.00	3,100.20	3,100.20	6.83	6.83	89.62	0.20	29.90	29.90	16.25	13.65	2.190
3,200.00	3,200.00	3,200.20	3,200.20	7.05	7.05	89.62	0.20	29.90	29.90	15.80	14.10	2.120
3,300.00	3,300.00	3,300.20	3,300.20	7.28	7.28	89.62	0.20	29.90	29.90	15.35	14.55	2.055
3,400.00	3,400.00	3,400.20	3,400.20	7.50	7.50	89.62	0.20	29.90	29.90	14.90	15.00	1.993
3,500.00	3,500.00	3,500.20	3,500.20	7.73	7.73	89.62	0.20	29.90	29.90	14.45	15.45	1.935
3,600.00	3,600.00	3,600.20	3,600.20	7.95	7.95	89.62	0.20	29.90	29.90	14.00	15.90	1.880
3,700.00	3,700.00	3,700.20	3,700.20	8.17	8.18	89.62	0.20	29.90	29.90	13.55	16.35	1.829
3,800.00	3,800.00	3,800.20	3,800.20	8.40	8.40	89.62	0.20	29.90	29.90	13.10	16.80	1.780
3,900.00	3,900.00	3,900.20	3,900.20	8.62	8.62	89.62	0.20	29.90	29.90	12.65	17.25	1.733
4,000.00	4,000.00	4,000.20	4,000.20	8.85	8.85	89.62	0.20	29.90	29.90	12.20	17.70	1.689
4,100.00	4,100.00	4,100.20	4,100.20	9.07	9.07	89.62	0.20	29.90	29.90	11.75	18.15	1.648
4,200.00	4,200.00	4,200.20	4,200.20	9.30	9.30	89.62	0.20	29.90	29.90	11.30	18.60	1.608
4,300.00	4,300.00	4,300.20	4,300.20	9.52	9.52	89.62	0.20	29.90	29.90	10.85	19.05	1.570
4,400.00	4,400.00	4,400.20	4,400.20	9.75	9.75	89.62	0.20	29.90	29.90	10.40	19.50	1.534
4,500.00	4,500.00	4,500.20	4,500.20	9.97	9.97	89.62	0.20	29.90	29.90	9.95	19.95	1.499 Level 3
4,600.00	4,600.00	4,600.20	4,600.20	10.20	10.20	89.62	0.20	29.90	29.90	9.50	20.40	1.466 Level 3
4,700.00	4,700.00	4,700.20	4,700.20	10.42	10.42	89.62	0.20	29.90	29.90	9.06	20.85	1.434 Level 3
4,800.00	4,800.00	4,800.20	4,800.20	10.65	10.65	89.62	0.20	29.90	29.90	8.61	21.29	1.404 Level 3
4,900.00	4,900.00	4,900.20	4,900.20	10.87	10.87	89.62	0.20	29.90	29.90	8.16	21.74	1.375 Level 3
5,000.00	5,000.00	5,000.20	5,000.20	11.10	11.10	89.62	0.20	29.90	29.90	7.71	22.19	1.347 Level 3
5,100.00	5,100.00	5,100.20	5,100.20	11.32	11.32	89.62	0.20	29.90	29.90	7.26	22.64	1.321 Level 3

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 #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandrell Freedom)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandrell Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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 #504H - 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		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)	+EJ-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
5,200.00	5,200.00	5,200.20	5,200.20	11.55	11.55	89.62	0.20	29.90	29.90	6.81	23.09	1.295 Level 3			
5,300.00	5,300.00	5,300.20	5,300.20	11.77	11.77	89.62	0.20	29.90	29.90	6.36	23.54	1.270 Level 3			
5,400.00	5,400.00	5,400.20	5,400.20	12.00	12.00	89.62	0.20	29.90	29.90	5.91	23.99	1.246 Level 2			
5,500.00	5,500.00	5,500.20	5,500.20	12.22	12.22	89.62	0.20	29.90	29.90	5.46	24.44	1.223 Level 2			
5,566.60	5,566.60	5,566.80	5,566.80	12.37	12.37	89.62	0.20	29.90	29.90	5.16	24.74	1.209 Level 2, CC			
5,600.00	5,600.00	5,600.20	5,600.20	12.45	12.45	89.62	0.20	29.90	29.90	5.01	24.89	1.201 Level 2, ES, SF			
5,700.00	5,699.98	5,700.00	5,699.98	12.67	12.67	116.59	1.88	30.38	31.18	5.84	25.34	1.230 Level 2			
5,800.00	5,799.84	5,799.49	5,799.32	12.89	12.89	115.99	6.88	31.80	35.01	9.22	25.78	1.358 Level 3			
5,900.00	5,899.45	5,898.89	5,898.34	13.11	13.11	115.22	15.18	34.17	41.38	15.15	26.23	1.578			
5,918.21	5,917.56	5,916.96	5,916.31	13.16	13.16	115.08	17.05	34.70	42.82	16.51	26.31	1.627			
6,000.00	5,998.84	5,998.14	5,998.87	13.34	13.34	113.46	26.69	37.44	49.80	23.12	26.68	1.867			
6,100.00	6,098.23	6,097.73	6,095.60	13.56	13.56	111.30	39.24	41.02	58.65	31.52	27.13	2.162			
6,200.00	6,197.61	6,197.32	6,194.33	13.79	13.79	109.71	51.79	44.59	67.56	39.97	27.58	2.449			
6,300.00	6,296.99	6,296.90	6,293.06	14.03	14.02	108.49	64.35	48.17	76.50	48.46	28.04	2.728			
6,400.00	6,396.38	6,396.49	6,391.78	14.26	14.26	107.53	78.90	51.74	85.48	56.97	28.51	2.998			
6,500.00	6,495.76	6,496.08	6,490.51	14.50	14.49	106.75	89.45	55.31	94.48	65.49	28.99	3.259			
6,600.00	6,595.14	6,595.66	6,589.24	14.73	14.74	106.11	102.01	58.89	103.49	74.02	29.47	3.512			
6,700.00	6,694.53	6,695.25	6,687.97	14.97	14.98	105.56	114.56	62.46	112.51	82.55	29.96	3.756			
6,800.00	6,793.91	6,794.84	6,786.70	15.22	15.23	105.10	127.11	66.04	121.54	91.09	30.45	3.992			
6,900.00	6,893.30	6,894.43	6,885.42	15.46	15.48	104.71	139.67	69.61	130.57	99.63	30.94	4.220			
7,000.00	6,992.68	6,994.01	6,984.15	15.71	15.73	104.36	152.22	73.19	139.62	108.18	31.44	4.441			
7,100.00	7,092.06	7,093.60	7,082.88	15.96	15.99	104.06	164.77	76.76	148.66	116.72	31.95	4.654			
7,179.16	7,170.74	7,172.44	7,161.04	16.15	16.19	103.84	174.71	79.59	155.83	123.48	32.35	4.817			
7,200.00	7,191.47	7,192.94	7,181.37	16.20	16.24	120.07	177.18	80.36	157.90	125.46	32.44	4.867			
7,250.00	7,241.32	7,241.57	7,229.81	16.29	16.34	-179.22	180.39	83.02	164.54	131.91	32.63	5.043			
7,300.00	7,290.98	7,289.84	7,277.92	16.38	16.42	-147.75	179.67	86.85	173.49	140.69	32.80	5.289			
7,350.00	7,340.09	7,337.64	7,325.23	16.46	16.49	-135.77	175.14	91.79	184.66	151.71	32.95	5.604			
7,400.00	7,388.26	7,384.85	7,371.32	16.53	16.56	-129.34	166.95	97.75	197.97	164.88	33.09	5.983			
7,450.00	7,435.14	7,431.40	7,415.85	16.60	16.61	-124.94	155.33	104.64	213.31	180.09	33.21	6.422			
7,500.00	7,480.36	7,477.24	7,458.52	16.67	16.66	-121.43	140.52	112.38	230.54	197.21	33.33	6.917			
7,550.00	7,523.58	7,522.35	7,499.11	16.74	16.71	-118.36	122.77	120.85	249.54	216.09	33.45	7.480			
7,600.00	7,564.47	7,568.74	7,537.44	16.81	16.76	-115.53	102.34	129.97	270.15	236.58	33.57	8.047			
7,650.00	7,602.72	7,610.46	7,573.40	16.89	16.81	-112.83	79.46	139.67	292.20	258.50	33.70	8.671			
7,700.00	7,638.05	7,653.57	7,606.91	16.98	16.87	-110.21	54.35	149.86	315.53	281.69	33.84	9.323			
7,750.00	7,670.17	7,696.16	7,637.94	17.09	16.93	-107.64	27.20	160.49	339.98	305.96	34.02	9.993			
7,800.00	7,698.85	7,738.34	7,666.47	17.23	17.01	-105.11	-1.84	171.51	365.36	331.12	34.25	10.669			
7,850.00	7,723.87	7,780.23	7,692.47	17.41	17.12	-102.61	-32.64	182.88	391.52	356.98	34.53	11.337			
7,900.00	7,745.03	7,821.99	7,715.95	17.63	17.26	-100.16	-65.12	194.57	418.27	383.38	34.89	11.988			
7,950.00	7,762.18	7,863.78	7,736.87	17.89	17.42	-97.76	-99.23	206.57	445.45	410.13	35.32	12.613			
8,000.00	7,775.19	7,905.78	7,755.20	18.19	17.62	-95.44	-134.96	218.87	472.89	437.08	35.81	13.204			
8,050.00	7,783.95	7,948.20	7,770.86	18.53	17.85	-93.20	-172.31	231.47	500.42	464.04	36.38	13.755			
8,100.00	7,788.40	7,991.26	7,783.74	18.90	18.12	-91.08	-211.31	244.36	527.86	490.84	37.02	14.257			
8,126.26	7,789.00	8,014.21	7,789.34	19.11	18.28	-90.02	-232.47	251.25	542.19	504.80	37.39	14.501			
8,200.00	7,788.99	8,081.93	7,800.62	19.70	18.80	-91.29	-296.05	271.53	580.52	542.02	38.50	15.080			
8,300.00	7,788.92	8,202.18	7,803.99	20.54	19.85	-91.45	-411.18	305.76	625.60	585.22	40.38	15.491			
8,400.00	7,788.80	8,374.94	7,803.86	21.46	21.48	-91.31	-580.53	339.38	655.35	612.41	42.94	15.262			
8,500.00	7,788.63	8,556.24	7,803.57	22.46	23.37	-91.27	-761.24	352.49	666.06	620.22	45.83	14.532			
8,518.27	7,788.59	8,574.52	7,803.53	22.65	23.57	-91.27	-779.51	352.71	666.17	619.94	46.23	14.410			
8,600.00	7,788.43	8,656.24	7,803.36	23.54	24.53	-91.27	-861.23	353.67	666.16	618.09	48.07	13.858			
8,700.00	7,788.22	8,756.24	7,803.16	24.72	25.76	-91.27	-961.22	354.85	666.15	615.67	50.48	13.196			
8,800.00	7,788.01	8,856.24	7,802.95	25.97	27.06	-91.27	-1,061.22	356.02	666.14	613.11	53.03	12.562			
8,900.00	7,787.81	8,956.24	7,802.75	27.29	28.41	-91.27	-1,161.21	357.20	666.13	610.43	55.70	11.958			

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 #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandill Freedom)
Reference Site:	Sec. 24, T 25S. , R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandill Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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 #504H - Wellbore #1 - Plan #2														Offset Site Error:	0.00 usft
Survey Program: 0-MWMD														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toothface (")	Distance		Between Centres (usft)	Between Ellipses (usft)	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)							
9,000.00	7,787.60	9,056.24	7,802.54	28.66	29.82	-91.27	-1,261.20	358.38	666.12	607.64	58.48	11.390			
9,100.00	7,787.39	9,156.24	7,802.34	30.08	31.27	-91.27	-1,361.19	359.56	666.11	604.76	61.36	10.857			
9,200.00	7,787.19	9,256.24	7,802.13	31.55	32.76	-91.27	-1,461.19	360.73	666.11	601.80	64.31	10.358			
9,300.00	7,786.98	9,356.24	7,801.92	33.05	34.28	-91.27	-1,561.18	361.91	666.10	598.77	67.33	9.893			
9,400.00	7,786.78	9,456.24	7,801.72	34.58	35.83	-91.27	-1,661.17	363.09	666.09	595.67	70.41	9.460			
9,500.00	7,786.57	9,556.24	7,801.51	36.14	37.41	-91.27	-1,761.17	364.27	666.08	592.53	73.55	9.056			
9,600.00	7,786.36	9,656.24	7,801.31	37.72	39.01	-91.27	-1,861.16	365.44	666.07	589.34	76.73	8.681			
9,700.00	7,786.16	9,756.24	7,801.10	39.33	40.63	-91.27	-1,961.15	366.62	666.06	586.10	79.95	8.331			
9,800.00	7,785.95	9,856.24	7,800.90	40.95	42.26	-91.27	-2,061.14	367.80	666.05	582.83	83.21	8.004			
9,900.00	7,785.74	9,956.24	7,800.69	42.59	43.91	-91.27	-2,161.14	368.98	666.04	579.53	86.51	7.699			
10,000.00	7,785.54	10,056.24	7,800.49	44.25	45.58	-91.27	-2,261.13	370.16	666.03	576.20	89.83	7.415			
10,100.00	7,785.33	10,156.24	7,800.28	45.92	47.25	-91.27	-2,361.12	371.33	666.02	572.84	93.17	7.148			
10,200.00	7,785.12	10,256.24	7,800.07	47.60	48.94	-91.27	-2,461.12	372.51	666.01	569.47	96.54	6.899			
10,300.00	7,784.92	10,356.24	7,799.87	49.29	50.64	-91.27	-2,561.11	373.69	666.00	566.07	99.93	6.664			
10,400.00	7,784.71	10,456.24	7,799.66	50.99	52.35	-91.27	-2,661.10	374.87	665.99	562.65	103.34	6.445			
10,500.00	7,784.51	10,556.24	7,799.46	52.70	54.06	-91.27	-2,761.09	376.04	665.98	559.21	106.77	6.238			
10,600.00	7,784.30	10,656.24	7,799.25	54.42	55.79	-91.27	-2,861.09	377.22	665.97	555.76	110.21	6.043			
10,700.00	7,784.09	10,756.24	7,799.05	56.15	57.51	-91.27	-2,961.08	378.40	665.96	552.30	113.66	5.859			
10,800.00	7,783.89	10,856.24	7,798.84	57.88	59.25	-91.27	-3,061.07	379.58	665.95	548.82	117.13	5.686			
10,900.00	7,783.68	10,956.24	7,798.64	59.62	60.99	-91.27	-3,161.07	380.75	665.94	545.33	120.61	5.521			
11,000.00	7,783.47	11,056.24	7,798.43	61.36	62.74	-91.27	-3,261.06	381.93	665.93	541.83	124.10	5.366			
11,100.00	7,783.27	11,156.24	7,798.22	63.11	64.49	-91.27	-3,361.05	383.11	665.92	538.32	127.60	5.219			
11,200.00	7,783.06	11,256.24	7,798.02	64.86	66.24	-91.27	-3,461.04	384.29	665.91	534.81	131.11	5.079			
11,300.00	7,782.86	11,356.24	7,797.81	66.62	68.00	-91.27	-3,561.04	385.46	665.90	531.28	134.62	4.946			
11,400.00	7,782.65	11,456.24	7,797.61	68.38	69.77	-91.27	-3,661.03	386.64	665.89	527.75	138.15	4.820			
11,500.00	7,782.44	11,556.24	7,797.40	70.15	71.53	-91.27	-3,761.02	387.82	665.88	524.20	141.68	4.700			
11,600.00	7,782.24	11,656.24	7,797.20	71.91	73.30	-91.27	-3,861.02	389.00	665.87	520.66	145.22	4.585			
11,700.00	7,782.03	11,756.24	7,796.99	73.69	75.07	-91.27	-3,961.01	390.17	665.86	517.10	148.76	4.476			
11,800.00	7,781.82	11,856.24	7,796.79	75.46	76.85	-91.27	-4,061.00	391.35	665.85	513.54	152.31	4.372			
11,900.00	7,781.62	11,956.24	7,796.58	77.24	78.63	-91.27	-4,160.99	392.53	665.84	509.98	155.86	4.272			
12,000.00	7,781.41	12,056.24	7,796.37	79.01	80.41	-91.27	-4,260.99	393.71	665.83	506.41	159.42	4.177			
12,100.00	7,781.20	12,156.24	7,796.17	80.80	82.19	-91.27	-4,360.98	394.89	665.82	502.84	162.99	4.085			
12,200.00	7,781.00	12,256.24	7,795.96	82.58	83.98	-91.27	-4,460.97	396.06	665.82	499.26	166.56	3.998			
12,300.00	7,780.79	12,356.24	7,795.76	84.37	85.76	-91.27	-4,560.97	397.24	665.81	495.68	170.13	3.914			
12,400.00	7,780.59	12,456.24	7,795.55	86.15	87.55	-91.27	-4,660.96	398.42	665.80	492.09	173.70	3.833			
12,500.00	7,780.38	12,556.24	7,795.35	87.94	89.34	-91.27	-4,760.95	399.60	665.79	488.50	177.28	3.755			
12,600.00	7,780.17	12,656.24	7,795.14	89.73	91.13	-91.27	-4,860.94	400.77	665.78	484.91	180.87	3.681			
12,700.00	7,779.97	12,756.24	7,794.94	91.53	92.93	-91.27	-4,960.94	401.95	665.77	481.31	184.45	3.609			
12,800.00	7,779.76	12,856.24	7,794.73	93.32	94.72	-91.27	-5,060.93	403.13	665.76	477.72	188.04	3.540			
12,900.00	7,779.55	12,956.24	7,794.52	95.12	96.52	-91.27	-5,160.92	404.31	665.75	474.11	191.63	3.474			
13,000.00	7,779.35	13,056.24	7,794.32	96.91	98.31	-91.27	-5,260.92	405.48	665.74	470.51	195.23	3.410			
13,100.00	7,779.14	13,156.24	7,794.11	98.71	100.11	-91.27	-5,360.91	406.66	665.73	466.90	198.83	3.348			
13,200.00	7,778.93	13,256.24	7,793.91	100.51	101.91	-91.27	-5,460.90	407.84	665.72	463.29	202.42	3.289			
13,300.00	7,778.73	13,356.24	7,793.70	102.31	103.71	-91.27	-5,560.89	409.02	665.71	459.68	206.03	3.231			
13,400.00	7,778.52	13,456.24	7,793.50	104.11	105.52	-91.27	-5,660.89	410.19	665.70	456.07	209.63	3.176			
13,500.00	7,778.32	13,556.24	7,793.29	105.92	107.32	-91.27	-5,760.88	411.37	665.69	452.45	213.24	3.122			
13,600.00	7,778.11	13,656.24	7,793.09	107.72	109.12	-91.27	-5,860.87	412.55	665.68	448.84	216.84	3.070			
13,700.00	7,777.90	13,756.24	7,792.88	109.52	110.93	-91.27	-5,960.87	413.73	665.67	445.22	220.45	3.020			
13,800.00	7,777.70	13,856.24	7,792.67	111.33	112.73	-91.27	-6,060.86	414.91	665.66	441.60	224.06	2.971			
13,900.00	7,777.49	13,956.24	7,792.47	113.14	114.54	-91.27	-6,160.85	416.08	665.65	437.97	227.68	2.924			
14,000.00	7,777.28	14,056.24	7,792.26	114.94	116.35	-91.27	-6,260.84	417.26	665.64	434.35	231.29	2.878			
14,100.00	7,777.08	14,156.24	7,792.06	116.75	118.16	-91.27	-6,360.84	418.44	665.63	430.72	234.91	2.834			

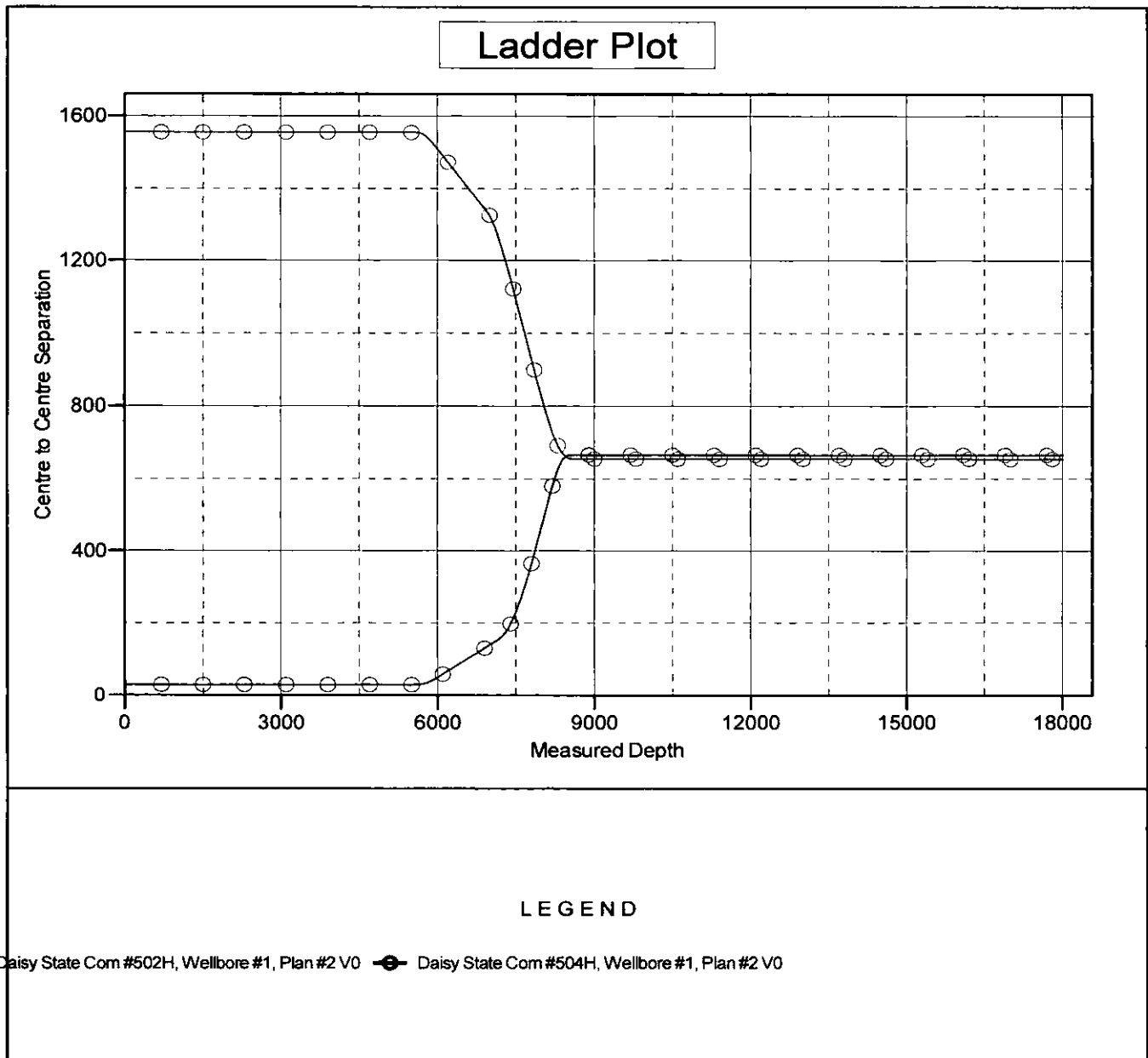
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandril Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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 #504H - 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	
14,200.00	7,776.87	14,256.24	7,791.85	118.56	119.96	-91.27	-8,460.83	419.62	665.62	427.10	238.52	2.791		
14,300.00	7,776.67	14,356.24	7,791.65	120.37	121.77	-91.27	-8,560.82	420.79	665.61	423.47	242.14	2.749		
14,400.00	7,776.46	14,456.24	7,791.44	122.18	123.58	-91.27	-8,660.82	421.97	665.60	419.84	245.76	2.708		
14,500.00	7,776.25	14,556.24	7,791.24	123.99	125.40	-91.27	-8,760.81	423.15	665.59	416.21	249.38	2.669		
14,600.00	7,776.05	14,656.24	7,791.03	125.80	127.21	-91.27	-8,860.80	424.33	665.58	412.58	253.01	2.631		
14,700.00	7,775.84	14,756.24	7,790.82	127.61	129.02	-91.27	-8,960.79	425.50	665.57	408.94	256.63	2.594		
14,800.00	7,775.63	14,856.24	7,790.62	129.42	130.83	-91.27	-7,060.79	426.68	665.56	405.31	260.26	2.557		
14,900.00	7,775.43	14,956.24	7,790.41	131.24	132.64	-91.27	-7,160.78	427.86	665.55	401.67	263.88	2.522		
15,000.00	7,775.22	15,056.24	7,790.21	133.05	134.46	-91.27	-7,260.77	429.04	665.54	398.04	267.51	2.488		
15,100.00	7,775.01	15,156.24	7,790.00	134.86	136.27	-91.27	-7,360.77	430.21	665.53	394.40	271.14	2.455		
15,200.00	7,774.81	15,256.24	7,789.80	136.68	138.09	-91.27	-7,460.76	431.39	665.53	390.76	274.76	2.422		
15,300.00	7,774.60	15,356.24	7,789.59	138.49	139.90	-91.27	-7,560.75	432.57	665.52	387.12	278.39	2.391		
15,400.00	7,774.40	15,456.24	7,789.39	140.31	141.72	-91.27	-7,660.74	433.75	665.51	383.48	282.02	2.360		
15,500.00	7,774.19	15,556.24	7,789.18	142.12	143.53	-91.27	-7,760.74	434.92	665.50	379.84	285.65	2.330		
15,600.00	7,773.98	15,656.24	7,788.97	143.94	145.35	-91.27	-7,860.73	436.10	665.49	376.20	289.29	2.300		
15,700.00	7,773.78	15,756.24	7,788.77	145.76	147.16	-91.27	-7,960.72	437.28	665.48	372.56	292.92	2.272		
15,800.00	7,773.57	15,856.24	7,788.56	147.57	148.98	-91.27	-8,060.72	438.46	665.47	368.91	296.55	2.244		
15,900.00	7,773.36	15,956.24	7,788.36	149.39	150.80	-91.27	-8,160.71	439.64	665.46	365.27	300.19	2.217		
16,000.00	7,773.16	16,056.24	7,788.15	151.21	152.61	-91.27	-8,260.70	440.81	665.45	361.63	303.82	2.190		
16,100.00	7,772.95	16,156.24	7,787.95	153.03	154.43	-91.27	-8,360.69	441.99	665.44	357.98	307.46	2.164		
16,200.00	7,772.75	16,256.24	7,787.74	154.84	156.25	-91.27	-8,460.69	443.17	665.43	354.33	311.09	2.139		
16,300.00	7,772.54	16,356.24	7,787.54	156.66	158.07	-91.27	-8,560.68	444.35	665.42	350.69	314.73	2.114		
16,400.00	7,772.33	16,456.24	7,787.33	158.48	159.89	-91.27	-8,660.67	445.52	665.41	347.04	318.37	2.090		
16,500.00	7,772.13	16,556.24	7,787.12	160.30	161.71	-91.27	-8,760.67	446.70	665.40	343.39	322.01	2.066		
16,600.00	7,771.92	16,656.24	7,786.92	162.12	163.53	-91.27	-8,860.66	447.88	665.39	339.75	325.64	2.043		
16,700.00	7,771.71	16,756.24	7,786.71	163.94	165.35	-91.27	-8,960.65	449.06	665.38	336.10	329.28	2.021		
16,800.00	7,771.51	16,856.24	7,786.51	165.76	167.17	-91.27	-9,060.64	450.23	665.37	332.45	332.92	1.999		
16,900.00	7,771.30	16,956.24	7,786.30	167.58	168.99	-91.27	-9,160.64	451.41	665.36	328.80	336.56	1.977		
17,000.00	7,771.09	17,056.24	7,786.10	169.40	170.81	-91.27	-9,260.63	452.59	665.35	325.15	340.20	1.956		
17,100.00	7,770.89	17,156.24	7,785.89	171.22	172.63	-91.27	-9,360.62	453.77	665.34	321.50	343.84	1.935		
17,200.00	7,770.68	17,256.24	7,785.69	173.04	174.45	-91.27	-9,460.62	454.94	665.33	317.85	347.49	1.915		
17,300.00	7,770.48	17,356.24	7,785.48	174.86	176.27	-91.28	-9,560.61	456.12	665.32	314.19	351.13	1.895		
17,400.00	7,770.27	17,456.24	7,785.27	176.68	178.09	-91.28	-9,660.60	457.30	665.31	310.54	354.77	1.875		
17,500.00	7,770.06	17,556.24	7,785.07	178.50	179.91	-91.28	-9,760.59	458.48	665.30	306.89	358.41	1.856		
17,600.00	7,769.86	17,656.24	7,784.86	180.32	181.73	-91.28	-9,860.59	459.65	665.29	303.24	362.06	1.838		
17,700.00	7,769.65	17,756.24	7,784.66	182.15	183.55	-91.28	-9,960.58	460.83	665.28	299.58	365.70	1.819		
17,800.00	7,769.44	17,856.24	7,784.45	183.97	185.38	-91.28	-10,060.57	462.01	665.27	295.93	369.34	1.801		
17,900.00	7,769.24	17,956.24	7,784.25	185.79	187.20	-91.28	-10,160.57	463.19	665.26	292.28	372.99	1.784		
18,000.00	7,769.03	18,056.24	7,784.04	187.61	189.03	-91.28	-10,260.56	464.37	665.25	288.61	376.44	1.767		
18,015.04	7,769.00	18,071.28	7,784.01	187.84	189.05	-91.28	-10,275.60	464.54	665.25	288.36	376.89	1.765		

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandriil Freedom)
Reference Site:	Sec. 24, T 25S. , R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandriil Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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

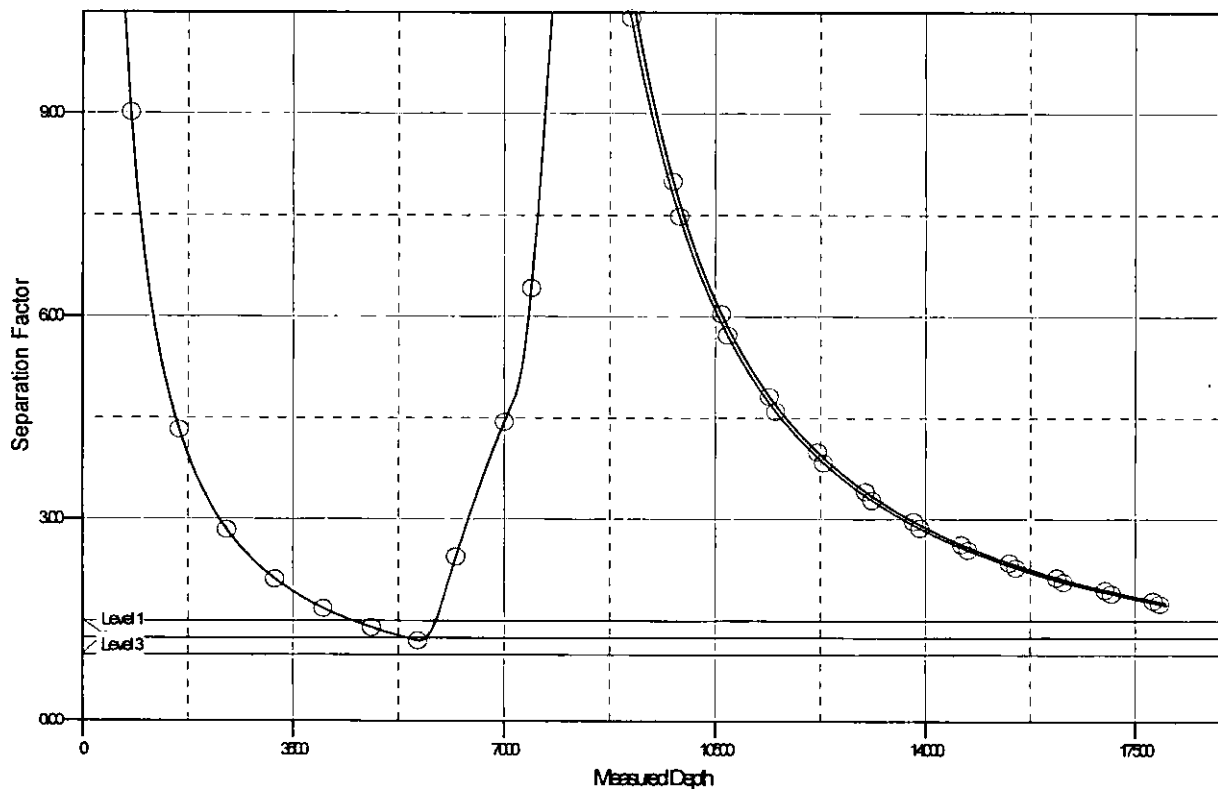
Reference Depths are relative to KB=26' @ 3083.00usft (Scandriil FreeCoordinates are relative to: Daisy State Com #503H
Offset Depths are relative to Offset Datum
Central Meridian is -104.33334
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.10°



Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Daisy State Com #503H
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=26' @ 3083.00usft (Scandrell Freedom)
Reference Site:	Sec. 24, T 25S., R 27 E	MD Reference:	KB=26' @ 3083.00usft (Scandrell Freedom)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Daisy State Com #503H	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=26' @ 3083.00usft (Scandrell FreeCoordinates are relative to: Daisy State Com #503H
Offset Depths are relative to Offset Datum
Central Meridian is -104.33334
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.10°

Separation Factor Plot



LEGEND

Daisy State Com #502H, Wellbore #1, Plan #2 V0 —●— Daisy State Com #504H, Wellbore #1, Plan #2 V0