CONCHO

COG Operating, LLC

Lea County, NM
Sec 28, T22S, R34E
Smalls Federal 7H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

07 July, 2015

DDC
The DIRECTIONAL DRILLING COMPANY

Database:	Compass	**Local Co-ordinate Reference:**	Well Smalls Federal 7H
Company:	COG Operating, LLC	**TVD Reference:**	Well @ 3441.0usft (Ensign #772)
Project:	Lea County, NM	**MD Reference:**	Well @ 3441.0usft (Ensign #772)
Site:	Sec 28, T22S, R34E	**North Reference:**	Grid
Well:	Smalls Federal 7H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project Lea County, NM

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Sec 28, T22S, R34E

Site Position:		**Northing:**	494,242.70 usft	**Latitude:**	32° 21' 20.947 N
From:	Map	**Easting:**	767,268.60 usft	**Longitude:**	103° 28' 4.141 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.46 °

Well Smalls Federal 7H

Well Position	**+N/-S**	-22.8 usft	**Northing:**	494,219.90 usft	**Latitude:**	32° 21' 20.938 N
	+E/-W	-2,715.2 usft	**Easting:**	764,553.40 usft	**Longitude:**	103° 28' 35.794 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	3,410.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/7/2015	7.13	60.23	48,227

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	359.26	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,837.5	0.00	0.00	9,837.5	0.0	0.0	0.00	0.00	0.00	0.00	
10,587.5	90.00	359.26	10,315.0	477.4	-6.2	12.00	12.00	-0.10	359.26	
14,866.4	90.00	359.26	10,315.0	4,756.0	-61.7	0.00	0.00	0.00	0.00	PBHL Smalls Federal

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Well:	Smalls Federal 7H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
KOP 12°/100'									
9,837.5	0.00	0.00	9,837.5	0.0	0.0	0.0	0.00	0.00	0.00
9,900.0	7.50	359.26	9,899.8	4.1	-0.1	4.1	12.00	12.00	0.00
10,000.0	19.50	359.26	9,996.9	27.4	-0.4	27.4	12.00	12.00	0.00
SBSG_sand									
10,019.4	21.82	359.26	10,015.0	34.2	-0.4	34.2	12.00	12.00	0.00
10,100.0	31.50	359.26	10,087.0	70.4	-0.9	70.4	12.00	12.00	0.00
10,200.0	43.50	359.26	10,166.2	131.1	-1.7	131.1	12.00	12.00	0.00
10,300.0	55.50	359.26	10,231.0	207.0	-2.7	207.0	12.00	12.00	0.00
10,400.0	67.50	359.26	10,278.6	294.7	-3.8	294.7	12.00	12.00	0.00
10,500.0	79.50	359.26	10,307.0	390.4	-5.1	390.5	12.00	12.00	0.00
End of Curve / 90° Inc / 359.26° Azm / 10315' TVD									
10,587.5	90.00	359.26	10,315.0	477.4	-6.2	477.5	12.00	12.00	0.00
10,600.0	90.00	359.26	10,315.0	489.9	-6.4	490.0	0.00	0.00	0.00
10,700.0	90.00	359.26	10,315.0	589.9	-7.7	590.0	0.00	0.00	0.00
10,800.0	90.00	359.26	10,315.0	689.9	-9.0	690.0	0.00	0.00	0.00
10,900.0	90.00	359.26	10,315.0	789.9	-10.2	790.0	0.00	0.00	0.00
11,000.0	90.00	359.26	10,315.0	889.9	-11.5	890.0	0.00	0.00	0.00
11,100.0	90.00	359.26	10,315.0	989.9	-12.8	990.0	0.00	0.00	0.00
11,200.0	90.00	359.26	10,315.0	1,089.9	-14.1	1,090.0	0.00	0.00	0.00
11,300.0	90.00	359.26	10,315.0	1,189.9	-15.4	1,190.0	0.00	0.00	0.00
11,400.0	90.00	359.26	10,315.0	1,289.9	-16.7	1,290.0	0.00	0.00	0.00
11,500.0	90.00	359.26	10,315.0	1,389.8	-18.0	1,390.0	0.00	0.00	0.00
11,600.0	90.00	359.26	10,315.0	1,489.8	-19.3	1,490.0	0.00	0.00	0.00
11,700.0	90.00	359.26	10,315.0	1,589.8	-20.6	1,590.0	0.00	0.00	0.00
11,800.0	90.00	359.26	10,315.0	1,689.8	-21.9	1,690.0	0.00	0.00	0.00
11,900.0	90.00	359.26	10,315.0	1,789.8	-23.2	1,790.0	0.00	0.00	0.00
12,000.0	90.00	359.26	10,315.0	1,889.8	-24.5	1,890.0	0.00	0.00	0.00
12,100.0	90.00	359.26	10,315.0	1,989.8	-25.8	1,990.0	0.00	0.00	0.00
12,200.0	90.00	359.26	10,315.0	2,089.8	-27.1	2,090.0	0.00	0.00	0.00
12,300.0	90.00	359.26	10,315.0	2,189.8	-28.4	2,190.0	0.00	0.00	0.00
12,400.0	90.00	359.26	10,315.0	2,289.8	-29.7	2,290.0	0.00	0.00	0.00
12,500.0	90.00	359.26	10,315.0	2,389.8	-31.0	2,390.0	0.00	0.00	0.00
12,600.0	90.00	359.26	10,315.0	2,489.8	-32.3	2,490.0	0.00	0.00	0.00
12,700.0	90.00	359.26	10,315.0	2,589.7	-33.6	2,590.0	0.00	0.00	0.00
12,800.0	90.00	359.26	10,315.0	2,689.7	-34.9	2,690.0	0.00	0.00	0.00
12,900.0	90.00	359.26	10,315.0	2,789.7	-36.2	2,790.0	0.00	0.00	0.00
13,000.0	90.00	359.26	10,315.0	2,889.7	-37.5	2,890.0	0.00	0.00	0.00
13,100.0	90.00	359.26	10,315.0	2,989.7	-38.8	2,990.0	0.00	0.00	0.00
13,200.0	90.00	359.26	10,315.0	3,089.7	-40.1	3,090.0	0.00	0.00	0.00
13,300.0	90.00	359.26	10,315.0	3,189.7	-41.4	3,190.0	0.00	0.00	0.00
13,400.0	90.00	359.26	10,315.0	3,289.7	-42.7	3,290.0	0.00	0.00	0.00
13,500.0	90.00	359.26	10,315.0	3,389.7	-44.0	3,390.0	0.00	0.00	0.00
13,600.0	90.00	359.26	10,315.0	3,489.7	-45.3	3,490.0	0.00	0.00	0.00
13,700.0	90.00	359.26	10,315.0	3,589.7	-46.6	3,590.0	0.00	0.00	0.00
13,800.0	90.00	359.26	10,315.0	3,689.7	-47.9	3,690.0	0.00	0.00	0.00
13,900.0	90.00	359.26	10,315.0	3,789.6	-49.2	3,790.0	0.00	0.00	0.00
14,000.0	90.00	359.26	10,315.0	3,889.6	-50.5	3,890.0	0.00	0.00	0.00
14,100.0	90.00	359.26	10,315.0	3,989.6	-51.8	3,990.0	0.00	0.00	0.00
14,200.0	90.00	359.26	10,315.0	4,089.6	-53.1	4,090.0	0.00	0.00	0.00
14,300.0	90.00	359.26	10,315.0	4,189.6	-54.4	4,190.0	0.00	0.00	0.00
14,400.0	90.00	359.26	10,315.0	4,289.6	-55.6	4,290.0	0.00	0.00	0.00
14,500.0	90.00	359.26	10,315.0	4,389.6	-56.9	4,390.0	0.00	0.00	0.00

Database:	Compass	**Local Co-ordinate Reference:**	Well Smalls Federal 7H
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Site:	Sec 28, T22S, R34E	**North Reference:**	Grid
Well:	Smalls Federal 7H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
14,600.0	90.00	359.26	10,315.0	4,489.6	-58.2	4,490.0	0.00	0.00	0.00
14,700.0	90.00	359.26	10,315.0	4,589.6	-59.5	4,590.0	0.00	0.00	0.00
14,800.0	90.00	359.26	10,315.0	4,689.6	-60.8	4,690.0	0.00	0.00	0.00
PBHL @ 14866' MD / 10315' TVD									
14,866.4	90.00	359.26	10,315.0	4,756.0	-61.7	4,756.4	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Smalls Federal 7H - plan hits target center - Point	0.00	0.00	10,315.0	4,756.0	-61.7	498,975.90	764,491.70	32° 22' 8.003 N	103° 28' 36.070 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,396.0	2,396.0	Rustler		0.00	359.26
2,659.0	2,659.0	TOS		0.00	359.26
3,618.0	3,618.0	BOS / Tansill		0.00	359.26
3,689.0	3,689.0	Yates		0.00	359.26
3,824.0	3,824.0	Seven Rivers		0.00	359.26
3,993.0	3,993.0	Captain Reef		0.00	359.26
5,190.0	5,190.0	Base of Reef (BLCN)		0.00	359.26
5,881.0	5,881.0	CYCN		0.00	359.26
7,084.0	7,084.0	BYCN		0.00	359.26
8,486.0	8,486.0	Bone Spring (BSGL)		0.00	359.26
8,778.0	8,778.0	U Avalon Sh		0.00	359.26
9,019.0	9,019.0	L Avalon Sh		0.00	359.26
9,549.0	9,549.0	FBSG_sand		0.00	359.26
10,019.4	10,015.0	SBSG_sand		0.00	359.26

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
9,837.5	9,837.5	0.0	0.0	KOP 12°/100'
10,587.5	10,315.0	477.4	-6.2	End of Curve / 90° Inc / 359.26° Azm / 10315' TVD
14,866.4	10,315.0	4,756.0	-61.7	PBHL @ 14866' MD / 10315' TVD

CONCHO

COG Operating, LLC

Lea County, NM
Sec 28, T22S, R34E
Smalls Federal 7H

Wellbore #1
Design #1

DDC Anticollision Report

07 July, 2015

DDC
The DIRECTIONAL DRILLING COMPANY

Company:	COG Operating, LLC	**Local Co-ordinate Reference:**	Well Smalls Federal 7H
Project:	Lea County, NM	**TVD Reference:**	Well @ 3441.0usft (Ensign #772)
Reference Site:	Sec 28, T22S, R34E	**MD Reference:**	Well @ 3441.0usft (Ensign #772)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Smalls Federal 7H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Compass
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Reference Design #1

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 10,000.0 usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 7/7/2015

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	14,866.4	Design #1 (Wellbore #1)	MWD default	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec 28, T22S, R34E						
Smalls Federal 3H - Wellbore #1 - Design #1	9,850.9	9,850.9	30.0	-14.0	0.682	Level 1, CC
Smalls Federal 3H - Wellbore #1 - Design #1	9,875.0	9,875.0	30.0	-14.1	0.681	Level 1, ES, SF

Offset Design Sec 28, T22S, R34E - Smalls Federal 3H - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD default — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.38	-0.2	-30.0	30.0			
100.0	100.0	100.0	100.0	0.1	0.1	-90.38	-0.2	-30.0	30.0	29.8	193.442	
200.0	200.0	200.0	200.0	0.3	0.3	-90.38	-0.2	-30.0	30.0	29.4	49.619	
300.0	300.0	300.0	300.0	0.5	0.5	-90.38	-0.2	-30.0	30.0	28.9	28.460	
400.0	400.0	400.0	400.0	0.8	0.8	-90.38	-0.2	-30.0	30.0	28.5	19.951	
500.0	500.0	500.0	500.0	1.0	1.0	-90.38	-0.2	-30.0	30.0	28.0	15.360	
600.0	600.0	600.0	600.0	1.2	1.2	-90.38	-0.2	-30.0	30.0	27.6	12.486	
700.0	700.0	700.0	700.0	1.4	1.4	-90.38	-0.2	-30.0	30.0	27.1	10.518	
800.0	800.0	800.0	800.0	1.7	1.7	-90.38	-0.2	-30.0	30.0	26.7	9.086	
900.0	900.0	900.0	900.0	1.9	1.9	-90.38	-0.2	-30.0	30.0	26.2	7.997	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.38	-0.2	-30.0	30.0	25.8	7.142	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-90.38	-0.2	-30.0	30.0	25.4	6.451	
1,200.0	1,200.0	1,200.0	1,200.0	2.5	2.5	-90.38	-0.2	-30.0	30.0	24.9	5.883	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-90.38	-0.2	-30.0	30.0	24.5	5.406	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	5.001	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-90.38	-0.2	-30.0	30.0	23.6	4.652	
1,600.0	1,600.0	1,600.0	1,600.0	3.4	3.4	-90.38	-0.2	-30.0	30.0	23.1	4.349	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-90.38	-0.2	-30.0	30.0	22.7	4.083	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-90.38	-0.2	-30.0	30.0	22.2	3.848	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-90.38	-0.2	-30.0	30.0	21.8	3.638	
2,000.0	2,000.0	2,000.0	2,000.0	4.3	4.3	-90.38	-0.2	-30.0	30.0	21.3	3.450	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	-90.38	-0.2	-30.0	30.0	20.9	3.280	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	-90.38	-0.2	-30.0	30.0	20.4	3.127	
2,300.0	2,300.0	2,300.0	2,300.0	5.0	5.0	-90.38	-0.2	-30.0	30.0	20.0	2.987	
2,400.0	2,400.0	2,400.0	2,400.0	5.2	5.2	-90.38	-0.2	-30.0	30.0	19.5	2.859	

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Reference Site:	Sec 28, T22S, R34E	**MD Reference:**	Well @ 3441.0usft (Ensign #772)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Smalls Federal 7H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Compass
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 28, T22S, R34E - Smalls Federal 3H - Wellbore #1 - Design #1 — Offset Site Error: 0.0 usft

Survey Program: 0-MWD default — Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	-90.38	-0.2	-30.0	30.0	19.1	2.741	
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	-90.38	-0.2	-30.0	30.0	18.6	2.633	
2,700.0	2,700.0	2,700.0	2,700.0	5.9	5.9	-90.38	-0.2	-30.0	30.0	18.2	2.533	
2,800.0	2,800.0	2,800.0	2,800.0	6.1	6.1	-90.38	-0.2	-30.0	30.0	17.7	2.441	
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	-90.38	-0.2	-30.0	30.0	17.3	2.354	
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	-90.38	-0.2	-30.0	30.0	16.8	2.274	
3,100.0	3,100.0	3,100.0	3,100.0	6.8	6.8	-90.38	-0.2	-30.0	30.0	16.4	2.199	
3,200.0	3,200.0	3,200.0	3,200.0	7.0	7.0	-90.38	-0.2	-30.0	30.0	15.9	2.129	
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	-90.38	-0.2	-30.0	30.0	15.5	2.063	
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	-90.38	-0.2	-30.0	30.0	15.0	2.001	
3,500.0	3,500.0	3,500.0	3,500.0	7.7	7.7	-90.38	-0.2	-30.0	30.0	14.6	1.943	
3,600.0	3,600.0	3,600.0	3,600.0	7.9	7.9	-90.38	-0.2	-30.0	30.0	14.1	1.888	
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	-90.38	-0.2	-30.0	30.0	13.7	1.836	
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	-90.38	-0.2	-30.0	30.0	13.2	1.787	
3,900.0	3,900.0	3,900.0	3,900.0	8.6	8.6	-90.38	-0.2	-30.0	30.0	12.8	1.740	
4,000.0	4,000.0	4,000.0	4,000.0	8.8	8.8	-90.38	-0.2	-30.0	30.0	12.3	1.696	
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	-90.38	-0.2	-30.0	30.0	11.9	1.654	
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	-90.38	-0.2	-30.0	30.0	11.4	1.614	
4,300.0	4,300.0	4,300.0	4,300.0	9.5	9.5	-90.38	-0.2	-30.0	30.0	11.0	1.576	
4,400.0	4,400.0	4,400.0	4,400.0	9.7	9.7	-90.38	-0.2	-30.0	30.0	10.5	1.540	
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	-90.38	-0.2	-30.0	30.0	10.1	1.505	
4,600.0	4,600.0	4,600.0	4,600.0	10.2	10.2	-90.38	-0.2	-30.0	30.0	9.6	1.472	Level 3
4,700.0	4,700.0	4,700.0	4,700.0	10.4	10.4	-90.38	-0.2	-30.0	30.0	9.2	1.440	Level 3
4,800.0	4,800.0	4,800.0	4,800.0	10.6	10.6	-90.38	-0.2	-30.0	30.0	8.7	1.410	Level 3
4,900.0	4,900.0	4,900.0	4,900.0	10.9	10.9	-90.38	-0.2	-30.0	30.0	8.3	1.380	Level 3
5,000.0	5,000.0	5,000.0	5,000.0	11.1	11.1	-90.38	-0.2	-30.0	30.0	7.8	1.352	Level 3
5,100.0	5,100.0	5,100.0	5,100.0	11.3	11.3	-90.38	-0.2	-30.0	30.0	7.4	1.326	Level 3
5,200.0	5,200.0	5,200.0	5,200.0	11.5	11.5	-90.38	-0.2	-30.0	30.0	6.9	1.300	Level 3
5,300.0	5,300.0	5,300.0	5,300.0	11.8	11.8	-90.38	-0.2	-30.0	30.0	6.5	1.275	Level 3
5,400.0	5,400.0	5,400.0	5,400.0	12.0	12.0	-90.38	-0.2	-30.0	30.0	6.0	1.251	Level 3
5,500.0	5,500.0	5,500.0	5,500.0	12.2	12.2	-90.38	-0.2	-30.0	30.0	5.6	1.228	Level 2
5,600.0	5,600.0	5,600.0	5,600.0	12.4	12.4	-90.38	-0.2	-30.0	30.0	5.1	1.206	Level 2
5,700.0	5,700.0	5,700.0	5,700.0	12.7	12.7	-90.38	-0.2	-30.0	30.0	4.7	1.184	Level 2
5,800.0	5,800.0	5,800.0	5,800.0	12.9	12.9	-90.38	-0.2	-30.0	30.0	4.2	1.164	Level 2
5,900.0	5,900.0	5,900.0	5,900.0	13.1	13.1	-90.38	-0.2	-30.0	30.0	3.8	1.144	Level 2
6,000.0	6,000.0	6,000.0	6,000.0	13.3	13.3	-90.38	-0.2	-30.0	30.0	3.3	1.125	Level 2
6,100.0	6,100.0	6,100.0	6,100.0	13.6	13.6	-90.38	-0.2	-30.0	30.0	2.9	1.106	Level 2
6,200.0	6,200.0	6,200.0	6,200.0	13.8	13.8	-90.38	-0.2	-30.0	30.0	2.4	1.088	Level 2
6,300.0	6,300.0	6,300.0	6,300.0	14.0	14.0	-90.38	-0.2	-30.0	30.0	2.0	1.070	Level 2
6,400.0	6,400.0	6,400.0	6,400.0	14.2	14.2	-90.38	-0.2	-30.0	30.0	1.5	1.054	Level 2
6,500.0	6,500.0	6,500.0	6,500.0	14.5	14.5	-90.38	-0.2	-30.0	30.0	1.1	1.037	Level 2
6,600.0	6,600.0	6,600.0	6,600.0	14.7	14.7	-90.38	-0.2	-30.0	30.0	0.6	1.021	Level 2
6,700.0	6,700.0	6,700.0	6,700.0	14.9	14.9	-90.38	-0.2	-30.0	30.0	0.2	1.006	Level 2
6,800.0	6,800.0	6,800.0	6,800.0	15.1	15.1	-90.38	-0.2	-30.0	30.0	-0.3	0.991	Level 1
6,900.0	6,900.0	6,900.0	6,900.0	15.4	15.4	-90.38	-0.2	-30.0	30.0	-0.7	0.976	Level 1
7,000.0	7,000.0	7,000.0	7,000.0	15.6	15.6	-90.38	-0.2	-30.0	30.0	-1.2	0.962	Level 1
7,100.0	7,100.0	7,100.0	7,100.0	15.8	15.8	-90.38	-0.2	-30.0	30.0	-1.6	0.949	Level 1
7,200.0	7,200.0	7,200.0	7,200.0	16.0	16.0	-90.38	-0.2	-30.0	30.0	-2.1	0.935	Level 1
7,300.0	7,300.0	7,300.0	7,300.0	16.3	16.3	-90.38	-0.2	-30.0	30.0	-2.5	0.922	Level 1
7,400.0	7,400.0	7,400.0	7,400.0	16.5	16.5	-90.38	-0.2	-30.0	30.0	-3.0	0.910	Level 1
7,500.0	7,500.0	7,500.0	7,500.0	16.7	16.7	-90.38	-0.2	-30.0	30.0	-3.4	0.898	Level 1
7,600.0	7,600.0	7,600.0	7,600.0	16.9	16.9	-90.38	-0.2	-30.0	30.0	-3.9	0.886	Level 1

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

Company:	COG Operating, LLC	**Local Co-ordinate Reference:**	Well Smalls Federal 7H
Project:	Lea County, NM	**TVD Reference:**	Well @ 3441.0usft (Ensign #772)
Reference Site:	Sec 28, T22S, R34E	**MD Reference:**	Well @ 3441.0usft (Ensign #772)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Smalls Federal 7H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Compass
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 28, T22S, R34E - Smalls Federal 3H - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD default — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
7,700.0	7,700.0	7,700.0	7,700.0	17.2	17.2	-90.38	-0.2	-30.0	30.0	-4.3	0.874	Level 1
7,800.0	7,800.0	7,800.0	7,800.0	17.4	17.4	-90.38	-0.2	-30.0	30.0	-4.8	0.863	Level 1
7,900.0	7,900.0	7,900.0	7,900.0	17.6	17.6	-90.38	-0.2	-30.0	30.0	-5.2	0.852	Level 1
8,000.0	8,000.0	8,000.0	8,000.0	17.8	17.8	-90.38	-0.2	-30.0	30.0	-5.7	0.841	Level 1
8,100.0	8,100.0	8,100.0	8,100.0	18.1	18.1	-90.38	-0.2	-30.0	30.0	-6.1	0.831	Level 1
8,200.0	8,200.0	8,200.0	8,200.0	18.3	18.3	-90.38	-0.2	-30.0	30.0	-6.6	0.820	Level 1
8,300.0	8,300.0	8,300.0	8,300.0	18.5	18.5	-90.38	-0.2	-30.0	30.0	-7.0	0.810	Level 1
8,400.0	8,400.0	8,400.0	8,400.0	18.7	18.7	-90.38	-0.2	-30.0	30.0	-7.5	0.801	Level 1
8,500.0	8,500.0	8,500.0	8,500.0	19.0	19.0	-90.38	-0.2	-30.0	30.0	-7.9	0.791	Level 1
8,600.0	8,600.0	8,600.0	8,600.0	19.2	19.2	-90.38	-0.2	-30.0	30.0	-8.4	0.782	Level 1
8,700.0	8,700.0	8,700.0	8,700.0	19.4	19.4	-90.38	-0.2	-30.0	30.0	-8.8	0.773	Level 1
8,800.0	8,800.0	8,800.0	8,800.0	19.6	19.6	-90.38	-0.2	-30.0	30.0	-9.3	0.764	Level 1
8,900.0	8,900.0	8,900.0	8,900.0	19.9	19.9	-90.38	-0.2	-30.0	30.0	-9.7	0.755	Level 1
9,000.0	9,000.0	9,000.0	9,000.0	20.1	20.1	-90.38	-0.2	-30.0	30.0	-10.2	0.747	Level 1
9,100.0	9,100.0	9,100.0	9,100.0	20.3	20.3	-90.38	-0.2	-30.0	30.0	-10.6	0.739	Level 1
9,200.0	9,200.0	9,200.0	9,200.0	20.5	20.5	-90.38	-0.2	-30.0	30.0	-11.1	0.731	Level 1
9,300.0	9,300.0	9,300.0	9,300.0	20.8	20.8	-90.38	-0.2	-30.0	30.0	-11.5	0.723	Level 1
9,400.0	9,400.0	9,400.0	9,400.0	21.0	21.0	-90.38	-0.2	-30.0	30.0	-12.0	0.715	Level 1
9,500.0	9,500.0	9,500.0	9,500.0	21.2	21.2	-90.38	-0.2	-30.0	30.0	-12.4	0.707	Level 1
9,600.0	9,600.0	9,600.0	9,600.0	21.4	21.4	-90.38	-0.2	-30.0	30.0	-12.9	0.700	Level 1
9,700.0	9,700.0	9,700.0	9,700.0	21.7	21.7	-90.38	-0.2	-30.0	30.0	-13.3	0.693	Level 1
9,800.0	9,800.0	9,800.0	9,800.0	21.9	21.9	-90.38	-0.2	-30.0	30.0	-13.8	0.686	Level 1
9,837.5	9,837.5	9,837.5	9,837.5	22.0	22.0	-90.38	-0.2	-30.0	30.0	-13.9	0.683	Level 1
9,850.0	9,850.0	9,850.0	9,850.0	22.0	22.0	-89.95	-0.2	-30.0	30.0	-14.0	0.682	Level 1
9,850.9	9,850.9	9,850.9	9,850.9	22.0	22.0	-90.00	-0.2	-30.0	30.0	-14.0	0.682	Level 1, CC
9,875.0	9,875.0	9,875.0	9,875.0	22.0	22.0	-92.44	-0.2	-30.0	30.0	-14.1	0.681	Level 1, ES, SF
9,900.0	9,899.8	9,899.8	9,899.8	22.1	22.1	-97.34	-0.2	-30.0	30.3	-13.9	0.684	Level 1
9,925.0	9,924.5	9,924.5	9,924.5	22.2	22.2	-104.35	-0.2	-30.0	31.0	-13.3	0.700	Level 1
9,950.0	9,949.0	9,949.0	9,949.0	22.2	22.2	-112.85	-0.2	-30.0	32.7	-11.5	0.739	Level 1
9,975.0	9,973.1	9,973.1	9,973.1	22.3	22.3	-121.90	-0.2	-30.0	35.8	-8.3	0.812	Level 1
10,000.0	9,996.9	9,996.9	9,996.9	22.3	22.3	-130.52	-0.2	-30.0	40.5	-3.1	0.929	Level 1
10,025.0	10,020.2	10,020.2	10,020.2	22.4	22.4	-138.07	-0.2	-30.0	47.0	4.0	1.094	Level 2
10,050.0	10,043.1	10,043.1	10,043.1	22.4	22.4	-144.34	-0.2	-30.0	55.2	13.1	1.311	Level 3
10,075.0	10,065.3	10,065.3	10,065.3	22.5	22.5	-149.38	-0.2	-30.0	65.0	23.9	1.582	
10,100.0	10,087.0	10,087.0	10,087.0	22.5	22.5	-153.37	-0.2	-30.0	76.3	36.3	1.908	
10,125.0	10,107.9	10,107.9	10,107.9	22.6	22.6	-156.52	-0.2	-30.0	89.0	50.2	2.295	
10,150.0	10,128.2	10,128.2	10,128.2	22.6	22.6	-158.99	-0.2	-30.0	102.9	65.5	2.746	
10,175.0	10,147.6	10,147.6	10,147.6	22.7	22.7	-160.94	-0.2	-30.0	118.1	82.0	3.270	
10,200.0	10,166.2	10,166.2	10,166.2	22.8	22.7	-162.47	-0.2	-30.0	134.3	99.7	3.876	
10,225.0	10,183.8	10,183.8	10,183.8	22.8	22.7	-163.66	-0.2	-30.0	151.6	118.5	4.575	
10,250.0	10,200.6	10,200.6	10,200.6	22.9	22.8	-164.55	-0.2	-30.0	169.9	138.3	5.382	
10,275.0	10,216.3	10,216.3	10,216.3	23.0	22.8	-165.21	-0.2	-30.0	189.0	159.1	6.313	
10,300.0	10,231.0	10,231.0	10,231.0	23.1	22.8	-165.64	-0.2	-30.0	209.0	180.7	7.388	
10,325.0	10,244.6	10,244.6	10,244.6	23.1	22.9	-165.85	-0.2	-30.0	229.8	203.1	8.628	
10,350.0	10,257.1	10,257.1	10,257.1	23.2	22.9	-165.85	-0.2	-30.0	251.2	226.3	10.053	
10,375.0	10,268.5	10,268.5	10,268.5	23.3	22.9	-165.62	-0.2	-30.0	273.4	250.0	11.673	
10,400.0	10,278.6	10,278.6	10,278.6	23.4	23.0	-165.10	-0.2	-30.0	296.1	274.1	13.471	
10,425.0	10,287.6	10,287.6	10,287.6	23.5	23.0	-164.21	-0.2	-30.0	319.3	298.5	15.365	
10,450.0	10,295.3	10,295.3	10,295.3	23.6	23.0	-162.82	-0.2	-30.0	343.0	323.0	17.149	
10,475.0	10,301.8	10,301.8	10,301.8	23.8	23.0	-160.64	-0.2	-30.0	367.0	347.1	18.418	
10,500.0	10,307.0	10,307.0	10,307.0	23.9	23.0	-157.13	-0.2	-30.0	391.4	370.3	18.571	
10,525.0	10,310.9	10,310.9	10,310.9	24.0	23.0	-151.02	-0.2	-30.0	416.0	391.7	17.064	

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

Company:	COG Operating, LLC	**Local Co-ordinate Reference:**	Well Smalls Federal 7H
Project:	Lea County, NM	**TVD Reference:**	Well @ 3441.0usft (Ensign #772)
Reference Site:	Sec 28, T22S, R34E	**MD Reference:**	Well @ 3441.0usft (Ensign #772)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Smalls Federal 7H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Compass
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 28, T22S, R34E - Smalls Federal 3H - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

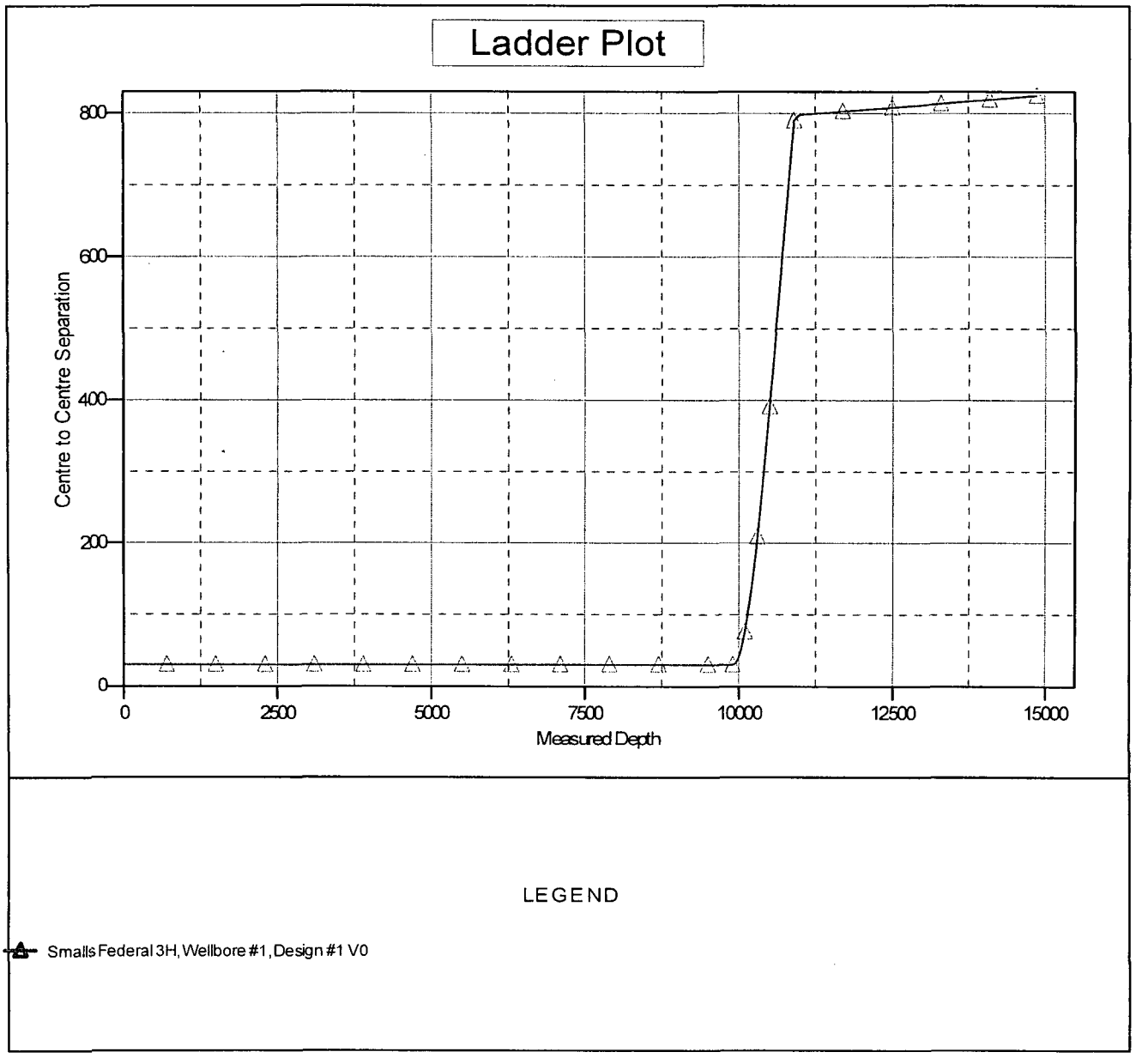
Survey Program: 0-MWD default — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
10,550.0	10,313.5	10,313.5	10,313.5	24.2	23.0	-139.00	-0.2	-30.0	440.8	409.1	13.910	
10,575.0	10,314.8	10,314.8	10,314.8	24.3	23.0	-112.07	-0.2	-30.0	465.7	421.6	10.540	
10,587.5	10,315.0	10,315.0	10,315.0	24.4	23.0	-90.01	-0.2	-30.0	478.2	430.5	10.024	
10,600.0	10,315.0	10,315.0	10,315.0	24.5	23.0	-90.01	-0.2	-30.0	490.7	442.9	10.267	
10,700.0	10,315.0	10,315.0	10,315.0	25.1	23.0	-90.01	-0.2	-30.0	590.5	542.0	12.166	
10,800.0	10,315.0	10,315.0	10,315.0	25.9	23.0	-90.01	-0.2	-30.0	690.4	641.0	13.976	
10,900.0	10,315.0	10,315.0	10,315.0	26.8	23.0	-90.01	-0.2	-30.0	790.3	740.0	15.693	
11,000.0	10,315.0	11,789.4	11,112.8	27.8	29.2	-178.25	884.1	-35.9	798.3	784.6	58.582	
11,100.0	10,315.0	11,889.4	11,113.5	28.9	30.2	-178.29	984.1	-36.6	798.9	784.0	53.665	
11,200.0	10,315.0	11,989.4	11,114.2	30.0	31.3	-178.34	1,084.1	-37.2	799.6	783.4	49.410	
11,300.0	10,315.0	12,089.4	11,114.9	31.2	32.4	-178.39	1,184.1	-37.9	800.3	782.8	45.715	
11,400.0	10,315.0	12,189.4	11,115.6	32.5	33.6	-178.43	1,284.1	-38.6	801.0	782.1	42.491	
11,500.0	10,315.0	12,289.4	11,116.3	33.8	34.9	-178.48	1,384.1	-39.2	801.7	781.5	39.663	
11,600.0	10,315.0	12,389.4	11,117.0	35.1	36.2	-178.53	1,484.1	-39.9	802.4	780.8	37.168	
11,700.0	10,315.0	12,489.4	11,117.7	36.5	37.6	-178.57	1,584.1	-40.6	803.0	780.1	34.955	
11,800.0	10,315.0	12,589.4	11,118.4	38.0	38.9	-178.62	1,684.1	-41.2	803.7	779.4	32.982	
11,900.0	10,315.0	12,689.4	11,119.1	39.4	40.4	-178.66	1,784.0	-41.9	804.4	778.6	31.212	
12,000.0	10,315.0	12,789.3	11,119.8	40.9	41.8	-178.71	1,884.0	-42.6	805.1	777.9	29.619	
12,100.0	10,315.0	12,889.3	11,120.5	42.4	43.3	-178.76	1,984.0	-43.2	805.8	777.2	28.177	
12,200.0	10,315.0	12,989.3	11,121.3	44.0	44.8	-178.80	2,084.0	-43.9	806.5	776.5	26.867	
12,300.0	10,315.0	13,089.3	11,122.0	45.5	46.3	-178.85	2,184.0	-44.6	807.2	775.7	25.672	
12,400.0	10,315.0	13,189.3	11,122.7	47.1	47.9	-178.89	2,284.0	-45.2	807.8	775.0	24.578	
12,500.0	10,315.0	13,289.3	11,123.4	48.7	49.5	-178.94	2,384.0	-45.9	808.5	774.2	23.572	
12,600.0	10,315.0	13,389.3	11,124.1	50.3	51.0	-178.99	2,484.0	-46.6	809.2	773.5	22.646	
12,700.0	10,315.0	13,489.3	11,124.8	52.0	52.6	-179.03	2,584.0	-47.2	809.9	772.7	21.790	
12,800.0	10,315.0	13,589.3	11,125.5	53.6	54.3	-179.08	2,684.0	-47.9	810.6	772.0	20.996	
12,900.0	10,315.0	13,689.3	11,126.2	55.3	55.9	-179.12	2,784.0	-48.6	811.3	771.2	20.258	
13,000.0	10,315.0	13,789.3	11,126.9	56.9	57.5	-179.17	2,883.9	-49.2	812.0	770.5	19.571	
13,100.0	10,315.0	13,889.3	11,127.6	58.6	59.2	-179.21	2,983.9	-49.9	812.7	769.7	18.929	
13,200.0	10,315.0	13,989.3	11,128.3	60.3	60.8	-179.26	3,083.9	-50.6	813.4	769.0	18.328	
13,300.0	10,315.0	14,089.3	11,129.0	62.0	62.5	-179.30	3,183.9	-51.2	814.1	768.2	17.765	
13,400.0	10,315.0	14,189.3	11,129.7	63.7	64.2	-179.35	3,283.9	-51.9	814.8	767.5	17.236	
13,500.0	10,315.0	14,289.3	11,130.4	65.4	65.9	-179.39	3,383.9	-52.6	815.4	766.7	16.738	
13,600.0	10,315.0	14,389.3	11,131.1	67.1	67.6	-179.44	3,483.9	-53.2	816.1	766.0	16.268	
13,700.0	10,315.0	14,489.3	11,131.8	68.8	69.3	-179.48	3,583.9	-53.9	816.8	765.2	15.824	
13,800.0	10,315.0	14,589.3	11,132.5	70.5	71.0	-179.53	3,683.9	-54.6	817.5	764.5	15.405	
13,900.0	10,315.0	14,689.3	11,133.2	72.3	72.7	-179.57	3,783.9	-55.2	818.2	763.7	15.007	
14,000.0	10,315.0	14,789.3	11,133.9	74.0	74.4	-179.62	3,883.9	-55.9	818.9	763.0	14.630	
14,100.0	10,315.0	14,889.3	11,134.6	75.7	76.1	-179.66	3,983.8	-56.6	819.6	762.2	14.272	
14,200.0	10,315.0	14,989.3	11,135.3	77.5	77.8	-179.70	4,083.8	-57.2	820.3	761.4	13.931	
14,300.0	10,315.0	15,089.2	11,136.0	79.2	79.6	-179.75	4,183.8	-57.9	821.0	760.7	13.607	
14,400.0	10,315.0	15,189.2	11,136.7	81.0	81.3	-179.79	4,283.8	-58.6	821.7	759.9	13.298	
14,500.0	10,315.0	15,289.2	11,137.4	82.7	83.0	-179.84	4,383.8	-59.2	822.4	759.2	13.002	
14,600.0	10,315.0	15,389.2	11,138.1	84.5	84.8	-179.88	4,483.8	-59.9	823.1	758.4	12.721	
14,700.0	10,315.0	15,489.2	11,138.8	86.2	86.5	-179.92	4,583.8	-60.6	823.8	757.6	12.451	
14,800.0	10,315.0	15,589.2	11,139.5	88.0	88.3	-179.97	4,683.8	-61.2	824.5	756.9	12.193	
14,866.4	10,315.0	15,655.7	11,140.0	89.2	89.4	-180.00	4,750.2	-61.7	825.0	756.4	12.027	

Company:	COG Operating, LLC	**Local Co-ordinate Reference:**	Well Smalls Federal 7H
Project:	Lea County, NM	**TVD Reference:**	Well @ 3441.0usft (Ensign #772)
Reference Site:	Sec 28, T22S, R34E	**MD Reference:**	Well @ 3441.0usft (Ensign #772)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Smalls Federal 7H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Compass
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to Well @ 3441.0usft (Ensign #772)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

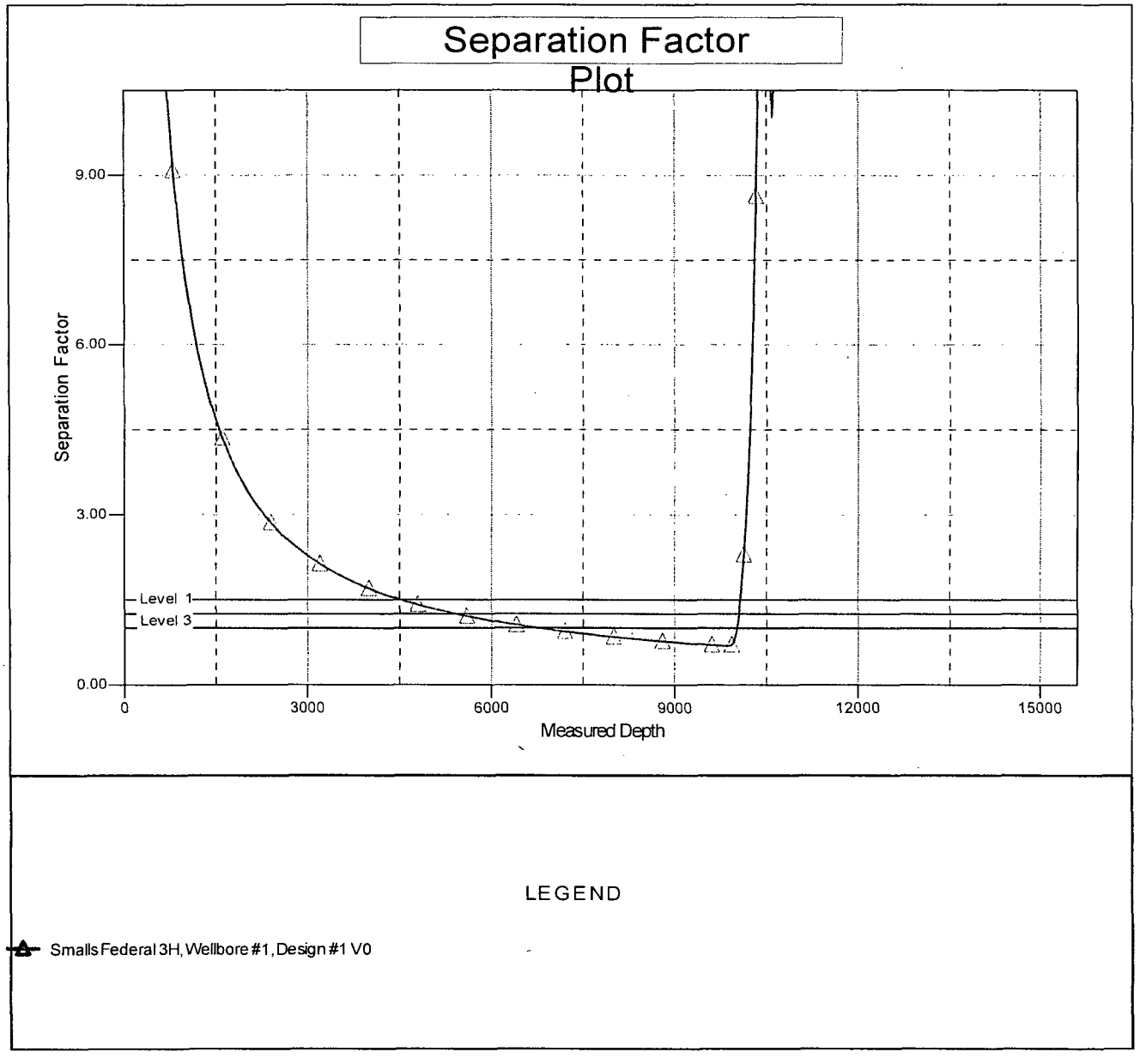
Coordinates are relative to: Smalls Federal 7H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.46°



Company:	COG Operating, LLC	**Local Co-ordinate Reference:**	Well Smalls Federal 7H
Project:	Lea County, NM	**TVD Reference:**	Well @ 3441.0usft (Ensign #772)
Reference Site:	Sec 28, T22S, R34E	**MD Reference:**	Well @ 3441.0usft (Ensign #772)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Smalls Federal 7H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Compass
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to Well @ 3441.0usft (Ensign #772)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

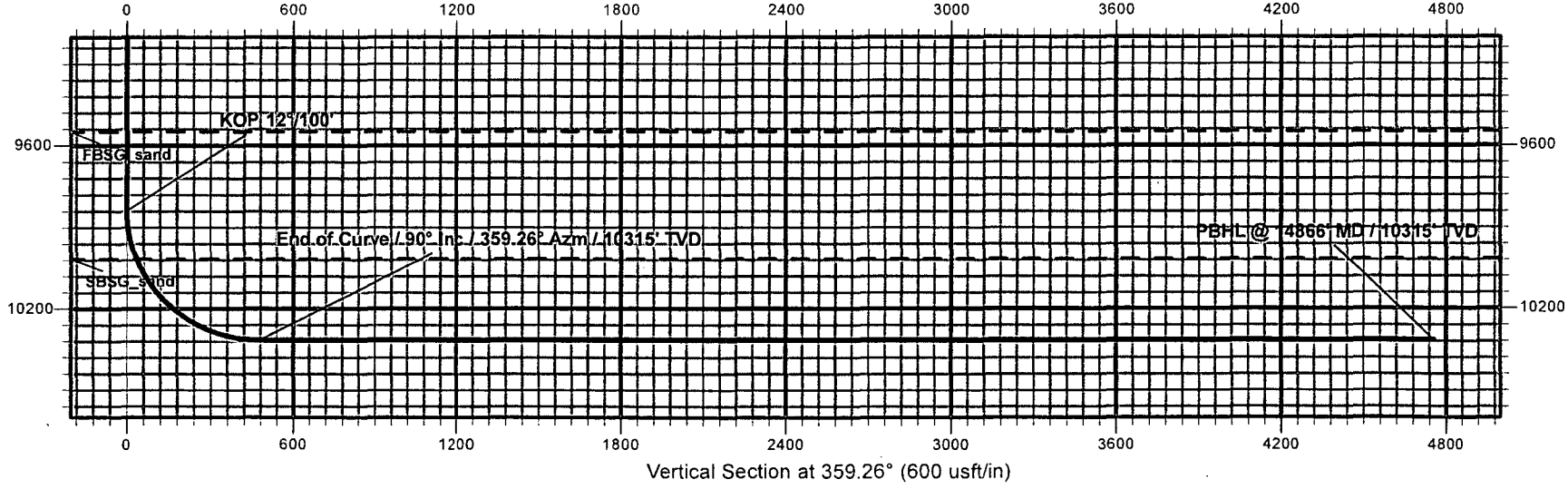
Coordinates are relative to: Smalls Federal 7H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.46°



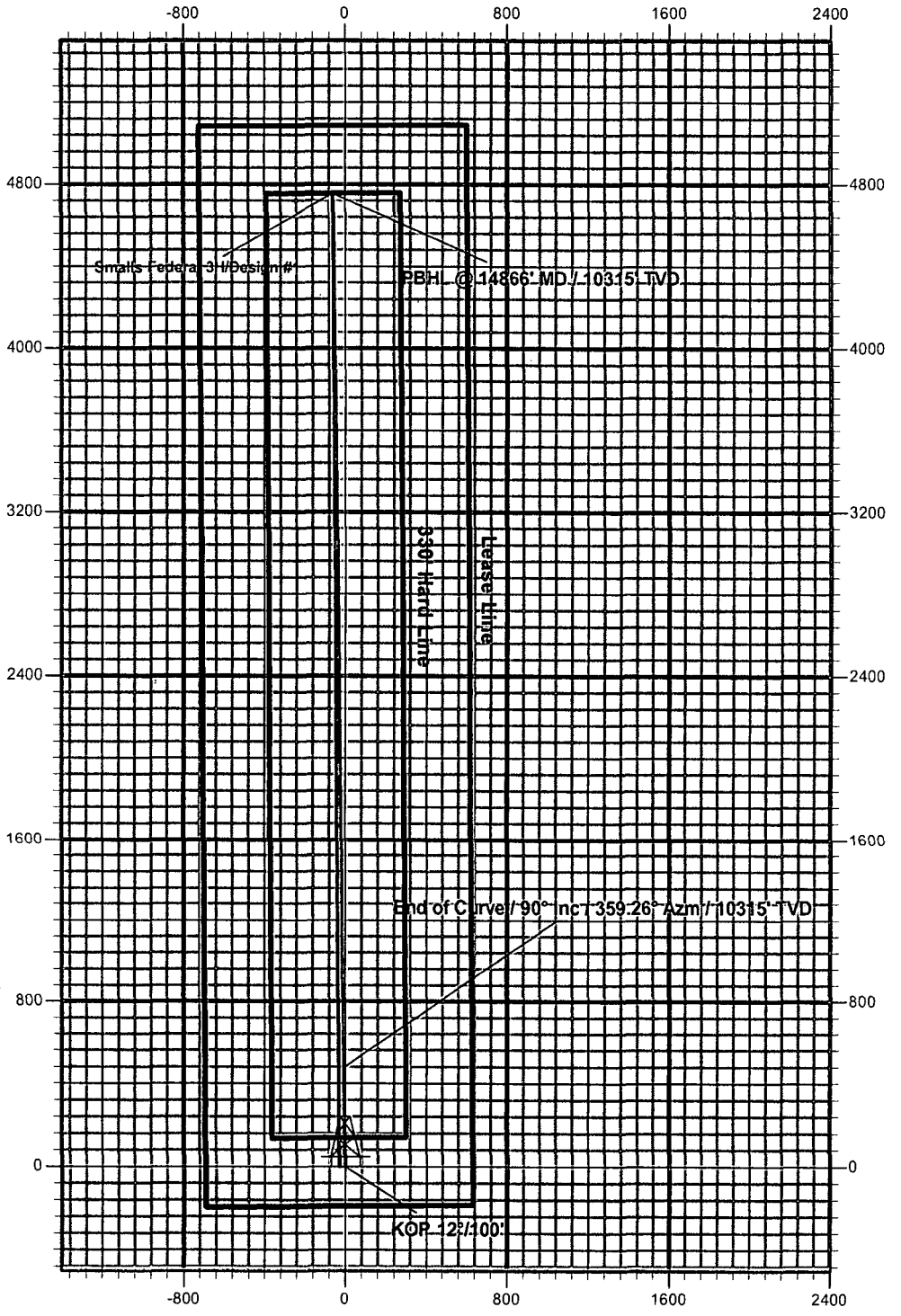
CONCHO

Lea County, NM
Sec 28, T22S, R34E
Smalls Federal 7H
Design #1

DDC
The DIRECTIONAL DRILLING COMPANY



Lea County, NM
Sec 28, T22S, R34E
Smalls Federal 7H
Design #1



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 28 **Township:** 22S **Range:** 34E

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00380			LE		4	2	11	22S	34E	647245	3586739*	45	30	15
CP 00596			LE		4	2	11	22S	34E	647245	3586739*	50		
CP 00597			LE		2	2	08	22S	34E	642410	3587074*	35		
CP 00598			LE		4	1	23	22S	34E	646480	3583511*	70		
CP 00599			LE		1	1	12	22S	34E	647642	3587147*	62	50	12
CP 00604			LE	1	4	4	01	22S	34E	648743	3587666*	135		
CP 00704			LE		2	4	22	22S	34E	645681	3583097*	600		
CP 00744			LE		1	2	09	22S	34E	643618	3587091*	460		
CP 00751			LE		4	2	11	22S	34E	647245	3586739*		45	
CP 00865			LE	4	1	3	20	22S	34E	641957	3583146	885	605	280
CP 00933			LE	1	1	1	12	22S	34E	647541	3587246*	60		
CP 00934			LE	2	1	2	01	22S	34E	648682	3588822	60	42	18
CP 01362 POD1			LE	3	4	4	18	22S	34E	640809	3584182	1032	613	419
CP 01455 POD1			LE	4	1	4	18	22S	34E	640574	3584515	1033	615	418

Average Depth to Water: **285 feet**

Minimum Depth: **30 feet**

Maximum Depth: **615 feet**

Record Count: 14

PLSS Search:

Township: 22S **Range:** 34E

***UTM location was derived from PLSS - see Help**