

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. 30-015-45039 Federal
5. Indicate Type of Lease STATE ☐ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Foxx 31 Federal Com
8. Well Number 1H
9. OGRID Number 215099
10. Pool name or Wildcat WC-015-G04 S262625S; Bone Spring

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 Cimarex Energy Co.	
3. Address of Operator 202 S. Cheyenne Ave., Suite 1000, Tulsa OK 74103	
4. Well Location Unit Letter <u>A</u> : <u>525</u> feet from the <u>North</u> line and <u>270</u> feet from the <u>East</u> line Section <u>31</u> <u>26S</u> Township <u>27E</u> Range <u>NMPM</u> Eddy County	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3209	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☒	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: ☐		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.

Cimarex Respectfully requests approval to change the BHL of the Foxx 31 Federal Com 1H

Approved:
400' FNL & 330' FWL Sec 31 26S 27E

Proposed:
400' FNL & 100' FWL, Sec 31 26S 27E

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 07 2018

RECEIVED

Please see the attached C-102 and Directional Plan for changes due to the BHL move.

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 Amithy Crawford TITLE Regulatory Analyst DATE 8/7/2018
Type or print name Amithy Crawford E-mail address: acrawford@cimarex.com PHONE: 432-620-1909
For State Use Only

APPROVED BY: Raymond M. Bodany TITLE Geologist DATE 8-7-18
Conditions of Approval (if any):

Accepted For Record
NMOCD

8-9-18
RVP

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45039	² Pool Code 98018	³ Pool Name WC-015 G-04 S262625B; Bone Spring
⁴ Property Code	⁵ Property Name FOXX 31 FEDERAL COM	⁶ Well Number 1H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3209'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	31	26 S	27 E		525	NORTH	270	EAST	EDDY

¹¹ 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
1	31	26 S	27 E		400	NORTH	100	WEST	EDDY

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

¹⁶ NAD 83 (SURFACE HOLE LOCATION) LATITUDE = 32°00'15.72" (32.004367) LONGITUDE = 104°13'16.44" (104.221233) ¹⁶ NAD 27 (SURFACE HOLE LOCATION) LATITUDE = 32°00'15.28" (32.004244) LONGITUDE = 104°13'14.66" (104.220739) STATE PLANE NAD 83 (NM EAST) N: 365348.27 E: 576085.62 STATE PLANE NAD 27 (NM EAST) N: 365289.74 E: 534901.74	¹⁶ NAD 83 (BHL/LTP) LATITUDE = 32°00'16.96" (32.004710) LONGITUDE = 104°14'13.47" (104.237075) ¹⁶ NAD 27 (BHL/LTP) LATITUDE = 32°00'16.52" (32.004588) LONGITUDE = 104°14'11.69" (104.236581) STATE PLANE NAD 83 (NM EAST) N: 365466.24 E: 571174.94 STATE PLANE NAD 27 (NM EAST) N: 365409.76 E: 529991.21	LINE TABLE <table border="1"> <tr> <th>LINE</th><th>DIRECTION</th><th>LENGTH</th></tr> <tr> <td>L1</td><td>N00°11'05"E</td><td>124.78'</td></tr> </table>	LINE	DIRECTION	LENGTH	L1	N00°11'05"E	124.78'	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Amithy Crawford</i> 8/7/2018 Signature Date Amithy Crawford Printed Name acrawford@cimarex.com E-mail Address
LINE	DIRECTION	LENGTH							
L1	N00°11'05"E	124.78'							

The boundary lines shown on this exhibit are from a previous survey conducted by Nelson J. Marshall, R.P.L.S. 12446 while under employment of Uintah Engineering & Land Surveying. The surveyor signing this exhibit attests only to the revision noted and not to the validity or accuracy of said previous survey.

▲ = SECTION CORNERS LOCATED.
 ● = SURFACE HOLE LOCATION
 ◇ = LANDING POINT/FIRST TAKE POINT
 ○ = BOTTOM HOLE LOCATION/LAST TAKE POINT
 REVISED: 3 R.J. 07-29-18 (LP & BHL MOVE)

¹⁸ SURVEYOR CERTIFICATION
 I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
 September 28, 2017
 Date of Survey
 Signature and Seal of Professional Surveyor:

 Certificate Number:

NOTE:
 • Distances referenced on plat to section lines are perpendicular.
 • Basis of Bearing is a Transverse Mercator Projection with a Central Meridian of W104°11'35.28"

RVP 8-7-18 / 8-9-18



Cimarex

**Eddy County, NM (NAD 83)
(Foxy)SEC 31_T-26-S_R-27-E
Foxy 31 Fed Com #1H**

OWB

Plan: Plan #1

Standard Planning Report

30 July, 2018





Microsoft
Planning Report



Database: EDM 10_13
Company: Cimarex
Project: Eddy County, NM (NAD 83)
Site: (Foxy)SEC 31_T-26-S_R-27-E
Well: Foxx 31 Fed Com #1H
Wellbore: OWB
Design: Plan #1

Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	(Foxy)SEC 31_T-26-S_R-27-E				
Site Position:		Northing:	365,346.27 usft	Latitude:	32° 0' 15.723 N
From: Map		Easting:	576,085.62 usft	Longitude:	104° 13' 16.439 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.06 °

Well	Foxx 31 Fed Com #1H					
Well Position	+N/-S	0.0 usft	Northing:	365,346.27 usft	Latitude:	32° 0' 15.723 N
	+E/-W	0.0 usft	Easting:	576,085.62 usft	Longitude:	104° 13' 16.439 W
Position Uncertainty	0.0 usft	Wellhead Elevation:		Ground Level:	3,209.0 usft	

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	08/03/18	7.11	59.74	47,623.89574739

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	271.40	

Plan Survey Tool Program	Date 07/30/18				
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	12,125.6 Plan #1 (OWB)	MWD	OWSG MWD - Standard	

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	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,284.4	3.69	55.12	2,284.2	3.4	4.9	2.00	2.00	0.00	55.12	
5,322.2	3.69	55.12	5,315.8	115.1	165.1	0.00	0.00	0.00	0.00	
5,506.5	0.00	0.00	5,500.0	118.5	170.0	2.00	-2.00	0.00	180.00	
6,774.0	0.00	0.00	6,767.5	118.5	170.0	0.00	0.00	0.00	0.00	
7,357.4	70.00	270.02	7,216.2	118.6	-144.2	12.00	12.00	0.00	270.02	
7,523.5	89.94	270.02	7,245.0	118.7	-306.9	12.00	12.00	0.00	0.00	
12,125.6	89.94	270.02	7,250.0	120.2	-4,909.1	0.00	0.00	0.00	0.00	PBHL (Foxx 31 FC)



Database: EDM 10_13
Company: Cimarex
Project: Eddy County, NM (NAD 83)
Site: (Foxy)SEC 31_T-26-S_R-27-E
Well: Foxx 31 Fed Com #1H
Wellbore: OWB
Design: Plan #1

Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,245.0	0.00	0.00	1,245.0	0.0	0.0	0.0	0.00	0.00	0.00
Salado (Top Salt)									
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,704.0	0.00	0.00	1,704.0	0.0	0.0	0.0	0.00	0.00	0.00
Castille (Base Salt)									
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,925.0	0.00	0.00	1,925.0	0.0	0.0	0.0	0.00	0.00	0.00
Bell Canyon (Delaware)									
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
NUDGE- Build 2.00									
2,200.0	2.00	55.12	2,200.0	1.0	1.4	-1.4	2.00	2.00	0.00
2,284.4	3.69	55.12	2,284.2	3.4	4.9	-4.8	2.00	2.00	0.00
HOLD- 3037.8 at 2284.4 MD									
2,300.0	3.69	55.12	2,299.8	4.0	5.7	-5.6	0.00	0.00	0.00
2,400.0	3.69	55.12	2,399.6	7.6	11.0	-10.8	0.00	0.00	0.00
2,500.0	3.69	55.12	2,499.4	11.3	16.2	-16.0	0.00	0.00	0.00
2,600.0	3.69	55.12	2,599.2	15.0	21.5	-21.1	0.00	0.00	0.00
2,700.0	3.69	55.12	2,699.0	18.7	26.8	-26.3	0.00	0.00	0.00
2,800.0	3.69	55.12	2,798.8	22.4	32.1	-31.5	0.00	0.00	0.00
2,900.0	3.69	55.12	2,898.6	26.0	37.3	-36.7	0.00	0.00	0.00
2,923.5	3.69	55.12	2,922.0	26.9	38.6	-37.9	0.00	0.00	0.00
Cherry Canyon									
3,000.0	3.69	55.12	2,998.4	29.7	42.6	-41.9	0.00	0.00	0.00
3,100.0	3.69	55.12	3,098.2	33.4	47.9	-47.1	0.00	0.00	0.00
3,200.0	3.69	55.12	3,198.0	37.1	53.2	-52.2	0.00	0.00	0.00
3,300.0	3.69	55.12	3,297.8	40.7	58.4	-57.4	0.00	0.00	0.00
3,400.0	3.69	55.12	3,397.6	44.4	63.7	-62.6	0.00	0.00	0.00
3,500.0	3.69	55.12	3,497.4	48.1	69.0	-67.8	0.00	0.00	0.00
3,600.0	3.69	55.12	3,597.1	51.8	74.3	-73.0	0.00	0.00	0.00
3,700.0	3.69	55.12	3,696.9	55.5	79.6	-78.2	0.00	0.00	0.00
3,800.0	3.69	55.12	3,796.7	59.1	84.8	-83.4	0.00	0.00	0.00
3,900.0	3.69	55.12	3,896.5	62.8	90.1	-88.5	0.00	0.00	0.00
4,000.0	3.69	55.12	3,996.3	66.5	95.4	-93.7	0.00	0.00	0.00
4,054.8	3.69	55.12	4,051.0	68.5	98.3	-96.6	0.00	0.00	0.00



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MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
Brushy Canyon									
4,100.0	3.69	55.12	4,096.1	70.2	100.7	-98.9	0.00	0.00	0.00
4,200.0	3.69	55.12	4,195.9	73.8	105.9	-104.1	0.00	0.00	0.00
4,300.0	3.69	55.12	4,295.7	77.5	111.2	-109.3	0.00	0.00	0.00
4,400.0	3.69	55.12	4,395.5	81.2	116.5	-114.5	0.00	0.00	0.00
4,500.0	3.69	55.12	4,495.3	84.9	121.8	-119.6	0.00	0.00	0.00
4,600.0	3.69	55.12	4,595.1	88.6	127.0	-124.8	0.00	0.00	0.00
4,700.0	3.69	55.12	4,694.9	92.2	132.3	-130.0	0.00	0.00	0.00
4,800.0	3.69	55.12	4,794.7	95.9	137.6	-135.2	0.00	0.00	0.00
4,900.0	3.69	55.12	4,894.5	99.6	142.9	-140.4	0.00	0.00	0.00
5,000.0	3.69	55.12	4,994.3	103.3	148.1	-145.6	0.00	0.00	0.00
5,100.0	3.69	55.12	5,094.0	106.9	153.4	-150.7	0.00	0.00	0.00
5,200.0	3.69	55.12	5,193.8	110.6	158.7	-155.9	0.00	0.00	0.00
5,281.3	3.69	55.12	5,275.0	113.6	163.0	-160.2	0.00	0.00	0.00
Brushy Canyon Lower									
5,300.0	3.69	55.12	5,293.6	114.3	164.0	-161.1	0.00	0.00	0.00
5,322.2	3.69	55.12	5,315.8	115.1	165.1	-162.3	0.00	0.00	0.00
DROP - -2.00									
5,400.0	2.13	55.12	5,393.5	117.4	168.4	-165.5	2.00	-2.00	0.00
5,501.5	0.10	55.12	5,495.0	118.5	170.0	-167.0	2.00	-2.00	0.00
Bone Spring									
5,506.5	0.00	0.00	5,500.0	118.5	170.0	-167.0	2.00	-2.00	-1,102.42
HOLD- 1267.5 at 5506.5 MD									
5,600.0	0.00	0.00	5,593.5	118.5	170.0	-167.0	0.00	0.00	0.00
5,623.5	0.00	0.00	5,617.0	118.5	170.0	-167.0	0.00	0.00	0.00
Bone Spring "A" Shale									
5,700.0	0.00	0.00	5,693.5	118.5	170.0	-167.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,793.5	118.5	170.0	-167.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,893.5	118.5	170.0	-167.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,993.5	118.5	170.0	-167.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,093.5	118.5	170.0	-167.0	0.00	0.00	0.00
6,132.5	0.00	0.00	6,126.0	118.5	170.0	-167.0	0.00	0.00	0.00
Bone Spring "C" Shale									
6,200.0	0.00	0.00	6,193.5	118.5	170.0	-167.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,293.5	118.5	170.0	-167.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,393.5	118.5	170.0	-167.0	0.00	0.00	0.00
6,451.5	0.00	0.00	6,445.0	118.5	170.0	-167.0	0.00	0.00	0.00
1st Bone Spring Ss									
6,500.0	0.00	0.00	6,493.5	118.5	170.0	-167.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,593.5	118.5	170.0	-167.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,693.5	118.5	170.0	-167.0	0.00	0.00	0.00
6,774.0	0.00	0.00	6,767.5	118.5	170.0	-167.0	0.00	0.00	0.00
KOP- Build 12.00									
6,800.0	3.11	270.02	6,793.4	118.5	169.3	-166.3	12.00	12.00	0.00
6,825.0	6.11	270.02	6,818.4	118.5	167.3	-164.3	12.00	12.00	0.00
6,850.0	9.11	270.02	6,843.1	118.5	164.0	-161.0	12.00	12.00	0.00
6,875.0	12.11	270.02	6,867.7	118.5	159.4	-156.4	12.00	12.00	0.00
6,900.0	15.11	270.02	6,892.0	118.5	153.5	-150.5	12.00	12.00	0.00
6,915.6	16.99	270.02	6,907.0	118.5	149.2	-146.2	12.00	12.00	0.00
2nd Bone Spring Ss									
6,925.0	18.11	270.02	6,916.0	118.5	146.3	-143.4	12.00	12.00	0.00
6,950.0	21.11	270.02	6,939.5	118.5	137.9	-135.0	12.00	12.00	0.00
6,975.0	24.11	270.02	6,962.6	118.5	128.3	-125.4	12.00	12.00	0.00



Microsoft
Planning Report



Database: EDM 10_13
Company: Cimarex
Project: Eddy County, NM (NAD 83)
Site: (Foxy)SEC 31_T-26-S_R-27-E
Well: Foxx 31 Fed Com #1H
Wellbore: OWB
Design: Plan #1

Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
7,000.0	27.11	270.02	6,985.1	118.5	117.5	-114.6	12.00	12.00	0.00
7,025.0	30.11	270.02	7,007.1	118.5	105.6	-102.6	12.00	12.00	0.00
7,050.0	33.11	270.02	7,028.3	118.5	92.4	-89.5	12.00	12.00	0.00
7,075.0	36.11	270.02	7,048.9	118.5	78.2	-75.3	12.00	12.00	0.00
7,100.0	39.11	270.02	7,068.7	118.5	63.0	-60.1	12.00	12.00	0.00
7,125.0	42.11	270.02	7,087.7	118.5	46.7	-43.8	12.00	12.00	0.00
7,150.0	45.11	270.02	7,105.8	118.5	29.5	-26.6	12.00	12.00	0.00
7,175.0	48.11	270.02	7,123.0	118.6	11.3	-8.4	12.00	12.00	0.00
7,200.0	51.11	270.02	7,139.2	118.6	-7.7	10.6	12.00	12.00	0.00
7,225.0	54.11	270.02	7,154.3	118.6	-27.6	30.5	12.00	12.00	0.00
7,250.0	57.11	270.02	7,168.5	118.6	-48.2	51.1	12.00	12.00	0.00
7,275.0	60.11	270.02	7,181.5	118.6	-69.6	72.4	12.00	12.00	0.00
7,300.0	63.11	270.02	7,193.4	118.6	-91.6	94.4	12.00	12.00	0.00
7,325.0	66.11	270.02	7,204.1	118.6	-114.1	117.0	12.00	12.00	0.00
7,350.0	69.11	270.02	7,213.6	118.6	-137.3	140.1	12.00	12.00	0.00
7,357.4	70.00	270.02	7,216.2	118.6	-144.2	147.0	12.00	12.00	0.00
BLD- DLS 12.00 TFO 0.00									
7,359.8	70.29	270.02	7,217.0	118.6	-146.5	149.3	12.00	12.00	0.00
2nd BS Ss Horz Target									
7,375.0	72.11	270.02	7,221.9	118.6	-160.8	163.7	12.00	12.00	0.00
7,400.0	75.11	270.02	7,228.9	118.6	-184.8	187.7	12.00	12.00	0.00
7,425.0	78.11	270.02	7,234.7	118.6	-209.1	212.0	12.00	12.00	0.00
7,450.0	81.11	270.02	7,239.2	118.6	-233.7	236.6	12.00	12.00	0.00
7,475.0	84.11	270.02	7,242.4	118.6	-258.5	261.3	12.00	12.00	0.00
7,500.0	87.11	270.02	7,244.4	118.7	-283.4	286.3	12.00	12.00	0.00
7,523.5	89.94	270.02	7,245.0	118.7	-306.9	309.8	12.00	12.00	0.00
EOC- 4602.1 hold at 7523.5 MD									
7,600.0	89.94	270.02	7,245.0	118.7	-383.4	386.2	0.00	0.00	0.00
7,700.0	89.94	270.02	7,245.2	118.7	-483.4	486.2	0.00	0.00	0.00
7,800.0	89.94	270.02	7,245.3	118.8	-583.4	586.2	0.00	0.00	0.00
7,900.0	89.94	270.02	7,245.4	118.8	-683.4	686.1	0.00	0.00	0.00
8,000.0	89.94	270.02	7,245.5	118.8	-783.4	786.1	0.00	0.00	0.00
8,100.0	89.94	270.02	7,245.6	118.9	-883.4	886.1	0.00	0.00	0.00
8,200.0	89.94	270.02	7,245.7	118.9	-983.4	986.0	0.00	0.00	0.00
8,300.0	89.94	270.02	7,245.8	118.9	-1,083.4	1,086.0	0.00	0.00	0.00
8,400.0	89.94	270.02	7,245.9	119.0	-1,183.4	1,186.0	0.00	0.00	0.00
8,500.0	89.94	270.02	7,246.0	119.0	-1,283.4	1,285.9	0.00	0.00	0.00
8,600.0	89.94	270.02	7,246.1	119.0	-1,383.4	1,385.9	0.00	0.00	0.00
8,700.0	89.94	270.02	7,246.3	119.1	-1,483.4	1,485.9	0.00	0.00	0.00
8,800.0	89.94	270.02	7,246.4	119.1	-1,583.4	1,585.9	0.00	0.00	0.00
8,900.0	89.94	270.02	7,246.5	119.1	-1,683.4	1,685.8	0.00	0.00	0.00
9,000.0	89.94	270.02	7,246.6	119.2	-1,783.4	1,785.8	0.00	0.00	0.00
9,100.0	89.94	270.02	7,246.7	119.2	-1,883.4	1,885.8	0.00	0.00	0.00
9,200.0	89.94	270.02	7,246.8	119.2	-1,983.4	1,985.7	0.00	0.00	0.00
9,300.0	89.94	270.02	7,246.9	119.3	-2,083.4	2,085.7	0.00	0.00	0.00
9,400.0	89.94	270.02	7,247.0	119.3	-2,183.4	2,185.7	0.00	0.00	0.00
9,500.0	89.94	270.02	7,247.1	119.3	-2,283.4	2,285.7	0.00	0.00	0.00
9,600.0	89.94	270.02	7,247.2	119.4	-2,383.4	2,385.6	0.00	0.00	0.00
9,700.0	89.94	270.02	7,247.3	119.4	-2,483.4	2,485.6	0.00	0.00	0.00
9,800.0	89.94	270.02	7,247.5	119.4	-2,583.4	2,585.6	0.00	0.00	0.00
9,900.0	89.94	270.02	7,247.6	119.5	-2,683.4	2,685.5	0.00	0.00	0.00
10,000.0	89.94	270.02	7,247.7	119.5	-2,783.4	2,785.5	0.00	0.00	0.00
10,100.0	89.94	270.02	7,247.8	119.5	-2,883.4	2,885.5	0.00	0.00	0.00



Database: EDM 10_13
Company: Cimarex
Project: Eddy County, NM (NAD 83)
Site: (Foxy)SEC 31_T-26-S_R-27-E
Well: Foxx 31 Fed Com #1H
Wellbore: OWB
Design: Plan #1

Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
10,200.0	89.94	270.02	7,247.9	119.6	-2,983.4	2,985.5	0.00	0.00	0.00
10,300.0	89.94	270.02	7,248.0	119.6	-3,083.4	3,085.4	0.00	0.00	0.00
10,400.0	89.94	270.02	7,248.1	119.6	-3,183.4	3,185.4	0.00	0.00	0.00
10,500.0	89.94	270.02	7,248.2	119.7	-3,283.4	3,285.4	0.00	0.00	0.00
10,600.0	89.94	270.02	7,248.3	119.7	-3,383.4	3,385.3	0.00	0.00	0.00
10,700.0	89.94	270.02	7,248.4	119.7	-3,483.4	3,485.3	0.00	0.00	0.00
10,800.0	89.94	270.02	7,248.5	119.8	-3,583.4	3,585.3	0.00	0.00	0.00
10,900.0	89.94	270.02	7,248.7	119.8	-3,683.4	3,685.2	0.00	0.00	0.00
11,000.0	89.94	270.02	7,248.8	119.8	-3,783.4	3,785.2	0.00	0.00	0.00
11,100.0	89.94	270.02	7,248.9	119.9	-3,883.4	3,885.2	0.00	0.00	0.00
11,200.0	89.94	270.02	7,249.0	119.9	-3,983.4	3,985.2	0.00	0.00	0.00
11,300.0	89.94	270.02	7,249.1	119.9	-4,083.4	4,085.1	0.00	0.00	0.00
11,400.0	89.94	270.02	7,249.2	119.9	-4,183.4	4,185.1	0.00	0.00	0.00
11,500.0	89.94	270.02	7,249.3	120.0	-4,283.4	4,285.1	0.00	0.00	0.00
11,600.0	89.94	270.02	7,249.4	120.0	-4,383.4	4,385.0	0.00	0.00	0.00
11,700.0	89.94	270.02	7,249.5	120.0	-4,483.4	4,485.0	0.00	0.00	0.00
11,800.0	89.94	270.02	7,249.6	120.1	-4,583.4	4,585.0	0.00	0.00	0.00
11,900.0	89.94	270.02	7,249.8	120.1	-4,683.4	4,685.0	0.00	0.00	0.00
12,000.0	89.94	270.02	7,249.9	120.1	-4,783.4	4,784.9	0.00	0.00	0.00
12,100.0	89.94	270.02	7,250.0	120.2	-4,883.4	4,884.9	0.00	0.00	0.00
12,125.6	89.94	270.02	7,250.0	120.2	-4,909.1	4,910.5	0.00	0.00	0.00
TD at 12125.6									

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									
Vertical Box- 20' W, 2	0.00	0.00	0.0	0.0	0.0	365,346.27	576,085.62	32° 0' 15.723 N	104° 13' 16.439 W
- plan hits target center									
- Rectangle (sides W240.0 H230.0 D0.0)									
SHL, 270' FEL, 525' F	0.00	0.00	0.0	0.0	0.0	365,346.27	576,085.62	32° 0' 15.723 N	104° 13' 16.439 W
- plan hits target center									
- Point									
PBHL (Foxx 31 FC #1	-0.06	90.02	7,250.0	120.2	-4,909.1	365,466.46	571,176.56	32° 0' 16.959 N	104° 14' 13.451 W
- plan hits target center									
- Rectangle (sides W50.0 H4,600.0 D20.0)									



Database: EDM 10_13
Company: Cimarex
Project: Eddy County, NM (NAD 83)
Site: (Foxy)SEC 31_T-26-S_R-27-E
Well: Foxx 31 Fed Com #1H
Wellbore: OWB
Design: Plan #1

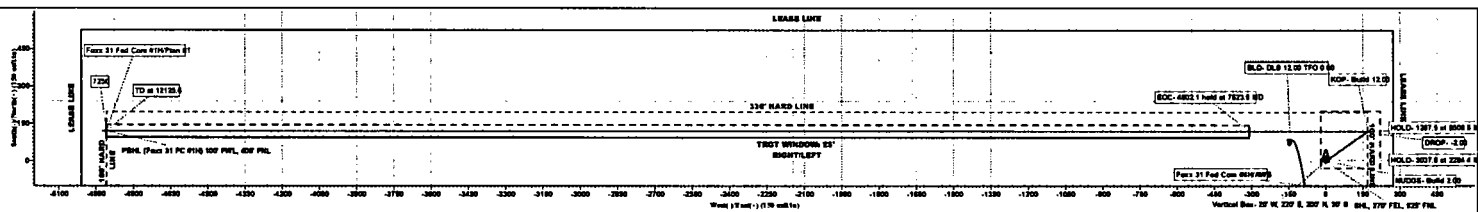
Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,245.0	1,245.0	Salado (Top Salt)			
1,704.0	1,704.0	Castille (Base Salt)			
1,925.0	1,925.0	Bell Canyon (Delaware)			
2,923.5	2,922.0	Cherry Canyon			
4,054.8	4,051.0	Brushy Canyon			
5,281.3	5,275.0	Brushy Canyon Lower			
5,501.5	5,495.0	Bone Spring			
5,623.5	5,617.0	Bone Spring "A" Shale			
6,132.5	6,126.0	Bone Spring "C" Shale			
6,451.5	6,445.0	1st Bone Spring Ss			
6,915.6	6,907.0	2nd Bone Spring Ss			
7,359.8	7,217.0	2nd BS Ss Horz Target			

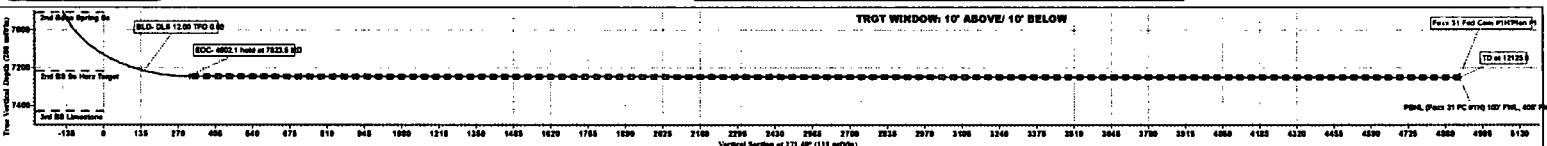
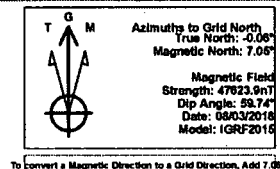
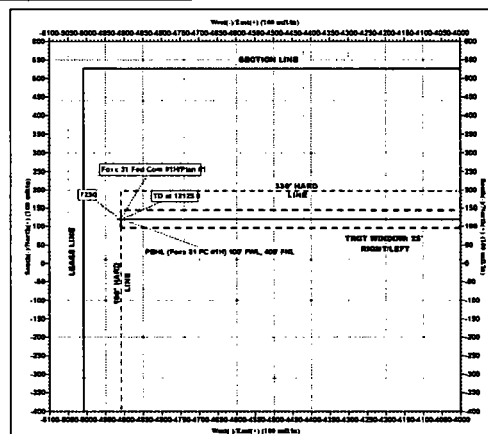
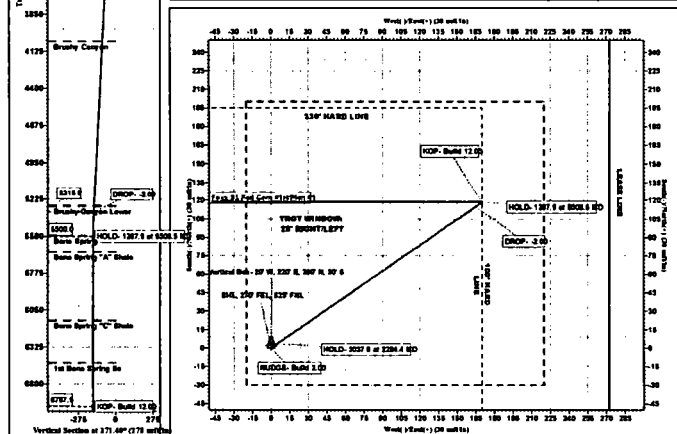
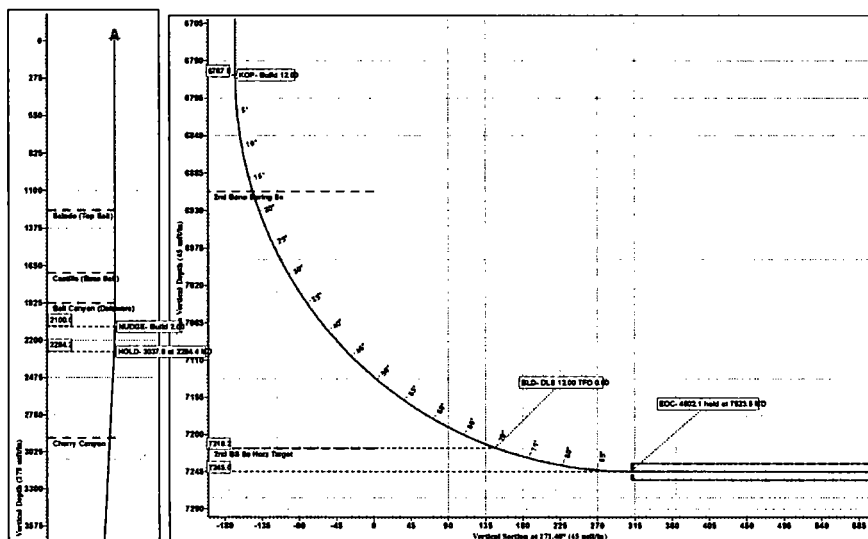
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,100.0	2,100.0	0.0	0.0	NUDGE- Build 2.00
2,284.4	2,284.2	3.4	4.9	HOLD- 3037.8 at 2284.4 MD
5,322.2	5,315.8	115.1	165.1	DROP- -2.00
5,506.5	5,500.0	118.5	170.0	HOLD- 1267.5 at 5506.5 MD
6,774.0	6,767.5	118.5	170.0	KOP- Build 12.00
7,357.4	7,216.2	118.6	-144.2	BLD- DLS 12.00 TFO 0.00
7,523.5	7,245.0	118.7	-306.9	EOC- 4602.1 hold at 7523.5 MD
12,125.6	7,250.0	120.2	-4,909.1	TD at 12125.6



Cimarex
Project: Eddy County, NM (NAD 83)
Site: (Fox) SEC 31, T-28-S, R-27-E
Well: Fox 31 Fed Com #1H
Wellbore: OWB
Design: Plan #1
Lat: 32° 0' 15.723 N
Long: 104° 13' 18.430 W
Pad GL: 3209.0
KB: KB @ 3233.0usft (H&P 393)

WELL DETAILS: Fox 31 Fed Com #1H									
	+N/-S	+E/-W	3209.0	3233.0	3233.0	3233.0	3233.0	3233.0	3233.0
	0.0	0.0	368348.27	678088.62	32° 0' 15.723 N	104° 13' 18.430 W			
SECTION DETAILS									
MD	Inc	At	TVD	+N/-S	+E/-W	Diag TFace	VFace		Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2189.0	0.00	0.00	2189.0	0.0	0.0	0.00	0.00	0.0	MUDGE: Build 2.00
2284.4	3.89	65.12	2284.2	3.4	4.9	2.00	65.12	-4.8	HOLD- 3037.8 at 2284.4 MD
8322.2	3.89	65.12	8318.8	118.1	188.1	0.00	0.00	-162.3	DROP- -2.00
8508.6	0.00	0.00	8508.0	118.8	170.0	2.00	180.00	-167.0	HOLD- 1267.8 at 8508.6 MD
8774.0	0.00	0.00	8767.8	118.8	170.0	0.00	0.00	-167.0	KOP- Build 12.00
7567.4	70.00	270.02	7216.2	118.8	-164.2	12.00	270.02	167.0	SLD-DLS 12.00 TPO 0.0
7623.5	89.94	270.02	7248.0	118.7	-306.9	12.00	0.00	306.9	EOC- 4802.1 hold at 7623.5 MD
12126.0	89.94	270.02	7250.0	120.2	-4909.1	0.00	0.00	4910.9	TD at 12126.0
DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	3209.0	3233.0	3233.0	3233.0	3233.0	3233.0
SHL, 270° FEL, 625° FHL	0.0	0.0	0.0	368348.27	678088.62				
Vertical Bsc: 20° W, 220° S, 200° N, 30° S	0.0	0.0	0.0	368348.27	678088.62				
PSHL (Fox 31 PC #1H) 100° FHL, 408° FHL	0.0	0.0	0.0	368348.27	678088.62				
FORMATION TOPS									
TVDPath	MDPath	Formation	DipAngle	DipDir					
1248.0	1248.0	Salado (Top Salt)							
1704.0	1704.0	Castile (Base Salt)							
1925.0	1925.0	Castile (Base Salt)							
2922.0	2922.0	Cherry Canyon							
4081.0	4081.0	Brushy Canyon							
5276.0	5276.0	Brushy Canyon Lower							
6488.0	6488.0	Bone Spring							
6817.0	6817.0	Bone Spring "A" Shale							
6128.0	6128.0	Bone Spring "C" Shale							
6448.0	6448.0	1st Bone Spring Ss							
6907.0	6907.0	2nd Bone Spring Ss							
7217.0	7217.0	2nd Bone Spring Ss							





Cimarex

**Eddy County, NM (NAD 83)
(Foxx)SEC 31_T-26-S_R-27-E
Foxx 31 Fed Com #1H**

**OWB
Plan #1**

Anticollision Report

30 July, 2018





Company: Cimarex
Project: Eddy County, NM (NAD 83)
Reference Site: (Foxy)SEC 31_T-26-S_R-27-E
Site Error: 0.0 usft
Reference Well: Foxx 31 Fed Com #1H
Well Error: 0.0 usft
Reference Wellbore: OWB
Reference Design: Plan #1

Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 10_13
Offset TVD Reference: Offset Datum

Reference	Plan #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.0usft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 1,500.0 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program Date 07/30/18

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	12,125.6	Plan #1 (OWB)	MWD	OWSG MWD - Standard

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
(Foxy)SEC 31_T-26-S_R-27-E						
Foxx 31 Fed Com #4H - OWB - AWB	2,964.2	2,976.6	150.1	132.3	8.432	CC, ES
Foxx 31 Fed Com #4H - OWB - AWB	12,000.0	12,007.0	1,307.3	1,071.5	5.543	SF

Offset Design:(Foxy)SEC 31_T-26-S_R-27-E - Foxx 31 Fed Com #4H - OWB - AWB

Survey Program: 149-MWD, 1968-MWD							Rule Assigned:							Offset Site Error: 0.0 usft	
Reference Offset				Semi Major Axis			Offset Wellbore Centre			Distance				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-64.06	71.2	-146.4	162.8						
100.0	100.0	98.8	98.8	0.1	0.2	-63.91	71.9	-146.8	163.5	163.2	0.28	575.986			
200.0	200.0	197.7	197.7	0.5	0.4	-63.51	73.7	-147.9	165.2	164.3	0.89	185.532			
300.0	300.0	297.6	297.6	0.8	0.8	-63.06	75.7	-149.0	167.2	165.6	1.61	104.055			
400.0	400.0	397.4	397.3	1.2	1.1	-62.53	78.1	-150.2	169.3	167.0	2.32	72.887			
500.0	500.0	497.5	497.4	1.6	1.5	-61.99	80.5	-151.3	171.4	168.4	3.04	56.364			
600.0	600.0	597.0	596.8	1.9	1.8	-61.37	83.1	-152.3	173.6	169.8	3.76	46.201			
700.0	700.0	697.9	697.7	2.3	2.2	-60.65	86.2	-153.2	175.8	171.4	4.48	39.290			
800.0	800.0	800.3	800.1	2.6	2.6	-60.66	86.6	-154.1	176.8	171.6	5.19	34.069			
900.0	900.0	900.8	900.5	3.0	2.9	-61.05	85.7	-155.0	177.1	171.2	5.89	30.066			
1,000.0	1,000.0	1,001.2	1,001.0	3.4	3.2	-61.38	84.9	-155.6	177.2	170.6	6.59	26.888			
1,100.0	1,100.0	1,101.3	1,101.1	3.7	3.6	-61.58	84.3	-155.7	177.1	169.8	7.29	24.287			
1,200.0	1,200.0	1,202.4	1,202.2	4.1	3.9	-61.61	84.0	-155.5	176.7	168.7	7.99	22.108			
1,300.0	1,300.0	1,303.6	1,303.4	4.4	4.3	-61.26	84.5	-154.0	175.7	167.0	8.70	20.199			
1,400.0	1,400.0	1,404.9	1,404.6	4.8	4.6	-60.42	85.7	-151.1	173.8	164.4	9.40	18.476			
1,500.0	1,500.0	1,502.8	1,502.4	5.2	5.0	-60.11	85.9	-149.5	172.5	162.4	10.10	17.073			
1,600.0	1,600.0	1,605.8	1,605.5	5.5	5.3	-59.94	85.5	-147.7	170.7	159.9	10.81	15.789			
1,700.0	1,700.0	1,707.4	1,707.0	5.9	5.7	-59.36	85.1	-143.7	167.1	155.6	11.52	14.504			
1,800.0	1,800.0	1,805.6	1,805.1	6.2	6.0	-58.97	84.6	-140.7	164.3	152.0	12.23	13.435			
1,900.0	1,900.0	1,905.1	1,904.6	6.6	6.2	-58.74	83.9	-138.2	161.7	148.9	12.81	12.625			
2,000.0	2,000.0	2,004.3	2,003.7	6.9	6.4	-58.60	83.2	-136.3	159.8	146.5	13.29	12.019			
2,100.0	2,100.0	2,103.9	2,103.3	7.3	6.4	-58.52	82.6	-134.8	158.1	144.4	13.68	11.557			
2,193.3	2,193.3	2,196.9	2,196.3	7.6	6.4	-114.10	82.0	-133.6	157.4	143.3	14.06	11.194			
2,200.0	2,200.0	2,203.5	2,202.9	7.7	6.4	-114.17	82.0	-133.5	157.4	143.3	14.09	11.172			
2,300.0	2,299.8	2,302.9	2,302.3	8.0	6.5	-115.77	81.6	-132.4	158.4	143.9	14.51	10.920			

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



Company: Cimarex
Project: Eddy County, NM (NAD 83)
Reference Site: (Foxy)SEC 31_T-26-S_R-27-E
Site Error: 0.0 usft
Reference Well: Foxx 31 Fed Com #1H
Well Error: 0.0 usft
Reference Wellbore: OWB
Reference Design: Plan #1

Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 10_13
Offset TVD Reference: Offset Datum

Offset Design:(Foxy)SEC 31_T-26-S_R-27-E - Foxx 31 Fed Com #4H - OWB - AWB														Offset Site Error: 0.0 usft
Survey Program: 149-MWD, 1988-MWD														Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
2,400.0	2,399.6	2,402.3	2,401.8	8.4	6.6	-117.71	81.4	-131.5	160.5	145.5	14.95	10.735		
2,500.0	2,499.4	2,506.5	2,505.9	8.7	6.7	-119.80	80.7	-130.0	162.0	146.6	15.41	10.516		
2,600.0	2,599.2	2,610.6	2,609.8	9.1	6.8	-122.73	76.3	-126.3	160.3	144.5	15.87	10.102		
2,700.0	2,699.0	2,713.3	2,712.0	9.4	7.0	-127.22	67.2	-122.1	157.1	140.7	16.36	9.604		
2,800.0	2,798.8	2,813.6	2,811.4	9.8	7.2	-133.20	54.3	-117.5	153.4	136.5	16.87	9.092		
2,900.0	2,898.6	2,913.5	2,909.9	10.1	7.3	-140.65	38.0	-112.5	150.7	133.3	17.42	8.653		
2,964.2	2,962.7	2,976.6	2,971.6	10.4	7.5	-146.23	25.6	-109.1	150.1	132.3	17.80	8.432 CC, ES		
3,000.0	2,998.4	3,011.3	3,005.4	10.5	7.6	-149.61	18.0	-107.1	150.3	132.3	18.01	8.346		
3,100.0	3,098.2	3,106.0	3,097.0	10.9	7.8	-159.60	-5.4	-101.7	154.6	136.0	18.62	8.304		
3,200.0	3,198.0	3,199.1	3,186.2	11.2	8.1	-169.67	-31.6	-96.6	165.2	146.0	19.19	8.609		
3,300.0	3,297.8	3,293.3	3,276.0	11.6	8.4	-178.82	-59.3	-91.6	181.8	162.0	19.76	9.198		
3,400.0	3,397.6	3,389.0	3,367.6	12.0	8.7	173.69	-86.9	-86.7	202.1	181.7	20.34	9.932		
3,500.0	3,497.4	3,485.3	3,460.0	12.3	9.1	167.84	-113.4	-82.2	224.5	203.6	20.94	10.720		
3,600.0	3,597.1	3,582.9	3,554.2	12.7	9.4	163.33	-138.8	-78.2	248.0	226.4	21.57	11.495		
3,700.0	3,696.9	3,676.8	3,644.6	13.0	9.8	159.59	-163.5	-73.8	272.6	250.4	22.15	12.303		
3,800.0	3,796.7	3,771.7	3,735.8	13.4	10.2	156.25	-189.3	-68.8	298.5	275.8	22.76	13.116		
3,900.0	3,896.5	3,868.8	3,829.1	13.8	10.6	153.23	-215.8	-62.8	325.0	301.6	23.41	13.883		
4,000.0	3,996.3	3,967.9	3,924.4	14.1	11.1	150.63	-242.2	-56.5	351.7	327.6	24.10	14.593		
4,100.0	4,096.1	4,078.0	4,030.8	14.5	11.6	148.01	-269.2	-47.1	376.0	351.1	24.93	15.086		
4,200.0	4,195.9	4,181.1	4,130.9	14.9	12.0	145.89	-291.8	-37.4	398.2	372.6	25.66	15.521		
4,300.0	4,295.7	4,275.0	4,222.0	15.2	12.4	144.05	-312.0	-27.7	420.2	393.9	26.29	15.987		
4,400.0	4,395.5	4,363.2	4,307.4	15.6	12.8	142.49	-332.5	-19.0	444.3	417.4	26.86	16.541		
4,500.0	4,495.3	4,452.6	4,393.5	16.0	13.3	140.98	-354.6	-9.9	470.1	442.6	27.45	17.127		
4,600.0	4,595.1	4,538.2	4,475.4	16.3	13.7	139.51	-377.4	-0.3	497.8	469.8	27.99	17.784		
4,700.0	4,694.9	4,617.9	4,551.3	16.7	14.1	138.29	-400.5	7.9	528.3	499.9	28.46	18.563		
4,800.0	4,794.7	4,708.0	4,636.7	17.1	14.6	137.23	-428.1	15.2	561.1	532.0	29.08	19.292		
4,900.0	4,894.5	4,803.6	4,727.6	17.4	15.1	136.39	-457.3	21.2	594.2	564.4	29.79	19.948		
5,000.0	4,994.3	4,907.1	4,826.4	17.8	15.7	135.69	-487.5	27.0	626.2	595.6	30.59	20.469		
5,100.0	5,094.0	5,010.3	4,925.4	18.2	16.2	135.14	-516.3	32.0	657.2	625.8	31.39	20.938		
5,200.0	5,193.8	5,120.2	5,031.4	18.5	16.8	134.60	-544.5	38.2	685.9	653.6	32.25	21.266		
5,300.0	5,293.6	5,209.9	5,117.7	18.9	17.2	133.99	-567.8	45.5	714.5	681.6	32.89	21.725		
5,400.0	5,393.5	5,297.1	5,201.1	19.3	17.7	133.54	-591.5	54.9	743.4	709.9	33.49	22.195		
5,500.0	5,493.5	5,382.9	5,282.8	19.6	18.2	133.04	-615.9	64.3	771.5	737.4	34.07	22.643		
5,600.0	5,593.5	5,476.8	5,372.2	20.0	18.7	-172.80	-643.0	73.8	799.0	764.3	34.74	23.001		
5,700.0	5,693.5	5,559.0	5,450.5	20.3	19.2	-173.47	-667.3	80.0	827.7	792.4	35.27	23.468		
5,800.0	5,793.5	5,719.8	5,605.2	20.7	20.0	-174.40	-710.1	88.8	853.8	817.2	36.64	23.300		
5,900.0	5,893.5	5,851.7	5,734.0	21.0	20.7	-175.14	-737.2	97.2	873.7	836.0	37.62	23.222		
6,000.0	5,993.5	5,938.0	5,818.3	21.4	21.1	-175.66	-754.7	103.8	893.2	855.0	38.22	23.370		
6,100.0	6,093.5	6,000.6	5,879.1	21.7	21.4	-176.01	-768.8	108.2	915.1	876.5	38.61	23.703		
6,200.0	6,193.5	6,074.7	5,950.7	22.1	21.8	-176.36	-787.6	112.4	940.0	900.9	39.08	24.052		
6,300.0	6,293.5	6,158.1	6,030.8	22.5	22.2	-176.67	-810.1	116.1	966.7	927.1	39.65	24.383		
6,400.0	6,393.5	6,244.4	6,113.7	22.8	22.7	-176.93	-834.1	118.9	994.4	954.1	40.24	24.709		
6,500.0	6,493.5	6,325.5	6,191.3	23.2	23.1	-177.12	-857.7	120.9	1,023.4	982.6	40.79	25.090		
6,600.0	6,593.5	6,410.0	6,271.8	23.5	23.6	-177.40	-883.0	124.5	1,053.1	1,011.8	41.37	25.457		
6,700.0	6,693.5	6,493.8	6,351.3	23.9	24.1	-177.76	-908.9	129.9	1,083.9	1,042.0	41.95	25.838		
6,800.0	6,793.4	6,568.7	6,421.9	24.2	24.6	-87.06	-933.4	135.2	1,116.4	1,074.0	42.43	26.314		
6,900.0	6,892.0	6,645.2	6,493.5	24.5	25.1	-83.87	-959.5	141.0	1,149.7	1,106.8	42.86	26.826		
7,000.0	6,985.1	6,799.2	6,638.4	24.8	26.0	-83.61	-1,010.5	153.0	1,181.9	1,137.7	44.14	26.779		
7,100.0	7,068.7	6,873.0	6,708.9	25.1	26.4	-82.37	-1,031.8	157.4	1,209.3	1,164.7	44.54	27.148		
7,200.0	7,139.2	6,972.1	6,803.0	25.4	27.0	-82.17	-1,061.7	151.1	1,237.7	1,192.4	45.29	27.326		
7,300.0	7,193.4	7,310.4	7,079.7	25.8	28.0	-87.01	-1,138.9	-11.0	1,265.3	1,218.0	47.32	26.740		
7,400.0	7,228.9	7,371.2	7,116.5	26.3	28.1	-86.52	-1,146.5	-58.8	1,276.4	1,228.4	48.00	26.591		

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



Microsoft
Anticollision Report



Company: Cimarex
Project: Eddy County, NM (NAD 83)
Reference Site: (Foxy)SEC 31_T-26-S_R-27-E
Site Error: 0.0 usft
Reference Well: Foxx 31 Fed Com #1H
Well Error: 0.0 usft
Reference Wellbore: OWB
Reference Design: Plan #1

Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 10_13
Offset TVD Reference: Offset Datum

Offset Design:(Foxy)SEC 31_T-26-S_R-27-E - Foxx 31 Fed Com #4H - OWB - AWB

Survey Program: 149-MWD, 1988-MWD									Rule Assigned:				Offset Well Error:		0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
7,500.0	7,244.4	7,562.7	7,181.9	27.0	28.3	-87.28	-1,164.1	-236.4	1,285.2	1,235.5	49.62	25.897			
7,600.0	7,245.0	7,728.8	7,189.1	27.8	28.4	-87.47	-1,165.1	-402.0	1,285.2	1,233.4	51.77	24.824			
7,700.0	7,245.2	7,831.1	7,188.4	28.8	28.7	-87.42	-1,163.4	-504.2	1,283.6	1,229.7	53.87	23.830			
7,800.0	7,245.3	7,927.1	7,189.3	30.0	29.3	-87.46	-1,162.0	-600.2	1,282.1	1,225.9	56.24	22.797			
7,900.0	7,245.4	8,021.2	7,191.5	31.3	30.0	-87.55	-1,161.1	-694.3	1,281.1	1,222.2	58.89	21.753			
8,000.0	7,245.5	8,116.7	7,194.6	32.7	31.1	-87.68	-1,160.6	-789.8	1,280.5	1,218.7	61.81	20.716			
8,100.0	7,245.6	8,219.2	7,197.6	34.3	32.5	-87.81	-1,160.2	-892.2	1,280.1	1,215.0	65.05	19.679			
8,200.0	7,245.7	8,320.8	7,200.5	36.0	34.1	-87.93	-1,159.4	-993.7	1,279.2	1,210.7	68.46	18.685			
8,273.9	7,245.8	8,382.9	7,202.3	37.2	35.1	-88.01	-1,159.1	-1,055.8	1,278.8	1,207.9	70.92	18.032			
8,300.0	7,245.8	8,400.1	7,202.8	37.7	35.4	-88.03	-1,159.2	-1,073.0	1,279.0	1,207.2	71.73	17.830			
8,400.0	7,245.9	8,469.0	7,204.6	39.5	36.6	-88.11	-1,160.8	-1,141.9	1,281.1	1,206.2	74.96	17.092			
8,500.0	7,246.0	8,569.1	7,207.4	41.4	38.5	-88.24	-1,164.1	-1,241.9	1,284.4	1,205.6	78.77	16.307			
8,600.0	7,246.1	8,668.9	7,210.3	43.3	40.4	-88.37	-1,167.5	-1,341.6	1,287.7	1,205.0	82.68	15.575			
8,700.0	7,246.3	8,770.1	7,213.5	45.3	42.4	-88.51	-1,170.8	-1,442.6	1,290.9	1,204.2	86.71	14.889			
8,800.0	7,246.4	8,871.3	7,216.4	47.3	44.5	-88.63	-1,174.0	-1,543.8	1,294.1	1,203.3	90.82	14.249			
8,900.0	7,246.5	8,973.2	7,218.5	49.4	46.6	-88.73	-1,177.1	-1,645.6	1,297.1	1,202.1	95.01	13.652			
9,000.0	7,246.6	9,113.1	7,221.8	51.4	49.5	-88.87	-1,179.8	-1,785.5	1,299.2	1,199.3	99.89	13.006			
9,100.0	7,246.7	9,221.8	7,224.3	53.6	51.8	-88.97	-1,179.2	-1,894.1	1,298.6	1,194.3	104.32	12.449			
9,200.0	7,246.8	9,317.3	7,225.6	55.7	53.9	-89.03	-1,178.6	-1,989.6	1,298.1	1,189.5	108.59	11.953			
9,300.0	7,246.9	9,426.3	7,226.8	57.9	56.3	-89.07	-1,177.7	-2,098.6	1,297.2	1,184.1	113.12	11.468			
9,400.0	7,247.0	9,525.7	7,227.8	60.1	58.4	-89.11	-1,176.5	-2,197.9	1,296.0	1,178.5	117.53	11.027			
9,500.0	7,247.1	9,621.8	7,228.9	62.3	60.6	-89.15	-1,175.7	-2,294.0	1,295.2	1,173.3	121.93	10.623			
9,600.0	7,247.2	9,724.6	7,229.8	64.5	62.9	-89.19	-1,174.7	-2,396.9	1,294.3	1,167.8	126.46	10.235			
9,700.0	7,247.3	9,826.8	7,230.2	66.7	65.2	-89.20	-1,173.6	-2,499.1	1,293.2	1,162.2	131.01	9.871			
9,800.0	7,247.5	9,928.7	7,230.2	69.0	67.5	-89.19	-1,172.2	-2,601.0	1,291.9	1,156.3	135.57	9.529			
9,900.0	7,247.6	10,029.6	7,230.2	71.2	69.8	-89.19	-1,170.9	-2,701.9	1,290.6	1,150.4	140.15	9.209			
10,000.0	7,247.7	10,127.7	7,230.3	73.5	72.0	-89.19	-1,169.5	-2,799.9	1,289.2	1,144.5	144.70	8.910			
10,100.0	7,247.8	10,221.4	7,230.4	75.8	74.2	-89.19	-1,168.5	-2,893.6	1,288.2	1,139.0	149.19	8.634			
10,200.0	7,247.9	10,325.8	7,231.2	78.1	76.6	-89.22	-1,167.7	-2,998.0	1,287.4	1,133.5	153.88	8.367			
10,300.0	7,248.0	10,421.6	7,231.7	80.4	78.8	-89.23	-1,166.6	-3,093.8	1,286.3	1,127.9	158.44	8.119			
10,400.0	7,248.1	10,523.5	7,232.4	82.7	81.1	-89.26	-1,165.8	-3,195.7	1,285.6	1,122.5	163.11	7.882			
10,488.7	7,248.2	10,600.4	7,232.6	84.7	82.9	-89.26	-1,165.3	-3,272.6	1,285.1	1,118.1	167.04	7.693			
10,500.0	7,248.2	10,609.7	7,232.6	85.0	83.1	-89.26	-1,165.3	-3,281.9	1,285.1	1,117.6	167.54	7.671			
10,600.0	7,248.3	10,685.3	7,232.8	87.3	84.9	-89.27	-1,166.1	-3,357.5	1,286.1	1,114.4	171.76	7.488			
10,700.0	7,248.4	10,768.8	7,233.1	89.6	86.8	-89.28	-1,168.5	-3,441.0	1,289.1	1,113.0	176.09	7.320			
10,800.0	7,248.5	10,871.2	7,233.6	92.0	89.2	-89.30	-1,171.9	-3,543.3	1,292.4	1,111.5	180.82	7.147			
10,900.0	7,248.7	10,975.6	7,234.2	94.3	91.7	-89.32	-1,174.9	-3,647.7	1,295.3	1,109.7	185.59	6.979			
11,000.0	7,248.8	11,075.9	7,234.1	96.6	94.0	-89.31	-1,177.6	-3,747.9	1,298.0	1,107.7	190.29	6.821			
11,100.0	7,248.9	11,174.7	7,233.0	99.0	96.4	-89.26	-1,180.4	-3,846.6	1,300.9	1,105.9	194.97	6.672			
11,200.0	7,249.0	11,283.1	7,231.4	101.3	98.9	-89.19	-1,183.2	-3,955.0	1,303.5	1,103.6	199.85	6.522			
11,300.0	7,249.1	11,416.3	7,229.7	103.7	102.1	-89.11	-1,184.2	-4,088.2	1,304.3	1,099.1	205.17	6.357			
11,400.0	7,249.2	11,518.9	7,228.7	106.0	104.5	-89.06	-1,183.6	-4,190.8	1,303.8	1,093.8	209.94	6.210			
11,500.0	7,249.3	11,614.0	7,228.3	108.4	106.7	-89.03	-1,183.2	-4,285.9	1,303.4	1,088.8	214.59	6.074			
11,526.5	7,249.3	11,638.5	7,228.2	109.0	107.3	-89.03	-1,183.2	-4,310.4	1,303.4	1,087.5	215.82	6.039			
11,600.0	7,249.4	11,710.9	7,228.1	110.8	109.0	-89.02	-1,183.3	-4,382.8	1,303.5	1,084.2	219.28	5.944			
11,699.8	7,249.5	11,811.8	7,227.9	113.1	111.4	-89.01	-1,183.2	-4,483.7	1,303.4	1,079.4	224.03	5.818			
11,700.0	7,249.5	11,812.0	7,227.9	113.1	111.4	-89.01	-1,183.2	-4,483.9	1,303.4	1,079.4	224.04	5.818			
11,800.0	7,249.6	11,914.7	7,227.4	115.5	113.9	-88.98	-1,183.2	-4,586.6	1,303.4	1,074.6	228.84	5.696			
11,895.0	7,249.7	12,007.0	7,227.0	117.7	116.1	-88.96	-1,182.8	-4,678.9	1,303.1	1,069.8	233.31	5.585			
11,900.0	7,249.8	12,007.0	7,227.0	117.9	116.1	-88.96	-1,182.8	-4,678.9	1,303.1	1,069.6	233.46	5.582			
12,000.0	7,249.9	12,007.0	7,227.0	120.2	116.1	-88.96	-1,182.8	-4,678.9	1,307.3	1,071.5	235.84	5.543 SF			
12,100.0	7,250.0	12,007.0	7,227.0	122.6	116.1	-88.96	-1,182.8	-4,678.9	1,319.1	1,082.2	236.90	5.568			

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



Company: Cimarex
Project: Eddy County, NM (NAD 83)
Reference Site: (Foxy)SEC 31_T-26-S_R-27-E
Site Error: 0.0 usft
Reference Well: Foxx 31 Fed Com #1H
Well Error: 0.0 usft
Reference Wellbore: OWB
Reference Design: Plan #1

Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 10_13
Offset TVD Reference: Offset Datum

Offset Design:(Foxy)SEC 31_T-26-S_R-27-E - Foxx 31 Fed Com #4H - OWB - AWB

Survey Program:		149-MWD, 1988-MWD		Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Between Centres (usft)	Between Ellipses (usft)			
12,125.6	7,250.0	12,007.0	7,227.0	123.2	116.1					-88.96	-1,182.8	-4,678.9	1,323.4	1,086.4	236.96	5.585			



Microsoft
Anticollision Report

INTREPID

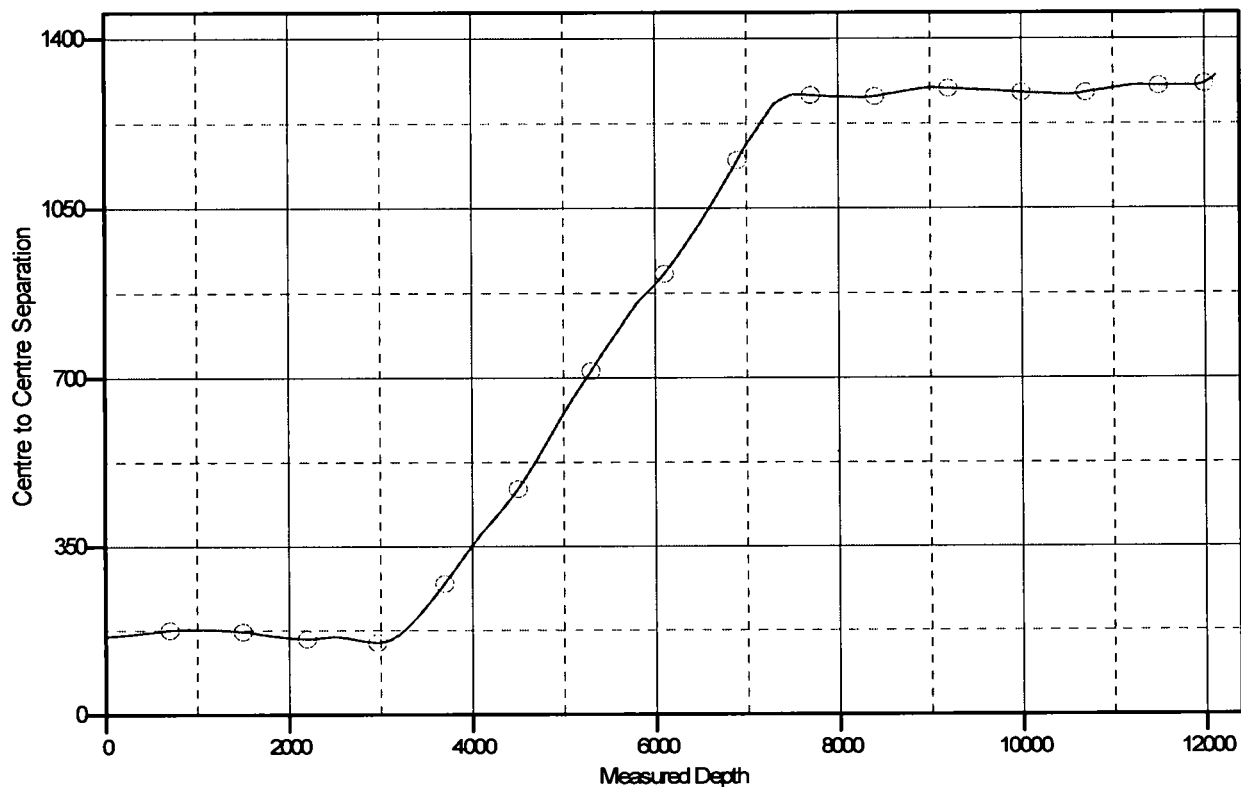
Company: Cimarex
Project: Eddy County, NM (NAD 83)
Reference Site: (Foxy)SEC 31_T-26-S_R-27-E
Site Error: 0.0 usft
Reference Well: Foxx 31 Fed Com #1H
Well Error: 0.0 usft
Reference Wellbore: OWB
Reference Design: Plan #1

Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 10_13
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB @ 3235.0usft (H&P 393)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Foxx 31 Fed Com #1H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.06°

Ladder Plot



LEGEND

—●— Foxx 31 Fed Com #4H, OWB, AWS V 0

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



Company: Cimarex
Project: Eddy County, NM (NAD 83)
Reference Site: (Foxy)SEC 31_T-26-S_R-27-E
Site Error: 0.0 usft
Reference Well: Foxx 31 Fed Com #1H
Well Error: 0.0 usft
Reference Wellbore: OWB
Reference Design: Plan #1

Local Co-ordinate Reference: Well Foxx 31 Fed Com #1H
TVD Reference: KB @ 3235.0usft (H&P 393)
MD Reference: KB @ 3235.0usft (H&P 393)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 10_13
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB @ 3235.0usft (H&P 393)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Foxx 31 Fed Com #1H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.06°

