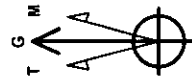


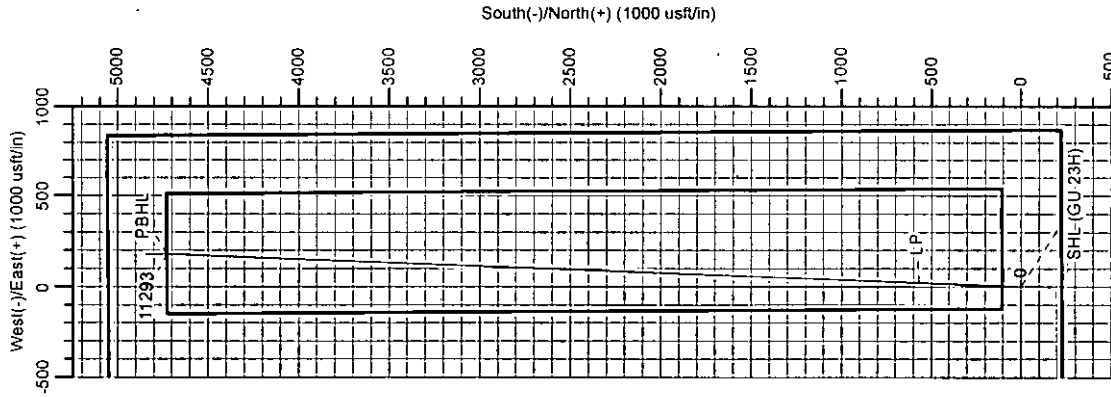
DEVON ENERGY

Project: Lea County, NM (NAD-83)
 Site: Gaucha Unit
 Well: 23H
 Wellbore: OH
 Design: Plan #1

Azimuths to Grid North
 True North: -0.45°
 Magnetic North: 0.82°
 Magnetic Field
 Strength: 48308.3snT
 Dip Angle: 60.25°
 Date: 2/12/2015
 Model: BGGM2014



PROJECT DETAILS: Lea County, NM (NAD-83)
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone



DESIGN TARGET DETAILS

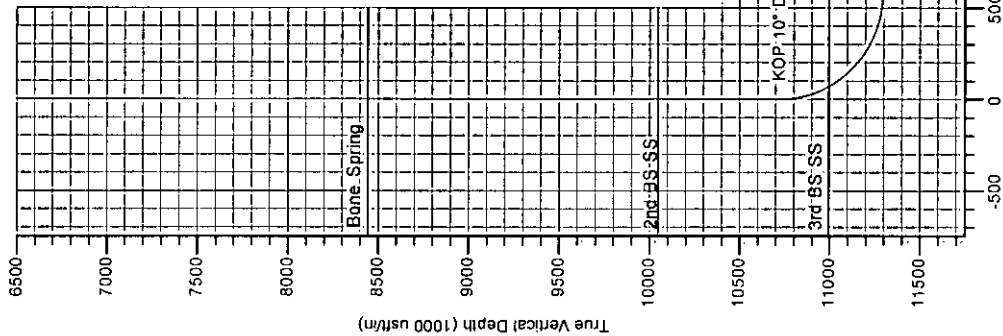
Name	TVD	+N/-S	+E/-W	Northring	Easting	Latitude	Longitude
SHL (GU 23H)	0.00	0.00	0.00	504852.54	802789.87	32° 23' 6.227 N	103° 29' 10.898 W
PBHL (GU 23H)	11293.00	4727.60	179.29	509580.14	802969.16	32° 23' 52.991 N	103° 29' 8.370 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	10720.04	0.00	0.00	10720.04	0.00	0.00	0.00	0.00	0.00	KOP 10° DLS
3	11620.04	90.00	2.17	11293.00	572.53	21.71	10.00	2.17	572.96	LP
4	15778.08	90.00	2.17	11293.00	4727.60	179.29	0.00	0.00	4731.00	TD

FORMATION TOP DETAILS

TVDP Path	MD Path	Formation	DipAngle	DipDir
1868.00	1868.00	Rustler	0.00	
1925.00	1925.00	Top Salt	0.00	
3930.00	3930.00	Yates	0.00	
5256.00	5256.00	Delaware	0.00	
8443.00	8443.00	Bone Spring	0.00	
10046.00	10046.00	2nd BS SS	0.00	
10995.00	11006.83	3rd BS SS	0.00	



LEAM DRILLING SYSTEMS LLC
 2010 East Davis, Conroe, Texas 77301
 Phone: 936/756-7577, Fax 936/756-7595

Plan: Plan #1 (23H/OH)
 Gaucha Unit
 Created By: Brady Deaver
 Date: 14.19, February 12 2015
 Approved: _____
 Date: _____



LEAM
Drilling Systems, Inc.

DEVON ENERGY

Lea County, NM (NAD-83)

Gaucho Unit

23H

OH

Plan: Plan #1

Standard Planning Report

12 February, 2015


devon

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 23H
Company:	DEVON ENERGY	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site:	Gaucha Unit	North Reference:	Grid
Well:	23H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Lea 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	Gaucha Unit		
Site Position:		Northing:	504,450.40 usft
From:	Map	Easting:	799,049.77 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 23' 2.539 N
		Longitude:	103° 29' 54.548 W
		Grid Convergence:	0.45 °

Well	23H,		
Well Position	+N/-S	402.14 usft	Northing:
	+E/-W	3,740.10 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	3,495.10 usft
		Latitude:	32° 23' 6.227 N
		Longitude:	103° 29' 10.898 W
		Ground Level:	3,470.10 usft

Wellbore	OH		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	2/12/2015	7.28	60.25	48,308

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			2.17

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,720.04	0.00	0.00	10,720.04	0.00	0.00	0.00	0.00	0.00	0.00	
11,620.04	90.00	2.17	11,293.00	572.55	21.71	10.00	10.00	0.00	2.17	
15,778.08	90.00	2.17	11,293.00	4,727.60	179.29	0.00	0.00	0.00	0.00	PBHL (GU 23H)

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 23H
Company:	DEVON ENERGY	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site:	Gaucha Unit	North Reference:	Grid
Well:	23H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (GU 23H)									
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
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
1,868.00	0.00	0.00	1,868.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,925.00	0.00	0.00	1,925.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
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
3,930.00	0.00	0.00	3,930.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
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



LEAM Drilling Systems LLC
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 23H
Company:	DEVON ENERGY	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site:	Gaucha Unit	North Reference:	Grid
Well:	23H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
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
5,256.00	0.00	0.00	5,256.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
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
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,443.00	0.00	0.00	8,443.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring									
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 23H
Company:	DEVON ENERGY	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site:	Gaucha Unit	North Reference:	Grid
Well:	23H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00
10,046.00	0.00	0.00	10,046.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd BS SS									
10,100.00	0.00	0.00	10,100.00	0.00	0.00	0.00	0.00	0.00	0.00
10,200.00	0.00	0.00	10,200.00	0.00	0.00	0.00	0.00	0.00	0.00
10,300.00	0.00	0.00	10,300.00	0.00	0.00	0.00	0.00	0.00	0.00
10,400.00	0.00	0.00	10,400.00	0.00	0.00	0.00	0.00	0.00	0.00
10,500.00	0.00	0.00	10,500.00	0.00	0.00	0.00	0.00	0.00	0.00
10,600.00	0.00	0.00	10,600.00	0.00	0.00	0.00	0.00	0.00	0.00
10,700.00	0.00	0.00	10,700.00	0.00	0.00	0.00	0.00	0.00	0.00
10,720.04	0.00	0.00	10,720.04	0.00	0.00	0.00	0.00	0.00	0.00
KOP 10° DLS									
10,750.00	3.00	2.17	10,749.99	0.78	0.03	0.78	10.00	10.00	0.00
10,800.00	8.00	2.17	10,799.74	5.57	0.21	5.57	10.00	10.00	0.00
10,850.00	13.00	2.17	10,848.89	14.66	0.56	14.68	10.00	10.00	0.00
10,900.00	18.00	2.17	10,897.06	28.01	1.06	28.03	10.00	10.00	0.00
10,950.00	23.00	2.17	10,943.88	45.50	1.73	45.53	10.00	10.00	0.00
11,000.00	28.00	2.17	10,988.99	67.00	2.54	67.05	10.00	10.00	0.00
11,006.83	28.68	2.17	10,995.00	70.24	2.66	70.29	10.00	10.00	0.00
3rd BS SS									
11,050.00	33.00	2.17	11,032.06	92.35	3.50	92.41	10.00	10.00	0.00
11,100.00	38.00	2.17	11,072.76	121.35	4.60	121.43	10.00	10.00	0.00
11,150.00	43.00	2.17	11,110.77	153.78	5.83	153.89	10.00	10.00	0.00
11,200.00	48.00	2.17	11,145.80	189.41	7.18	189.54	10.00	10.00	0.00
11,250.00	53.00	2.17	11,177.60	227.95	8.64	228.11	10.00	10.00	0.00
11,300.00	58.00	2.17	11,205.92	269.11	10.21	269.30	10.00	10.00	0.00
11,350.00	63.00	2.17	11,230.53	312.58	11.85	312.80	10.00	10.00	0.00
11,400.00	68.00	2.17	11,251.26	358.03	13.58	358.28	10.00	10.00	0.00
11,450.00	73.00	2.17	11,267.95	405.11	15.36	405.40	10.00	10.00	0.00
11,500.00	78.00	2.17	11,280.47	453.47	17.20	453.79	10.00	10.00	0.00
11,550.00	83.00	2.17	11,288.72	502.73	19.07	503.09	10.00	10.00	0.00
11,600.00	88.00	2.17	11,292.65	552.52	20.95	552.92	10.00	10.00	0.00
11,620.04	90.00	2.17	11,293.00	572.55	21.71	572.96	10.00	10.00	0.00
LP									
11,700.00	90.00	2.17	11,293.00	652.45	24.74	652.92	0.00	0.00	0.00
11,800.00	90.00	2.17	11,293.00	752.37	28.53	752.92	0.00	0.00	0.00
11,900.00	90.00	2.17	11,293.00	852.30	32.32	852.92	0.00	0.00	0.00
12,000.00	90.00	2.17	11,293.00	952.23	36.11	952.92	0.00	0.00	0.00
12,100.00	90.00	2.17	11,293.00	1,052.16	39.90	1,052.92	0.00	0.00	0.00
12,200.00	90.00	2.17	11,293.00	1,152.09	43.69	1,152.92	0.00	0.00	0.00
12,300.00	90.00	2.17	11,293.00	1,252.02	47.48	1,252.92	0.00	0.00	0.00
12,400.00	90.00	2.17	11,293.00	1,351.94	51.27	1,352.92	0.00	0.00	0.00
12,500.00	90.00	2.17	11,293.00	1,451.87	55.06	1,452.92	0.00	0.00	0.00
12,600.00	90.00	2.17	11,293.00	1,551.80	58.85	1,552.92	0.00	0.00	0.00
12,700.00	90.00	2.17	11,293.00	1,651.73	62.64	1,652.92	0.00	0.00	0.00
12,800.00	90.00	2.17	11,293.00	1,751.66	66.43	1,752.92	0.00	0.00	0.00
12,900.00	90.00	2.17	11,293.00	1,851.58	70.22	1,852.92	0.00	0.00	0.00
13,000.00	90.00	2.17	11,293.00	1,951.51	74.01	1,952.92	0.00	0.00	0.00
13,100.00	90.00	2.17	11,293.00	2,051.44	77.80	2,052.92	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 23H
Company:	DEVON ENERGY	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site:	Gaucha Unit	North Reference:	Grid
Well:	23H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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	90.00	2.17	11,293.00	2,151.37	81.59	2,152.92	0.00	0.00	0.00
13,300.00	90.00	2.17	11,293.00	2,251.30	85.38	2,252.92	0.00	0.00	0.00
13,400.00	90.00	2.17	11,293.00	2,351.23	89.17	2,352.92	0.00	0.00	0.00
13,500.00	90.00	2.17	11,293.00	2,451.15	92.96	2,452.92	0.00	0.00	0.00
13,600.00	90.00	2.17	11,293.00	2,551.08	96.75	2,552.92	0.00	0.00	0.00
13,700.00	90.00	2.17	11,293.00	2,651.01	100.54	2,652.92	0.00	0.00	0.00
13,800.00	90.00	2.17	11,293.00	2,750.94	104.33	2,752.92	0.00	0.00	0.00
13,900.00	90.00	2.17	11,293.00	2,850.87	108.12	2,852.92	0.00	0.00	0.00
14,000.00	90.00	2.17	11,293.00	2,950.79	111.91	2,952.92	0.00	0.00	0.00
14,100.00	90.00	2.17	11,293.00	3,050.72	115.70	3,052.92	0.00	0.00	0.00
14,200.00	90.00	2.17	11,293.00	3,150.65	119.49	3,152.92	0.00	0.00	0.00
14,300.00	90.00	2.17	11,293.00	3,250.58	123.28	3,252.92	0.00	0.00	0.00
14,400.00	90.00	2.17	11,293.00	3,350.51	127.06	3,352.92	0.00	0.00	0.00
14,500.00	90.00	2.17	11,293.00	3,450.44	130.85	3,452.92	0.00	0.00	0.00
14,600.00	90.00	2.17	11,293.00	3,550.36	134.64	3,552.92	0.00	0.00	0.00
14,700.00	90.00	2.17	11,293.00	3,650.29	138.43	3,652.92	0.00	0.00	0.00
14,800.00	90.00	2.17	11,293.00	3,750.22	142.22	3,752.92	0.00	0.00	0.00
14,900.00	90.00	2.17	11,293.00	3,850.15	146.01	3,852.92	0.00	0.00	0.00
15,000.00	90.00	2.17	11,293.00	3,950.08	149.80	3,952.92	0.00	0.00	0.00
15,100.00	90.00	2.17	11,293.00	4,050.00	153.59	4,052.92	0.00	0.00	0.00
15,200.00	90.00	2.17	11,293.00	4,149.93	157.38	4,152.92	0.00	0.00	0.00
15,300.00	90.00	2.17	11,293.00	4,249.86	161.17	4,252.92	0.00	0.00	0.00
15,400.00	90.00	2.17	11,293.00	4,349.79	164.96	4,352.92	0.00	0.00	0.00
15,500.00	90.00	2.17	11,293.00	4,449.72	168.75	4,452.92	0.00	0.00	0.00
15,600.00	90.00	2.17	11,293.00	4,549.65	172.54	4,552.92	0.00	0.00	0.00
15,700.00	90.00	2.17	11,293.00	4,649.57	176.33	4,652.92	0.00	0.00	0.00
15,778.08	90.00	2.17	11,293.00	4,727.60	179.29	4,731.00	0.00	0.00	0.00
TD - PBHL (GU 23H)									

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
SHL (GU 23H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	504,852.54	802,789.87	32° 23' 6.227 N	103° 29' 10.898 W
PBHL (GU 23H) - plan hits target center - Point	0.00	0.00	11,293.00	4,727.60	179.29	509,580.14	802,969.16	32° 23' 52.991 N	103° 29' 8.370 W

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 23H
Company:	DEVON ENERGY	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site:	Gaucho Unit	North Reference:	Grid
Well:	23H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,868.00	1,868.00	Rustler		0.00	
1,925.00	1,925.00	Top Salt		0.00	
3,930.00	3,930.00	Yates		0.00	
5,256.00	5,256.00	Delaware		0.00	
8,443.00	8,443.00	Bone Spring		0.00	
10,046.00	10,046.00	2nd BS SS		0.00	
11,006.83	10,995.00	3rd BS SS		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,720.04	10,720.04	0.00	0.00	KOP 10" DLS
11,620.04	11,293.00	572.55	21.71	LP
15,778.08	11,293.00	4,727.60	179.29	TD

EXTRA COPY

DEVON ENERGY

Lea County, NM (NAD-83)

Gaucha Unit

23H

OH

Plan #1

Anticollision Report

21 September, 2015

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 23H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Reference Site:	Gaucha Unit	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	23H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #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 9,999.98 usft		
Warning Levels Evaluated at:	2.00 Sigma	Error Surface:	Elliptical Conic
		Casing Method:	Not applied

Survey Tool Program		Date	9/21/2015		
From (usft)	To (usft)	Survey (Wellbore)		Tool Name	Description
0.00	15,778.08	Plan #1 (OH)		LEAM MWD-ADJ	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						
Gaucha Unit Offsets						
Gaucha 6 - OH - OH	11,228.72	10,870.00	393.78	348.88	8.771	CC, ES
Gaucha 6 - OH - OH	11,250.00	10,870.00	393.99	349.05	8.768	SF
Gaucha 6 - Re-entry - Re-entry	11,285.56	11,249.97	188.66	144.06	4.230	CC, ES, SF

Offset Design												Offset Site Error:	0.00 usft
Gaucha Unit Offsets - Gaucha 6 - OH - OH												Offset Well Error:	0.00 usft
Survey Program:	100-ISCWSA-GYRO-3												
Reference	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre	Distance	Minimum	Separation	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside (usft)	Between Centres (usft)	Between Ellipses (usft)	Factor				
0.00	0.00	0.00	0.00	0.00	0.00	25.45	435.69	207.31	482.68				
100.00	100.00	85.75	85.75	0.08	0.06	25.43	435.85	207.22	482.61	482.46	0.14	3,362.948	
200.00	200.00	183.72	183.72	0.31	0.22	25.37	436.45	206.96	483.05	482.52	0.52	923.653	
300.00	300.00	282.99	282.97	0.53	0.39	25.24	437.59	206.32	483.80	482.88	0.92	525.220	
400.00	400.00	383.69	383.65	0.76	0.57	25.02	439.07	204.97	484.57	483.24	1.32	366.320	
500.00	500.00	485.55	485.49	0.98	0.74	24.74	440.53	203.02	485.06	483.33	1.73	280.919	
600.00	600.00	588.94	588.84	1.21	0.93	24.38	441.76	200.23	485.03	482.89	2.13	227.369	
700.00	700.00	691.65	691.48	1.43	1.11	23.96	442.58	195.71	484.34	481.81	2.54	190.823	
800.00	800.00	792.55	792.32	1.68	1.28	23.55	443.02	193.09	483.30	480.36	2.94	164.412	
900.00	900.00	893.10	892.80	1.88	1.46	23.15	443.27	189.53	482.12	478.78	3.34	144.347	
1,000.00	1,000.00	994.00	993.64	2.11	1.64	22.76	443.34	185.98	480.81	477.07	3.74	128.525	
1,100.00	1,100.00	1,094.58	1,094.16	2.33	1.81	22.38	443.19	182.51	479.35	475.21	4.14	115.750	
1,200.00	1,200.00	1,194.23	1,193.75	2.56	1.99	22.02	442.95	179.19	477.87	473.33	4.54	105.260	
1,300.00	1,300.00	1,294.49	1,293.96	2.78	2.16	21.68	442.68	175.96	476.42	471.48	4.94	96.447	
1,400.00	1,400.00	1,395.25	1,394.67	3.01	2.34	21.33	442.26	172.74	474.86	469.52	5.34	88.920	
1,500.00	1,500.00	1,495.94	1,495.31	3.23	2.52	21.00	441.65	169.57	473.16	467.42	5.74	82.419	
1,600.00	1,600.00	1,596.15	1,595.47	3.46	2.69	20.69	440.89	166.51	471.36	465.22	6.14	76.761	
1,700.00	1,700.00	1,695.88	1,695.15	3.68	2.87	20.39	440.07	163.60	469.57	463.03	6.54	71.806	
1,800.00	1,800.00	1,795.04	1,795.27	3.91	3.04	20.12	439.19	160.87	467.80	460.86	6.94	67.415	
1,900.00	1,900.00	1,895.77	1,894.96	4.13	3.22	19.86	438.25	158.31	466.04	458.70	7.34	63.509	
2,000.00	2,000.00	1,996.65	1,995.80	4.35	3.40	19.61	437.20	155.79	464.22	456.48	7.74	59.983	
2,100.00	2,100.00	2,096.54	2,095.65	4.58	3.57	19.37	436.06	153.31	462.31	454.17	8.14	56.805	
2,200.00	2,200.00	2,194.85	2,193.93	4.80	3.74	19.14	435.08	151.00	460.59	452.06	8.54	53.964	
2,300.00	2,300.00	2,291.67	2,290.74	5.03	3.91	18.92	434.56	148.98	459.40	450.48	8.93	51.450	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 23H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Reference Site:	Gaucha Unit	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	23H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Gaucha Unit Offsets - Gaucha 6 - OH - OH														Offset Site Error:
Survey Program: 100-ISCWSA-GYRO-3														Offset Well Error:
Reference	Offset	Semi Major Axis		Distance		Offset Wellbore Centre		Between	Between	Minimum	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	N-S (usft)	E-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor		
2,400.00	2,400.00	2,392.90	2,391.94	5.25	4.09	18.71	434.22	147.08	458.48	449.15	9.33	49.136		
2,500.00	2,500.00	2,493.34	2,492.36	5.48	4.27	18.52	433.62	145.22	457.32	447.59	9.73	48.996		
2,600.00	2,600.00	2,592.67	2,591.68	5.70	4.44	18.32	433.04	143.42	456.20	446.07	10.13	45.036		
2,700.00	2,700.00	2,589.77	2,588.77	5.93	4.61	18.20	432.65	142.29	455.45	444.92	10.52	43.278		
2,800.00	2,800.00	2,788.68	2,787.68	6.15	4.78	18.13	432.59	141.63	455.18	444.28	10.92	41.879		
2,900.00	2,900.00	2,888.45	2,887.45	6.38	4.96	18.08	432.56	141.25	455.04	443.72	11.32	40.199		
2,935.78	2,935.76	2,923.86	2,922.86	6.46	5.02	18.09	432.52	141.29	455.02	443.55	11.46	39.699		
3,000.00	3,000.00	2,986.49	2,985.49	6.60	5.13	18.08	432.64	141.24	455.11	443.40	11.72	38.848		
3,100.00	3,100.00	3,084.48	3,083.47	6.83	5.30	18.04	433.24	141.10	455.65	443.54	12.11	37.624		
3,200.00	3,200.00	3,183.13	3,182.12	7.05	5.47	18.03	434.11	141.32	456.56	444.05	12.51	36.505		
3,300.00	3,300.00	3,282.19	3,281.17	7.28	5.64	18.05	435.14	141.85	457.71	444.81	12.90	35.472		
3,400.00	3,400.00	3,381.44	3,380.41	7.50	5.81	18.10	436.29	142.61	459.05	445.75	13.30	34.513		
3,500.00	3,500.00	3,481.02	3,479.99	7.73	5.99	18.17	437.51	143.56	460.51	446.81	13.70	33.617		
3,600.00	3,600.00	3,581.09	3,580.04	7.95	6.16	18.25	438.74	144.64	462.02	447.92	14.10	32.772		
3,700.00	3,700.00	3,680.85	3,679.79	8.18	6.34	18.32	439.97	145.69	463.52	449.02	14.50	31.975		
3,800.00	3,800.00	3,781.76	3,780.68	8.40	6.51	18.40	441.18	146.73	464.98	450.08	14.90	31.214		
3,900.00	3,900.00	3,881.98	3,880.89	8.63	6.69	18.50	442.14	147.95	466.27	450.98	15.30	30.483		
4,000.00	4,000.00	3,981.86	3,980.55	8.85	6.86	18.62	443.07	149.28	467.59	451.89	15.69	29.793		
4,100.00	4,100.00	4,082.32	4,081.20	9.07	7.03	18.76	443.96	150.78	468.90	452.80	16.09	29.134		
4,200.00	4,200.00	4,182.02	4,180.88	9.30	7.21	18.91	444.72	152.31	470.12	453.83	16.49	28.504		
4,300.00	4,300.00	4,283.18	4,282.03	9.52	7.38	19.05	445.48	153.82	471.31	454.42	16.89	27.898		
4,400.00	4,400.00	4,382.71	4,381.55	9.75	7.56	19.19	446.08	155.26	472.36	455.07	17.29	27.316		
4,500.00	4,500.00	4,482.14	4,480.97	9.97	7.73	19.36	446.75	156.96	473.56	455.87	17.69	26.769		
4,600.00	4,600.00	4,582.08	4,580.88	10.20	7.90	19.53	447.48	158.70	474.83	456.74	18.09	26.248		
4,700.00	4,700.00	4,682.39	4,681.18	10.42	8.08	19.70	448.18	160.45	476.07	457.58	18.49	25.748		
4,800.00	4,800.00	4,782.06	4,780.84	10.65	8.25	19.87	448.85	162.19	477.29	458.40	18.89	25.269		
4,900.00	4,900.00	4,882.39	4,881.14	10.87	8.43	20.04	449.54	163.96	478.54	459.25	19.29	24.810		
5,000.00	5,000.00	4,982.50	4,981.24	11.10	8.60	20.21	450.16	165.70	479.73	460.04	19.69	24.367		
5,100.00	5,100.00	5,082.68	5,081.40	11.32	8.77	20.38	450.75	167.48	480.89	460.80	20.09	23.940		
5,200.00	5,200.00	5,183.37	5,182.07	11.55	8.95	20.56	451.25	169.24	481.97	461.48	20.49	23.525		
5,300.00	5,300.00	5,285.17	5,283.86	11.77	9.13	20.73	451.54	170.90	482.80	461.91	20.89	23.112		
5,400.00	5,400.00	5,386.18	5,384.86	12.00	9.30	20.90	451.50	172.44	483.32	462.03	21.29	22.701		
5,500.00	5,500.00	5,486.26	5,484.93	12.22	9.48	21.06	451.42	173.79	483.72	462.03	21.69	22.302		
5,600.00	5,600.00	5,586.57	5,585.23	12.45	9.65	21.19	451.36	175.00	484.10	462.01	22.09	21.915		
5,700.00	5,700.00	5,687.01	5,685.66	12.67	9.83	21.32	451.24	176.15	484.40	461.91	22.49	21.539		
5,800.00	5,800.00	5,787.78	5,786.42	12.90	10.00	21.47	450.95	177.38	484.58	461.89	22.89	21.170		
5,900.00	5,900.00	5,888.04	5,886.68	13.12	10.17	21.66	450.44	178.85	484.65	461.36	23.29	20.810		
6,000.00	6,000.00	5,988.29	5,986.91	13.35	10.35	21.80	450.00	180.01	484.67	460.98	23.69	20.460		
6,005.96	6,005.96	5,994.26	5,992.89	13.36	10.36	21.81	449.98	180.06	484.67	460.96	23.71	20.439		
6,100.00	6,100.00	6,086.09	6,084.71	13.57	10.52	21.88	449.93	180.71	484.87	460.78	24.08	20.132		
6,200.00	6,200.00	6,185.11	6,183.73	13.80	10.69	21.96	450.22	181.50	485.44	460.96	24.48	19.829		
6,300.00	6,300.00	6,284.72	6,283.33	14.02	10.87	22.06	450.54	182.57	486.14	461.26	24.88	19.539		
6,400.00	6,400.00	6,385.12	6,383.73	14.24	11.04	22.15	450.92	183.52	486.84	461.56	25.28	19.257		
6,500.00	6,500.00	6,485.80	6,484.41	14.47	11.22	22.19	451.31	184.11	487.43	461.75	25.68	18.980		
6,600.00	6,600.00	6,585.87	6,584.47	14.69	11.39	22.24	451.62	184.66	487.92	461.84	26.08	18.708		
6,700.00	6,700.00	6,685.91	6,684.51	14.92	11.57	22.28	451.95	185.16	488.42	461.94	26.48	18.444		
6,800.00	6,800.00	6,784.96	6,783.55	15.14	11.74	22.32	452.34	185.70	488.99	462.11	26.88	18.192		
6,900.00	6,900.00	6,886.55	6,885.15	15.37	11.92	22.36	452.74	186.23	489.55	462.27	27.28	17.945		
7,000.00	7,000.00	6,985.91	6,984.50	15.59	12.09	22.39	453.00	186.62	489.94	462.26	27.68	17.700		
7,100.00	7,100.00	7,086.45	7,085.05	15.82	12.27	22.43	453.28	187.14	490.40	462.32	28.08	17.464		
7,200.00	7,200.00	7,186.98	7,185.58	16.04	12.44	22.45	453.50	187.46	490.72	462.24	28.48	17.230		
7,300.00	7,300.00	7,288.28	7,286.87	16.27	12.62	22.46	453.58	187.66	490.87	461.98	28.88	16.995		

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 23H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Reference Site:	Gaucha Unit	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	23H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset, TVD Reference:	Offset Datum

Offset Design: Gaucha Unit Offsets - Gaucha 6 - OH - OH													Offset Site Error:
Survey Program: 100-ISCWSA-GYRO-3													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 Footcandle (")	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,400.00	7,400.00	7,389.86	7,388.45	16.49	12.79	22.50	453.36	187.78	490.71	461.43	29.28	16.757	
7,500.00	7,500.00	7,489.45	7,488.04	16.72	12.97	22.51	453.05	187.75	490.42	460.73	29.68	16.522	
7,600.00	7,600.00	7,589.30	7,587.89	16.94	13.14	22.53	452.78	187.86	490.20	460.12	30.08	16.296	
7,700.00	7,700.00	7,669.40	7,667.99	17.17	13.32	22.55	452.54	187.88	489.99	459.51	30.48	16.076	
7,800.00	7,800.00	7,788.58	7,787.17	17.39	13.49	22.54	452.43	187.76	489.84	458.97	30.88	15.864	
7,900.00	7,900.00	7,888.73	7,887.32	17.62	13.66	22.51	452.47	187.52	489.79	458.51	31.28	15.660	
8,000.00	8,000.00	7,989.18	7,987.77	17.84	13.84	22.47	452.47	187.19	489.66	457.98	31.68	15.458	
8,100.00	8,100.00	8,089.66	8,088.25	18.07	14.02	22.43	452.38	186.75	489.41	457.34	32.08	15.257	
8,200.00	8,200.00	8,190.66	8,189.25	18.29	14.19	22.38	452.19	186.16	489.02	456.54	32.48	15.057	
8,300.00	8,300.00	8,290.80	8,289.39	18.52	14.37	22.31	451.93	185.46	488.51	455.64	32.88	14.859	
8,400.00	8,400.00	8,390.94	8,389.52	18.74	14.54	22.24	451.69	184.69	487.99	454.72	33.28	14.665	
8,500.00	8,500.00	8,490.61	8,489.19	18.96	14.72	22.14	451.53	183.74	487.49	453.81	33.67	14.476	
8,600.00	8,600.00	8,589.51	8,588.08	19.19	14.89	22.01	451.63	182.53	487.12	453.05	34.07	14.297	
8,700.00	8,700.00	8,688.90	8,687.46	19.41	15.06	21.85	451.96	181.26	486.95	452.48	34.47	14.127	
8,800.00	8,800.00	8,788.48	8,787.03	19.64	15.24	21.72	452.31	180.20	486.88	452.01	34.87	13.963	
8,900.00	8,900.00	8,890.24	8,888.79	19.86	15.41	21.60	452.53	179.15	486.70	451.43	35.27	13.799	
9,000.00	9,000.00	8,992.61	8,991.15	20.09	15.59	21.47	452.33	177.89	486.07	450.40	35.67	13.625	
9,100.00	9,100.00	9,091.85	9,090.39	20.31	15.76	21.35	451.97	176.64	485.27	449.20	36.07	13.453	
9,200.00	9,200.00	9,190.53	9,189.05	20.54	15.94	21.23	451.83	175.48	484.71	448.24	36.47	13.291	
9,300.00	9,300.00	9,291.91	9,290.43	20.76	16.11	21.13	451.59	174.52	484.15	447.28	36.87	13.131	
9,400.00	9,400.00	9,391.86	9,390.38	20.99	16.29	21.09	451.01	173.98	483.41	446.14	37.27	12.971	
9,500.00	9,500.00	9,491.30	9,489.81	21.21	16.46	21.08	450.42	173.66	482.75	445.08	37.67	12.816	
9,600.00	9,600.00	9,590.49	9,589.00	21.44	16.64	21.05	450.03	173.23	482.23	444.16	38.07	12.668	
9,700.00	9,700.00	9,691.68	9,690.19	21.66	16.81	21.02	449.61	172.80	481.69	443.22	38.47	12.522	
9,800.00	9,800.00	9,792.26	9,790.77	21.89	16.99	21.03	448.88	172.60	480.94	442.07	38.87	12.374	
9,900.00	9,900.00	9,892.32	9,890.83	22.11	17.16	21.06	448.04	172.50	480.12	440.85	39.27	12.227	
10,000.00	10,000.00	9,991.94	9,990.44	22.34	17.34	21.05	447.33	172.19	479.34	439.67	39.67	12.085	
10,100.00	10,100.00	10,092.07	10,090.57	22.56	17.51	21.02	446.72	171.68	478.59	438.53	40.06	11.946	
10,200.00	10,200.00	10,191.94	10,190.44	22.79	17.69	20.97	446.18	170.98	477.84	437.37	40.46	11.809	
10,300.00	10,300.00	10,292.81	10,291.29	23.01	17.86	20.91	445.57	170.26	477.01	436.15	40.86	11.673	
10,400.00	10,400.00	10,393.10	10,391.58	23.24	18.04	20.90	444.72	169.81	476.06	434.79	41.26	11.537	
10,500.00	10,500.00	10,495.04	10,493.51	23.46	18.22	20.91	443.57	169.44	474.88	433.21	41.67	11.397	
10,600.00	10,600.00	10,596.89	10,595.35	23.68	18.39	20.89	442.11	168.74	473.29	431.22	42.07	11.250	
10,700.00	10,700.00	10,700.08	10,698.52	23.91	18.58	20.85	440.19	167.81	471.17	428.69	42.47	11.093	
10,720.04	10,720.04	10,720.69	10,719.12	23.95	18.61	20.83	439.74	167.33	470.66	428.11	42.56	11.090	
10,750.00	10,749.99	10,751.45	10,749.88	24.02	18.67	18.72	439.03	166.88	469.12	426.43	42.89	10.989	
10,800.00	10,799.74	10,802.56	10,800.98	24.13	18.76	19.07	437.75	166.06	463.13	420.18	42.95	10.783	
10,850.00	10,848.89	10,854.64	10,853.00	24.25	18.85	19.78	436.21	165.06	452.84	409.57	43.27	10.467	
10,900.00	10,897.06	10,870.00	10,868.35	24.36	18.87	20.40	435.70	164.72	439.59	396.04	43.55	10.095	
10,950.00	10,943.88	10,870.00	10,868.35	24.46	18.87	20.84	435.70	164.72	427.46	383.65	43.81	9.757	
11,000.00	10,988.99	10,870.00	10,868.35	24.56	18.87	21.23	435.70	164.72	416.90	372.84	44.07	9.460	
11,050.00	11,032.08	10,870.00	10,868.35	24.66	18.87	21.55	435.70	164.72	408.13	363.82	44.31	9.211	
11,100.00	11,072.76	10,870.00	10,868.35	24.78	18.87	21.81	435.70	164.72	401.31	355.79	44.52	9.013	
11,150.00	11,110.77	10,870.00	10,868.35	24.91	18.87	21.98	435.70	164.72	396.62	351.92	44.70	8.873	
11,200.00	11,145.80	10,870.00	10,868.35	25.05	18.87	22.08	435.70	164.72	394.16	349.32	44.84	8.791	
11,228.72	11,164.48	10,870.00	10,868.35	25.14	18.87	22.09	435.70	164.72	393.78	348.88	44.90	8.771 CC ES	
11,250.00	11,177.60	10,870.00	10,868.35	25.21	18.87	22.08	435.70	164.72	393.99	349.05	44.93	8.768 SF	
11,300.00	11,205.92	10,870.00	10,868.35	25.38	18.87	22.00	435.70	164.72	396.11	351.12	44.99	8.804	
11,350.00	11,230.53	10,870.00	10,868.35	25.58	18.87	21.84	435.70	164.72	400.48	355.46	45.02	8.895	
11,400.00	11,251.26	10,870.00	10,868.35	25.79	18.87	21.60	435.70	164.72	406.98	361.95	45.03	9.038	
11,450.00	11,267.95	10,870.00	10,868.35	26.03	18.87	21.28	435.70	164.72	415.48	370.45	45.03	9.228	
11,500.00	11,280.47	10,870.00	10,868.35	26.30	18.87	20.90	435.70	164.72	425.78	380.74	45.04	9.453	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 23H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Reference Site:	Gaucha Unit	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	23H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:
Gaucha Unit Offsets - Gaucha 6 - OH - OH													0.00 usft
Survey Program: 100-ISCWSA-GYRO-3													Offset Well Error:
Reference													0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis (usft)	Offset Wellbore Centre (usft)	Distance (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,550.00	11,288.72	10,870.00	10,868.35	26.59	18.87	20.47	435.70	164.72	437.69	392.63	45.07	9.712	
11,600.00	11,292.65	10,870.00	10,868.35	26.89	18.87	19.99	435.70	164.72	451.00	405.88	45.12	9.996	
11,620.04	11,293.00	10,870.00	10,868.35	27.02	18.87	19.79	435.70	164.72	456.67	411.52	45.15	10.115	
11,700.00	11,293.00	10,870.00	10,868.35	27.58	18.87	19.79	435.70	164.72	485.74	440.39	45.35	10.711	
11,800.00	11,293.00	10,870.00	10,868.35	28.36	18.87	19.79	435.70	164.72	536.84	491.20	45.64	11.762	
11,900.00	11,293.00	10,870.00	10,868.35	29.23	18.87	19.79	435.70	164.72	600.38	554.41	45.97	13.059	
12,000.00	11,293.00	10,870.00	10,868.35	30.19	18.87	19.79	435.70	164.72	672.84	626.49	46.34	14.518	
12,100.00	11,293.00	10,870.00	10,868.35	31.23	18.87	19.79	435.70	164.72	751.64	704.89	46.75	16.077	
12,200.00	11,293.00	10,870.00	10,868.35	32.33	18.87	19.79	435.70	164.72	835.00	787.80	47.20	17.692	
12,300.00	11,293.00	10,870.00	10,868.35	33.50	18.87	19.79	435.70	164.72	921.67	874.00	47.67	19.334	
12,400.00	11,293.00	10,870.00	10,868.35	34.73	18.87	19.79	435.70	164.72	1,010.81	962.63	48.18	20.981	
12,500.00	11,293.00	10,870.00	10,868.35	36.00	18.87	19.79	435.70	164.72	1,101.81	1,053.10	48.71	22.619	
12,600.00	11,293.00	10,870.00	10,868.35	37.32	18.87	19.79	435.70	164.72	1,194.26	1,144.99	49.27	24.238	
12,700.00	11,293.00	10,870.00	10,868.35	38.68	18.87	19.79	435.70	164.72	1,287.83	1,237.98	49.86	25.831	
12,800.00	11,293.00	10,870.00	10,868.35	40.07	18.87	19.79	435.70	164.72	1,382.30	1,331.84	50.46	27.393	
12,900.00	11,293.00	10,870.00	10,868.35	41.50	18.87	19.79	435.70	164.72	1,477.51	1,426.42	51.09	28.920	
13,000.00	11,293.00	10,870.00	10,868.35	42.96	18.87	19.79	435.70	164.72	1,573.30	1,521.57	51.74	30.411	
13,100.00	11,293.00	10,870.00	10,868.35	44.44	18.87	19.79	435.70	164.72	1,669.59	1,617.19	52.40	31.863	
13,200.00	11,293.00	10,870.00	10,868.35	45.95	18.87	19.79	435.70	164.72	1,766.29	1,713.22	53.08	33.277	
13,300.00	11,293.00	10,870.00	10,868.35	47.48	18.87	19.79	435.70	164.72	1,863.34	1,809.57	53.77	34.652	
13,400.00	11,293.00	10,870.00	10,868.35	49.03	18.87	19.79	435.70	164.72	1,960.69	1,906.21	54.48	35.988	
13,500.00	11,293.00	10,870.00	10,868.35	50.60	18.87	19.79	435.70	164.72	2,058.29	2,003.09	55.20	37.286	
13,600.00	11,293.00	10,870.00	10,868.35	52.18	18.87	19.79	435.70	164.72	2,156.11	2,100.18	55.94	38.547	
13,700.00	11,293.00	10,870.00	10,868.35	53.78	18.87	19.79	435.70	164.72	2,254.12	2,197.45	56.68	39.770	
13,800.00	11,293.00	10,870.00	10,868.35	55.40	18.87	19.79	435.70	164.72	2,352.30	2,294.87	57.43	40.958	
13,900.00	11,293.00	10,870.00	10,868.35	57.02	18.87	19.79	435.70	164.72	2,450.63	2,392.44	58.20	42.110	
14,000.00	11,293.00	10,870.00	10,868.35	58.66	18.87	19.79	435.70	164.72	2,549.09	2,490.12	58.97	43.229	
14,100.00	11,293.00	10,870.00	10,868.35	60.30	18.87	19.79	435.70	164.72	2,647.66	2,587.91	59.75	44.315	
14,200.00	11,293.00	10,870.00	10,868.35	61.96	18.87	19.79	435.70	164.72	2,746.34	2,685.80	60.53	45.368	
14,300.00	11,293.00	10,870.00	10,868.35	63.62	18.87	19.79	435.70	164.72	2,845.10	2,783.78	61.33	46.391	
14,400.00	11,293.00	10,870.00	10,868.35	65.30	18.87	19.79	435.70	164.72	2,943.96	2,881.83	62.13	47.385	
14,500.00	11,293.00	10,870.00	10,868.35	66.98	18.87	19.79	435.70	164.72	3,042.88	2,979.95	62.94	48.349	
14,600.00	11,293.00	10,870.00	10,868.35	68.67	18.87	19.79	435.70	164.72	3,141.88	3,078.13	63.75	49.286	
14,700.00	11,293.00	10,870.00	10,868.35	70.36	18.87	19.79	435.70	164.72	3,240.93	3,176.37	64.57	50.196	
14,800.00	11,293.00	10,870.00	10,868.35	72.06	18.87	19.79	435.70	164.72	3,340.05	3,274.66	65.39	51.080	
14,900.00	11,293.00	10,870.00	10,868.35	73.77	18.87	19.79	435.70	164.72	3,439.21	3,372.99	66.22	51.940	
15,000.00	11,293.00	10,870.00	10,868.35	75.48	18.87	19.79	435.70	164.72	3,538.42	3,471.37	67.05	52.775	
15,100.00	11,293.00	10,870.00	10,868.35	77.19	18.87	19.79	435.70	164.72	3,637.67	3,569.79	67.88	53.588	
15,200.00	11,293.00	10,870.00	10,868.35	78.92	18.87	19.79	435.70	164.72	3,736.97	3,668.25	68.72	54.378	
15,300.00	11,293.00	10,870.00	10,868.35	80.64	18.87	19.79	435.70	164.72	3,836.30	3,766.73	69.56	55.147	
15,400.00	11,293.00	10,870.00	10,868.35	82.37	18.87	19.79	435.70	164.72	3,935.66	3,865.25	70.41	55.896	
15,500.00	11,293.00	10,870.00	10,868.35	84.10	18.87	19.79	435.70	164.72	4,035.06	3,963.80	71.26	56.624	
15,600.00	11,293.00	10,870.00	10,868.35	85.84	18.87	19.79	435.70	164.72	4,134.48	4,062.37	72.11	57.334	
15,700.00	11,293.00	10,870.00	10,868.35	87.58	18.87	19.79	435.70	164.72	4,233.94	4,160.97	72.97	58.025	
15,778.06	11,293.00	10,870.00	10,868.35	88.94	18.87	19.79	435.70	164.72	4,311.61	4,237.97	73.64	58.552	

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 23H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Reference Site:	Gaucha Unit	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	23H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:
Gaucha Unit Offsets - Gaucha 6 - Re-entry - Re-entry													0.00 usft
Survey Program: 100-ISCWSA-GYRO-3.10942-MWD-ISCWSA													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 Footcandle (")	Offset Wellbore Centre (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
							+N-S (usft)	+E-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	25.45	435.69	207.31	482.68				
100.00	100.00	85.75	85.75	0.08	0.08	25.43	435.85	207.22	482.61	482.46	0.14	3,362.948	
200.00	200.00	183.72	183.72	0.31	0.22	25.37	436.45	206.96	483.05	482.52	0.52	923.653	
300.00	300.00	282.99	282.97	0.53	0.39	25.24	437.59	206.32	483.80	482.88	0.82	525.220	
400.00	400.00	383.69	383.65	0.76	0.57	25.02	439.07	204.97	484.57	483.24	1.32	366.320	
500.00	500.00	485.55	485.49	0.98	0.74	24.74	440.53	203.02	485.06	483.33	1.73	280.919	
600.00	600.00	588.94	588.84	1.21	0.93	24.38	441.76	200.23	485.03	482.89	2.13	227.369	
700.00	700.00	691.65	691.48	1.43	1.11	23.96	442.58	196.71	484.34	481.81	2.54	190.823	
800.00	800.00	792.55	792.32	1.66	1.28	23.55	443.02	193.09	483.30	480.36	2.94	164.412	
900.00	900.00	893.10	892.80	1.88	1.46	23.15	443.27	189.53	482.12	478.78	3.34	144.347	
1,000.00	1,000.00	994.00	993.64	2.11	1.64	22.76	443.34	185.98	480.81	477.07	3.74	128.525	
1,100.00	1,100.00	1,094.58	1,094.16	2.33	1.81	22.38	443.19	182.51	479.35	475.21	4.14	115.750	
1,200.00	1,200.00	1,194.23	1,193.75	2.56	1.99	22.02	442.95	179.19	477.87	473.33	4.54	105.280	
1,300.00	1,300.00	1,294.49	1,293.96	2.78	2.16	21.68	442.68	175.96	476.42	471.48	4.94	96.447	
1,400.00	1,400.00	1,395.25	1,394.67	3.01	2.34	21.33	442.26	172.74	474.85	469.52	5.34	88.920	
1,500.00	1,500.00	1,495.94	1,495.31	3.23	2.52	21.00	441.65	169.57	473.16	467.42	5.74	82.419	
1,600.00	1,600.00	1,596.15	1,595.47	3.46	2.69	20.69	440.89	166.51	471.36	465.22	6.14	76.761	
1,700.00	1,700.00	1,695.88	1,695.15	3.69	2.87	20.39	440.07	163.60	469.57	463.03	6.54	71.806	
1,800.00	1,800.00	1,795.04	1,795.27	3.91	3.04	20.12	439.19	160.87	467.80	460.86	6.94	67.415	
1,900.00	1,900.00	1,895.77	1,894.96	4.13	3.22	19.86	438.25	158.31	466.04	458.70	7.34	63.509	
2,000.00	2,000.00	1,996.65	1,995.80	4.35	3.40	19.61	437.20	155.79	464.22	456.48	7.74	59.983	
2,100.00	2,100.00	2,096.54	2,095.65	4.58	3.57	19.37	436.06	153.31	462.31	454.17	8.14	56.805	
2,200.00	2,200.00	2,194.85	2,193.93	4.80	3.74	19.14	435.08	151.00	460.59	452.06	8.54	53.984	
2,300.00	2,300.00	2,291.67	2,290.74	5.03	3.91	18.92	434.56	148.98	459.40	450.48	8.93	51.450	
2,400.00	2,400.00	2,392.90	2,391.94	5.25	4.09	18.71	434.22	147.08	458.48	449.15	9.33	49.136	
2,500.00	2,500.00	2,493.34	2,492.36	5.48	4.27	18.52	433.62	145.22	457.32	447.59	9.73	46.996	
2,600.00	2,600.00	2,592.87	2,591.68	5.70	4.44	18.32	433.04	143.42	456.20	446.07	10.13	45.036	
2,700.00	2,700.00	2,689.77	2,688.77	5.93	4.61	18.20	432.65	142.29	455.45	444.92	10.52	43.278	
2,800.00	2,800.00	2,788.68	2,787.68	6.15	4.78	18.13	432.59	141.63	455.18	444.26	10.92	41.679	
2,900.00	2,900.00	2,888.45	2,887.45	6.38	4.96	18.08	432.56	141.25	455.04	443.72	11.32	40.199	
2,935.76	2,935.76	2,923.66	2,922.66	6.46	5.02	18.09	432.52	141.29	455.02	443.55	11.46	39.899	
3,000.00	3,000.00	2,986.49	2,985.49	6.60	5.13	18.08	432.64	141.24	455.11	443.40	11.72	38.848	
3,100.00	3,100.00	3,084.48	3,083.47	6.83	5.30	18.04	433.24	141.10	455.65	443.54	12.11	37.624	
3,200.00	3,200.00	3,183.13	3,182.12	7.05	5.47	18.03	434.11	141.32	456.56	444.05	12.51	36.505	
3,300.00	3,300.00	3,282.19	3,281.17	7.28	5.64	18.06	435.14	141.85	457.71	444.81	12.90	35.472	
3,400.00	3,400.00	3,381.44	3,380.41	7.50	5.81	18.10	436.29	142.61	459.05	445.75	13.30	34.513	
3,500.00	3,500.00	3,481.02	3,479.99	7.73	5.99	18.17	437.51	143.56	460.51	446.81	13.70	33.817	
3,600.00	3,600.00	3,581.09	3,580.04	7.95	6.16	18.25	438.74	144.64	462.02	447.92	14.10	32.772	
3,700.00	3,700.00	3,680.85	3,679.79	8.18	6.34	18.32	439.97	145.69	463.52	449.02	14.50	31.975	
3,800.00	3,800.00	3,781.76	3,780.68	8.40	6.51	18.40	441.18	146.73	464.98	450.08	14.90	31.214	
3,900.00	3,900.00	3,881.98	3,880.89	8.63	6.69	18.50	442.14	147.95	466.27	450.98	15.30	30.483	
4,000.00	4,000.00	3,981.66	3,980.55	8.85	6.86	18.62	443.07	149.28	467.59	451.89	15.69	29.793	
4,100.00	4,100.00	4,082.32	4,081.20	9.07	7.03	18.76	443.96	150.78	468.90	452.80	16.09	28.134	
4,200.00	4,200.00	4,182.02	4,180.88	9.30	7.21	18.91	444.72	152.31	470.12	453.63	16.49	26.504	
4,300.00	4,300.00	4,283.18	4,282.03	9.52	7.38	19.05	445.48	153.82	471.31	454.42	16.89	27.898	
4,400.00	4,400.00	4,382.71	4,381.55	9.75	7.56	19.19	446.08	155.26	472.36	455.07	17.29	27.316	
4,500.00	4,500.00	4,482.14	4,480.97	9.97	7.73	19.36	446.75	156.96	473.56	455.87	17.69	26.769	
4,600.00	4,600.00	4,582.08	4,580.88	10.20	7.90	19.53	447.48	158.70	474.83	456.74	18.09	26.248	
4,700.00	4,700.00	4,682.39	4,681.18	10.42	8.08	19.70	448.18	160.45	476.07	457.58	18.49	25.748	
4,800.00	4,800.00	4,782.06	4,780.84	10.65	8.25	19.87	448.85	162.19	477.29	458.40	18.89	25.269	
4,900.00	4,900.00	4,882.39	4,881.14	10.87	8.43	20.04	449.54	163.96	478.54	459.25	19.29	24.810	
5,000.00	5,000.00	4,982.50	4,981.24	11.10	8.60	20.21	450.16	165.70	479.73	460.04	19.69	24.367	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 23H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Reference Site:	Gaucha Unit	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	23H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD/Reference:	Offset Datum

Offset Design: Gaucha Unit Offsets - Gaucha 6 - Re-entry - Re-entry													Offset Site Error:
Survey Program: 100-ISCWSA-GYRO-3: 10942-MWD-ISCWSA													Offset Well Error:
Reference	Offset	Semi Major Axis											
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,100.00	5,082.68	5,081.40	11.32	8.77	20.38	450.75	167.48	480.89	480.80	20.09	23.940	
5,200.00	5,200.00	5,183.37	5,182.07	11.55	8.95	20.56	451.25	169.24	481.97	481.48	20.49	23.525	
5,300.00	5,300.00	5,285.17	5,283.86	11.77	9.13	20.73	451.54	170.90	482.80	481.91	20.89	23.112	
5,400.00	5,400.00	5,386.18	5,384.86	12.00	9.30	20.90	451.50	172.44	483.32	482.03	21.29	22.701	
5,500.00	5,500.00	5,486.26	5,484.93	12.22	9.48	21.06	451.42	173.79	483.72	482.03	21.69	22.302	
5,600.00	5,600.00	5,586.57	5,585.23	12.45	9.65	21.19	451.36	175.00	484.10	482.01	22.09	21.915	
5,700.00	5,700.00	5,687.01	5,685.66	12.67	9.83	21.32	451.24	176.15	484.40	481.91	22.49	21.539	
5,800.00	5,800.00	5,787.78	5,786.42	12.90	10.00	21.47	450.95	177.38	484.58	481.69	22.89	21.170	
5,900.00	5,900.00	5,888.04	5,886.68	13.12	10.17	21.66	450.44	178.85	484.65	481.36	23.29	20.810	
6,000.00	6,000.00	5,988.29	5,986.91	13.35	10.35	21.80	450.00	180.01	484.67	480.98	23.69	20.460	
6,005.96	6,005.96	5,994.26	5,992.89	13.36	10.36	21.81	449.98	180.06	484.67	480.96	23.71	20.439	
6,100.00	6,100.00	6,086.09	6,084.71	13.57	10.52	21.88	449.93	180.71	484.87	480.78	24.08	20.132	
6,200.00	6,200.00	6,185.11	6,183.73	13.80	10.69	21.96	450.22	181.50	485.44	480.96	24.48	19.829	
6,300.00	6,300.00	6,284.72	6,283.33	14.02	10.87	22.06	450.54	182.57	486.14	481.26	24.88	19.539	
6,400.00	6,400.00	6,385.12	6,383.73	14.24	11.04	22.15	450.92	183.52	486.84	481.56	25.28	19.257	
6,500.00	6,500.00	6,485.80	6,484.41	14.47	11.22	22.19	451.31	184.11	487.43	481.75	25.68	18.980	
6,600.00	6,600.00	6,585.87	6,584.47	14.69	11.39	22.24	451.62	184.66	487.92	481.84	26.08	18.708	
6,700.00	6,700.00	6,685.91	6,684.51	14.92	11.57	22.28	451.95	185.16	488.42	481.94	26.48	18.444	
6,800.00	6,800.00	6,784.96	6,783.55	15.14	11.74	22.32	452.34	185.70	488.99	482.11	26.88	18.192	
6,900.00	6,900.00	6,886.55	6,885.15	15.37	11.92	22.38	452.74	186.23	489.55	482.27	27.28	17.945	
7,000.00	7,000.00	6,985.91	6,984.50	15.59	12.09	22.39	453.00	186.62	489.94	482.26	27.68	17.700	
7,100.00	7,100.00	7,086.45	7,085.05	15.82	12.27	22.43	453.28	187.14	490.40	482.32	28.08	17.464	
7,200.00	7,200.00	7,186.98	7,185.58	16.04	12.44	22.46	453.50	187.46	490.72	482.24	28.48	17.230	
7,300.00	7,300.00	7,288.28	7,286.87	16.27	12.62	22.48	453.58	187.66	490.87	481.98	28.88	16.995	
7,400.00	7,400.00	7,389.86	7,388.45	16.49	12.79	22.50	453.36	187.78	490.71	481.43	29.28	16.757	
7,500.00	7,500.00	7,489.45	7,488.04	16.72	12.97	22.51	453.05	187.75	490.42	480.73	29.68	16.522	
7,600.00	7,600.00	7,589.30	7,587.89	16.94	13.14	22.53	452.78	187.86	490.20	480.12	30.08	16.296	
7,700.00	7,700.00	7,689.40	7,687.99	17.17	13.32	22.55	452.54	187.88	489.99	459.51	30.48	16.076	
7,800.00	7,800.00	7,788.58	7,787.17	17.39	13.49	22.54	452.43	187.76	489.84	458.97	30.88	15.864	
7,900.00	7,900.00	7,888.73	7,887.32	17.62	13.66	22.51	452.47	187.52	489.79	458.51	31.28	15.660	
8,000.00	8,000.00	7,989.18	7,987.77	17.84	13.84	22.47	452.47	187.19	489.86	457.98	31.68	15.458	
8,100.00	8,100.00	8,089.86	8,088.45	18.07	14.02	22.43	452.38	186.75	489.41	457.34	32.08	15.257	
8,200.00	8,200.00	8,190.66	8,189.25	18.29	14.19	22.38	452.19	186.16	489.02	456.54	32.48	15.057	
8,300.00	8,300.00	8,290.80	8,289.39	18.52	14.37	22.31	451.93	185.46	488.51	455.64	32.88	14.859	
8,400.00	8,400.00	8,390.94	8,389.52	18.74	14.54	22.24	451.69	184.69	487.99	454.72	33.28	14.665	
8,500.00	8,500.00	8,490.61	8,489.19	18.96	14.72	22.14	451.53	183.74	487.49	453.81	33.67	14.476	
8,600.00	8,600.00	8,589.51	8,588.08	19.19	14.89	22.01	451.63	182.53	487.12	453.05	34.07	14.297	
8,700.00	8,700.00	8,688.90	8,687.46	19.41	15.06	21.85	451.96	181.26	486.95	452.48	34.47	14.127	
8,800.00	8,800.00	8,788.48	8,787.03	19.64	15.24	21.72	452.31	180.20	486.88	452.01	34.87	13.963	
8,900.00	8,900.00	8,889.24	8,887.79	19.86	15.41	21.60	452.53	179.15	486.70	451.43	35.27	13.799	
9,000.00	9,000.00	8,992.61	8,991.15	20.09	15.59	21.47	452.33	177.89	486.07	450.40	35.67	13.625	
9,100.00	9,100.00	9,091.65	9,090.19	20.31	15.76	21.35	451.97	176.64	485.27	449.20	36.07	13.453	
9,200.00	9,200.00	9,190.53	9,189.05	20.54	15.94	21.23	451.83	175.48	484.71	448.24	36.47	13.291	
9,300.00	9,300.00	9,291.91	9,290.43	20.76	16.11	21.13	451.59	174.52	484.15	447.28	36.87	13.131	
9,400.00	9,400.00	9,391.86	9,390.38	20.99	16.29	21.09	451.01	173.98	483.41	446.14	37.27	12.971	
9,500.00	9,500.00	9,491.30	9,489.81	21.21	16.46	21.08	450.42	173.66	482.75	445.08	37.67	12.816	
9,600.00	9,600.00	9,590.49	9,589.00	21.44	16.64	21.05	450.03	173.23	482.23	444.16	38.07	12.668	
9,700.00	9,700.00	9,691.68	9,690.19	21.66	16.81	21.02	449.61	172.80	481.69	443.22	38.47	12.522	
9,800.00	9,800.00	9,792.26	9,790.77	21.89	16.99	21.03	448.88	172.60	480.94	442.07	38.87	12.374	
9,900.00	9,900.00	9,892.32	9,890.83	22.11	17.16	21.06	448.04	172.50	480.12	440.85	39.27	12.227	
10,000.00	10,000.00	9,991.94	9,990.44	22.34	17.34	21.05	447.33	172.19	479.34	439.67	39.67	12.085	
10,100.00	10,100.00	10,092.07	10,090.57	22.56	17.51	21.02	446.72	171.68	478.59	438.53	40.06	11.946	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 23H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Reference Site:	Gaucha Unit	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	23H	Survey/Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset/TVD Reference:	Offset Datum

Offset Design													Offset Site Error:
Gaucha Unit Offsets - Gaucha 6 - Re-entry - Re-entry													0.00 usft
Survey Program: 100-ISCWSA-GYRO-31-10942-MWD-ISCWSA													Offset Well Error:
Reference													0.00 usft
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre	Between	Between	Minimum	Separation	Warning	
Depth	Depth	Depth	Depth	(usft)	(usft)	Toolface	(usft)	Centres	Ellipses	Separation	Factor		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)			
10,200.00	10,200.00	10,191.94	10,190.44	22.79	17.69	20.97	446.18	170.98	477.84	437.37	40.46	11.809	
10,300.00	10,300.00	10,292.81	10,291.29	23.01	17.86	20.91	445.57	170.26	477.01	436.15	40.86	11.673	
10,400.00	10,400.00	10,393.10	10,391.58	23.24	18.04	20.90	444.72	169.81	476.06	434.79	41.26	11.537	
10,500.00	10,500.00	10,495.04	10,493.51	23.46	18.22	20.91	443.57	169.44	474.88	433.21	41.67	11.397	
10,600.00	10,600.00	10,596.89	10,595.35	23.68	18.39	20.89	442.11	168.74	473.29	431.22	42.07	11.250	
10,700.00	10,700.00	10,700.08	10,698.52	23.91	18.58	20.85	440.19	167.61	471.17	428.69	42.47	11.093	
10,720.04	10,720.04	10,720.69	10,719.12	23.95	18.61	20.83	439.74	167.33	470.66	428.11	42.56	11.060	
10,750.00	10,749.99	10,751.45	10,749.88	24.02	18.67	18.72	439.03	166.88	469.12	426.43	42.69	10.989	
10,800.00	10,799.74	10,809.31	10,807.70	24.13	18.79	19.12	437.46	166.00	463.11	419.96	43.15	10.734	
10,850.00	10,848.89	10,933.54	10,929.76	24.25	19.39	22.59	417.51	172.97	448.15	402.21	45.94	9.756	
10,900.00	10,897.06	11,145.41	11,115.45	24.36	19.50	40.75	322.21	197.75	422.88	376.78	46.10	9.172	
10,950.00	10,943.88	11,267.51	11,199.12	24.46	19.57	68.22	233.77	197.14	381.63	336.48	45.16	8.451	
11,000.00	10,988.99	11,283.84	11,208.78	24.56	19.58	80.11	220.65	196.21	339.64	295.20	44.43	7.644	
11,050.00	11,032.06	11,289.63	11,212.14	24.66	19.59	88.63	215.93	195.88	299.33	255.30	44.04	6.797	
11,100.00	11,072.76	11,289.35	11,211.98	24.78	19.59	94.09	216.15	195.90	262.27	218.12	44.15	5.941	
11,150.00	11,110.77	11,284.15	11,208.96	24.91	19.58	96.66	220.40	196.19	230.35	186.15	44.19	5.212	
11,200.00	11,145.80	11,274.67	11,203.39	25.05	19.58	96.64	228.05	196.73	205.95	161.67	44.29	4.651	
11,250.00	11,177.60	11,262.25	11,195.94	25.21	19.57	94.49	237.95	197.45	191.67	147.21	44.46	4.311	
11,285.56	11,198.11	11,249.97	11,188.38	25.33	19.56	91.23	247.60	198.14	188.66	144.06	44.60	4.230 CC, ES, SF	
11,300.00	11,205.92	11,244.38	11,184.86	25.38	19.56	89.56	251.95	198.40	189.14	144.51	44.63	4.238	
11,350.00	11,230.53	11,224.28	11,171.89	25.58	19.54	82.98	267.28	199.06	197.92	162.62	45.30	4.369	
11,400.00	11,251.26	11,203.18	11,157.68	25.79	19.53	75.38	282.88	199.24	215.86	169.68	46.19	4.674	
11,450.00	11,267.95	11,183.64	11,143.97	26.03	19.52	67.83	296.79	198.96	240.28	193.81	46.47	5.171	
11,500.00	11,280.47	11,163.00	11,128.84	26.30	19.51	60.08	310.82	198.37	269.00	222.94	46.06	5.840	
11,550.00	11,288.72	11,147.59	11,117.13	26.59	19.51	53.76	320.83	197.83	300.27	255.05	45.22	6.640	
11,600.00	11,292.65	11,132.00	11,104.95	26.89	19.50	47.87	330.54	197.27	332.94	288.88	44.06	7.557	
11,620.04	11,293.00	11,121.22	11,098.36	27.02	19.49	45.06	337.03	196.85	346.16	302.78	43.39	7.979	
11,700.00	11,293.00	11,091.41	11,071.99	27.58	19.48	41.17	354.13	195.40	401.67	359.06	42.62	9.425	
11,800.00	11,293.00	11,069.00	11,052.92	28.36	19.48	38.34	365.74	193.55	477.75	435.55	42.20	11.322	
11,900.00	11,293.00	11,037.00	11,024.77	29.23	19.47	34.44	380.40	189.52	559.01	517.67	41.34	13.522	
12,000.00	11,293.00	11,015.10	11,005.12	30.19	19.46	31.92	389.42	186.08	644.01	603.09	40.92	15.738	
12,100.00	11,293.00	10,993.06	10,985.11	31.23	19.46	29.55	397.88	182.34	731.62	691.10	40.53	18.054	
12,200.00	11,293.00	10,973.00	10,968.77	32.33	19.45	27.54	405.17	178.77	821.08	780.83	40.25	20.399	
12,300.00	11,293.00	10,973.00	10,966.77	33.50	19.45	27.54	405.17	178.77	912.37	871.54	40.83	22.343	
12,400.00	11,293.00	10,942.00	10,937.81	34.73	19.43	24.81	415.14	174.00	1,004.84	964.60	40.24	24.973	
12,500.00	11,293.00	10,942.00	10,937.81	36.00	19.43	24.81	415.14	174.00	1,098.18	1,057.33	40.85	26.886	
12,600.00	11,293.00	10,942.00	10,937.81	37.32	19.43	24.81	415.14	174.00	1,192.60	1,151.12	41.48	28.750	
12,700.00	11,293.00	10,942.00	10,937.81	38.68	19.43	24.81	415.14	174.00	1,287.86	1,245.72	42.14	30.559	
12,800.00	11,293.00	10,942.00	10,937.81	40.07	19.43	24.81	415.14	174.00	1,383.79	1,340.96	42.83	32.309	
12,900.00	11,293.00	10,942.00	10,937.81	41.50	19.43	24.81	415.14	174.00	1,480.26	1,436.73	43.54	33.999	
13,000.00	11,293.00	10,942.00	10,937.81	42.96	19.43	24.81	415.14	174.00	1,577.17	1,532.91	44.27	35.830	
13,100.00	11,293.00	10,942.00	10,937.81	44.44	19.43	24.81	415.14	174.00	1,674.45	1,629.43	45.01	37.200	
13,200.00	11,293.00	10,942.00	10,937.81	45.95	19.43	24.81	415.14	174.00	1,772.02	1,726.25	45.78	38.711	
13,300.00	11,293.00	10,942.00	10,937.81	47.48	19.43	24.81	415.14	174.00	1,869.86	1,823.30	46.55	40.185	
13,400.00	11,293.00	10,942.00	10,937.81	49.03	19.43	24.81	415.14	174.00	1,967.91	1,920.58	47.35	41.562	
13,500.00	11,293.00	10,942.00	10,937.81	50.60	19.43	24.81	415.14	174.00	2,066.15	2,017.99	48.16	42.906	
13,600.00	11,293.00	10,882.99	10,880.79	52.18	19.13	20.84	429.02	168.28	2,160.45	2,111.07	49.38	43.751	
13,700.00	11,293.00	10,879.59	10,877.45	53.78	19.12	20.65	429.63	168.06	2,258.55	2,208.26	50.29	44.908	
13,800.00	11,293.00	10,876.41	10,874.32	55.40	19.10	20.47	430.18	167.86	2,356.78	2,305.58	51.21	46.026	
13,900.00	11,293.00	10,873.43	10,871.39	57.02	19.09	20.32	430.68	167.68	2,455.14	2,403.02	52.12	47.105	
14,000.00	11,293.00	10,870.63	10,868.64	58.66	19.07	20.17	431.14	167.52	2,553.61	2,500.57	53.03	48.151	
14,100.00	11,293.00	10,868.01	10,866.05	60.30	19.06	20.03	431.55	167.38	2,652.17	2,598.22	53.95	49.162	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 23H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Reference Site:	Gaucha Unit	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	23H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset-TVD Reference:	Offset Datum

Offset Design													Offset Site Error:
Gaucha Unit Offsets - Gaucha 6 - Re-entry - Re-entry													0.00 usft
Survey Program: 100-ISCWSA-GYRO-3; 10942-MWD-ISCWSA													Offset Well Error:
Reference													0.00 usft
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 Ellipse (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,200.00	11,293.00	10,865.53	10,863.60	61.96	19.05	19.91	431.93	167.25	2,750.83	2,595.97	54.86	50.143	
14,300.00	11,293.00	10,863.19	10,861.30	63.62	19.04	19.79	432.27	167.14	2,849.56	2,793.79	55.77	51.093	
14,400.00	11,293.00	10,860.99	10,859.11	65.30	19.03	19.68	432.59	167.03	2,948.37	2,891.89	56.68	52.015	
14,500.00	11,293.00	10,798.40	10,796.80	66.98	18.75	17.19	437.86	166.13	3,051.27	2,989.92	61.34	49.740	
14,600.00	11,293.00	10,798.40	10,796.80	68.67	18.75	17.19	437.86	166.13	3,149.93	3,087.82	62.11	50.712	
14,700.00	11,293.00	10,798.40	10,796.80	70.36	18.75	17.19	437.86	166.13	3,248.67	3,185.78	62.89	51.857	
14,800.00	11,293.00	10,798.40	10,796.80	72.06	18.75	17.19	437.86	166.13	3,347.49	3,283.82	63.67	52.576	
14,900.00	11,293.00	10,798.40	10,796.80	73.77	18.75	17.19	437.86	166.13	3,446.37	3,381.92	64.45	53.470	
15,000.00	11,293.00	10,798.40	10,796.80	75.48	18.75	17.19	437.86	166.13	3,545.32	3,480.08	65.24	54.340	
15,100.00	11,293.00	10,798.40	10,796.80	77.19	18.75	17.19	437.86	166.13	3,644.33	3,578.29	66.04	55.186	
15,200.00	11,293.00	10,798.40	10,796.80	78.92	18.75	17.19	437.86	166.13	3,743.39	3,676.55	66.83	56.010	
15,300.00	11,293.00	10,798.40	10,796.80	80.64	18.75	17.19	437.86	166.13	3,842.49	3,774.86	67.63	56.813	
15,400.00	11,293.00	10,798.40	10,796.80	82.37	18.75	17.19	437.86	166.13	3,941.65	3,873.21	68.44	57.594	
15,500.00	11,293.00	10,798.40	10,796.80	84.10	18.75	17.19	437.86	166.13	4,040.84	3,971.59	69.25	58.355	
15,600.00	11,293.00	10,798.40	10,796.80	85.84	18.75	17.19	437.86	166.13	4,140.07	4,070.02	70.06	59.097	
15,700.00	11,293.00	10,798.40	10,796.80	87.58	18.75	17.19	437.86	166.13	4,239.34	4,168.47	70.87	59.820	
15,778.08	11,293.00	10,798.40	10,796.80	88.94	18.75	17.19	437.86	166.13	4,316.88	4,245.37	71.51	60.371	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 23H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Reference Site:	Gaucha Unit	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	23H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3470.1' GL + 25' RKB @ 3495.10usft

Offset Depths are relative to Offset Datum

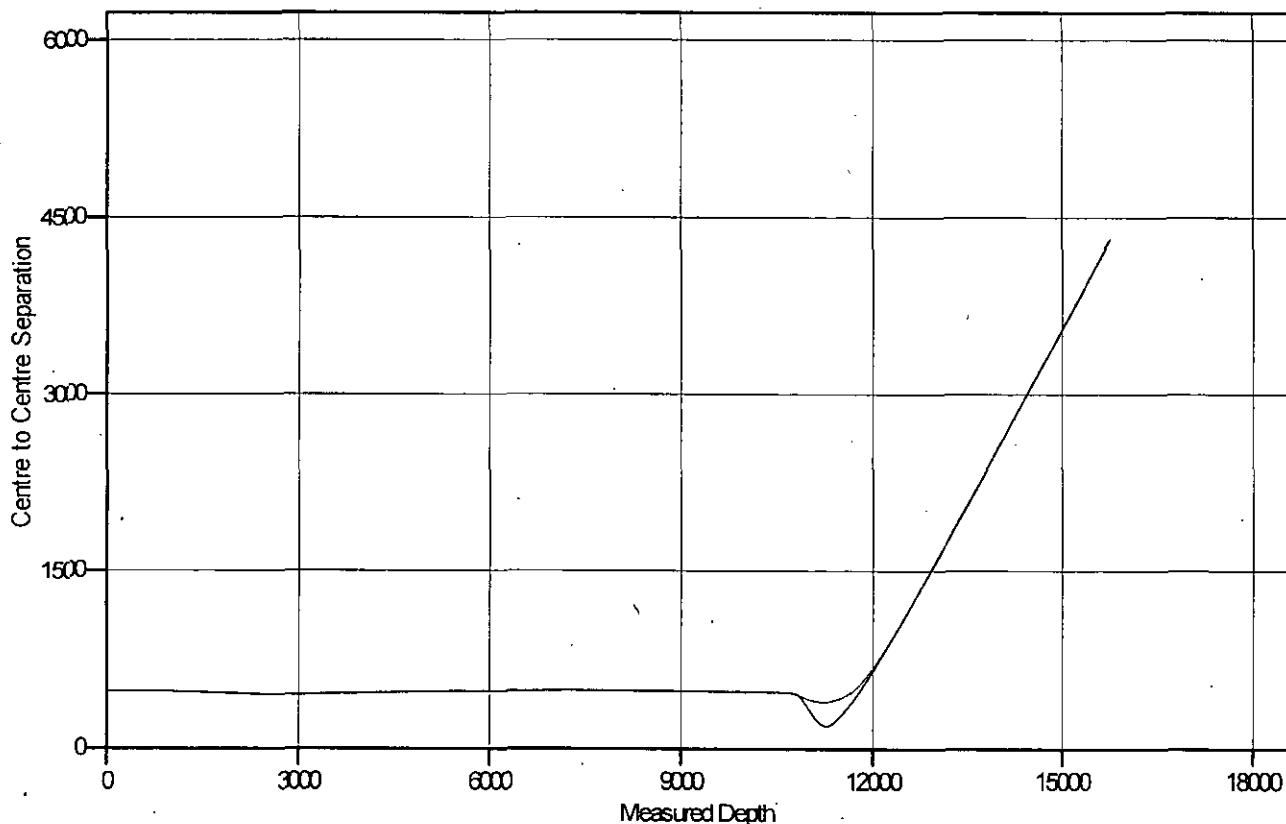
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 23H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.45°

Ladder Plot



LEGEND

✱ Gaucha 6, OH, OH V0

▲ Gaucha 6, Re-entry, Re-entry V0

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 23H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Reference Site:	Gaucha Unit	MD Reference:	3470.1' GL + 25' RKB @ 3495.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	23H	Survey/Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3470.1' GL + 25' RKB @ 3495.10usft

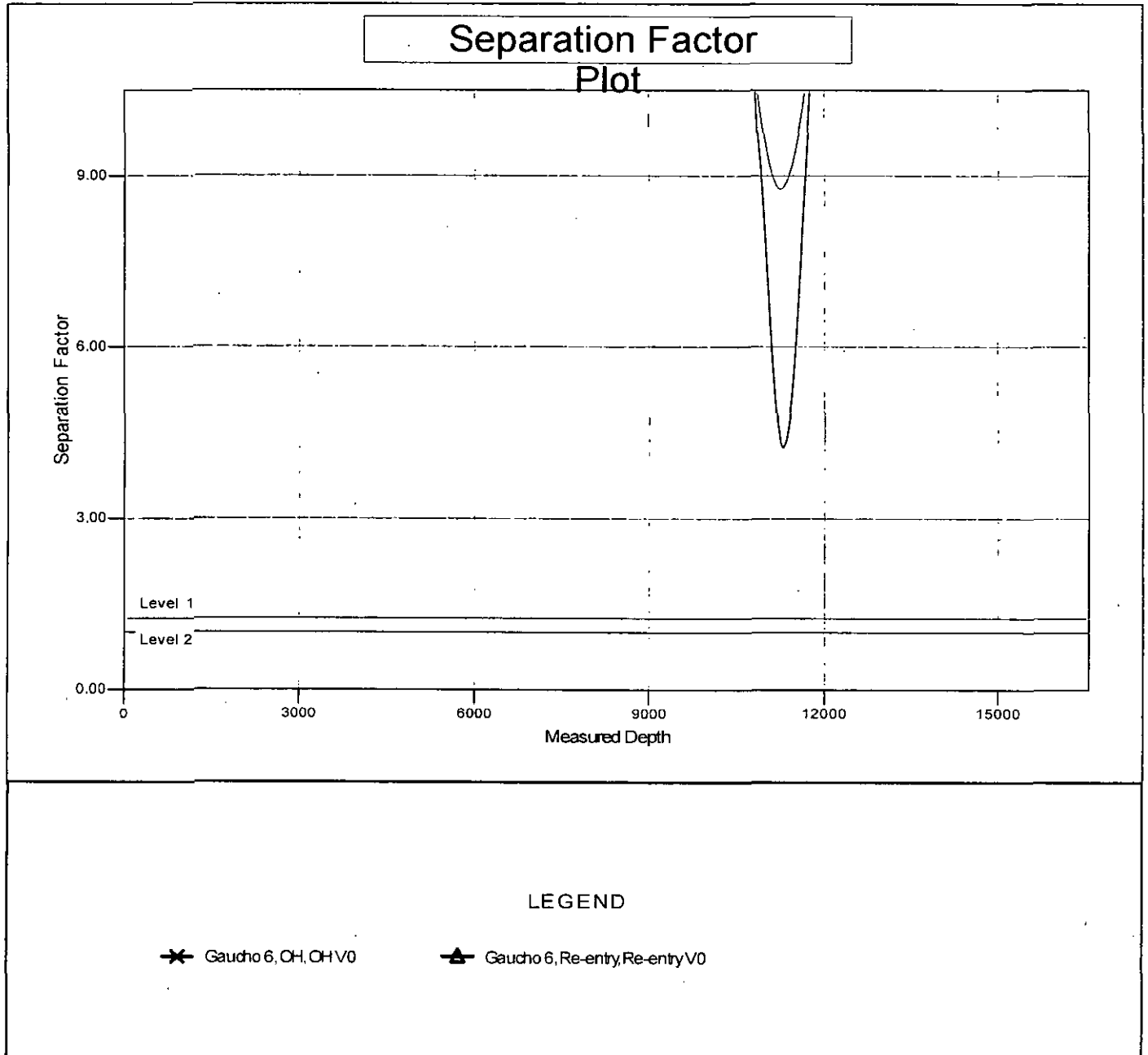
Offset Depths are relative to Offset Datum

Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 23H

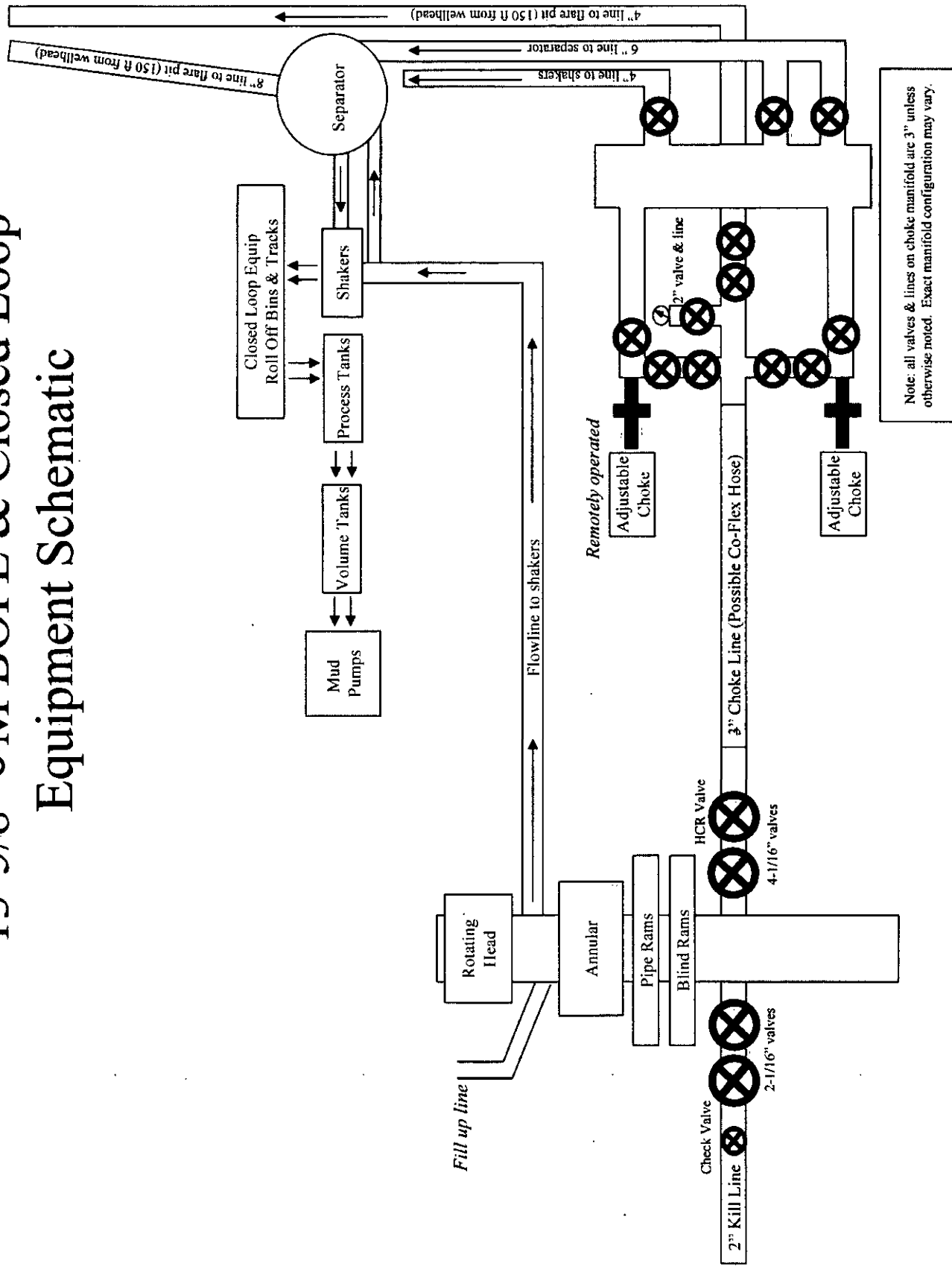
Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.45"



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

13-5/8" 5M BOPE & Closed Loop Equipment Schematic





Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly. It is good practice to use lifting & safety equipment but not mandatory.

Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

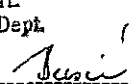
ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

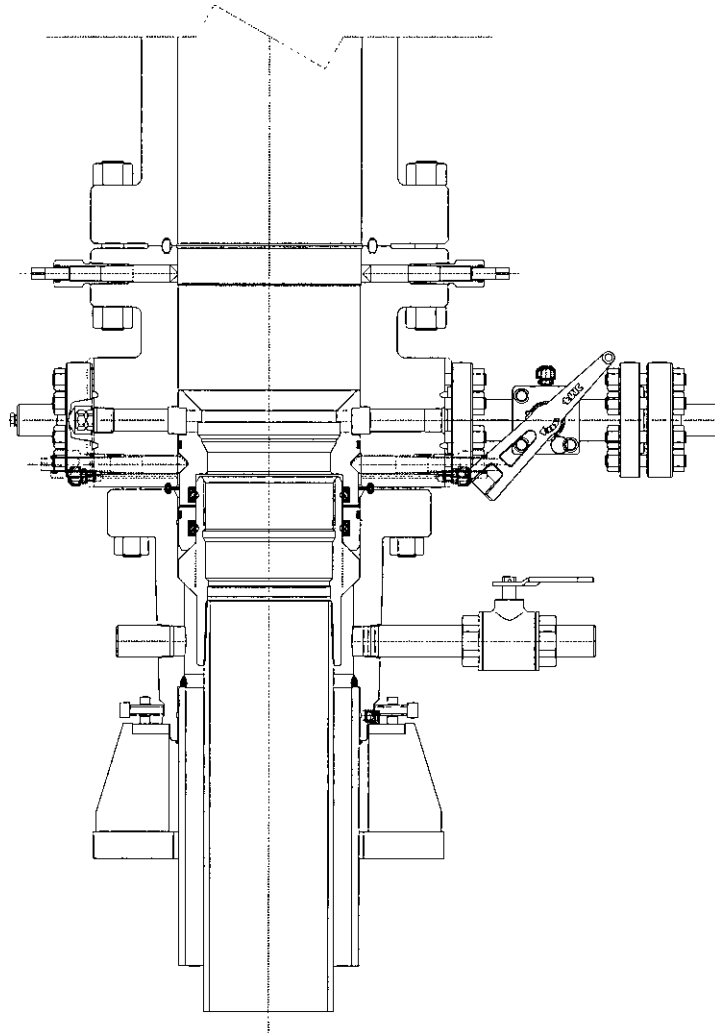
Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

ContiTech Beattie Corp,
11535 Brittmoore Park Drive,
Houston, TX 77041
Phone: +1 (832) 327-0141
Fax: +1 (832) 327-0148
www.contitechbeattie.com



QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 1713	
PURCHASER: ContiTech Beattie Co.				P.O. N°: 002808	
CONTITECH ORDER N°: 426127		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N°: 53622		NOMINAL / ACTUAL LENGTH: 10,67 m			
W.P. 68,96 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature See attachment. (1 page) ↑ 10 mm = 10 Min. → 10 mm = 25 MPa					
COUPLINGS Type		Serial N°		Quality	
3" coupling with 4 1/16" Flange end		5503 2029		AISI 4130 AISI 4130	
				Heat N° N1590P 27566	
INFOCHIP INSTALLED				API Spec 16 C Temperature rate:"B"	
All metal parts are flawless				Hose conform to NACE MR 01-75	
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date: 25. August. 2008		Inspector		Quality Control ContiTech Rubber Industrial Kft. Quality Control Dept.  	



PRIMARY MODE

DEVON ENERGY

ARTESIA

S.E.N.M

13 3/8 X 9 5/8

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315

PRIVATE AND CONFIDENTIAL

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REVISIONS

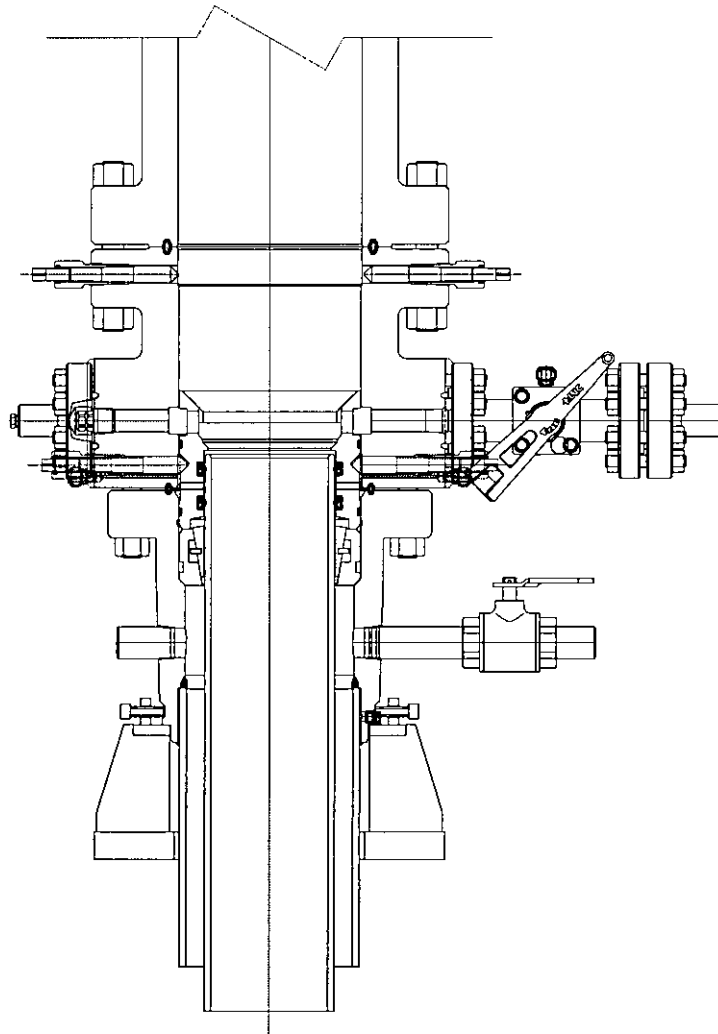
A	05-08-13
B	1-22-14
C	5-13-14

DESCRIPTION

SURFACE WELLHEAD LAYOUT
UNIHEAD, UH-1, SOW,
DEVON ENERGY, ODESSA

DRAWN BY	K. VU	05-08-13
DRAFTING REVIEW	Z. MARQUEZ	05-08-13
DESIGN REVIEW	K. TAHA	05-08-13
APPROVED BY	R. HAMILTON	05-08-13

FMC Technologies
DRAWING NUMBER
DM100161771-2A



CONTINGENCY MODE

DEVON ENERGY

ARTESIA

S.E.N.M

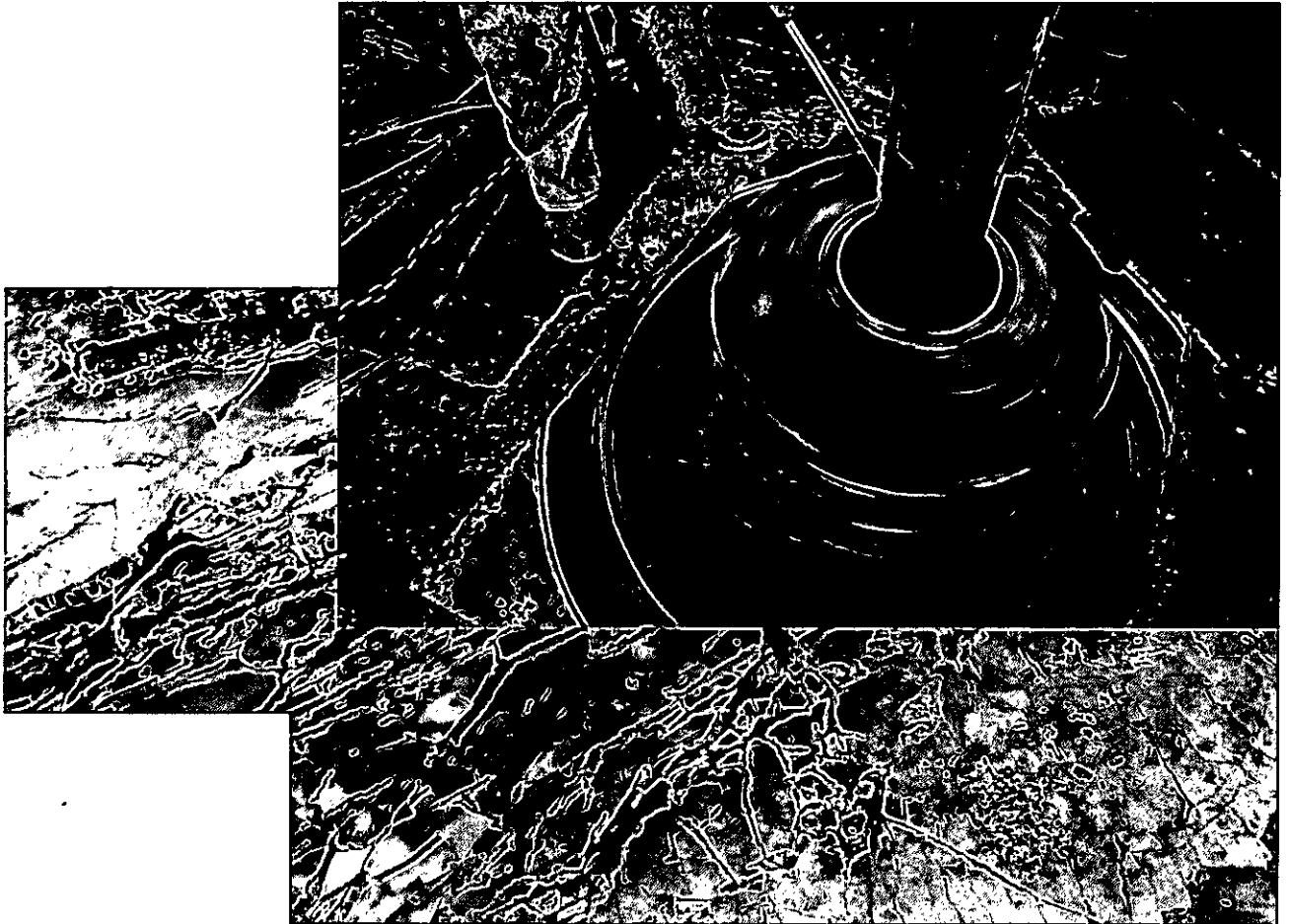
13 3/8 X 9 5/8

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315

PRIVATE AND CONFIDENTIAL		REVISIONS		DESCRIPTION			DM100161771-2B		
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		B	1-22-14		K. VU	05-08-13	DRAFTING REVIEW		
		C	5-13-14		Z. MARQUEZ	05-08-13	DESIGN REVIEW		
MANUFACTURER AGREES THAT ARTICLES MADE IN ACCORDANCE WITH THIS DOCUMENT SHALL BE CONSIDERED FMC TECHNOLOGIES DESIGN AND THAT IDENTICAL ARTICLES OR PARTS THEREOF SHALL NOT BE MANUFACTURED FOR THE USE OR SALE BY MANUFACTURER OR ANY OTHER PERSON WITHOUT THE PRIOR EXPRESS WRITTEN AUTHORIZATION BY FMC TECHNOLOGIES.				K. TAHA	05-08-13	APPROVED BY			DRAWING NUMBER DM100161771-2B
				R. HAMILTON	05-08-13				



Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
February 2015

I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

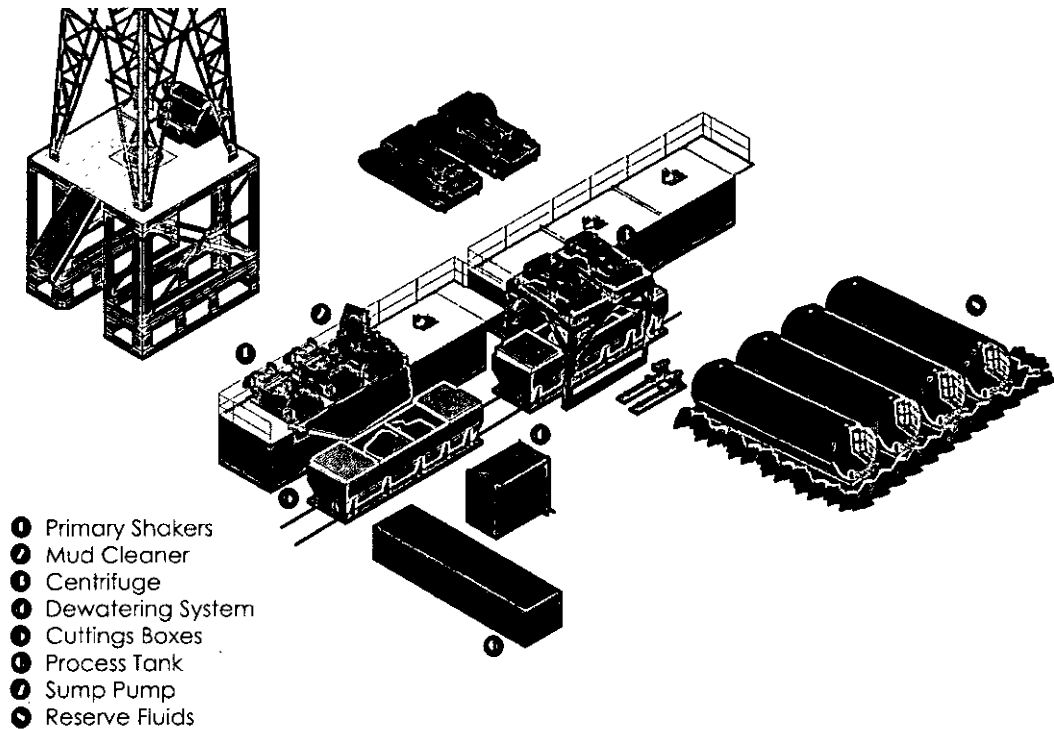
II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



Closed Loop Schematic



Centrifuges: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.

H&P Flex Rig Location Layout

