

Results of Directional Survey

API number:	30-025-40532		
OGRID:		Operator:	CIMAREX ENERGY CO.
		Property:	TRES EQUIS 5 STATE # 1H

surface	ULSTR:	D	05	T 24S	R 33E
				330 FNL	660 FWL

BH Loc	ULSTR:	M	05	T 24S	R 33E
15525 MD		11125.8	TVD	340 FSL	689 FWL
				4940 FNL	

Top Perf/OH	ULSTR:	D	05	T 24S	R 33E
11300 MD		11113.1	TVD	721 FNL	609 FWL

Bot Perf/OH	ULSTR:	M	05	T 24S	R 33E
15477 MD		11127.3	TVD	388 FSL	687 FWL
				4892 FNL	

	MD	N/S	E/W	VD
	11270	-361.40	-49.90	11106.7
TOP PERFS/OH	11300	-390.63	-51.06	11113.09
	11301	-391.60	-51.10	11113.30
	15477	-4562.10	26.50	11127.30
BOT PERFS/OH	15477	-4562.10	26.50	11127.30
	15525	-4610.00	29.30	11125.80

NEXT TO LAST	15477	-4562.10	26.50	11127.30
LAST READING	15525	-4610.00	29.30	11125.80
TD	15525	-4610.00	29.30	11125.80

Surface Location	330 FN	660 FW
Projected BHL	4940 FN	689 FW
Location of		
Top Perfs/OH	721 FN	609 FW
Bottom Perfs/OH	4892 FN	687 FW

SUMMARY of Subsurface Locations

Surface Location	D-05-24S-33E	330 FN	660 FW	Vert. Depth
Top Perfs/OH	D-05-24S-33E	721 FN	609 FW	11113.09
Bottom Perfs/OH	M-05-24S-33E	4892 FN	687 FW	11127.30
Projected TD	M-05-24S-33E	4940 FN	689 FW	11125.80



Cimarex Energy Company

Lea County, NM (NAD-83)

Tres Equis 5 State

#1H

OH

SUR: D-05-24s-33e, 330/N & 660/W
BHL: M-05-24s-33e, 4940/N & 689/W
API # 30-025-40532

Design: OH

Standard Survey Report

23 June, 2012





Leam Drilling Systems
Survey Report



Company:	Cimarex Energy Company	Local Co-ordinate Reference:	Well #1H
Project:	Lea County NM (NAD-83)	TVD Reference:	WELL @ 3682 5usft (Scandril Eagle - 25 5' KB)
Site:	Tres Equis 5 State	MD Reference:	WELL @ 3682 5usft (Scandril Eagle - 25 5' KB)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland(Permian Basin) Database

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: Tres Equis 5 State						
Site Position:		Northing:	456,573 90 usft	Latitude:	32° 15' 11 062 N	
From:	Map	Easting:	767,813 20 usft	Longitude:	103° 36' 2 620 W	
Position Uncertainty:		2 0 usft	Slot Radius:	8-1/8 "	Grid Convergence:	0 39 °

Well	#1H					
Well Position	+N/-S	0 0 usft	Northing:	456,573 90 usft	Latitude:	32° 15' 11 062 N
	+E/-W	0 0 usft	Easting:	767,813 20 usft	Longitude:	103° 36' 2 620 W
Position Uncertainty	0 0 usft	Wellhead Elevation:	usft	Ground Level:	3,657 0 usft	

Wellbore:		OH			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	05/29/12	7 48	60 19	48,533

Design:	OH				
Audit Notes:					
Version:	1 0	Phase:	ACTUAL	Tie On Depth:	0 0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0 0	0 0	0 0	179 65	

Survey Program		Date	06/23/12		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
29 8	10,482 3	Survey #1 - VES1 (OH)	CB-GYRO-MS	Camera based gyro multishot	
10,577 0	15,477 0	Survey #2 - LEAM1 (OH)	MWD	MWD - Standard	
15,525 0	15,525 0	Survey #3 - PTB (OH)	Project	Projection	

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	
29 8	0 19	258 77	29 8	0 0	0 0	0 0	0 64	0 64	0 00	
124 4	0 31	270 46	124 4	0 0	-0 5	0 0	0 14	0 13	12 36	
218 9	0 08	247 82	218 9	-0 1	-0 8	0 1	0 25	-0 24	-23 94	
313 5	0 33	248 25	313 5	-0 2	-1 1	0 2	0 26	0 26	0 45	
408 1	0 51	273 13	408 1	-0 3	-1 8	0 3	0 27	0 19	26 31	
502 6	0 48	263 45	502 6	-0 3	-2 6	0 3	0 09	-0 03	-10 24	
597 2	0 47	252 21	597 2	-0 5	-3 3	0 4	0 10	-0 01	-11 89	
691 8	0 45	240 97	691 8	-0 7	-4 0	0 7	0 10	-0 02	-11 89	



Leam Drilling Systems
Survey Report



Company:	Cimarex Energy Company	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3682.5usft (Scandnill Eagle -25.5' KB)
Site:	Tres Equis 5 State	MD Reference:	WELL @ 3682.5usft (Scandnill Eagle -25.5' KB)
Well:	#1H	North Reference:	Grd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland(Permian Basin) Database

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)
786.3	0.46	239.68	786.3	-1.1	-4.7	1.1	0.02	0.01	-1.36
880.9	0.46	238.38	880.9	-1.5	-5.3	1.5	0.01	0.00	-1.37
975.5	0.47	233.39	975.5	-1.9	-6.0	1.9	0.04	0.01	-5.28
1,070.1	0.47	228.40	1,070.0	-2.4	-6.6	2.4	0.04	0.00	-5.28
1,164.6	0.50	228.94	1,164.6	-3.0	-7.2	2.9	0.03	0.03	0.57
1,259.2	0.53	229.48	1,259.2	-3.5	-7.8	3.5	0.03	0.03	0.57
1,353.8	0.54	245.31	1,353.7	-4.0	-8.6	3.9	0.16	0.01	16.74
1,448.3	0.54	261.13	1,448.3	-4.2	-9.4	4.2	0.16	0.00	16.73
1,542.9	0.47	268.76	1,542.9	-4.3	-10.2	4.3	0.10	-0.07	8.07
1,637.5	0.41	276.39	1,637.4	-4.3	-11.0	4.2	0.09	-0.06	8.07
1,732.0	0.38	265.88	1,732.0	-4.3	-11.6	4.2	0.08	-0.03	-11.11
1,826.6	0.36	255.36	1,826.6	-4.4	-12.2	4.3	0.07	-0.02	-11.12
1,921.2	0.27	236.30	1,921.1	-4.6	-12.7	4.5	0.14	-0.10	-20.15
2,015.8	0.18	217.24	2,015.7	-4.8	-12.9	4.7	0.12	-0.10	-20.15
2,110.3	0.20	204.37	2,110.3	-5.1	-13.1	5.0	0.05	0.02	-13.61
2,204.9	0.22	191.49	2,204.8	-5.4	-13.2	5.3	0.05	0.02	-13.62
2,299.5	0.20	187.26	2,299.4	-5.7	-13.3	5.7	0.03	-0.02	-4.47
2,394.0	0.18	183.02	2,394.0	-6.1	-13.3	6.0	0.03	-0.02	-4.48
2,488.6	0.13	177.84	2,488.6	-6.3	-13.3	6.2	0.05	-0.05	-5.48
2,583.2	0.09	172.65	2,583.1	-6.5	-13.3	6.4	0.04	-0.04	-5.49
2,677.7	0.07	160.07	2,677.7	-6.6	-13.3	6.5	0.03	-0.02	-13.30
2,772.3	0.05	147.49	2,772.3	-6.7	-13.2	6.6	0.03	-0.02	-13.30
2,866.9	0.08	123.29	2,866.8	-6.8	-13.1	6.7	0.04	0.03	-25.59
2,961.5	0.11	99.10	2,961.4	-6.8	-13.0	6.8	0.05	0.03	-25.58
3,056.0	0.13	97.92	3,056.0	-6.9	-12.8	6.8	0.02	0.02	-1.25
3,150.6	0.14	96.74	3,150.5	-6.9	-12.6	6.8	0.01	0.01	-1.25
3,245.2	0.19	98.00	3,245.1	-6.9	-12.3	6.9	0.05	0.05	1.33
3,339.7	0.25	99.25	3,339.7	-7.0	-11.9	6.9	0.06	0.06	1.32
3,434.3	0.26	100.93	3,434.2	-7.1	-11.5	7.0	0.01	0.01	1.78
3,528.9	0.28	102.61	3,528.8	-7.1	-11.1	7.1	0.02	0.02	1.78
3,623.4	0.36	109.33	3,623.4	-7.3	-10.6	7.2	0.09	0.08	7.11
3,718.0	0.44	116.04	3,718.0	-7.6	-10.0	7.5	0.10	0.08	7.10
3,812.6	0.38	124.49	3,812.5	-7.9	-9.4	7.8	0.09	-0.06	8.94
3,907.2	0.32	132.93	3,907.1	-8.3	-8.9	8.2	0.08	-0.06	8.92
4,001.7	0.45	152.01	4,001.7	-8.8	-8.6	8.7	0.19	0.14	20.18
4,096.3	0.58	171.08	4,096.2	-9.6	-8.3	9.5	0.23	0.14	20.16
4,190.9	0.67	209.49	4,190.8	-10.5	-8.5	10.5	0.44	0.10	40.62
4,285.4	0.77	247.90	4,285.4	-11.2	-9.4	11.2	0.51	0.11	40.62
4,380.0	0.79	255.84	4,379.9	-11.6	-10.6	11.6	0.12	0.02	8.40
4,474.6	0.81	263.78	4,474.5	-11.9	-11.9	11.8	0.12	0.02	8.40
4,569.1	1.16	251.47	4,569.0	-12.2	-13.5	12.2	0.43	0.37	-13.02
4,663.7	1.51	239.15	4,663.6	-13.2	-15.5	13.1	0.48	0.37	-13.03
4,758.3	1.52	224.23	4,758.1	-14.7	-17.4	14.6	0.42	0.01	-15.78



Leam Drilling Systems

Survey Report



Company: Cimarex Energy Company

Project: Lea County, NM (NAD-83)

Site: Tres Equis 5 State

Well: #1H

Wellbore: OH

Design: OH

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Database:

Well: #1H

WELL @ 3682 5usft (Scandrift Eagle - 25 5' KB)

WELL @ 3682 5usft (Scandrift Eagle - 25 5' KB)

Grid:

Minimum Curvature

Midland (Permian Basin) Database

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)
4,852.9	1.54	209.30	4,852.6	-16.7	-18.9	16.6	0.42	0.02	-15.79
4,947.4	1.73	183.58	4,947.2	-19.3	-19.6	19.1	0.79	0.20	-27.20
5,042.0	1.92	157.86	5,041.7	-22.2	-19.1	22.0	0.88	0.20	-27.20
5,136.6	1.47	145.76	5,136.2	-24.6	-17.8	24.5	0.61	-0.48	-12.79
5,231.1	1.03	133.66	5,230.8	-26.2	-16.5	26.1	0.54	-0.47	-12.79
5,325.7	0.85	135.42	5,325.3	-27.3	-15.4	27.2	0.19	-0.19	1.86
5,420.3	0.67	137.19	5,419.9	-28.2	-14.6	28.1	0.19	-0.19	1.87
5,514.8	0.47	126.73	5,514.5	-28.8	-13.9	28.8	0.24	-0.21	-11.06
5,609.4	0.26	116.27	5,609.0	-29.2	-13.4	29.1	0.23	-0.22	-11.06
5,704.0	0.20	102.54	5,703.6	-29.3	-13.0	29.2	0.09	-0.06	-14.52
5,798.6	0.14	88.81	5,798.2	-29.3	-12.7	29.3	0.08	-0.06	-14.52
5,893.1	0.12	89.48	5,892.7	-29.3	-12.5	29.3	0.02	-0.02	0.71
5,987.7	0.10	90.16	5,987.3	-29.3	-12.3	29.3	0.02	-0.02	0.72
6,082.3	0.07	100.30	6,081.9	-29.3	-12.2	29.3	0.04	-0.03	10.72
6,176.8	0.04	110.44	6,176.5	-29.4	-12.1	29.3	0.03	-0.03	10.72
6,271.4	0.06	115.76	6,271.0	-29.4	-12.0	29.3	0.02	0.02	5.63
6,366.0	0.08	121.07	6,365.6	-29.5	-11.9	29.4	0.02	0.02	5.61
6,460.5	0.08	130.85	6,460.2	-29.5	-11.8	29.5	0.01	0.00	10.34
6,555.1	0.07	140.62	6,554.7	-29.6	-11.7	29.5	0.02	-0.01	10.33
6,649.7	0.09	158.14	6,649.3	-29.7	-11.7	29.7	0.03	0.02	18.53
6,744.3	0.10	175.66	6,743.9	-29.9	-11.6	29.8	0.03	0.01	18.53
6,838.8	0.07	175.68	6,838.4	-30.0	-11.6	29.9	0.03	-0.03	0.02
6,933.4	0.03	175.70	6,933.0	-30.1	-11.6	30.0	0.04	-0.04	0.02
7,028.0	0.08	175.86	7,027.6	-30.2	-11.6	30.1	0.05	0.05	0.17
7,122.5	0.13	176.03	7,122.2	-30.4	-11.6	30.3	0.05	0.05	0.18
7,217.1	0.13	175.78	7,216.7	-30.6	-11.6	30.5	0.00	0.00	-0.26
7,311.7	0.13	175.54	7,311.3	-30.8	-11.6	30.7	0.00	0.00	-0.25
7,406.2	0.22	176.10	7,405.9	-31.1	-11.6	31.0	0.10	0.10	0.59
7,500.8	0.30	176.66	7,500.4	-31.5	-11.5	31.4	0.08	0.08	0.59
7,595.4	0.31	179.48	7,595.0	-32.0	-11.5	31.9	0.02	0.01	2.98
7,690.0	0.32	182.29	7,689.6	-32.5	-11.5	32.5	0.02	0.01	2.97
7,784.5	0.52	182.52	7,784.1	-33.2	-11.5	33.2	0.21	0.21	0.24
7,879.1	0.72	182.75	7,878.7	-34.2	-11.6	34.2	0.21	0.21	0.24
7,973.7	0.64	168.19	7,973.3	-35.4	-11.5	35.3	0.20	-0.08	-15.40
8,068.2	0.56	153.62	8,067.8	-36.3	-11.2	36.2	0.18	-0.08	-15.41
8,162.8	0.48	144.54	8,162.4	-37.0	-10.8	37.0	0.12	-0.08	-9.60
8,257.4	0.41	135.46	8,257.0	-37.6	-10.3	37.5	0.10	-0.07	-9.60
8,351.9	0.32	133.80	8,351.5	-38.0	-9.9	38.0	0.10	-0.10	-1.76
8,446.5	0.23	132.15	8,446.1	-38.3	-9.5	38.3	0.10	-0.10	-1.74
8,541.1	0.36	132.39	8,540.7	-38.7	-9.2	38.6	0.14	0.14	0.25
8,635.7	0.48	132.63	8,635.2	-39.1	-8.7	39.1	0.13	0.13	0.25
8,730.2	0.44	134.85	8,729.8	-39.6	-8.1	39.6	0.05	-0.04	2.35
8,824.8	0.40	137.07	8,824.4	-40.1	-7.6	40.1	0.05	-0.04	2.35



Leam Drilling Systems
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Site:	Tres Equis 5 State	MD Reference:	WELL @ 3682.5usft (Scandril Eagle - 25.5' KB)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland(Permian Basin) Database

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,919.4	0.38	132.44	8,918.9	-40.6	-7.2	40.6	0.04	-0.02	-4.90
9,013.9	0.35	127.81	9,013.5	-41.0	-6.7	40.9	0.04	-0.03	-4.90
9,108.5	0.21	115.23	9,108.1	-41.2	-6.3	41.2	0.16	-0.15	-13.30
9,203.1	0.08	102.65	9,202.6	-41.3	-6.1	41.3	0.14	-0.14	-13.30
9,297.6	0.33	89.86	9,297.2	-41.3	-5.8	41.3	0.27	0.26	-13.52
9,392.2	0.39	63.04	9,391.8	-41.2	-5.2	41.2	0.19	0.06	-28.36
9,486.8	0.13	43.64	9,486.3	-41.0	-4.9	40.9	0.29	-0.27	-20.51
9,581.4	0.54	26.29	9,580.9	-40.5	-4.6	40.5	0.44	0.43	-18.35
9,675.9	1.31	3.70	9,675.5	-39.0	-4.3	39.0	0.89	0.81	-23.89
9,770.5	1.43	5.64	9,770.0	-36.8	-4.1	36.7	0.14	0.13	2.05
9,865.1	1.43	355.31	9,864.6	-34.4	-4.1	34.4	0.27	0.00	-10.92
9,959.6	0.80	307.83	9,959.1	-32.8	-4.7	32.8	1.13	-0.67	-50.21
10,054.2	0.66	300.68	10,053.7	-32.1	-5.7	32.1	0.18	-0.15	-7.56
10,148.8	0.76	306.02	10,148.2	-31.5	-6.7	31.5	0.13	0.11	5.65
10,243.3	0.11	304.51	10,242.8	-31.1	-7.3	31.0	0.69	-0.69	-1.60
10,337.9	0.27	314.40	10,337.4	-30.9	-7.5	30.8	0.17	0.17	10.46
10,432.5	0.03	331.26	10,431.9	-30.7	-7.7	30.6	0.26	-0.25	17.83
10,482.3	0.40	196.18	10,481.8	-30.8	-7.7	30.8	0.85	0.74	-270.92
Tie into VES Gyro @ 10482.3									
10,577.0	0.18	328.59	10,576.4	-31.0	-7.9	31.0	0.57	-0.23	139.89
10,608.0	1.14	297.13	10,607.4	-30.9	-8.2	30.8	3.20	3.10	-101.48
10,639.0	0.88	284.47	10,638.4	-30.7	-8.7	30.6	1.10	-0.84	-40.84
10,671.0	2.90	196.76	10,670.4	-31.4	-9.2	31.3	9.36	6.31	-274.09
KOP: 10671.0 MD, 2.90° INC, 196.76° AZI, 10670.4 TVD									
10,702.0	5.63	210.82	10,701.3	-33.4	-10.2	33.4	9.37	8.81	45.35
10,734.0	6.33	223.30	10,733.2	-36.1	-12.2	36.0	4.60	2.19	39.00
10,765.0	6.77	209.94	10,764.0	-38.9	-14.3	38.8	5.10	1.42	-43.10
10,796.0	9.76	202.91	10,794.6	-42.9	-16.2	42.8	10.16	9.65	-22.68
10,828.0	14.51	201.86	10,825.9	-49.1	-18.8	49.0	14.86	14.84	-3.28
10,859.0	20.49	200.45	10,855.5	-57.8	-22.1	57.7	19.34	19.29	-4.55
10,890.0	26.29	199.75	10,883.9	-69.4	-26.3	69.2	18.73	18.71	-2.26
10,922.0	31.74	197.29	10,911.9	-84.1	-31.2	83.9	17.43	17.03	-7.69
10,953.0	36.58	193.77	10,937.5	-100.9	-35.9	100.6	16.86	15.61	-11.35
10,985.0	40.45	189.55	10,962.6	-120.4	-39.9	120.1	14.61	12.09	-13.19
11,016.0	45.55	186.21	10,985.2	-141.3	-42.7	141.0	18.01	16.45	-10.77
11,048.0	50.65	184.63	11,006.6	-165.0	-45.0	164.7	16.35	15.94	-4.94
11,080.0	55.22	181.99	11,025.9	-190.5	-46.4	190.2	15.72	14.28	-8.25
11,112.0	59.09	179.53	11,043.2	-217.4	-46.8	217.1	13.71	12.09	-7.69
11,143.0	61.29	179.71	11,058.6	-244.2	-46.6	244.0	7.11	7.10	0.58
11,175.0	63.49	181.46	11,073.5	-272.6	-46.9	272.3	8.41	6.88	5.47
11,206.0	67.27	181.82	11,086.4	-300.8	-47.7	300.5	12.24	12.19	1.16
11,238.0	71.40	182.34	11,097.7	-330.7	-48.8	330.4	13.00	12.91	1.63
11,270.0	75.97	181.82	11,106.7	-361.4	-49.9	361.1	14.37	14.28	-1.63
11,301.0	79.40	182.87	11,113.3	-391.6	-51.1	391.3	11.55	11.06	3.39



Leam Drilling Systems
Survey Report



Company:	Cimarex Energy Company	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3682 5usft (Scandril Eagle - 25.5' KB)
Site:	Tres Equis 5 State	MD Reference:	WELL @ 3682 5usft (Scandril Eagle - 25.5' KB)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland (Permian Basin) Database

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)
11,331 0	82 66	183 57	11,118 0	-421 2	-52 8	420 9	11 11	10 87	2 33
11,362 0	86 17	182 87	11,121 0	-452 0	-54 5	451 7	11 54	11 32	-2 26
11,426 0	88 90	180 41	11,123 7	-515 9	-56 4	515 6	5 74	4 27	-3 84
11,520 0	89 60	178 83	11,125 0	-609 9	-55 7	609 5	1 84	0 74	-1 68
11,567 5	90 00	178 30	11,125 1	-657 4	-54 5	657 0	1 40	0 84	-1 12
EOC: 11567.5' MD, 90.00° INC, 178.30° AZI, 11125.1' TVD, 657.4' N, 54.5' E									
11,615 0	90 40	177 77	11,125 0	-704 8	-52 9	704 5	1 40	0 84	-1 12
11,709 0	91 28	176 72	11,123 6	-798 7	-48 4	798 4	1 46	0 94	-1 12
11,804 0	91 19	175 66	11,121 5	-893 5	-42 1	893 2	1 12	-0 09	-1 12
11,899 0	92 33	174 43	11,118 6	-988 1	-33 9	987 9	1 76	1 20	-1 29
11,994 0	91 54	175 14	11,115 4	-1,082 6	-25 3	1,082 5	1 12	-0 83	0 75
12,089 0	89 52	176 02	11,114 5	-1,177 3	-17 9	1,177 2	2 32	-2 13	0 93
12,183 0	89 69	176 02	11,115 2	-1,271 1	-11 4	1,271 0	0 18	0 18	0 00
12,278 0	89 96	175 66	11,115 5	-1,365 9	-4 5	1,365 8	0 47	0 28	-0 38
12,373 0	88 81	176 89	11,116 5	-1,460 7	1 7	1,460 6	1 77	-1 21	1 29
12,467 0	88 64	177 60	11,118 6	-1,554 5	6 2	1,554 5	0 78	-0 18	0 76
12,562 0	89 60	179 00	11,120 0	-1,649 5	9 0	1,649 5	1 79	1 01	1 47
12,657 0	90 13	178 30	11,120 3	-1,744 4	11 2	1,744 5	0 92	0 56	-0 74
12,752 0	90 04	179 00	11,120 1	-1,839 4	13 5	1,839 5	0 74	-0 09	0 74
12,846 0	90 48	180 94	11,119 7	-1,933 4	13 5	1,933 5	2 12	0 47	2 06
12,941 0	90 75	180 23	11,118 7	-2,028 4	12 5	2,028 4	0 80	0 28	-0 75
13,036 0	92 42	179 53	11,116 0	-2,123 4	12 7	2,123 4	1 91	1 76	-0 74
13,130 0	90 92	178 83	11,113 3	-2,217 3	14 1	2,217 4	1 76	-1 60	-0 74
13,225 0	89 08	178 30	11,113 3	-2,312 3	16 5	2,312 3	2 02	-1 94	-0 56
13,320 0	89 43	177 95	11,114 5	-2,407 2	19 6	2,407 3	0 52	0 37	-0 37
13,415 0	89 78	177 49	11,115 2	-2,502 1	23 4	2,502 2	0 61	0 37	-0 48
13,509 0	89 16	176 19	11,116 1	-2,596 0	28 5	2,596 1	1 53	-0 66	-1 38
13,604 0	89 96	177 42	11,116 8	-2,690 8	33 8	2,691 0	1 54	0 84	1 29
13,699 0	88 64	177 60	11,118 0	-2,785 7	38 0	2,785 9	1 40	-1 39	0 19
13,794 0	88 37	177 07	11,120 4	-2,880 6	42 4	2,880 8	0 63	-0 28	-0 56
13,888 0	88 81	177 60	11,122 7	-2,974 5	46 7	2,974 7	0 73	0 47	0 56
13,983 0	89 43	178 83	11,124 2	-3,069 4	49 7	3,069 7	1 45	0 65	1 29
14,078 0	89 34	180 94	11,125 2	-3,164 4	49 9	3,164 6	2 22	-0 09	2 22
14,172 0	89 96	182 34	11,125 8	-3,258 4	47 2	3,258 6	1 63	0 66	1 49
14,267 0	91 19	182 17	11,124 8	-3,353 3	43 5	3,353 5	1 31	1 29	-0 18
14,362 0	92 07	183 05	11,122 1	-3,448 1	39 1	3,448 3	1 31	0 93	0 93
14,457 0	90 75	183 05	11,119 8	-3,543 0	34 1	3,543 1	1 39	-1 39	0 00
14,552 0	89 16	182 87	11,119 9	-3,637 8	29 2	3,637 9	1 68	-1 67	-0 19
14,647 0	89 43	182 17	11,121 0	-3,732 7	25 0	3,732 8	0 79	0 28	-0 74
14,741 0	90 66	181 29	11,121 0	-3,826 7	22 2	3,826 8	1 61	1 31	-0 94
14,836 0	90 13	182 87	11,120 3	-3,921 6	18 7	3,921 7	1 75	-0 56	1 66
14,931 0	88 81	181 82	11,121 2	-4,016 5	14 8	4,016 6	1 78	-1 39	-1 11
15,025 0	88 29	180 59	11,123 6	-4,110 5	12 9	4,110 5	1 42	-0 55	-1 31
15,120 0	88 29	179 36	11,126 4	-4,205 4	12 9	4,205 4	1 29	0 00	-1 29



Leam Drilling Systems
Survey Report



Company:	Cimarex Energy Company	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, NM (NAD-83)	TVD Reference:	WELL @ 3682.5usft (Scandril Eagle - 25.5' KB)
Site:	Tres Equis 5 State	MD Reference:	WELL @ 3682.5usft (Scandril Eagle - 25.5' KB)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland (Permian Basin) Database

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)
15,214.0	89.34	178.48	11,128.4	-4,299.4	14.7	4,299.4	1.46	1.12	-0.94
15,309.0	89.60	177.77	11,129.2	-4,394.3	17.8	4,394.4	0.80	0.27	-0.75
15,404.0	90.75	176.72	11,128.9	-4,489.2	22.3	4,489.3	1.64	1.21	-1.11
15,477.0	91.80	176.72	11,127.3	-4,562.1	26.5	4,562.2	1.44	1.44	0.00
15,525.0	91.80	176.72	11,125.8	-4,610.0	29.3	4,610.1	0.00	0.00	0.00
BHL - 15525.0'MD, 91.80°INC, 176.72°AZI, 11125.8'TVD, -4610.0'N, 29.3'E									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,482.3	10,481.8	-30.8	-7.7	Tie into VES Gyro @ 10482.3
10,671.0	10,670.4	-31.4	-9.2	KOP - 10671.0'MD, 2.90°INC, 196.76°AZI, 10670.4'TVD
11,567.5	11,125.1	-657.4	-54.5	EOC - 11567.5'MD, 90.00°INC, 178.30°AZI, 11125.1'TVD, -657.4'N, -54.5'E
15,525.0	11,125.8	-4,610.0	29.3	BHL - 15525.0'MD, 91.80°INC, 176.72°AZI, 11125.8'TVD, -4610.0'N, 29.3'E

Checked By _____	Approved By _____	Date _____
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Project: Lea County, NM (NAD-83)
Site: Tres Equis 5 State
Well: #1H
Wellbore: OH
Plan: Plan #2 (#1H/OH)
Cimarex Energy Company



Azimuths to Grid North
True North: -0.39°
Magnetic North: 7.09°

Magnetic Field
Strength: 48533.5nT
Dip Angle: 60.19°
Date: 05/29/2012
Model: IGRF2010

WELL DETAILS: #1H

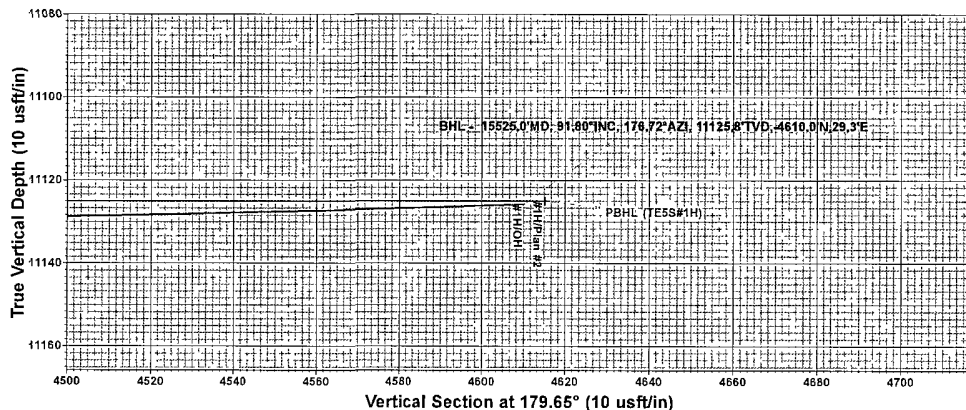
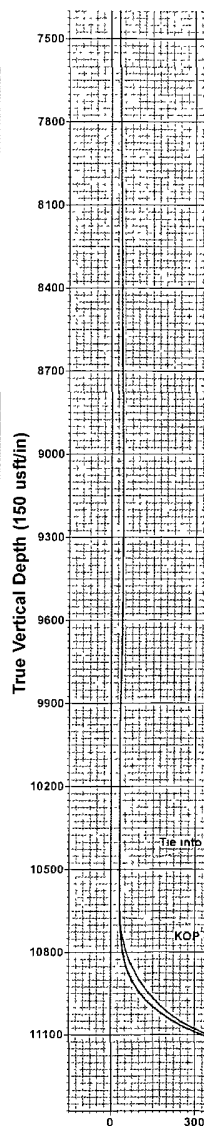
Ground Elevation:: 3657.0
RKB Elevation: WELL @ 3682.5usft (Scandriil Eagle - 25.5' KB)
Rig Name: Scandriil Eagle - 25.5' KB

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	456573.90	767813.20	$32^\circ 15' 11.062'' \text{ N}$	$103^\circ 36' 2.620'' \text{ W}$

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
10482.3	0.40	196.18	10481.8	-30.8	-7.7	0.00	0.00	30.8	
10651.3	0.40	196.18	10650.7	-32.0	-8.1	0.00	0.00	31.9	
11398.1	90.00	178.60	11125.0	-509.3	2.6	12.00	-17.58	509.3	
11450.4	90.00	179.65	11125.0	-561.6	3.4	2.00	89.97	561.6	
15504.0	90.00	179.65	11125.0	-4615.1	28.5	0.00	0.00	4615.2	PBHL (TE5S#1H)

Target Line #1
11,125' TVD @ 0° VS 0° dip on 179.65° Azm



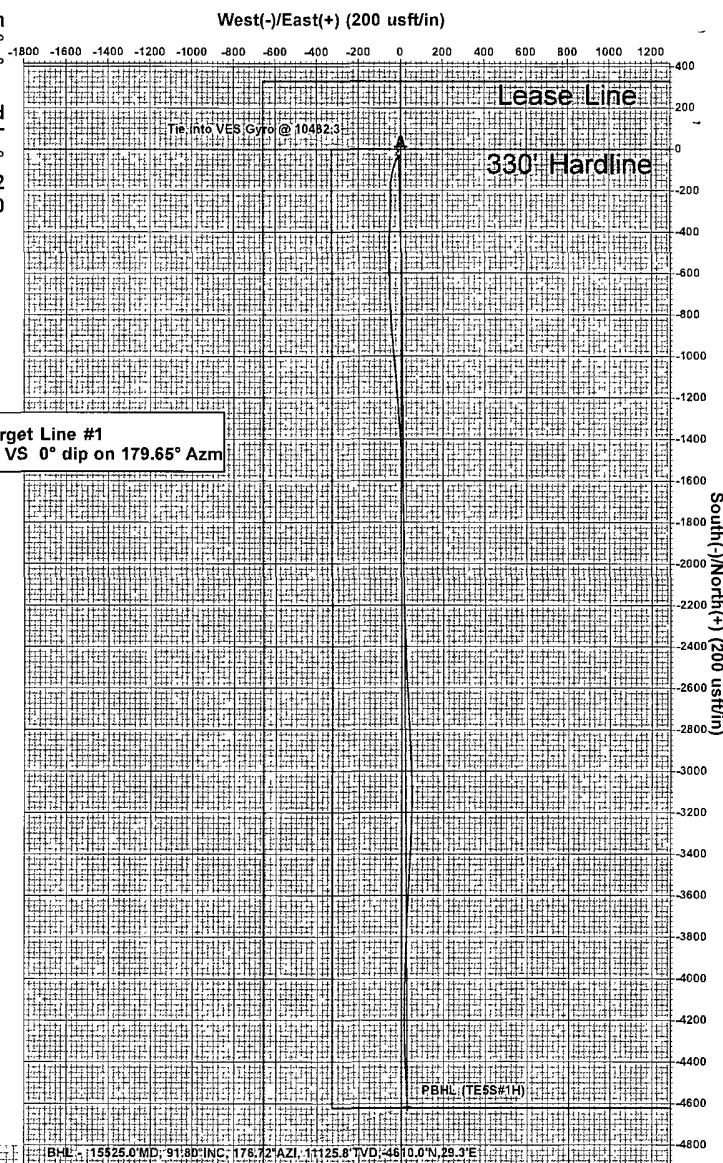
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL (TE5S#1H)	11125.0	-4615.1	28.5	451958.80	767841.70	Point

KOP - 10671.0' MD, 2.90° INC, 196.76° AZI, 10670.4' TVD

EOC - 11567.5' MD, 90.00° INC, 178.30° AZI, 11125.1' TVD, 657.4' N, 54.5' E

Vertical Section at 179.65° (150 usft/in)



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
System Datum: Mean Sea Level
Local North: Grid



LEAM DRILLING SYSTEMS, INC.
4906 West Highway 80 Midland, Texas 79707
Phone: 432-697-1490

Plan: Plan #2 (#1H/OH)
Created By: Matt Higgins Date: 9/37, June 23 2012