Results of Directional Survey

API number:	30-025-40449				
OGRID:		Operator:	CIMAREX ENERGY CO.		
		Property:	TRES EQUIS STATE		# 5H

surface	ULSTR:	B	06	T	24S	R	33E
				330	FNL	1980	FEL

BH Loc	ULSTR:	O	06	T	24S	R	33E
15517	MD	11158.8	TVD	342	FSL	2284	FEL
				4938	FNL		

Top Perf/OH	ULSTR:	B	06	T	24S	R	33E
11048	MD	10984.9	TVD	520	FNL	2009	FEL

Bot Perf/OH	ULSTR:	O	06	T	24S	R	33E
15492	MD	11160.7	TVD	383	FSL	2280	FEL
				4897	FNL		

	MD	N/S	E/W	VD
	11043	-186.50	-28.50	10981.5
TOP PERFS/OH	**11048**	-190.16	-28.83	10984.89
	11075	-209.90	-30.60	11003.20
	15486	-4557.30	-298.90	11161.20
BOT PERFS/OH	**15492**	-4567.11	-299.87	11160.74
	15517	-4608.00	-303.90	11158.80

NEXT TO LAST	15486	-4557.30	-298.90	11161.20
LAST READING	15517	-4608.00	-303.90	11158.80
TD	**15517**	-4608.00	-303.90	11158.80

Surface Location	330	FN	1980	FE
Projected BHL	4938	FN	2284	FE
Location of				
Top Perfs/OH	520	FN	2009	FE
Bottom Perfs/OH	4897	FN	2280	FE

SUMMARY of Subsurface Locations

Surface Location	B-06-24S-33E	330	FN	1980	FE	Vert. Depth
Top Perfs/OH	B-06-24S-33E	520	FN	2009	FE	10984.89
Bottom Perfs/OH	O-06-24S-33E	4897	FN	2280	FE	11160.74
Projected TD	O-06-24S-33E	4938	FN	2284	FE	11158.80

SEP 10 2012

VES
VAUGHN ENERGY SERVICES
A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

May 22, 2012

HOBBS OCD

SEP 04 2012

RECEIVED

Cimarex Energy Company
600 N. Marienfeld St., Ste. 600
Midland, TX 79701

Attn: Carolyn Larson

SUR: B-06-24s-33e, 330/N & 1980/E
BHL: O-06-24s-33e, 4938/N & 2284/E
API # 30-025-40449

Re: **Tres Equis State No. 005H**

Please find enclosed a copy of the survey from 0' to 10580' ran on the above referenced well.

If I can be of any further service, please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
§
COUNTY OF NUECES §

This instrument was acknowledged before me on the 23 day of May, A.D., 2012, by Keith Havelka.

Laura Ballew
Notary Public, State of Texas

LAURA BALLEW
Notary Public, State of Texas
My Commission Expires
January 28, 2014

Company: Cimarex Energy
Lease/Well: Tres Equis State/No. 005H

Rig Name: Scandrill Eagle
State/County: New Mexico/Lea
Latitude: 32.25
GRID North is 0.39 Degrees East of True North
VS-Azi: 0.00 Degrees

SUR: B-06-24s-33e, 330/N & 1980/E
BHL: O-06-24s-33e, 4938/N & 2284/E
API # 30-025-40449

HOBBS OCD
SEP 04 2012
RECEIVED

Depth Reference : 27 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS
Filename: msgyro_run02-01_ed1.ut
Minimum Curvature Method
Report Date/Time: 5/22/2012 / 14:59

Vaughn Energy Services
Fort Worth, Texas
817-741-3610
Surveyor: Mark Havens
Tres Equis State No. 005H / API 30-025-40449

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
146.00	0.33	232.17	146.00	-0.26	-0.34	-0.26	0.42	232.17	0.23
240.00	0.42	231.54	240.00	-0.64	-0.82	-0.64	1.04	231.96	0.09
334.00	0.35	234.23	334.00	-1.02	-1.32	-1.02	1.67	232.26	0.08
428.00	0.43	221.89	427.99	-1.45	-1.79	-1.45	2.31	230.92	0.13
522.00	0.38	232.37	521.99	-1.91	-2.28	-1.91	2.97	230.00	0.09
616.00	0.46	230.38	615.99	-2.35	-2.82	-2.35	3.67	230.24	0.09
710.00	0.42	230.05	709.99	-2.81	-3.38	-2.81	4.39	230.24	0.04
804.00	0.44	230.54	803.98	-3.26	-3.92	-3.26	5.10	230.25	0.02
898.00	0.38	216.37	897.98	-3.74	-4.38	-3.74	5.76	229.53	0.12
992.00	0.29	196.90	991.98	-4.22	-4.63	-4.22	6.26	227.70	0.15
1086.00	0.25	228.52	1085.98	-4.58	-4.86	-4.58	6.67	226.68	0.16
1180.00	0.26	232.51	1179.98	-4.85	-5.18	-4.85	7.09	226.91	0.02
1274.00	0.28	227.23	1273.98	-5.13	-5.52	-5.13	7.54	227.08	0.03
1368.00	0.61	271.71	1367.97	-5.27	-6.19	-5.27	8.13	229.55	0.48
1462.00	0.50	295.42	1461.97	-5.08	-7.05	-5.08	8.69	234.20	0.27
1556.00	0.66	275.12	1555.96	-4.86	-7.96	-4.86	9.32	238.57	0.28
1650.00	0.83	300.57	1649.96	-4.47	-9.08	-4.47	10.12	243.80	0.39
1744.00	0.67	339.84	1743.95	-3.60	-9.86	-3.60	10.49	249.92	0.56

VES Survey Date: 05/11/2012

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1838.00	0.62	299.10	1837.94	-2.84	-10.49	-2.84	10.87	254.88	0.48
1932.00	0.63	291.72	1931.94	-2.40	-11.42	-2.40	11.66	258.14	0.09
2026.00	0.62	236.05	2025.93	-2.49	-12.32	-2.49	12.57	258.56	0.62
2120.00	0.66	290.49	2119.93	-2.59	-13.25	-2.59	13.50	258.95	0.63
2214.00	0.88	291.91	2213.92	-2.13	-14.43	-2.13	14.59	261.61	0.24
2308.00	0.81	293.78	2307.91	-1.59	-15.71	-1.59	15.79	264.22	0.08
2402.00	0.86	295.95	2401.90	-1.01	-16.96	-1.01	16.99	266.59	0.06
2496.00	0.92	297.30	2495.89	-0.35	-18.27	-0.35	18.27	268.89	0.07
2590.00	1.09	347.45	2589.87	0.87	-19.13	0.87	19.15	272.59	0.92
2684.00	0.94	297.48	2683.86	2.09	-20.01	2.09	20.12	275.98	0.92
2778.00	1.11	305.57	2777.85	2.98	-21.43	2.98	21.64	277.91	0.24
2872.00	1.13	309.91	2871.83	4.10	-22.88	4.10	23.25	280.16	0.09
2966.00	1.06	315.00	2965.81	5.31	-24.21	5.31	24.78	282.37	0.12
3060.00	1.03	341.11	3059.80	6.73	-25.10	6.73	25.98	285.01	0.50
3154.00	0.82	331.66	3153.78	8.13	-25.69	8.13	26.95	287.55	0.28
3248.00	1.09	347.32	3247.77	9.59	-26.21	9.59	27.91	290.10	0.39
3342.00	1.09	350.74	3341.75	11.34	-26.55	11.34	28.87	293.12	0.07
3436.00	1.26	356.24	3435.73	13.25	-26.76	13.25	29.86	296.34	0.22
3530.00	1.38	1.86	3529.71	15.41	-26.79	15.41	30.91	299.91	0.19
3624.00	1.00	18.66	3623.69	17.33	-26.49	17.33	31.65	303.19	0.55
3718.00	0.88	15.78	3717.68	18.80	-26.03	18.80	32.11	305.84	0.15
3812.00	0.78	23.37	3811.67	20.08	-25.58	20.08	32.52	308.13	0.15
3906.00	0.86	19.54	3905.66	21.33	-25.09	21.33	32.93	310.37	0.10
4000.00	0.91	25.07	3999.65	22.67	-24.54	22.67	33.41	312.73	0.10
4094.00	0.92	25.17	4093.63	24.02	-23.90	24.02	33.89	315.14	0.01
4188.00	1.08	35.47	4187.62	25.43	-23.07	25.43	34.33	317.79	0.26
4282.00	1.46	65.47	4281.60	26.65	-21.46	26.65	34.22	321.15	0.80
4376.00	2.31	91.78	4375.55	27.09	-18.48	27.09	32.79	325.70	1.26
4470.00	2.73	94.46	4469.46	26.86	-14.36	26.86	30.45	331.87	0.47
4564.00	3.02	98.47	4563.34	26.32	-9.68	26.32	28.04	339.81	0.38
4658.00	3.02	106.10	4657.21	25.27	-4.85	25.27	25.73	349.13	0.43
4752.00	3.18	105.30	4751.07	23.89	0.04	23.89	23.89	0.09	0.18
4846.00	3.04	102.87	4844.93	22.65	4.99	22.65	23.19	12.41	0.20
4940.00	2.82	88.81	4938.81	22.14	9.73	22.14	24.19	23.73	0.80
5034.00	2.94	107.26	5032.69	21.47	14.35	21.47	25.83	33.75	0.99
5128.00	2.95	108.28	5126.57	20.00	18.95	20.00	27.55	43.45	0.06
5222.00	2.58	107.53	5220.46	18.60	23.26	18.60	29.79	51.35	0.40
5316.00	2.33	108.79	5314.37	17.35	27.09	17.35	32.17	57.36	0.28
5410.00	2.32	109.54	5408.30	16.10	30.69	16.10	34.66	62.32	0.03

VES Survey Date: 05/11/2012

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5504.00	2.22	106.34	5502.22	14.95	34.22	14.95	37.35	66.40	0.17
5598.00	2.16	108.49	5596.15	13.88	37.64	13.88	40.12	69.76	0.11
5692.00	2.00	107.91	5690.09	12.82	40.88	12.82	42.84	72.59	0.17
5786.00	1.64	99.63	5784.04	12.09	43.77	12.09	45.41	74.56	0.47
5880.00	1.43	98.62	5878.01	11.69	46.25	11.69	47.71	75.82	0.22
5974.00	1.22	96.97	5971.99	11.39	48.41	11.39	49.73	76.76	0.23
6068.00	1.01	94.66	6065.97	11.20	50.23	11.20	51.46	77.43	0.24
6162.00	0.89	94.14	6159.96	11.08	51.78	11.08	52.95	77.92	0.13
6256.00	0.83	95.26	6253.94	10.97	53.18	10.97	54.30	78.35	0.06
6350.00	0.80	83.30	6347.94	10.98	54.51	10.98	55.61	78.61	0.19
6444.00	0.48	63.51	6441.93	11.23	55.51	11.23	56.64	78.56	0.41
6538.00	0.35	100.05	6535.93	11.36	56.15	11.36	57.28	78.57	0.31
6632.00	0.26	90.16	6629.93	11.30	56.65	11.30	57.76	78.71	0.11
6726.00	0.19	105.33	6723.92	11.26	57.01	11.26	58.12	78.83	0.10
6820.00	0.19	175.21	6817.92	11.06	57.18	11.06	58.24	79.05	0.23
6914.00	0.28	73.26	6911.92	10.97	57.41	10.97	58.45	79.18	0.39
7008.00	0.59	214.11	7005.92	10.64	57.36	10.64	58.34	79.49	0.88
7102.00	0.69	230.08	7099.92	9.87	56.65	9.87	57.51	80.12	0.21
7196.00	0.61	226.06	7193.91	9.16	55.86	9.16	56.61	80.69	0.09
7384.00	0.49	169.98	7381.90	7.67	55.28	7.67	55.81	82.10	0.28
7478.00	0.65	219.30	7475.90	6.87	55.01	6.87	55.44	82.88	0.53
7572.00	0.34	226.00	7569.90	6.26	54.47	6.26	54.83	83.44	0.33
7666.00	0.02	43.20	7663.89	6.08	54.28	6.08	54.62	83.61	0.39
7760.00	0.57	83.47	7757.89	6.14	54.76	6.14	55.10	83.60	0.59
7854.00	0.58	76.80	7851.89	6.30	55.68	6.30	56.04	83.54	0.07
7948.00	0.59	71.40	7945.88	6.57	56.60	6.57	56.98	83.38	0.06
8042.00	0.53	163.20	8039.88	6.31	57.19	6.31	57.53	83.71	0.86
8136.00	0.68	182.72	8133.88	5.33	57.28	5.33	57.53	84.68	0.27
8230.00	0.71	185.98	8227.87	4.20	57.20	4.20	57.35	85.80	0.05
8324.00	0.70	185.89	8321.86	3.05	57.08	3.05	57.16	86.94	0.00
8418.00	0.87	178.22	8415.85	1.76	57.04	1.76	57.07	88.23	0.21
8512.00	0.83	195.11	8509.84	0.39	56.89	0.39	56.89	89.61	0.27
8606.00	0.85	198.16	8603.83	-0.93	56.49	-0.93	56.50	90.94	0.05
8700.00	0.83	205.04	8697.82	-2.20	55.99	-2.20	56.03	92.25	0.11
8794.00	0.82	218.12	8791.81	-3.34	55.29	-3.34	55.39	93.46	0.20
8888.00	0.67	226.46	8885.80	-4.25	54.48	-4.25	54.64	94.46	0.20
8982.00	1.02	235.52	8979.79	-5.10	53.39	-5.10	53.63	95.46	0.40
9076.00	0.89	260.78	9073.78	-5.69	51.98	-5.69	52.29	96.25	0.47
9170.00	1.39	260.57	9167.76	-5.99	50.13	-5.99	50.49	96.82	0.54

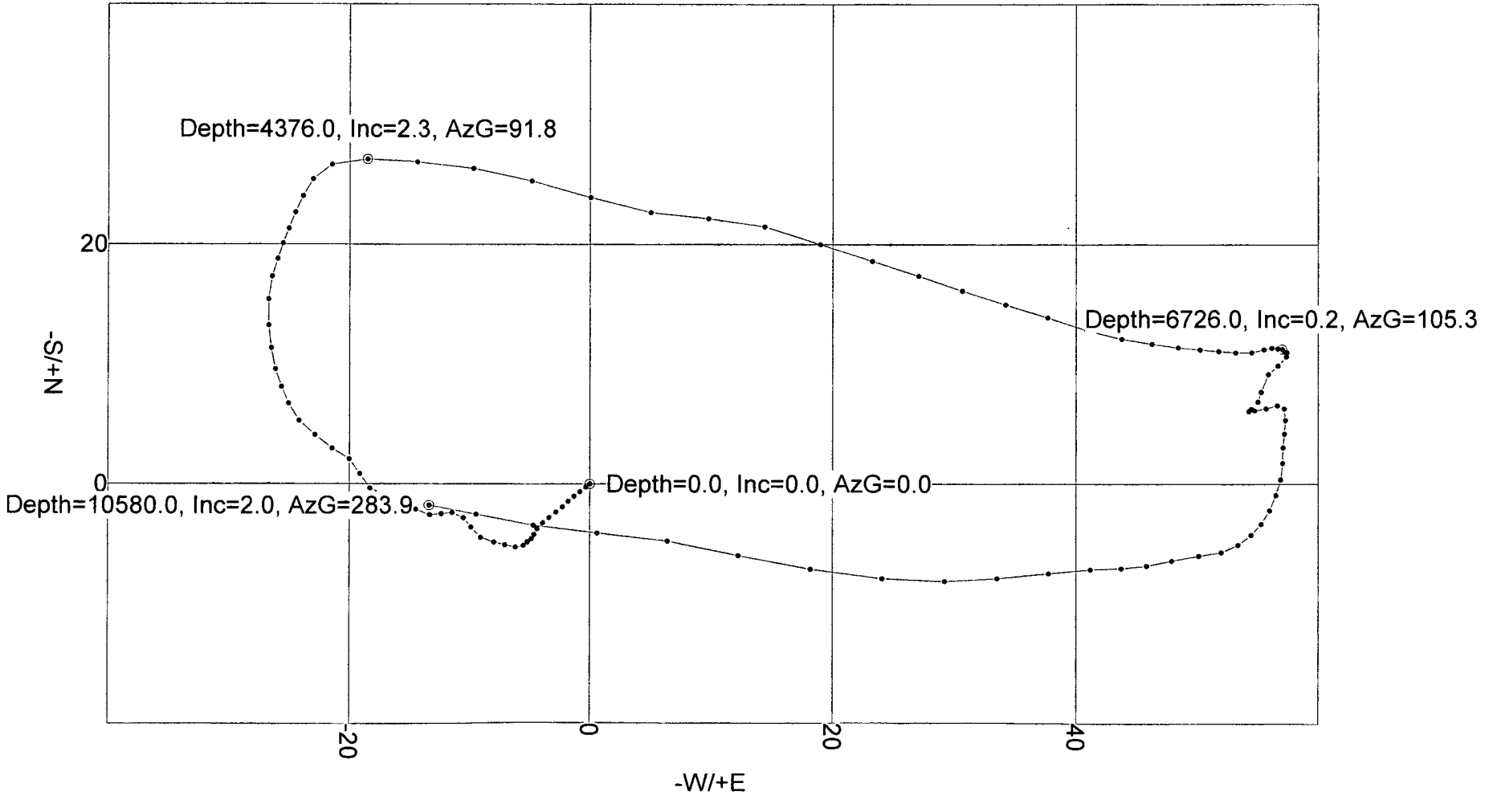
VES Survey Date: 05/11/2012

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9264.00	1.40	258.94	9261.74	-6.40	47.88	-6.40	48.30	97.62	0.04
9358.00	1.17	257.57	9355.71	-6.83	45.81	-6.83	46.32	98.48	0.24
9452.00	1.38	269.46	9449.69	-7.05	43.74	-7.05	44.30	99.15	0.36
9546.00	1.72	266.50	9543.65	-7.14	41.20	-7.14	41.81	99.84	0.37
9640.00	2.55	263.35	9637.59	-7.47	37.71	-7.47	38.45	101.21	0.89
9734.00	2.58	265.26	9731.49	-7.89	33.53	-7.89	34.45	103.24	0.10
9828.00	2.67	268.38	9825.39	-8.13	29.23	-8.13	30.34	105.53	0.18
9922.00	3.63	275.91	9919.25	-7.88	24.08	-7.88	25.34	108.12	1.11
10016.00	3.67	279.30	10013.06	-7.09	18.15	-7.09	19.49	111.33	0.23
10110.00	3.67	282.11	10106.87	-5.97	12.24	-5.97	13.62	116.01	0.19
10204.00	3.64	281.21	10200.68	-4.76	6.36	-4.76	7.95	126.79	0.07
10298.00	3.47	271.62	10294.50	-4.10	0.59	-4.10	4.14	171.82	0.66
10392.00	3.06	283.02	10388.34	-3.45	-4.70	-3.45	5.83	233.70	0.81
10486.00	2.84	278.91	10482.22	-2.53	-9.44	-2.53	9.77	255.02	0.33
10580.00	1.97	283.85	10576.14	-1.78	-13.31	-1.78	13.43	262.38	0.95

CIMAREX

Vaughn Energy Services
Fort Worth, Texas
817-741-3610
Surveyor: Mark Havens
Tres Equis State No. 005H / API 30-025-40449

VES
VAUGHN ENERGY SERVICES



VES Survey Date: 05/11/2012

CIMAREX

Cimarex Energy Company

Lea County, NM (NAD-83)
Tres Equis State
#5H

OH

Design: OH

Standard Survey Report

22 May, 2012

SUR: B-06-24s-33e, 330/N & 1980/E
BHL: O-06-24s-33e, 4938/N & 2284/E
API # 30-025-40449

LEAM
Drilling Systems, Inc.

Company:	Cimarex Energy Company	**Local Co-ordinate Reference:**	Well #5H
Project:	Lea County, NM (NAD-83)	**TVD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Site:	Tres Equis State	**MD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Well:	#5H	**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 State

Site Position:		**Northing:**	456,560 90 usft	**Latitude:**	32° 15' 11 111 N
From:	Map	**Easting:**	765,173 60 usft	**Longitude:**	103° 36' 33 357 W
Position Uncertainty:	2 0 usft	**Slot Radius:**	8-1/8 "	**Grid Convergence:**	0 39 °

Well #5H

Well Position	**+N/-S**	0 0 usft	**Northing:**	456,560 90 usft	**Latitude:**	32° 15' 11 111 N
	+E/-W	0,0 usft	**Easting:**	765,173 60 usft	**Longitude:**	103° 36' 33,357 W
Position Uncertainty		0 0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,649 0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	04/04/12	7 51	60 19	48,548

Design OH

Audit Notes:

Version:	1 0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0 0	0.0	183 73

Survey Program **Date** 05/22/12

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
146.0	10,580.0	Survey #1 - VES1 (OH)	CB-GYRO-MS	Camera based gyro multishot
10,633 0	15,466 0	Survey #2 - LEAM1 (OH)	MWD	MWD - Standard
15,517.0	15,517 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
146.0	0.33	232 17	146 0	-0 3	-0.3	0 3	0 23	0 23	0.00
240 0	0 42	231 54	240 0	-0 6	-0 8	0 7	0 10	0 10	-0 67
334 0	0 35	234 23	334.0	-1 0	-1 3	1.1	0 08	-0 07	2 86
428 0	0.43	221 89	428 0	-1.5	-1 8	1 6	0 12	0 09	-13.13
522.0	0 38	232 37	522 0	-1 9	-2.3	2 0	0.09	-0 05	11 15
616.0	0 46	230 38	616.0	-2 3	-2 8	2 5	0 09	0 09	-2 12
710.0	0 42	230.05	710 0	-2 8	-3 4	3.0	0.04	-0 04	-0 35
804 0	0.44	230.54	804.0	-3 2	-3 9	3.5	0 02	0.02	0 52

Company:	Cimarex Energy Company	**Local Co-ordinate Reference:**	Well #5H
Project:	Lea County, NM (NAD-83)	**TVD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Site:	Tres Equis State	**MD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Well:	#5H	**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)
898.0	0.38	216.37	898.0	-3.7	-4.4	4.0	0.12	-0.06	-15.07
992.0	0.29	196.90	992.0	-4.2	-4.6	4.5	0.15	-0.10	-20.71
1,086.0	0.25	228.52	1,086.0	-4.6	-4.8	4.9	0.16	-0.04	33.64
1,180.0	0.26	232.51	1,180.0	-4.8	-5.2	5.2	0.02	0.01	4.24
1,274.0	0.28	227.23	1,274.0	-5.1	-5.5	5.5	0.03	0.02	-5.62
1,368.0	0.61	271.71	1,368.0	-5.3	-6.2	5.7	0.48	0.35	47.32
1,462.0	0.50	295.42	1,462.0	-5.1	-7.0	5.5	0.27	-0.12	25.22
1,556.0	0.66	275.12	1,556.0	-4.8	-8.0	5.4	0.27	0.17	-21.60
1,650.0	0.83	300.57	1,650.0	-4.5	-9.1	5.0	0.39	0.18	27.07
1,744.0	0.67	339.84	1,743.9	-3.6	-9.9	4.2	0.56	-0.17	41.78
1,838.0	0.62	299.10	1,837.9	-2.8	-10.5	3.5	0.48	-0.05	-43.34
1,932.0	0.63	291.72	1,931.9	-2.4	-11.4	3.1	0.09	0.01	-7.85
2,026.0	0.62	236.05	2,025.9	-2.5	-12.3	3.3	0.62	-0.01	-59.22
2,120.0	0.66	290.49	2,119.9	-2.6	-13.2	3.4	0.62	0.04	57.91
2,214.0	0.88	291.91	2,213.9	-2.1	-14.4	3.1	0.23	0.23	1.51
2,308.0	0.81	293.78	2,307.9	-1.6	-15.7	2.6	0.08	-0.07	1.99
2,402.0	0.86	295.95	2,401.9	-1.0	-16.9	2.1	0.06	0.05	2.31
2,496.0	0.92	297.30	2,495.9	-0.3	-18.2	1.5	0.07	0.06	1.44
2,590.0	1.09	347.45	2,589.9	0.9	-19.1	0.4	0.92	0.18	53.35
2,684.0	0.94	297.48	2,683.9	2.1	-20.0	-0.8	0.92	-0.16	-53.16
2,778.0	1.11	305.57	2,777.8	3.0	-21.4	-1.6	0.24	0.18	8.61
2,872.0	1.13	309.91	2,871.8	4.1	-22.9	-2.6	0.09	0.02	4.62
2,966.0	1.06	315.00	2,965.8	5.3	-24.2	-3.7	0.13	-0.07	5.41
3,060.0	1.03	341.11	3,059.8	6.7	-25.1	-5.1	0.50	-0.03	27.78
3,154.0	0.82	331.66	3,153.8	8.1	-25.7	-6.4	0.28	-0.22	-10.05
3,248.0	1.09	347.32	3,247.8	9.6	-26.2	-7.9	0.40	0.29	16.66
3,342.0	1.09	350.74	3,341.8	11.3	-26.5	-9.6	0.07	0.00	3.64
3,436.0	1.26	356.24	3,435.7	13.3	-26.7	-11.5	0.22	0.18	5.85
3,530.0	1.38	1.86	3,529.7	15.4	-26.8	-13.6	0.19	0.13	5.98
3,624.0	1.00	18.66	3,623.7	17.3	-26.5	-15.6	0.54	-0.40	17.87
3,718.0	0.88	15.78	3,717.7	18.8	-26.0	-17.1	0.14	-0.13	-3.06
3,812.0	0.78	23.37	3,811.7	20.1	-25.6	-18.4	0.16	-0.11	8.07
3,906.0	0.86	19.54	3,905.7	21.3	-25.1	-19.7	0.10	0.09	-4.07
4,000.0	0.91	25.07	3,999.6	22.7	-24.5	-21.0	0.11	0.05	5.88
4,094.0	0.92	25.17	4,093.6	24.0	-23.9	-22.4	0.01	0.01	0.11
4,188.0	1.08	35.47	4,187.6	25.4	-23.0	-23.9	0.26	0.17	10.96
4,282.0	1.46	65.47	4,281.6	26.7	-21.4	-25.2	0.80	0.40	31.91
4,376.0	2.31	91.78	4,375.5	27.1	-18.5	-25.8	1.27	0.90	27.99
4,470.0	2.73	94.46	4,469.5	26.9	-14.3	-25.9	0.46	0.45	2.85
4,564.0	3.02	98.47	4,563.3	26.3	-9.7	-25.6	0.38	0.31	4.27
4,658.0	3.02	106.10	4,657.2	25.3	-4.8	-24.9	0.43	0.00	8.12
4,752.0	3.18	105.30	4,751.1	23.9	0.1	-23.9	0.18	0.17	-0.85
4,846.0	3.04	102.87	4,844.9	22.7	5.0	-22.9	0.20	-0.15	-2.59

Company:	Cimarex Energy Company	**Local Co-ordinate Reference:**	Well #5H
Project:	Lea County, NM (NAD-83)	**TVD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Site:	Tres Equis State	**MD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Well:	#5H	**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)
4,940.0	2.82	88 81	4,938 8	22.1	9 8	-22 7	0 80	-0.23	-14 96
5,034 0	2.94	107 26	5,032 7	21.5	14.4	-22 4	0 99	0.13	19 63
5,128 0	2.95	108 28	5,126 6	20.0	19 0	-21 2	0 06	0.01	1 09
5,222 0	2 58	107 53	5,220.5	18.6	23.3	-20 1	0 40	-0 39	-0 80
5,316.0	2 33	108.79	5,314 4	17.4	27.1	-19 1	0 27	-0 27	1 34
5,410 0	2.32	109 54	5,408 3	16.1	30 7	-18 1	0 03	-0 01	0 80
5,504 0	2.22	106 34	5,502.2	15 0	34 2	-17 2	0 17	-0.11	-3 40
5,598 0	2 16	108.49	5,596 2	13.9	37 7	-16 3	0.11	-0 06	2 29
5,692 0	2 00	107.91	5,690 1	12 8	40 9	-15 5	0 17	-0.17	-0 62
5,786 0	1.64	99 63	5,784 0	12 1	43.8	-14 9	0.47	-0 38	-8.81
5,880 0	1 43	98.62	5,878.0	11 7	46 3	-14.7	0.23	-0 22	-1.07
5,974 0	1 22	96 97	5,972.0	11 4	48 4	-14.5	0 23	-0.22	-1.76
6,068 0	1 01	94.66	6,066.0	11 2	50 3	-14.4	0.23	-0 22	-2.46
6,162 0	0.89	94 14	6,160 0	11 1	51 8	-14 4	0.13	-0 13	-0 55
6,256.0	0 83	95 26	6,253.9	11.0	53 2	-14.4	0 07	-0 06	1 19
6,350 0	0 80	83.30	6,347 9	11 0	54.6	-14 5	0 18	-0.03	-12 72
6,444 0	0 48	63 51	6,441 9	11.2	55.6	-14 8	0 41	-0 34	-21 05
6,538 0	0.35	100.05	6,535 9	11.4	56 2	-15 0	0 31	-0 14	38 87
6,632 0	0.26	90 16	6,629 9	11.3	56 7	-15 0	0 11	-0 10	-10.52
6,726.0	0.19	105 33	6,723 9	11.3	57.0	-15.0	0 10	-0 07	16 14
6,820.0	0.19	175 21	6,817 9	11.1	57.2	-14 8	0 23	0 00	74 34
6,914.0	0 28	73 26	6,911.9	11.0	57.4	-14 7	0 39	0 10	-108.46
7,008.0	0 59	214 11	7,005 9	10.6	57 4	-14.4	0 88	0 33	149 84
7,102.0	0 69	230.08	7,099.9	9 9	56 7	-13 5	0 22	0.11	16 99
7,196 0	0.61	226 06	7,193 9	9 2	55 9	-12.8	0 10	-0 09	-4 28
7,384 0	0 49	169 98	7,381 9	7 7	55 3	-11.3	0 28	-0.06	-29.83
7,478 0	0 65	219 30	7,475 9	6.9	55 0	-10.4	0 53	0.17	52 47
7,572.0	0.34	226 00	7,569 9	6 3	54 5	-9.8	0 33	-0 33	7.13
7,666 0	0 02	43.20	7,663 9	6.1	54 3	-9 6	0 38	-0.34	188 51
7,760 0	0 57	83.47	7,757 9	6 2	54 8	-9 7	0.59	0.59	42 84
7,854 0	0.58	76 80	7,851.9	6 3	55.7	-9 9	0 07	0 01	-7 10
7,948 0	0 59	71 40	7,945.9	6 6	56.6	-10 2	0 06	0.01	-5 74
8,042 0	0 53	163 20	8,039 9	6.3	57 2	-10.0	0 86	-0 06	97 66
8,136 0	0 68	182 72	8,133 9	5 3	57 3	-9 1	0 27	0 16	20 77
8,230 0	0 71	185 98	8,227 9	4 2	57 2	-7 9	0 05	0 03	3 47
8,324.0	0.70	185.89	8,321 9	3.1	57.1	-6.8	0 01	-0 01	-0 10
8,418 0	0 87	178 22	8,415 9	1 8	57 1	-5 5	0 21	0 18	-8 16
8,512 0	0 83	195.11	8,509.8	0 4	56.9	-4 1	0.27	-0 04	17 97
8,555 0	0 84	196 52	8,552 8	-0 2	56 8	-3 5	0 05	0.02	3 29
Cross into 330' Lease - 8555.0'MD, 0.84°INC, 196.52°AZI, 8552.8'TVD,-0.2'N,56.8'E									
8,606.0	0.85	198 16	8,603 8	-0 9	56 5	-2 8	0 05	0 02	3 21
8,700 0	0 83	205 04	8,697 8	-2 2	56 0	-1 5	0 11	-0 02	7 32
8,794.0	0 82	218.12	8,791 8	-3.3	55 3	-0.3	0.20	-0.01	13 91
8,888 0	0 67	226.46	8,885 8	-4.3	54 5	0 7	0 20	-0.16	8.87

Company:	Cimarex Energy Company	**Local Co-ordinate Reference:**	Well #5H
Project:	Lea County, NM (NAD-83)	**TVD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Site:	Tres Equis State	**MD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Well:	#5H	**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)
8,982 0	1.02	235.52	8,979.8	-5 1	53 4	1 6	0 40	0 37	9 64
9,076.0	0 89	260.78	9,073.8	-5 7	52.0	2 3	0 46	-0 14	26.87
9,170 0	1 39	260.57	9,167 8	-6 0	50.2	2 7	0.53	0 53	-0 22
9,264 0	1.40	258.94	9,261 7	-6.4	47 9	3 3	0.04	0 01	-1.73
9,358 0	1.17	257.57	9,355 7	-6 8	45 9	3.8	0.25	-0 24	-1.46
9,452 0	1 38	269.46	9,449 7	-7 0	43 8	4 2	0.36	0 22	12 65
9,546.0	1 72	266 50	9,543 7	-7 1	41.2	4.4	0 37	0 36	-3 15
9,640.0	2 55	263 35	9,637.6	-7.5	37.8	5 0	0.89	0 88	-3.35
9,734.0	2 58	265 26	9,731.5	-7.9	33.6	5.7	0.10	0 03	2 03
9,828.0	2 67	268.38	9,825 4	-8 1	29.3	6.2	0.18	0 10	3 32
9,922 0	3 63	275 91	9,919 3	-7 9	24 1	6.3	1.11	1 02	8 01
10,016 0	3.67	279.30	10,013 1	-7.1	18 2	5 9	0.23	0 04	3 61
10,110.0	3.67	282 11	10,106 9	-6 0	12 3	5.2	0.19	0 00	2.99
10,204 0	3 64	281.21	10,200.7	-4.8	6.4	4.3	0.07	-0 03	-0 96
10,298 0	3.47	271 62	10,294 5	-4.1	0 6	4 1	0 66	-0 18	-10 20
10,392 0	3.06	283 02	10,388 3	-3.5	-4.6	3.8	0.81	-0.44	12.13
10,486 0	2 84	278.91	10,482 2	-2 5	-9 4	3.1	0.32	-0 23	-4 37
10,580 0	1 97	283.85	10,576 1	-1 8	-13 3	2.6	0.95	-0 93	5.26
Tie into Gyro @ 10580' MD									
10,633 0	2 11	271.32	10,629 1	-1 5	-15 1	2.5	0 88	0 26	-23.64
KOP - 10633.0'MD, 2.11°INC, 271.32°AZI, 10629.1'TVD									
10,665 0	5 80	197.14	10,661 0	-3 1	-16 2	4 1	17 51	11.53	-231 81
10,696 0	10 55	181 49	10,691 7	-7 4	-16.7	8 5	16.78	15 32	-50.48
10,727 0	16 09	175 87	10,721 9	-14 5	-16.5	15 6	18 33	17 87	-18 13
10,759 0	20 93	171 30	10,752 2	-24 6	-15.3	25 6	15 78	15 13	-14 28
10,791.0	24.53	171 12	10,781 7	-36 8	-13 4	37 6	11 25	11 25	-0 56
10,822 0	27 52	174 29	10,809 6	-50 3	-11 7	51.0	10 63	9.65	10 23
10,854 0	32.10	180 79	10,837 3	-66 2	-11 1	66.8	17 50	14 31	20.31
10,885 0	36.76	186.24	10,862.9	-83.7	-12.2	84 3	18 01	15.03	17.58
10,917 0	38 60	189.41	10,888 2	-103.0	-14.9	103 8	8 35	5 75	9 91
10,949.0	40 10	190 11	10,913 0	-123 0	-18.3	124 0	4 89	4.69	2 19
10,980.0	42 65	189 93	10,936 2	-143 2	-21 9	144 3	8 23	8.23	-0 58
11,012 0	43 70	189 23	10,959.6	-164 8	-25 5	166.1	3 61	3 28	-2.19
11,043 0	46.25	186.42	10,981 5	-186 5	-28 5	188 0	10 42	8 23	-9 06
11,075 0	48.19	184.13	11,003.2	-209 9	-30.6	211 4	8 02	6 06	-7 16
11,106 0	52 06	182 55	11,023.1	-233 6	-32.0	235 2	13 08	12 48	-5.10
11,138.0	54 87	179 74	11,042.2	-259 3	-32 5	260 9	11.26	8.78	-8 78
11,170 0	59 71	176.57	11,059.5	-286 2	-31 6	287.7	17.27	15 13	-9 91
11,201 0	64.19	174.64	11,074 0	-313 5	-29.5	314.8	15.46	14.45	-6 23
11,232.0	70 08	173 58	11,086.1	-341 9	-26.6	342.9	19 26	19.00	-3 42
11,264 0	75 71	172 35	11,095 5	-372 2	-22.8	372.9	17 97	17 59	-3 84
11,295 0	81.78	170.95	11,101 5	-402 3	-18.4	402 6	20 07	19 58	-4.52
11,326.0	86 70	172 18	11,104 6	-432 8	-13.9	432 8	16.35	15 87	3 97

Company:	Cimarex Energy Company	**Local Co-ordinate Reference:**	Well #5H
Project:	Lea County, NM (NAD-83)	**TVD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Site:	Tres Equis State	**MD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Well:	#5H	**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)
11,358.0	87 93	174 82	11,106 1	-464 6	-10 3	464 2	9 09	3 84	8 25
11,389 0	88 02	175.34	11,107 2	-495.4	-7 6	494 9	1.70	0 29	1 68
11,421.0	87 76	175 87	11,108 4	-527.3	-5 2	526 5	1 84	-0 81	1 66
11,515.0	88 90	177 98	11,111 1	-621 1	-0 1	619 8	2.55	1 21	2 24
11,610 0	88 81	179 91	11,113.0	-716 1	1 6	714 5	2 03	-0.09	2 03
11,659 0	89 50	180.92	11,113 8	-765.1	1 2	763 4	2 50	1 40	2 06
EOC - 11659.0'MD, 89.50°INC, 180.92°AZI, 11113.8'TVD, -765.1'N, 1.2'E									
11,704 0	90 13	181 85	11,113 9	-810.1	0 2	808 3	2 50	1 40	2.06
11,799 0	90 48	181 49	11,113 4	-905 0	-2 6	903.3	0 53	0 37	-0 38
11,894 0	89 69	182 90	11,113.3	-999 9	-6 2	998 2	1 70	-0 83	1.48
11,988.0	88 81	185 01	11,114 5	-1,093 7	-12.7	1,092 2	2 43	-0.94	2 24
12,083 0	88 55	186 42	11,116 7	-1,188.2	-22 2	1,187 1	1.51	-0 27	1 48
12,177 0	89 16	186 42	11,118 6	-1,281.6	-32 7	1,281 0	0 65	0 65	0 00
12,272 0	90 92	186 24	11,118 5	-1,376.0	-43 2	1,375 9	1 86	1 85	-0.19
12,366 0	88 99	186 42	11,118 6	-1,469.4	-53 5	1,469.8	2.06	-2 05	0 19
12,461 0	90 13	186.94	11,119 3	-1,563 8	-64 6	1,564.7	1 32	1.20	0 55
12,556.0	89.34	187 47	11,119 7	-1,658 0	-76.5	1,659 5	1.00	-0 83	0 56
12,650 0	89.96	186 94	11,120 3	-1,751 3	-88 3	1,753 3	0 87	0 66	-0 56
12,745 0	89 60	185 36	11,120 7	-1,845 7	-98.5	1,848 2	1.71	-0.38	-1 66
12,840 0	90.04	183 25	11,121.0	-1,940 5	-105 6	1,943 2	2 27	0.46	-2 22
12,934 0	91 28	183 08	11,119 9	-2,034.3	-110 8	2,037 2	1 33	1.32	-0 18
13,029.0	89 08	182 37	11,119 6	-2,129 2	-115.3	2,132 2	2 43	-2 32	-0.75
13,124 0	87 23	182 73	11,122 7	-2,224 1	-119 5	2,227 1	1.98	-1 95	0.38
13,219.0	88 37	182.20	11,126.3	-2,318 9	-123 6	2,322 0	1 32	1 20	-0 56
13,313 0	87 85	183 08	11,129 4	-2,412 7	-127 9	2,416 0	1 09	-0 55	0 94
13,408 0	88 64	182 55	11,132 3	-2,507.6	-132 6	2,510 9	1 00	0 83	-0 56
13,503 0	88 11	183 60	11,135.0	-2,602 4	-137 7	2,605 9	1 24	-0 56	1 11
13,597 0	88 72	183 43	11,137 6	-2,696 2	-143.5	2,699 8	0.67	0 65	-0 18
13,692.0	88 64	182 20	11,139 8	-2,791 1	-148.1	2,794 8	1 30	-0 08	-1 29
13,787 0	87.67	182 90	11,142 9	-2,885 9	-152 3	2,889 7	1 26	-1 02	0 74
13,881 0	88.55	182 20	11,146 0	-2,979 8	-156 5	2,983 6	1 20	0 94	-0 74
13,976 0	88 99	184 13	11,148 0	-3,074 6	-161 8	3,078 6	2.08	0 46	2 03
14,071 0	92 15	183 78	11,147 1	-3,169.3	-168 3	3,173.6	3 35	3.33	-0 37
14,165 0	91 28	184 83	11,144 2	-3,263 0	-175 4	3,267 5	1 45	-0 93	1.12
14,260 0	89 52	185.54	11,143 6	-3,357 6	-184 0	3,362 5	2 00	-1 85	0 75
14,354 0	87 76	185 54	11,145 8	-3,451.2	-193.0	3,456 4	1 87	-1 87	0 00
14,449 0	88.02	185 19	11,149.3	-3,545 7	-201 9	3,551 3	0 46	0 27	-0 37
14,543 0	87 85	184 31	11,152 7	-3,639.3	-209 7	3,645 2	0 95	-0 18	-0.94
14,638.0	87 41	185 54	11,156 6	-3,733 9	-217 8	3,740.1	1 37	-0.46	1 29
14,733 0	87.23	185 36	11,161 1	-3,828.3	-226 8	3,835 0	0.27	-0 19	-0 19
14,827 0	86 88	184 31	11,165 9	-3,921 9	-234 8	3,928 8	1 18	-0 37	-1 12
14,922.0	88 02	184 31	11,170 1	-4,016 5	-241 9	4,023 7	1 20	1 20	0 00
15,016 0	89.16	185 01	11,172.4	-4,110.2	-249 5	4,117.7	1 42	1.21	0.74
15,111 0	92 15	187 30	11,171.3	-4,204.6	-259 7	4,212 6	3.96	3 15	2 41

CIMAREX

Leam Drilling Systems

Survey Report

LEAM Drilling Systems, Inc.

Company:	Cimarex Energy Company	**Local Co-ordinate Reference:**	Well #5H
Project:	Lea County, NM (NAD-83)	**TVD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Site:	Tres Equis State	**MD Reference:**	WELL @ 3674.5usft (Scandrill Eagle - 25.5' KB)
Well:	#5H	**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)
15,206 0	90 66	186 24	11,169 0	-4,298.9	-270.9	4,307.4	1 92	-1 57	-1 12
15,300 0	91 45	186.42	11,167 3	-4,392.3	-281 3	4,401 3	0.86	0 84	0 19
15,395 0	92 24	186 07	11,164 2	-4,486.7	-291 6	4,496 2	0 91	0.83	-0.37
15,466 0	92.68	185 71	11,161 2	-4,557.3	-298 9	4,567 1	0 80	0.62	-0 51
15,517 0	92.68	185 71	11,158 8	-4,608.0	-303.9	4,618 0	0.00	0.00	0.00
BHL - 15517.0'MD, 92.68°INC, 185.71°AZI, 11158.8'TVD, -4608.0'N,-303.9'E									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
8,555 0	8,552 8	-0 2	56 8	Cross into 330' Lease - 8555 0'MD, 0.84°INC, 196 52°AZI, 8552 8'TVD,-0 2'N,5
10,580 0	10,576 1	-1.8	-13 3	Tie into Gyro @ 10580' MD
10,633 0	10,629 1	-1.5	-15 1	KOP - 10633 0'MD, 2 11°INC, 271.32°AZI, 10629.1'TVD
11,659.0	11,113 8	-765 1	1 2	EOC - 11659.0'MD, 89 50°INC, 180 92°AZI, 11113 8'TVD,-765.1'N,1.2'E
15,517 0	11,158 8	-4,608 0	-303 9	BHL - 15517 0'MD, 92 68°INC, 185.71°AZI, 11158 8'TVD,-4608 0'N,-303 9'E

Checked By _____ Approved By _____ Date: _____