

Results of Directional Survey

API number:	30-025-40320		
OGRID:		Operator:	CIMAREX ENERGY CO. OF COLORADO
		Property:	TRES EQUIS STATE # 3H

surface	ULSTR:	D	06	T 24S	R 33E
				330 FNL	660 FWL

BH Loc	ULSTR:	M	06	T 24S	R 33E
15421	MD	11140.7	TVD	341 FSL	701 FWL
				4939 FNL	

Top Perf/OH	ULSTR:	D	06	T 24S	R 33E
11100	MD	11001.3	TVD	632 FNL	653 FWL

Bot Perf/OH	ULSTR:	M	06	T 24S	R 33E
15395	MD	11139.5	TVD	366 FSL	700 FWL
				4914 FNL	

	MD	N/S	E/W	VD
	11074	-280.16	-8.01	10987.91
TOP PERFS/OH	11100	-302.41	-7.47	11001.34
	11105	-306.69	-7.37	11003.92
	15344	-4532.57	38.86	11137.11
BOT PERFS/OH	15395	-4583.50	40.11	11139.51
	15421	-4609.46	40.74	11140.74

NEXT TO LAST	15344	-4532.57	38.86	11137.11
LAST READING	15421	-4609.46	40.74	11140.74
TD	15421	-4609.46	40.74	11140.74

Surface Location	330	FN	660	FW
Projected BHL	4939	FN	701	FW
Location of				
Top Perfs/OH	632	FN	653	FW
Bottom Perfs/OH	4914	FN	700	FW

SUMMARY of Subsurface Locations

Surface Location	D-06-24S-33E	330	FN	660	FW	Vert. Depth
Top Perfs/OH	D-06-24S-33E	632	FN	653	FW	11001.34
Bottom Perfs/OH	M-06-24S-33E	4914	FN	700	FW	11139.51
Projected TD	M-06-24S-33E	4939	FN	701	FW	11140.74

APR 05 2012



A GYRO TECHNOLOGIES INC. COMPANY

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

January 13, 2012

HOBBS OCD

MAR 29 2012

RECEIVED

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

Attn: Carolyn Larson

SUR: D-6-24s-33e, 330/N & 660/W
BHL: M-6-24s-33e, 4939/N & 701/W
API # 30-025-40320

Re: **Tres Equis State 3H**

Please find enclosed a copy of the survey from 0' to 1,146' 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.

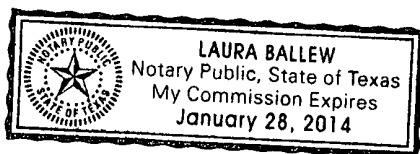
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 13th day of January, A.D., 2012, by Keith Havelka.

Laura Ballew
Notary Public, State of Texas





Company: Cimarex
Lease: Tres Equis State 3H
Location: Sect 6, Town 24S, Range 33E
Rig Name: Cactus 101
State/County: Texas/Lea
Latitude: 32.25
GRID North is 0.38 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB=18.5 Elevation=3645 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: tres equis state 3h.ut
Minimum Curvature Method
Report Date/Time: 1/6/2012 / 09:53

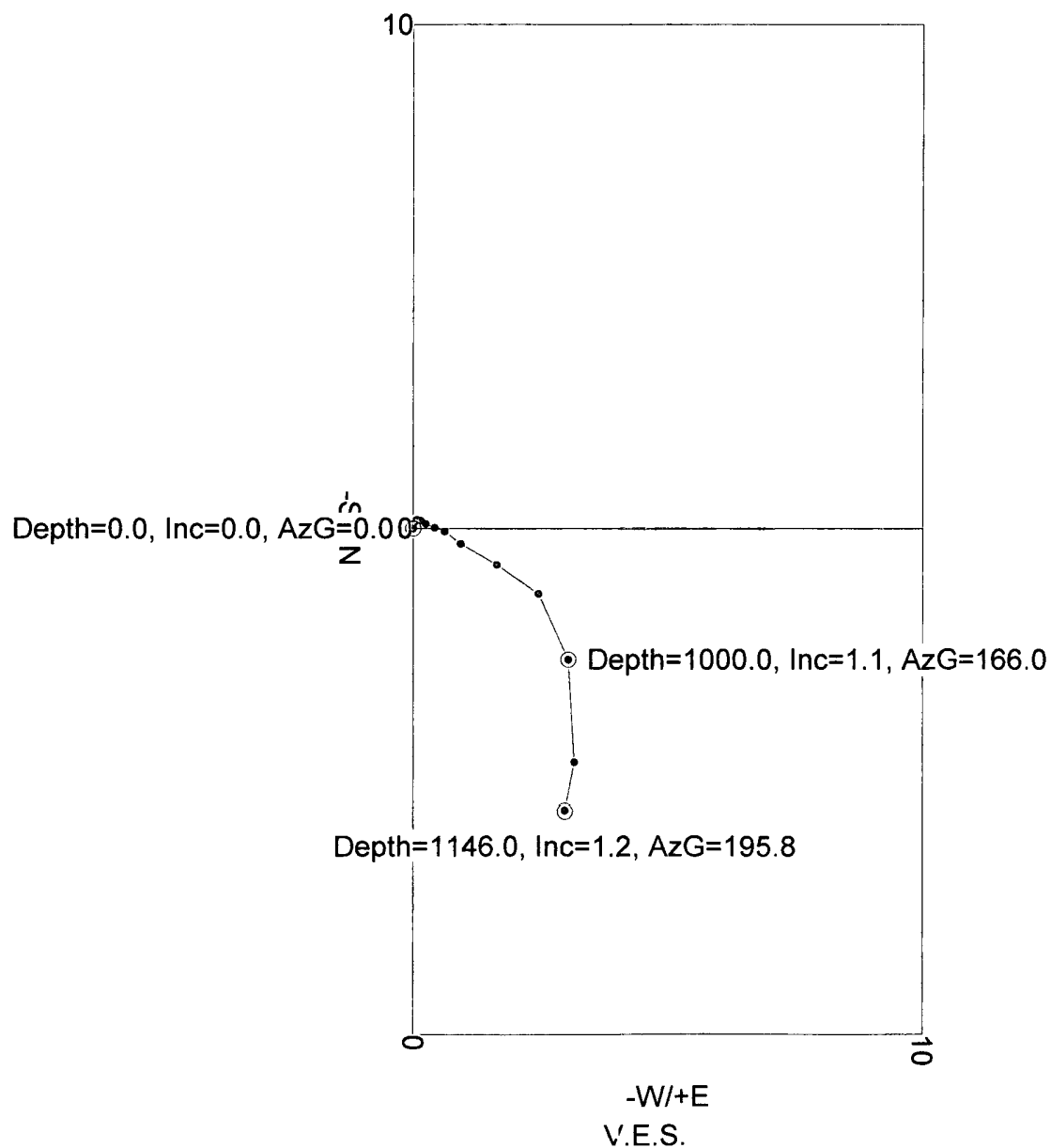
Vaughn Energy Services
Midland, TX
432-563-5444
Surveyor: Zach Garcia
Tres Equis State 3H

SUR: D-6-24s-33e, 330/N & 660/W
BHL: M-6-24s-33e, 4939/N & 701/W
API # 30-025-40320

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	****
100.00	0.11	6.34	100.00	0.10	0.01	0.10	0.10	6.34	0.11
200.00	0.06	108.68	200.00	0.17	0.07	0.17	0.19	22.58	0.14
300.00	0.03	97.59	300.00	0.15	0.15	0.15	0.21	44.77	0.03
400.00	0.10	131.48	400.00	0.09	0.25	0.09	0.26	69.80	0.08
500.00	0.12	98.87	500.00	0.02	0.42	0.02	0.42	87.92	0.07
600.00	0.12	125.73	600.00	-0.06	0.61	-0.06	0.61	95.79	0.06
700.00	0.34	128.34	700.00	-0.31	0.92	-0.31	0.97	108.28	0.22
800.00	0.61	116.01	799.99	-0.72	1.64	-0.72	1.79	113.83	0.29
900.00	0.55	134.55	899.99	-1.30	2.46	-1.30	2.78	117.77	0.20
1000.00	1.14	166.02	999.98	-2.60	3.04	-2.60	4.00	130.46	0.73
1100.00	1.23	186.30	1099.96	-4.63	3.17	-4.63	5.61	145.63	0.43
1146.00	1.23	195.83	1145.95	-5.59	2.98	-5.59	6.34	151.98	0.44



Vaughn Energy Services
Midland, TX
432-563-5444
Surveyor: Zach Garcia
Tres Equis State 3H





PHOENIX
TECHNOLOGY SERVICES

January 31, 2012

Cimarex Energy Co.
Attention: Regulatory Department
15 E. 5th Street, Suite 1000
Tulsa, OK 74103

HOBBS OCD

MAR 29 2012

RECEIVED

Re: Cimarex Energy
Tres Equix State #3
Lea Co., NM
API #30-025-40320
Job No. 1110713

SUR: D-6-24s-33e, 330/N & 660/W
BHL: M-6-24s-33e, 4939/N & 701/W
API # 30-025-40320

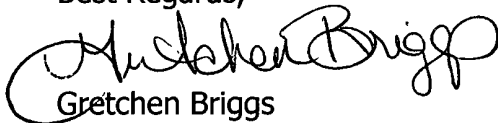
Dear Regulatory Department;

Phoenix Technology Services, Inc. has filed the survey certification, surveys, and lease plat for the above referenced well with the State of New Mexico Oil Conservation Division – District 1 via certified mail. A copy of the filing is attached for your records.

Name of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Tyler Sebesta	3H	1,305	15,344	12/24/11	01/24/12	MWD

Thank you for the opportunity to be of service. Please contact me if you have any questions or require additional information.

Best Regards,


Gretchen Briggs
Operations Administrator

Phoenix Technology Services
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER	1110713	OPERATOR	Cimarex Energy
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WELL NAME	Tres Equix State NO 3	COUNTY & STATE	Lea CO, NM
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API WELL NUMBER	30-025-40320	PROPOSED DIRECTION	179.67
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TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
1,146 ft	1,145.95 ft	1.2 ft	195.8 ft	-5.59 ft	2.98 ft	Surface

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
24-Dec-11	1,305 ft	1.1	212.0

SURVEY INSTRUMENT
TYPE
Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
24-Jan-12	15,344 ft	87.3	178.6

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED	PROJECTED		
TD SURVEY	TD SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
24-Jan-12	15,421 ft	87.3	178.6

Tyler Sebesta

PRINT YOUR NAME ABOVE

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.17
DECLINATION OR GRID	GRID

2012/01/24

TODAY'S DATE

MWD SUPERVISOR 1

Buck Sebesta

DIRECTIONAL DRILLER 1

Gregory Scott

MWD SUPERVISOR 2

Eric Buell

DIRECTIONAL DRILLER 2

Bobby Sanchez

1805 Brittmore Road

Houston, Texas 77043

(713)3370609 (Voice), (713)337-0599 (Fax)



HOBBS OCD

MAR 29 2012

RECEIVED

Cimarex Energy Company of Colorado

Lea County NM (NAD 83)

Tres Equis State PAD

Tres Equis State #3

Rig: Cactus 101//Job # 1110713

SUR: D-6-24s-33e, 330/N & 660/W
BHL: M-6-24s-33e, 4939/N & 701/W
API # 30-025-40320

Survey: Phoenix MWD Surveys

Cimarex Energy, Survey Report

31 January, 2012



Phoenix Technology Services
Cimarex Energy, Survey Report

Company: Cimarex Energy Company of Colorado
Project: Lea County NM (NAD 83)
Site: Tres Equis State PAD
Well: Tres Equis State #3
Wellbore: Rig: Cactus 101//Job # 1110713
Design: Rig: Cactus 101

Local Co-ordinate Reference: Well Tres Equis State #3
TVD Reference: WELL @ 3663.60usft (Cactus 101)
MD Reference: WELL @ 3663.60usft (Cactus 101)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

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 PAD		
Site Position:		Northing:	456,548.30 usft
From:	Map	Easting:	762,592.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 15' 11.1573 N
		Longitude:	103° 37' 3.4165 W
		Grid Convergence:	0.38 °

Well		Tres Equis State #3				
Well Position	+N/-S	0.00 usft	Northing:	456,548.30 usft	Latitude:	32° 15' 11.1573 N
	+E/-W	0.00 usft	Easting:	762,592.30 usft	Longitude:	103° 37' 3.4165 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	18.60 usft	Ground Level:	3,645.00 usft

Wellbore	Rig: Cactus 101//Job # 1110713				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	11/22/11	7.56	60.20	48,584

Design	Rig: Cactus 101				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	179.67	

Survey Program	Date 01/31/12			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
1,146.00	15,421.00	Phoenix MWD Surveys (Rig: Cactus 101//	MWD	MWD - Standard



Phoenix Technology Services

Cimarex Energy, Survey Report

Company: Cimarex Energy Company of Colorado
Project: Lea County NM (NAD 83)
Site: Tres Equis State PAD
Well: Tres Equis State #3
Wellbore: Rig: Cactus 101//Job # 1110713
Design: Rig: Cactus 101

Local Co-ordinate Reference: Well Tres Equis State #3
TVD Reference: WELL @ 3663.60usft (Cactus 101)
MD Reference: WELL @ 3663.60usft (Cactus 101)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
1,146.00	1.23	195.83	2,517.65	1,145.95	-5.59	2.98	5.61	0.00	456,542.71	762,595.28
Tie In From Gyro @ 1146' MD										
1,305.00	1.10	212.00	2,358.68	1,304.92	-8.53	1.71	8.54	0.22	456,539.77	762,594.01
First Phoenix MWD Surveys @ 1305' MD										
1,496.00	1.30	218.40	2,167.73	1,495.87	-11.78	-0.61	11.78	0.13	456,536.52	762,591.69
1,688.00	1.80	219.20	1,975.80	1,687.80	-15.82	-3.87	15.80	0.26	456,532.48	762,588.43
1,879.00	1.60	223.30	1,784.88	1,878.72	-20.09	-7.59	20.05	0.12	456,528.21	762,584.71
2,071.00	2.00	231.60	1,592.98	2,070.62	-24.12	-12.06	24.05	0.25	456,524.18	762,580.24
2,259.00	0.90	258.50	1,405.04	2,258.56	-26.45	-16.08	26.36	0.67	456,521.85	762,576.22
2,448.00	1.10	264.60	1,216.07	2,447.53	-26.92	-19.34	26.81	0.12	456,521.38	762,572.96
2,639.00	0.90	328.90	1,025.09	2,638.51	-25.81	-21.94	25.68	0.56	456,522.49	762,570.36
2,829.00	1.40	334.40	835.13	2,828.47	-22.44	-23.71	22.30	0.27	456,525.86	762,568.59
3,021.00	1.00	355.00	643.17	3,020.43	-18.65	-24.87	18.51	0.30	456,529.65	762,567.43
3,212.00	1.50	17.00	452.22	3,211.38	-14.60	-24.29	14.46	0.36	456,533.70	762,568.01
3,403.00	1.00	87.80	261.25	3,402.35	-12.15	-21.89	12.02	0.79	456,536.15	762,570.41
3,595.00	0.70	44.30	69.27	3,594.33	-11.24	-19.40	11.13	0.36	456,537.06	762,572.90
3,786.00	0.50	147.80	-121.72	3,785.32	-11.11	-18.14	11.01	0.50	456,537.19	762,574.16
3,976.00	0.30	177.40	-311.72	3,975.32	-12.31	-17.67	12.21	0.15	456,535.99	762,574.63
4,167.00	0.60	181.10	-502.71	4,166.31	-13.81	-17.67	13.71	0.16	456,534.49	762,574.63
4,358.00	2.40	133.40	-693.64	4,357.24	-17.56	-14.78	17.47	1.07	456,530.74	762,577.52
4,548.00	2.20	135.30	-883.49	4,547.09	-22.88	-9.33	22.83	0.11	456,525.42	762,582.97
4,739.00	2.20	129.10	-1,074.35	4,737.95	-27.80	-3.90	27.78	0.12	456,520.50	762,588.40
4,856.00	1.00	104.50	-1,191.30	4,854.90	-29.47	-1.17	29.47	1.16	456,518.83	762,591.13
5,028.00	1.00	92.00	-1,363.28	5,026.88	-29.90	1.78	29.91	0.13	456,518.40	762,594.08
5,219.00	1.00	64.90	-1,554.25	5,217.85	-29.25	4.96	29.28	0.25	456,519.05	762,597.26
5,411.00	1.00	77.80	-1,746.22	5,409.82	-28.19	8.11	28.24	0.12	456,520.11	762,600.41
5,602.00	0.50	66.20	-1,937.20	5,600.80	-27.50	10.50	27.56	0.27	456,520.80	762,602.80



Phoenix Technology Services

Cimarex Energy, Survey Report

Company: Cimarex Energy Company of Colorado
Project: Lea County NM (NAD 83)
Site: Tres Equis State PAD
Well: Tres Equis State #3
Wellbore: Rig: Cactus 101/Job # 1110713
Design: Rig: Cactus 101

Local Co-ordinate Reference: Well Tres Equis State #3
TVD Reference: WELL @ 3663.60usft (Cactus 101)
MD Reference: WELL @ 3663.60usft (Cactus 101)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
5,793.00	0.70	44.00	-2,128.19	5,791.79	-26.33	12.08	26.39	0.16	456,521.97	762,604.38
5,985.00	0.40	19.80	-2,320.18	5,983.78	-24.85	13.12	24.93	0.19	456,523.45	762,605.42
6,176.00	0.20	1.40	-2,511.18	6,174.78	-23.89	13.35	23.97	0.11	456,524.41	762,605.65
6,367.00	0.00	49.70	-2,702.18	6,365.78	-23.56	13.36	23.63	0.10	456,524.74	762,605.66
6,558.00	0.10	271.60	-2,893.18	6,556.78	-23.55	13.19	23.63	0.05	456,524.75	762,605.49
6,747.00	0.20	80.20	-3,082.18	6,745.78	-23.49	13.35	23.57	0.16	456,524.81	762,605.65
6,938.00	0.30	71.50	-3,273.18	6,936.78	-23.28	14.16	23.36	0.06	456,525.02	762,606.46
7,129.00	0.20	71.60	-3,464.18	7,127.78	-23.01	14.95	23.10	0.05	456,525.29	762,607.25
7,320.00	0.30	11.50	-3,655.17	7,318.77	-22.42	15.36	22.51	0.14	456,525.88	762,607.66
7,512.00	0.10	173.50	-3,847.17	7,510.77	-22.09	15.48	22.18	0.21	456,526.21	762,607.78
7,703.00	0.30	15.00	-4,038.17	7,701.77	-21.77	15.63	21.86	0.21	456,526.53	762,607.93
7,894.00	0.00	68.10	-4,229.17	7,892.77	-21.29	15.76	21.38	0.16	456,527.01	762,608.06
8,085.00	0.70	188.40	-4,420.17	8,083.77	-22.44	15.59	22.53	0.37	456,525.86	762,607.89
8,275.00	0.50	198.40	-4,610.16	8,273.76	-24.38	15.16	24.47	0.12	456,523.92	762,607.46
8,465.00	0.80	205.70	-4,800.14	8,463.74	-26.36	14.32	26.44	0.16	456,521.94	762,606.62
8,655.00	0.60	194.50	-4,990.13	8,653.73	-28.52	13.50	28.60	0.13	456,519.78	762,605.80
8,845.00	0.50	218.60	-5,180.12	8,843.72	-30.13	12.73	30.20	0.13	456,518.17	762,605.03
9,036.00	0.80	257.20	-5,371.11	9,034.71	-31.08	10.91	31.14	0.27	456,517.22	762,603.21
9,227.00	0.50	56.90	-5,562.11	9,225.71	-30.92	10.31	30.98	0.67	456,517.38	762,602.61
9,418.00	0.90	258.60	-5,753.10	9,416.70	-30.76	9.54	30.81	0.72	456,517.54	762,601.84
9,610.00	1.80	250.90	-5,945.04	9,608.64	-32.04	5.21	32.07	0.48	456,516.26	762,597.51
9,801.00	0.30	227.40	-6,136.01	9,799.61	-33.36	2.01	33.38	0.80	456,514.94	762,594.31
9,991.00	0.50	291.60	-6,326.00	9,989.60	-33.40	0.87	33.40	0.24	456,514.90	762,593.17
10,181.00	0.60	230.90	-6,516.00	10,179.60	-33.72	-0.67	33.71	0.30	456,514.58	762,591.63
10,276.00	0.30	212.40	-6,610.99	10,274.59	-34.24	-1.19	34.23	0.35	456,514.06	762,591.11
10,409.00	0.40	131.60	-6,743.99	10,407.59	-34.84	-1.03	34.84	0.35	456,513.46	762,591.27
10,504.00	0.60	185.60	-6,838.99	10,502.59	-35.56	-0.83	35.55	0.51	456,512.74	762,591.47



Phoenix Technology Services

Cimarex Energy, Survey Report

Company: Cimarex Energy Company of Colorado
Project: Lea County NM (NAD 83)
Site: Tres Equis State PAD
Well: Tres Equis State #3
Wellbore: Rig: Cactus 101//Job # 1110713
Design: Rig: Cactus 101

Local Co-ordinate Reference: Well Tres Equis State #3
TVD Reference: WELL @ 3663.60usft (Cactus 101)
MD Reference: WELL @ 3663.60usft (Cactus 101)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,567.00	1.00	202.20	-6,901.98	10,565.58	-36.40	-1.07	36.39	0.73	456,511.90	762,591.23
10,599.00	4.10	184.10	-6,933.95	10,597.55	-37.80	-1.26	37.79	9.89	456,510.50	762,591.04
10,631.00	9.10	179.40	-6,965.72	10,629.32	-41.47	-1.32	41.46	15.70	456,506.83	762,590.98
10,662.00	14.10	180.30	-6,996.08	10,659.68	-47.70	-1.31	47.69	16.14	456,500.60	762,590.99
10,694.00	18.00	182.20	-7,026.83	10,690.43	-56.54	-1.52	56.53	12.30	456,491.76	762,590.78
10,726.00	21.00	183.10	-7,056.99	10,720.59	-67.21	-2.02	67.20	9.42	456,481.09	762,590.28
10,757.00	23.60	183.20	-7,085.67	10,749.27	-78.96	-2.67	78.94	8.39	456,469.34	762,589.63
10,789.00	26.00	184.70	-7,114.72	10,778.32	-92.34	-3.60	92.32	7.75	456,455.96	762,588.70
10,820.00	29.80	184.90	-7,142.11	10,805.71	-106.80	-4.81	106.77	12.26	456,441.50	762,587.49
10,852.00	33.70	184.60	-7,169.31	10,832.91	-123.57	-6.21	123.54	12.20	456,424.73	762,586.09
10,884.00	37.00	184.10	-7,195.41	10,859.01	-142.03	-7.61	141.99	10.35	456,406.27	762,584.69
10,915.00	40.20	183.10	-7,219.63	10,883.23	-161.33	-8.82	161.28	10.52	456,386.97	762,583.48
10,947.00	43.30	181.70	-7,243.51	10,907.11	-182.62	-9.70	182.56	10.12	456,365.68	762,582.60
10,979.00	46.90	180.00	-7,266.09	10,929.69	-205.28	-10.03	205.22	11.86	456,343.02	762,582.27
11,011.00	50.70	178.60	-7,287.17	10,950.77	-229.35	-9.72	229.29	12.32	456,318.95	762,582.58
11,042.00	53.90	177.90	-7,306.12	10,969.72	-253.86	-8.97	253.80	10.48	456,294.44	762,583.33
11,074.00	56.80	177.90	-7,324.31	10,987.91	-280.16	-8.01	280.11	9.06	456,268.14	762,584.29
11,105.00	61.00	179.30	-7,340.32	11,003.92	-306.69	-7.37	306.65	14.09	456,241.61	762,584.93
11,137.00	64.80	180.80	-7,354.90	11,018.50	-335.17	-7.40	335.13	12.59	456,213.13	762,584.90
11,169.00	68.00	181.00	-7,367.71	11,031.31	-364.49	-7.86	364.44	10.02	456,183.81	762,584.44
11,200.00	71.00	180.20	-7,378.56	11,042.16	-393.52	-8.16	393.47	9.97	456,154.78	762,584.14
11,228.00	74.00	179.30	-7,386.98	11,050.58	-420.22	-8.04	420.17	11.14	456,128.08	762,584.26
11,260.00	78.20	179.30	-7,394.67	11,058.27	-451.28	-7.66	451.22	13.12	456,097.02	762,584.64
11,291.00	80.20	178.60	-7,400.48	11,064.08	-481.72	-7.10	481.67	6.82	456,066.58	762,585.20
11,323.00	82.90	178.70	-7,405.18	11,068.78	-513.36	-6.36	513.32	8.44	456,034.94	762,585.94
11,355.00	86.50	178.60	-7,408.13	11,071.73	-545.21	-5.61	545.17	11.25	456,003.09	762,586.69
11,386.00	86.20	177.90	-7,410.11	11,073.71	-576.13	-4.66	576.10	2.45	455,972.17	762,587.64



Phoenix Technology Services

Cimarex Energy, Survey Report

Company: Cimarex Energy Company of Colorado
Project: Lea County NM (NAD 83)
Site: Tres Equis State PAD
Well: Tres Equis State #3
Wellbore: Rig: Cactus 101/Job # 1110713
Design: Rig: Cactus 101

Local Co-ordinate Reference: Well Tres Equis State #3
TVD Reference: WELL @ 3663.60usft (Cactus 101)
MD Reference: WELL @ 3663.60usft (Cactus 101)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
11,412.00	86.90	177.70	-7,411.67	11,075.27	-602.07	-3.67	602.03	2.80	455,946.23	762,588.63
11,444.00	89.90	178.00	-7,412.56	11,076.16	-634.03	-2.47	634.00	9.42	455,914.27	762,589.83
11,475.00	92.00	179.10	-7,412.05	11,075.65	-665.01	-1.68	664.99	7.65	455,883.29	762,590.62
11,570.00	90.10	179.60	-7,410.31	11,073.91	-759.98	-0.60	759.97	2.07	455,788.32	762,591.70
11,665.00	90.20	179.90	-7,410.06	11,073.66	-854.98	-0.19	854.97	0.33	455,693.32	762,592.11
11,760.00	90.00	179.20	-7,409.90	11,073.50	-949.98	0.56	949.97	0.77	455,598.32	762,592.86
11,855.00	89.10	179.30	-7,410.64	11,074.24	-1,044.97	1.80	1,044.96	0.95	455,503.33	762,594.10
11,951.00	88.80	178.90	-7,412.40	11,076.00	-1,140.94	3.31	1,140.94	0.52	455,407.36	762,595.61
12,046.00	87.60	179.00	-7,415.38	11,078.98	-1,235.87	5.05	1,235.88	1.27	455,312.43	762,597.35
12,141.00	89.80	179.10	-7,417.54	11,081.14	-1,330.83	6.62	1,330.85	2.32	455,217.47	762,598.92
12,236.00	89.40	178.70	-7,418.20	11,081.80	-1,425.81	8.45	1,425.84	0.60	455,122.49	762,600.75
12,331.00	90.00	178.60	-7,418.70	11,082.30	-1,520.78	10.68	1,520.82	0.64	455,027.52	762,602.98
12,426.00	89.60	177.90	-7,419.03	11,082.63	-1,615.74	13.58	1,615.79	0.85	454,932.56	762,605.88
12,521.00	88.30	178.70	-7,420.77	11,084.37	-1,710.68	16.40	1,710.74	1.61	454,837.62	762,608.70
12,616.00	88.20	179.20	-7,423.67	11,087.27	-1,805.62	18.14	1,805.69	0.54	454,742.68	762,610.44
12,711.00	87.40	178.00	-7,427.32	11,090.92	-1,900.51	20.46	1,900.60	1.52	454,647.79	762,612.76
12,807.00	89.10	179.40	-7,430.25	11,093.85	-1,996.44	22.64	1,996.54	2.29	454,551.86	762,614.94
12,902.00	89.20	179.30	-7,431.66	11,095.26	-2,091.42	23.72	2,091.52	0.15	454,456.88	762,616.02
12,997.00	89.40	179.90	-7,432.82	11,096.42	-2,186.41	24.38	2,186.52	0.67	454,361.89	762,616.68
13,092.00	88.10	181.20	-7,434.90	11,098.50	-2,281.38	23.47	2,281.48	1.93	454,266.92	762,615.77
13,187.00	88.80	180.90	-7,437.46	11,101.06	-2,376.33	21.73	2,376.42	0.80	454,171.97	762,614.03
13,282.00	90.60	181.30	-7,437.96	11,101.56	-2,471.31	19.90	2,471.38	1.94	454,076.99	762,612.20
13,377.00	90.70	180.80	-7,436.88	11,100.48	-2,566.29	18.16	2,566.35	0.54	453,982.01	762,610.46
13,467.00	90.80	180.30	-7,435.71	11,099.31	-2,656.27	17.30	2,656.33	0.57	453,892.03	762,609.60
13,562.00	88.60	179.90	-7,436.20	11,099.80	-2,751.27	17.13	2,751.32	2.35	453,797.03	762,609.43
13,657.00	87.70	179.20	-7,439.27	11,102.87	-2,846.21	17.88	2,846.27	1.20	453,702.09	762,610.18
13,752.00	89.40	179.00	-7,441.67	11,105.27	-2,941.17	19.37	2,941.23	1.80	453,607.13	762,611.67



Phoenix Technology Services

Cimarex Energy, Survey Report

Company: Cimarex Energy Company of Colorado
Project: Lea County NM (NAD 83)
Site: Tres Equis State PAD
Well: Tres Equis State #3
Wellbore: Rig: Cactus 101/Job # 1110713
Design: Rig: Cactus 101

Local Co-ordinate Reference: Well Tres Equis State #3
TVD Reference: WELL @ 3663.60usft (Cactus 101)
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
13,847.00	89.10	179.70	-7,442.92	11,106.52	-3,036.15	20.45	3,036.22	0.80	453,512.15	762,612.75
13,942.00	88.90	179.90	-7,444.58	11,108.18	-3,131.14	20.78	3,131.20	0.30	453,417.16	762,613.08
14,037.00	89.30	179.50	-7,446.07	11,109.67	-3,226.12	21.28	3,226.19	0.60	453,322.18	762,613.58
14,132.00	89.10	180.00	-7,447.39	11,110.99	-3,321.11	21.69	3,321.18	0.57	453,227.19	762,613.99
14,227.00	89.10	180.20	-7,448.89	11,112.49	-3,416.10	21.53	3,416.17	0.21	453,132.20	762,613.83
14,322.00	89.10	180.30	-7,450.38	11,113.98	-3,511.09	21.11	3,511.15	0.11	453,037.21	762,613.41
14,417.00	89.10	179.90	-7,451.87	11,115.47	-3,606.08	20.95	3,606.14	0.42	452,942.22	762,613.25
14,512.00	89.00	179.80	-7,453.45	11,117.05	-3,701.06	21.19	3,701.12	0.15	452,847.24	762,613.49
14,607.00	89.30	179.40	-7,454.86	11,118.46	-3,796.05	21.86	3,796.11	0.53	452,752.25	762,614.16
14,703.00	88.90	179.30	-7,456.36	11,119.96	-3,892.03	22.95	3,892.10	0.43	452,656.27	762,615.25
14,798.00	88.90	178.90	-7,458.19	11,121.79	-3,987.00	24.44	3,987.08	0.42	452,561.30	762,616.74
14,893.00	88.90	178.60	-7,460.01	11,123.61	-4,081.96	26.51	4,082.05	0.32	452,466.34	762,618.81
14,989.00	88.90	178.60	-7,461.85	11,125.45	-4,177.91	28.86	4,178.01	0.00	452,370.39	762,621.16
15,060.00	88.70	178.50	-7,463.34	11,126.94	-4,248.88	30.65	4,248.98	0.31	452,299.42	762,622.95
15,154.00	88.00	178.30	-7,466.05	11,129.65	-4,342.80	33.27	4,342.92	0.77	452,205.50	762,625.57
15,262.00	87.80	178.20	-7,470.01	11,133.61	-4,450.68	36.57	4,450.81	0.21	452,097.62	762,628.87
15,344.00	87.30	178.60	-7,473.51	11,137.11	-4,532.57	38.86	4,532.72	0.78	452,015.73	762,631.16
Last Phoenix MWD Surveys @ 15344' MD										
15,421.00	87.30	178.60	-7,477.14	11,140.74	-4,609.46	40.74	4,609.62	0.00	451,938.84	762,633.04
Projection to TD @ 15421' MD										



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Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,146.00	1,145.95	-5.59	2.98	Tie In From Gyro @ 1146' MD
1,305.00	1,304.92	-8.53	1.71	First Phoenix MWD Surveys @ 1305' MD
15,344.00	11,137.11	-4,532.57	38.86	Last Phoenix MWD Surveys @ 15344' MD
15,421.00	11,140.74	-4,609.46	40.74	Projection to TD @ 15421' MD

Checked By: _____ Approved By: _____ Date: _____