

Results of Directional Survey

API number:	30-025-40341		
OGRID:		Operator:	CIMAREX ENERGY CO.
		Property:	TRES EQUIS STATE # 4H

surface	ULSTR:	A	06	T 24S	R 33E
				330 FNL	660 FEL

BH Loc	ULSTR:	P	06	T 24S	R 33E
15568	MD	11159.8	TVD	340 FSL	598 FEL
				4940 FNL	

Top Perf/OH	ULSTR:	A	06	T 24S	R 33E
11280	MD	11132.1	TVD	655 FNL	658 FEL

Bot Perf/OH	ULSTR:	P	06	T 24S	R 33E
15481	MD	11157.8	TVD	427 FSL	598 FEL
				4853 FNL	

	MD	N/S	E/W	VD
	11278	-323.18	1.72	11131.91
TOP PERFS/OH	11280	-325.17	1.68	11132.05
	11310	-355.09	1.00	11134.14
	15464	-4505.99	62.02	11157.36
BOT PERFS/OH	15481	-4522.99	62.06	11157.79
	15507	-4548.98	62.13	11158.45

NEXT TO LAST	15507	-4548.98	62.13	11158.45
LAST READING	15568	-4609.96	62.29	11159.83
TD	15568	-4609.96	62.29	11159.83

Surface Location	330	FN	660	FE
Projected BHL	4940	FN	598	FE
Location of				
Top Perfs/OH	655	FN	658	FE
Bottom Perfs/OH	4853	FN	598	FE

SUMMARY of Subsurface Locations

Surface Location	A-06-24S-33E	330	FN	660	FE	Vert. Depth
Top Perfs/OH	A-06-24S-33E	655	FN	658	FE	11132.05
Bottom Perfs/OH	P-06-24S-33E	4853	FN	598	FE	11157.79
Projected TD	P-06-24S-33E	4940	FN	598	FE	11159.83

JUN 07 2012



A GYRO TECHNOLOGIES INC. COMPANY

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

February 23, 2012

HOBBS OCD

MAY 22 2012

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

RECEIVED

Attn: Carolyn Larson

SUR: A-06-24s-33e, 330/N & 660/E
BHL: P-06-24s-33e, 4940/N & 598/E
API # 30-025-40341

Re: **Tres Equis State 4H**

Please find enclosed a copy of the survey from 0' to 4,780' ran on the above referenced well.

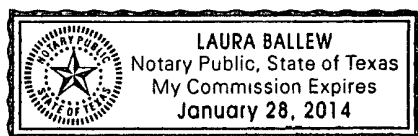
If I can be of any further service, please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 29th day of February A.D., 2012, by Keith Havelka.



Laura Ballew

Laura Ballew
Notary Public, State of Texas



Company: Cimarex Energy
Lease/Well: Tres Equis State/4H
Location: S 6, T 24S, R 33E
Rig Name: Cactus 101
State/County: New Mexico/Lea
Latitude: 32.25

GRID North is 0.39 Degrees East of True North

VS-Azi: 0.00 Degrees



RKB : 18.5 Feet Elevation=3656 Feet

HOBBS OCD

MAY 22 2012

RECEIVED

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: tres equis state #4h_ed_int.ut

Minimum Curvature Method

Report Date/Time: 2/23/2012 / 10:39

Vaughn Energy Services

Midland, TX

432-563-5444

Surveyor: Zach Garcia

Tres Equis State 4H / API 30-025-40341

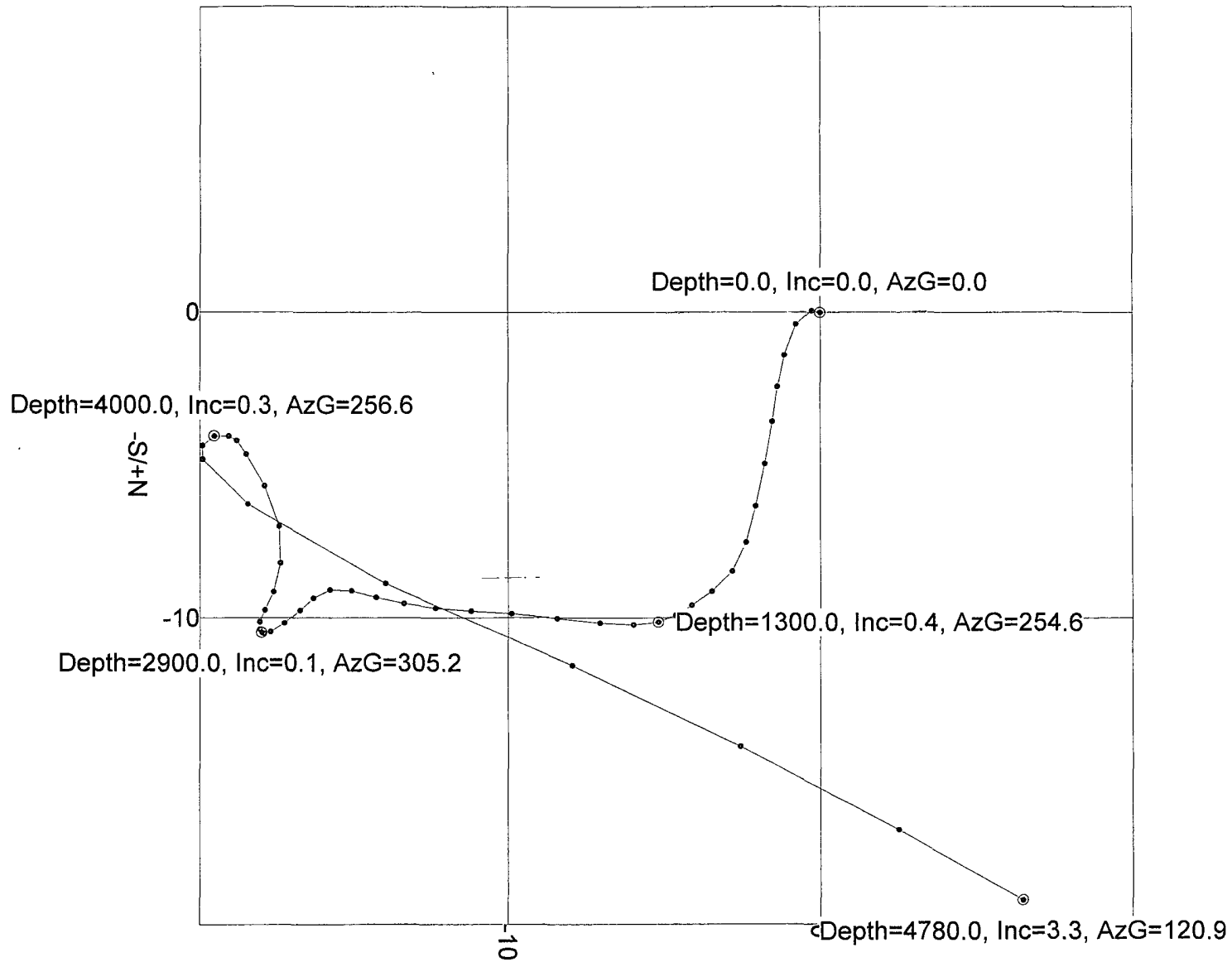
SUR: A-06-24s-33e, 330/N & 660/E
BHL: P-06-24s-33e, 4940/N & 598/E
API # 30-025-40341

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W 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	****
100.00	0.32	282.26	100.00	0.06	-0.27	0.28	282.26	0.32
200.00	0.64	204.53	200.00	-0.39	-0.77	0.87	243.40	0.65
300.00	0.61	195.81	299.99	-1.41	-1.15	1.82	219.24	0.10
400.00	0.59	187.09	399.99	-2.44	-1.36	2.79	209.19	0.09
500.00	0.73	188.97	499.98	-3.58	-1.52	3.89	203.08	0.14
600.00	0.87	190.85	599.97	-4.95	-1.77	5.26	199.64	0.14
700.00	0.76	193.36	699.96	-6.33	-2.06	6.66	198.02	0.12
800.00	0.64	195.86	799.95	-7.52	-2.37	7.88	197.48	0.12
900.00	0.57	215.16	899.95	-8.47	-2.81	8.92	198.35	0.22
1000.00	0.50	234.47	999.94	-9.13	-3.45	9.76	200.72	0.19
1100.00	0.40	236.31	1099.94	-9.58	-4.10	10.42	203.18	0.11
1200.00	0.29	238.16	1199.94	-9.91	-4.61	10.93	204.95	0.11
1300.00	0.41	254.64	1299.93	-10.14	-5.17	11.38	207.04	0.15
1400.00	0.53	271.13	1399.93	-10.22	-5.98	11.84	210.32	0.18
1500.00	0.71	274.27	1499.93	-10.17	-7.05	12.38	214.75	0.18
1600.00	0.89	277.42	1599.92	-10.02	-8.44	13.10	220.10	0.19
1700.00	0.79	275.01	1699.90	-9.86	-9.90	13.97	225.09	0.10
1800.00	0.69	272.60	1799.90	-9.78	-11.19	14.86	228.85	0.10

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.62	276.82	1899.89	-9.68	-12.33	15.68	231.86	0.08
2000.00	0.55	281.05	1999.88	-9.53	-13.35	16.40	234.48	0.08
2100.00	0.50	283.91	2099.88	-9.33	-14.25	17.03	236.79	0.06
2200.00	0.45	286.77	2199.88	-9.11	-15.05	17.59	238.82	0.06
2300.00	0.39	256.34	2299.87	-9.07	-15.76	18.19	240.07	0.23
2400.00	0.33	225.91	2399.87	-9.35	-16.30	18.79	240.15	0.20
2500.00	0.36	229.32	2499.87	-9.75	-16.74	19.37	239.77	0.04
2600.00	0.40	232.72	2599.87	-10.17	-17.25	20.02	239.48	0.04
2700.00	0.22	250.31	2699.87	-10.44	-17.70	20.55	239.47	0.20
2800.00	0.04	267.91	2799.87	-10.51	-17.91	20.76	239.61	0.18
2900.00	0.06	305.23	2899.87	-10.47	-17.99	20.82	239.79	0.04
3000.00	0.09	342.56	2999.87	-10.37	-18.06	20.82	240.15	0.06
3100.00	0.20	8.28	3099.87	-10.12	-18.06	20.70	240.74	0.12
3200.00	0.30	33.99	3199.87	-9.73	-17.89	20.36	241.45	0.15
3300.00	0.47	20.88	3299.86	-9.13	-17.59	19.82	242.57	0.19
3400.00	0.64	7.76	3399.86	-8.19	-17.37	19.21	244.76	0.21
3500.00	0.76	349.70	3499.85	-6.99	-17.41	18.76	248.14	0.25
3600.00	0.87	331.64	3599.84	-5.67	-17.89	18.77	252.41	0.28
3700.00	0.50	326.05	3699.83	-4.64	-18.49	19.07	255.90	0.38
3800.00	0.13	320.46	3799.83	-4.20	-18.81	19.27	257.42	0.37
3900.00	0.23	288.50	3899.83	-4.05	-19.07	19.49	258.01	0.14
4000.00	0.33	256.55	3999.83	-4.05	-19.53	19.95	258.28	0.18
4100.00	0.30	204.30	4099.83	-4.36	-19.91	20.39	257.66	0.28
4200.00	0.27	152.05	4199.83	-4.81	-19.91	20.48	256.42	0.25
4300.00	2.11	132.68	4299.80	-6.27	-18.45	19.48	251.23	1.85
4400.00	3.94	113.31	4399.66	-8.87	-13.94	16.52	237.52	2.07
4500.00	3.61	115.21	4499.44	-11.57	-7.94	14.03	214.45	0.36
4600.00	3.27	117.10	4599.26	-14.21	-2.55	14.44	190.19	0.35
4700.00	3.30	119.20	4699.10	-16.91	2.50	17.10	171.60	0.12
4780.00	3.32	120.87	4778.97	-19.23	6.50	20.29	161.33	0.12



Vaughn Energy Services
Midland, TX
432-563-5444
Surveyor: Zach Garcia
Tres Equis State 4H / API 30-025-40341



-W/+E
VES Survey Date: 02/13/2012



PHOENIX
TECHNOLOGY SERVICES

March 20, 2012

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

HOBBS OCD

Re: Cimarex Energy
Tres Equis State 4H
Lea Co., NM
API #30-025-40341
Job No. 1210019

MAY 22 2012

RECEIVED

SUR: A-06-24s-33e, 330/N & 660/E
BHL: P-06-24s-33e, 4940/N & 598/E
API # 30-025-40341

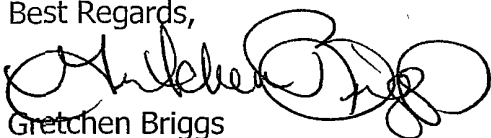
Dear Regulatory Department;

Phoenix Technology Services, Inc. has filed the survey certification, and surveys 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	
Daniel Scott	4H	4,926	15,507	02/14/12	03/10/12	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 1210019

OPERATOR Cimarex

WELL NAME Tres Equis State 4H

COUNTY & STATE

Lea County, New Mexico

API WELL NUMBER 30-025-40341

PROPOSED DIRECTION 179.64

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
4,780 ft	4,778.97 ft	3.3	120.9	-19.23 ft	6.50 ft	Gyro

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
14-Feb-12	4,926 ft	2.5	132.9

SURVEY INSTRUMENT
TYPE
Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
10-Mar-12	15,507 ft	88.7	179.9

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
10-Mar-12	15,568 ft	88.7	179.9

Daniel Scott

PRINT YOUR NAME ABOVE

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.15
DECLINATION OR GRID	GRID

3/10/2012

TODAY'S DATE

MWD SUPERVISOR 1 Daniel Scott

DIRECTIONAL DRILLER 1

Brinton Donaldson

MWD SUPERVISOR 2 Eric Wolter

DIRECTIONAL DRILLER 2

Chris Jabson

1805 Brittmore Road Houston, Texas 77043 (713)3370609 (Voice), (713)337-0599 (Fax)



PHOENIX
TECHNOLOGY SERVICES

Cimarex Energy Company of Colorado

Lea County NM (NAD 83)

Tres Equis State PAD

Tres Equis State #4

Rig: Cactus 101// Job # 1210019

SUR: A-06-24s-33e, 330/N & 660/E
BHL: P-06-24s-33e, 4940/N & 598/E
API # 30-025-40341

Survey: Phoenix MWD Final Surveys

Cimarex Energy, Survey Report

19 March, 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 #4
Wellbore: Rig: Cactus 101// Job # 1210019
Design: Rig: Cactus 101// Job # 1210019

Local Co-ordinate Reference: Well Tres Equis State #4
TVD Reference: WELL @ 3674.60usft (Cactus 101)
MD Reference: WELL @ 3674.60usft (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 #4		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	18.60 usft
		Latitude:	32° 15' 11.0867 N
		Longitude:	103° 36' 17.9909 W
		Ground Level:	3,656.00 usft

Wellbore	Rig: Cactus 101// Job # 1210019		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010_14	12/29/11	(°)
			7.54
			Dip Angle
			(°)
			60.20
			Field Strength
			(nT)
			48,575

Design	Rig: Cactus 101// Job # 1210019		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			179.64



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 #4
Wellbore: Rig: Cactus 101// Job # 1210019
Design: Rig: Cactus 101// Job # 1210019

Local Co-ordinate Reference: Well Tres Equis State #4
TVD Reference: WELL @ 3674.60usft (Cactus 101)
MD Reference: WELL @ 3674.60usft (Cactus 101)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Survey Program		Date	03/19/12			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description		
4,780.00	10,781.00	Pilot Hole Surveys (Rig: Cactus 101// Job	MWD	MWD - Standard		
10,811.00	15,568.00	Phoenix MWD Surveys (Rig: Cactus 101//	MWD	MWD - Standard		

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)	
4,780.00	3.32	120.87	-1,104.37	4,778.97	-19.22	6.49	19.26	0.00	456,548.18	766,499.69	
Tie In From Gyro Surveys @ 4780' MD											
4,926.00	2.50	132.90	-1,250.18	4,924.78	-23.56	12.45	23.64	0.70	456,543.84	766,505.65	
First Phoenix MWD Surveys @ 4926' MD											
4,990.00	2.10	121.60	-1,314.13	4,988.73	-25.12	14.48	25.21	0.94	456,542.28	766,507.68	
5,085.00	0.30	133.90	-1,409.10	5,083.70	-26.21	16.14	26.31	1.90	456,541.19	766,509.34	
5,181.00	0.50	91.80	-1,505.10	5,179.70	-26.40	16.74	26.50	0.36	456,541.00	766,509.94	
5,277.00	0.20	112.30	-1,601.10	5,275.70	-26.47	17.31	26.58	0.33	456,540.93	766,510.51	
5,372.00	0.40	119.90	-1,696.10	5,370.70	-26.70	17.75	26.81	0.21	456,540.70	766,510.95	
5,468.00	0.50	86.20	-1,792.09	5,466.69	-26.84	18.46	26.96	0.29	456,540.56	766,511.66	
5,563.00	0.60	76.90	-1,887.09	5,561.69	-26.70	19.36	26.82	0.14	456,540.70	766,512.56	
5,658.00	0.50	101.20	-1,982.09	5,656.69	-26.67	20.25	26.79	0.26	456,540.73	766,513.45	
5,754.00	0.40	89.20	-2,078.08	5,752.68	-26.74	21.00	26.88	0.14	456,540.66	766,514.20	
5,849.00	0.50	58.80	-2,173.08	5,847.68	-26.52	21.68	26.66	0.27	456,540.88	766,514.88	
5,944.00	0.30	73.20	-2,268.08	5,942.68	-26.24	22.27	26.38	0.23	456,541.16	766,515.47	
6,039.00	0.50	51.20	-2,363.07	6,037.67	-25.91	22.84	26.05	0.26	456,541.49	766,516.04	
6,134.00	0.20	39.90	-2,458.07	6,132.67	-25.52	23.26	25.67	0.32	456,541.88	766,516.46	
6,230.00	0.10	28.90	-2,554.07	6,228.67	-25.32	23.41	25.46	0.11	456,542.08	766,516.61	
6,325.00	0.20	27.20	-2,649.07	6,323.67	-25.10	23.53	25.25	0.11	456,542.30	766,516.73	
6,421.00	0.10	328.80	-2,745.07	6,419.67	-24.88	23.56	25.02	0.18	456,542.52	766,516.76	
6,516.00	0.00	155.70	-2,840.07	6,514.67	-24.81	23.52	24.95	0.11	456,542.59	766,516.72	
6,612.00	0.20	252.40	-2,936.07	6,610.67	-24.86	23.36	25.00	0.21	456,542.54	766,516.56	



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 #4
Wellbore: Rig: Cactus 101// Job # 1210019
Design: Rig: Cactus 101// Job # 1210019

Local Co-ordinate Reference: Well Tres Equis State #4
TVD Reference: WELL @ 3674.60usft (Cactus 101)
MD Reference: WELL @ 3674.60usft (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)
9,261.00	0.70	255.90	-5,584.96	9,259.56	-41.72	10.15	41.78	0.15	456,525.68	766,503.35
9,356.00	1.20	281.20	-5,679.94	9,354.54	-41.67	8.61	41.72	0.67	456,525.73	766,501.81
9,450.00	1.90	233.80	-5,773.91	9,448.51	-42.40	6.39	42.44	1.49	456,525.00	766,499.59
9,545.00	1.70	228.20	-5,868.86	9,543.46	-44.27	4.06	44.29	0.28	456,523.13	766,497.26
9,641.00	0.30	91.20	-5,964.85	9,639.45	-45.22	3.25	45.24	2.01	456,522.18	766,496.45
9,736.00	0.40	24.20	-6,059.85	9,734.45	-44.92	3.64	44.95	0.42	456,522.48	766,496.84
9,831.00	1.60	353.30	-6,154.83	9,829.43	-43.31	3.62	43.33	1.34	456,524.09	766,496.82
9,926.00	1.80	10.10	-6,249.79	9,924.39	-40.52	3.73	40.54	0.56	456,526.88	766,496.93
10,019.00	2.00	4.50	-6,342.74	10,017.34	-37.46	4.11	37.49	0.29	456,529.94	766,497.31
10,114.00	1.90	1.20	-6,437.69	10,112.29	-34.24	4.27	34.26	0.16	456,533.16	766,497.47
10,209.00	0.20	68.10	-6,532.67	10,207.27	-32.60	4.46	32.63	1.93	456,534.80	766,497.66
10,304.00	0.70	109.50	-6,627.67	10,302.27	-32.73	5.16	32.76	0.60	456,534.67	766,498.36
10,399.00	0.80	77.50	-6,722.66	10,397.26	-32.78	6.36	32.82	0.45	456,534.62	766,499.56
10,495.00	1.10	48.80	-6,818.65	10,493.25	-32.03	7.70	32.08	0.58	456,535.37	766,500.90
10,590.00	0.20	315.80	-6,913.64	10,588.24	-31.31	8.27	31.36	1.19	456,536.09	766,501.47
10,686.00	0.30	216.60	-7,009.64	10,684.24	-31.39	8.01	31.44	0.40	456,536.01	766,501.21
10,781.00	0.30	142.10	-7,104.64	10,779.24	-31.79	8.01	31.84	0.38	456,535.61	766,501.21
10,811.00	4.80	174.60	-7,134.60	10,809.20	-33.10	8.18	33.15	15.17	456,534.30	766,501.38
10,842.00	10.40	186.60	-7,165.32	10,839.92	-37.17	7.98	37.22	18.68	456,530.23	766,501.18
10,874.00	15.60	188.10	-7,196.49	10,871.09	-44.31	7.04	44.35	16.28	456,523.09	766,500.24
10,906.00	21.10	185.80	-7,226.85	10,901.45	-54.31	5.85	54.34	17.33	456,513.09	766,499.05
10,937.00	26.00	186.20	-7,255.26	10,929.86	-66.62	4.55	66.65	15.81	456,500.78	766,497.75
10,969.00	30.40	187.10	-7,283.45	10,958.05	-81.63	2.79	81.65	13.81	456,485.77	766,495.99
11,001.00	33.90	186.20	-7,310.54	10,985.14	-98.55	0.83	98.55	11.04	456,468.85	766,494.03
11,032.00	38.20	179.50	-7,335.61	11,010.21	-116.74	-0.02	116.74	18.80	456,450.66	766,493.18
11,064.00	42.70	176.70	-7,359.96	11,034.56	-137.48	0.69	137.48	15.16	456,429.92	766,493.89
11,096.00	48.50	178.40	-7,382.34	11,056.94	-160.31	1.65	160.32	18.52	456,407.09	766,494.85



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 #4
Wellbore: Rig: Cactus 101// Job # 1210019
Design: Rig: Cactus 101// Job # 1210019

Local Co-ordinate Reference: Well Tres Equis State #4
TVD Reference: WELL @ 3674.60usft (Cactus 101)
MD Reference: WELL @ 3674.60usft (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)
11,128.00	54.40	179.50	-7,402.27	11,076.87	-185.32	2.10	185.33	18.63	456,382.08	766,495.30
11,159.00	59.70	179.80	-7,419.13	11,093.73	-211.33	2.25	211.34	17.12	456,356.07	766,495.45
11,191.00	66.00	180.00	-7,433.72	11,108.32	-239.79	2.30	239.80	19.70	456,327.61	766,495.50
11,223.00	71.70	180.20	-7,445.26	11,119.86	-269.62	2.25	269.63	17.82	456,297.78	766,495.45
11,255.00	78.10	180.50	-7,453.59	11,128.19	-300.50	2.06	300.50	20.02	456,266.90	766,495.26
11,278.00	83.30	181.20	-7,457.31	11,131.91	-323.18	1.72	323.19	22.81	456,244.22	766,494.92
11,310.00	88.70	181.40	-7,459.54	11,134.14	-355.09	1.00	355.08	16.89	456,212.31	766,494.20
11,374.00	89.30	181.50	-7,460.66	11,135.26	-419.06	-0.62	419.04	0.95	456,148.34	766,492.58
11,468.00	88.50	180.40	-7,462.46	11,137.06	-513.02	-2.18	513.00	1.45	456,054.38	766,491.02
11,564.00	87.60	179.40	-7,465.73	11,140.33	-608.96	-2.01	608.94	1.40	455,958.44	766,491.19
11,628.00	88.20	178.60	-7,468.07	11,142.67	-672.91	-0.90	672.89	1.56	455,894.49	766,492.30
11,659.00	89.10	178.70	-7,468.80	11,143.40	-703.89	-0.17	703.88	2.92	455,863.51	766,493.03
11,690.00	90.30	179.00	-7,468.97	11,143.57	-734.89	0.46	734.87	3.99	455,832.51	766,493.66
11,754.00	91.60	179.20	-7,467.91	11,142.51	-798.87	1.46	798.86	2.06	455,768.53	766,494.66
11,850.00	91.40	178.50	-7,465.39	11,139.99	-894.82	3.39	894.82	0.76	455,672.58	766,496.59
11,945.00	91.30	178.30	-7,463.15	11,137.75	-989.75	6.04	989.77	0.24	455,577.65	766,499.24
12,039.00	91.30	178.40	-7,461.02	11,135.62	-1,083.69	8.74	1,083.72	0.11	455,483.71	766,501.94
12,134.00	90.50	177.10	-7,459.53	11,134.13	-1,178.60	12.47	1,178.66	1.61	455,388.80	766,505.67
12,229.00	89.90	176.60	-7,459.20	11,133.80	-1,273.46	17.69	1,273.54	0.82	455,293.94	766,510.89
12,325.00	88.90	175.90	-7,460.20	11,134.80	-1,369.24	23.97	1,369.37	1.27	455,198.16	766,517.17
12,420.00	90.00	175.90	-7,461.12	11,135.72	-1,463.99	30.76	1,464.16	1.16	455,103.41	766,523.96
12,516.00	90.20	176.30	-7,460.95	11,135.55	-1,559.77	37.29	1,559.98	0.47	455,007.63	766,530.49
12,612.00	90.90	175.90	-7,460.03	11,134.63	-1,655.54	43.82	1,655.79	0.84	454,911.86	766,537.02
12,707.00	92.00	176.40	-7,457.62	11,132.22	-1,750.30	50.20	1,750.58	1.27	454,817.10	766,543.40
12,803.00	91.70	176.40	-7,454.52	11,129.12	-1,846.06	56.22	1,846.38	0.31	454,721.34	766,549.42
12,898.00	88.80	177.20	-7,454.11	11,128.71	-1,940.90	61.53	1,941.25	3.17	454,626.50	766,554.73
13,026.00	88.80	178.80	-7,456.79	11,131.39	-2,068.79	65.99	2,069.16	1.25	454,498.61	766,559.19



Phoenix Technology Services

Cimarex Energy, Survey Report

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Site: Tres Equis State PAD
Well: Tres Equis State #4
Wellbore: Rig: Cactus 101// Job # 1210019
Design: Rig: Cactus 101// Job # 1210019

Local Co-ordinate Reference: Well Tres Equis State #4
TVD Reference: WELL @ 3674.60usft (Cactus 101)
MD Reference: WELL @ 3674.60usft (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)
13,079.00	89.10	179.00	-7,457.76	11,132.36	-2,121.77	67.01	2,122.15	0.68	454,445.83	766,560.21
13,175.00	89.40	180.40	-7,459.02	11,133.62	-2,217.76	67.51	2,218.14	1.49	454,349.64	766,560.71
13,271.00	88.40	179.90	-7,460.86	11,135.46	-2,313.74	67.26	2,314.11	1.16	454,253.66	766,560.46
13,366.00	88.70	180.40	-7,463.26	11,137.86	-2,408.71	67.01	2,409.08	0.61	454,158.69	766,560.21
13,460.00	88.50	180.20	-7,465.56	11,140.16	-2,502.68	66.52	2,503.05	0.30	454,064.72	766,559.72
13,555.00	90.70	182.10	-7,466.22	11,140.82	-2,597.65	64.61	2,598.00	3.06	453,969.75	766,557.81
13,651.00	90.70	182.10	-7,465.05	11,139.65	-2,693.57	61.10	2,693.90	0.00	453,873.83	766,554.30
13,746.00	89.50	181.70	-7,464.89	11,139.49	-2,788.52	57.95	2,788.83	1.33	453,778.88	766,551.15
13,842.00	90.20	181.80	-7,465.14	11,139.74	-2,884.47	55.01	2,884.76	0.74	453,682.93	766,548.21
13,937.00	89.70	181.70	-7,465.22	11,139.82	-2,979.43	52.11	2,979.70	0.54	453,587.97	766,545.31
14,033.00	90.10	181.20	-7,465.39	11,139.99	-3,075.40	49.68	3,075.65	0.67	453,492.00	766,542.88
14,128.00	90.30	180.70	-7,465.06	11,139.66	-3,170.38	48.11	3,170.62	0.57	453,397.02	766,541.31
14,223.00	90.70	180.10	-7,464.23	11,138.83	-3,265.38	47.45	3,265.61	0.76	453,302.02	766,540.65
14,319.00	90.90	179.60	-7,462.89	11,137.49	-3,361.37	47.70	3,361.60	0.56	453,206.03	766,540.90
14,415.00	89.90	178.80	-7,462.22	11,136.82	-3,457.35	49.04	3,457.59	1.33	453,110.05	766,542.24
14,511.00	88.00	179.20	-7,463.98	11,138.58	-3,553.32	50.71	3,553.57	2.02	453,014.08	766,543.91
14,607.00	88.40	179.00	-7,466.99	11,141.59	-3,649.26	52.22	3,649.51	0.47	452,918.14	766,545.42
14,702.00	89.60	180.10	-7,468.65	11,143.25	-3,744.24	52.97	3,744.50	1.71	452,823.16	766,546.17
14,798.00	89.60	180.00	-7,469.32	11,143.92	-3,840.24	52.88	3,840.49	0.10	452,727.16	766,546.08
14,893.00	89.30	179.40	-7,470.23	11,144.83	-3,935.23	53.38	3,935.49	0.71	452,632.17	766,546.58
14,988.00	89.40	178.90	-7,471.31	11,145.91	-4,030.21	54.79	4,030.48	0.54	452,537.19	766,547.99
15,084.00	88.90	178.60	-7,472.73	11,147.33	-4,126.18	56.88	4,126.45	0.61	452,441.22	766,550.08
15,179.00	88.70	178.60	-7,474.72	11,149.32	-4,221.13	59.20	4,221.42	0.21	452,346.27	766,552.40
15,274.00	88.50	179.20	-7,477.04	11,151.64	-4,316.08	61.03	4,316.38	0.67	452,251.32	766,554.23
15,369.00	88.10	179.90	-7,479.86	11,154.46	-4,411.04	61.77	4,411.34	0.85	452,156.36	766,554.97
15,464.00	88.40	179.80	-7,482.76	11,157.36	-4,505.99	62.02	4,506.29	0.33	452,061.41	766,555.22



Phoenix Technology Services

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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)
15,507.00	88.70	179.90	-7,483.85	11,158.45	-4,548.98	62.13	4,549.28	0.74	452,018.42	766,555.33
Last Phoenix MWD Surveys @ 15507' MD										
15,568.00	88.70	179.80	-7,485.23	11,159.83	-4,609.96	62.29	4,610.26	0.16	451,957.44	766,555.49
Projection to TD @ 15568' MD										

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,780.00	4,778.97	-19.22	6.49	Tie In From Gyro Surveys @ 4780' MD
4,926.00	4,924.78	-23.56	12.45	First Phoenix MWD Surveys @ 4926' MD
15,507.00	11,158.45	-4,548.98	62.13	Last Phoenix MWD Surveys @ 15507' MD
15,568.00	11,159.83	-4,609.96	62.29	Projection to TD @ 15568' MD

Checked By: _____ Approved By: _____ Date: _____