

WELL LOGS

K Z

API number:	30-025-38668		
OGRID:		Operator:	CIMAREX ENERGY CO
		Property:	ANTERO 12 FEE # 5

surface	ULSTR:	K	12	T	15S	R	37E
			2160	FSL	1980	FWL	

BH Loc	ULSTR:	N	12	T	15S	R	37E
			339	FSL	1983	FWL	

Ground Level:	3782	DF:	3804	KB:	3805	
Datum:	KB			TD:	11163	

Land:	FEE	Completion Date: (1)	7/17/2008	***LATE***
		Date Logs Received:	10/24/2008	
		Date Logs Due in: (2)	8/6/2008	

Confidential:	NO			Date out:	
---------------	----	--	--	-----------	--

Confidential period: 90 Days for State & Fee, 1 Year for federal

Date Due In: (1) is equal to Completion Date (1) + 20 days

Logs	Depth interval		
DSN/SDL	200	9750	Spectral Density Dual Spaced Neutron
DLL/MGRD	4499	9808	Dual Laterolog Micro Guard Log
BSAT	4499	9760	Borehole Compensated Sonic Array

K Z

OCD TOPS

Rustler	2144	Strawn		
Tansill		Atoka		
Yates	3121	Morrow		
7R	3308			
T. Bowers Sd				
B. Bowers Sd				
Queen	3921			
Penrose				
Grayburg				
San Andres	4411			
Glorieta	6770			
Tubb	7534			
Drinkard	7820			
Abo	8254			
Wolfcamp	9374			

Results of Directional Survey

API number:	30-025-38668		
OGRID:		Operator:	CIMAREX ENERGY CO
		Property:	ANTERO 12 FEE # 5

surface	ULSTR:	K	12	T	15S	R	37E
			2160	FSL	1980	FWL	

BH Loc	ULSTR:	N	12	T	15S	R	37E
			339	FSL	1983	FWL	

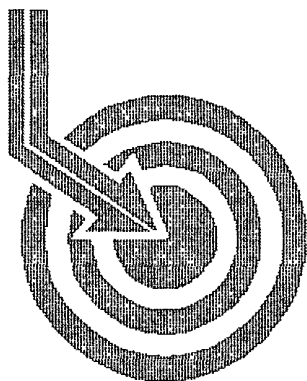
	MD	N/S	E/W	VD
	9820	-483.08	-100.94	9437.29
TOP PERFS/OH	9842	-504.99	-99.22	9436.24
	9851	-513.95	-98.51	9435.81
	11110	-1767.71	-0.38	9400.96
BOT PERFS/OH	11150	-1807.67	1.82	9401.24
	11120	-1777.70	0.17	9401.03

NEXT TO LAST	11110	-1767.71	-0.38	9400.96
LAST READING	11120	-1777.70	0.17	9401.03
TD	11163	-1820.66	2.54	9401.33

Surface Location	2160	FS	1980	FW
Projected BHL	339	FS	1983	FW
Location of				
Top Perfs/OH	1655	FS	1881	FW
Bottom Perfs/OH	352	FS	1982	FW

SUMMARY of Subsurface Locations

Surface Location	K-12-15S-37E	2160	FS	1980	FW	Vert. Depth
Top Perfs/OH	K-12-15S-37E	1655	FS	1881	FW	9436.24
Bottom Perfs/OH	N-12-15S-37E	352	FS	1982	FW	9401.24
Projected TD	N-12-15S-37E	339	FS	1983	FW	9401.33



Scientific Drilling

SUR: K-12-15s-37e, 2160/S & 1980/W
BHL: N-12-15s-37e, 339/S & 1983/W
API # 30-025-38668

CIMAREX ENERGY

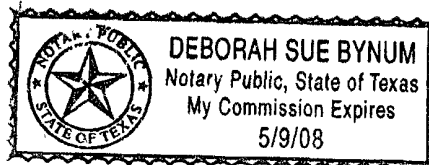
Field: Antero
Site: Lea County, NM
Well: Antera 12 Fee #3
Wellpath: VH - Job #32K11071044
Survey: 11/19/07

This survey is correct to the best of my knowledge
and is supported by actual field data.

.....Lu Hart.....Company Representative

Notorized this date 19th of December, 2007.

Deborah Sue Bynum
Notary Signature
County of Midland
State of Texas





Scientific Drilling International Survey Report

Company: CIMAREX ENERGY
Field: Antero
Site: Lea County, NM
Well: Antero 12 Fee #3
Wellpath: VH - Job #32K11071044

Date: 12/16/2007 Time: 20:14:06 Page: 1
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,1.26Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 11/19/07 Start Date: 11/19/2007
Company: Scientific Drilling Internatio Engineer: Pena w/Schlumberger
Tool: Keeper,Keeper Gyro Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClSD ft	ClSA deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.23	21.76	100.00	0.19	0.19	0.07	0.23	0.20	21.76
200.00	0.22	104.56	200.00	0.33	0.32	0.33	0.30	0.47	45.88
300.00	0.24	152.96	300.00	0.10	0.09	0.62	0.19	0.62	81.71
400.00	0.30	213.20	400.00	-0.30	-0.32	0.57	0.28	0.65	119.10
500.00	0.74	218.00	499.99	-1.04	-1.04	0.03	0.44	1.04	178.54
600.00	0.94	220.44	599.98	-2.20	-2.18	-0.90	0.20	2.36	202.53
700.00	0.85	219.27	699.97	-3.42	-3.38	-1.90	0.09	3.88	209.43
800.00	0.65	210.51	799.96	-4.50	-4.44	-2.66	0.23	5.18	210.95
900.00	0.51	200.26	899.96	-5.41	-5.34	-3.10	0.17	6.18	210.15
1000.00	0.49	203.57	999.95	-6.23	-6.15	-3.43	0.04	7.04	209.13
1100.00	0.53	194.84	1099.95	-7.07	-6.99	-3.72	0.09	7.92	208.00
1200.00	0.54	177.61	1199.94	-7.99	-7.91	-3.82	0.16	8.78	205.76
1300.00	0.53	168.94	1299.94	-8.92	-8.84	-3.71	0.08	9.58	202.77
1400.00	0.54	163.80	1399.94	-9.82	-9.74	-3.49	0.05	10.35	199.70
1500.00	0.49	155.48	1499.93	-10.65	-10.58	-3.18	0.09	11.05	196.72
1600.00	0.40	145.99	1599.93	-11.32	-11.26	-2.81	0.12	11.61	194.00
1700.00	0.36	140.09	1699.93	-11.84	-11.79	-2.41	0.06	12.04	191.55
1800.00	0.36	202.78	1799.92	-12.37	-12.32	-2.33	0.37	12.54	190.71
1900.00	0.72	238.99	1899.92	-13.00	-12.94	-2.99	0.48	13.28	193.02
2000.00	0.73	231.83	1999.91	-13.74	-13.65	-4.03	0.09	14.24	196.44
2100.00	1.22	257.87	2099.90	-14.39	-14.27	-5.57	0.65	15.32	201.33
2200.00	1.12	258.28	2199.88	-14.86	-14.69	-7.57	0.10	16.53	207.26
2300.00	0.88	267.45	2299.86	-15.13	-14.93	-9.29	0.29	17.58	211.91
2400.00	1.26	280.28	2399.84	-15.01	-14.76	-11.14	0.45	18.50	217.04
2500.00	1.22	272.83	2499.82	-14.80	-14.52	-13.29	0.17	19.68	222.47
2600.00	1.15	266.36	2599.80	-14.86	-14.53	-15.35	0.15	21.14	226.58
2700.00	0.65	280.72	2699.79	-14.85	-14.48	-16.91	0.54	22.27	229.42
2800.00	1.01	299.46	2799.78	-14.34	-13.95	-18.24	0.45	22.96	232.59
2900.00	1.16	279.58	2899.76	-13.78	-13.34	-20.00	0.40	24.04	236.29
3000.00	0.98	259.17	2999.74	-13.81	-13.34	-21.84	0.42	25.59	238.59
3100.00	0.65	287.55	3099.73	-13.83	-13.33	-23.22	0.51	26.77	240.15
3200.00	1.30	274.24	3199.72	-13.62	-13.07	-24.89	0.68	28.12	242.30
3300.00	1.34	262.68	3299.69	-13.73	-13.14	-27.18	0.27	30.19	244.21
3400.00	0.78	251.20	3399.67	-14.14	-13.50	-28.99	0.60	31.98	245.02
3500.00	0.95	238.47	3499.66	-14.82	-14.16	-30.34	0.26	33.48	244.98
3600.00	0.69	228.69	3599.65	-15.68	-14.99	-31.50	0.29	34.88	244.55
3700.00	0.79	227.31	3699.64	-16.56	-15.85	-32.46	0.10	36.12	243.97
3800.00	0.62	291.10	3799.64	-16.86	-16.13	-33.47	0.76	37.15	244.27
3900.00	1.02	353.85	3899.63	-15.79	-15.05	-34.07	0.92	37.24	246.17
4000.00	1.15	355.44	3999.61	-13.91	-13.16	-34.24	0.13	36.68	248.98
4100.00	1.30	12.51	4099.59	-11.80	-11.05	-34.08	0.39	35.82	252.03
4200.00	1.31	19.71	4199.56	-9.60	-8.87	-33.45	0.16	34.60	255.15
4300.00	1.34	20.31	4299.54	-7.41	-6.70	-32.65	0.03	33.33	258.41
4400.00	1.21	29.85	4399.51	-5.38	-4.68	-31.72	0.25	32.07	261.60
4500.00	1.00	61.44	4499.49	-4.02	-3.35	-30.43	0.63	30.62	263.72
4600.00	1.15	69.59	4599.48	-3.22	-2.58	-28.72	0.21	28.84	264.86
4700.00	0.88	53.22	4699.46	-2.37	-1.77	-27.17	0.39	27.23	266.26
4800.00	1.05	53.49	4799.45	-1.34	-0.77	-25.82	0.17	25.83	268.29



Scientific Drilling International

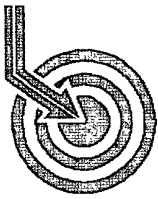
Survey Report

Company: CIMAREX ENERGY
 Field: Antero
 Site: Lea County, NM
 Well: Antera 12 Fee #3
 Wellpath: VH - Job #32K11071044

Date: 12/16/2007 Time: 20:14:06 Page: 2
 Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
 Vertical (TVD) Reference: SITE 0.0
 Section (VS) Reference: Well (0.00N,0.00E,1.26Azi)
 Survey Calculation Method: Minimum Curvature Db: Sybase

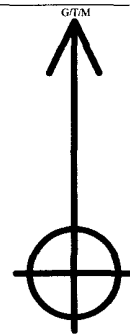
Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClSD ft	ClSA deg
4900.00	1.15	29.66	4899.43	0.11	0.65	-24.58	0.46	24.59	271.51
5000.00	1.06	56.96	4999.41	1.51	2.02	-23.31	0.53	23.40	274.96
5100.00	1.10	36.66	5099.39	2.81	3.30	-21.96	0.38	22.21	278.54
5200.00	0.70	24.51	5199.38	4.16	4.62	-21.14	0.44	21.64	282.34
5300.00	1.14	15.89	5299.37	5.68	6.14	-20.61	0.46	21.51	286.58
5400.00	1.20	40.18	5399.35	7.46	7.89	-19.66	0.50	21.19	291.87
5500.00	0.78	16.33	5499.33	8.93	9.35	-18.80	0.58	20.99	296.44
5600.00	1.06	18.79	5599.32	10.47	10.88	-18.31	0.28	21.29	300.71
5700.00	0.58	39.70	5699.31	11.75	12.14	-17.69	0.56	21.45	304.47
5800.00	0.47	35.81	5799.30	12.48	12.86	-17.12	0.12	21.42	306.91
5900.00	0.41	17.05	5899.30	13.16	13.54	-16.78	0.16	21.56	308.90
6000.00	0.63	358.42	5999.30	14.06	14.43	-16.69	0.27	22.06	310.85
6100.00	0.81	332.18	6099.29	15.22	15.60	-17.03	0.37	23.10	312.49
6200.00	1.00	302.93	6199.28	16.30	16.70	-18.10	0.49	24.63	312.71
6300.00	0.77	297.20	6299.27	17.05	17.48	-19.43	0.25	26.14	311.99
6400.00	0.98	313.70	6399.25	17.92	18.38	-20.64	0.33	27.64	311.69
6500.00	1.06	290.21	6499.24	18.80	19.29	-22.13	0.42	29.36	311.09
6600.00	0.69	282.04	6599.23	19.21	19.74	-23.58	0.39	30.75	309.93
6700.00	0.72	325.32	6699.22	19.84	20.38	-24.53	0.52	31.89	309.72
6800.00	0.74	329.54	6799.21	20.89	21.45	-25.22	0.06	33.11	310.39
6900.00	0.70	25.52	6899.21	22.00	22.56	-25.28	0.68	33.88	311.75
7000.00	1.06	20.87	6999.19	23.43	23.98	-24.69	0.37	34.41	314.16
7100.00	0.54	355.28	7099.18	24.77	25.31	-24.40	0.62	35.15	316.05
7200.00	0.75	37.10	7199.18	25.77	26.30	-24.04	0.50	35.63	317.57
7300.00	0.88	3.18	7299.17	27.06	27.59	-23.60	0.49	36.31	319.46
7400.00	0.50	2.70	7399.16	28.27	28.79	-23.54	0.38	37.19	320.73
7500.00	0.87	22.47	7499.15	29.41	29.93	-23.23	0.43	37.89	322.19
7600.00	0.70	352.28	7599.14	30.72	31.24	-23.02	0.44	38.80	323.61
7700.00	0.88	33.83	7699.14	31.97	32.48	-22.68	0.59	39.61	325.08
7800.00	1.02	7.05	7799.12	33.51	34.00	-22.14	0.46	40.58	326.93
7900.00	1.21	30.75	7899.10	35.31	35.79	-21.49	0.49	41.75	329.02
8000.00	1.30	18.95	7999.08	37.31	37.77	-20.58	0.27	43.02	331.42
8100.00	1.83	41.15	8099.04	39.62	40.05	-19.16	0.80	44.40	334.43
8200.00	1.78	23.56	8198.99	42.28	42.68	-17.49	0.55	46.12	337.71
8300.00	2.21	34.88	8298.93	45.32	45.68	-15.77	0.58	48.33	340.96
8400.00	2.49	26.46	8398.85	48.89	49.21	-13.70	0.44	51.08	344.45
8500.00	3.10	30.67	8498.73	53.21	53.48	-11.35	0.64	54.67	348.02
8600.00	2.63	21.29	8598.61	57.73	57.94	-9.14	0.66	58.66	351.04
8700.00	2.59	19.19	8698.50	62.03	62.21	-7.56	0.10	62.67	353.07
8800.00	1.90	10.18	8798.43	65.82	65.98	-6.53	0.77	66.30	354.35
8900.00	2.09	18.34	8898.37	69.20	69.34	-5.66	0.34	69.57	355.33
9000.00	1.89	11.05	8998.30	72.57	72.69	-4.77	0.32	72.85	356.25
9100.00	2.46	20.49	9098.23	76.22	76.32	-3.70	0.67	76.41	357.22
9200.00	2.00	19.74	9198.16	79.90	79.97	-2.36	0.46	80.01	358.31
9300.00	2.43	23.72	9298.08	83.51	83.55	-0.92	0.46	83.56	359.37
9400.00	1.74	14.07	9398.02	86.95	86.97	0.30	0.77	86.97	0.20
9500.00	1.98	20.52	9497.96	90.07	90.06	1.28	0.32	90.07	0.81
9600.00	1.45	2.09	9597.92	92.96	92.94	1.93	0.76	92.96	1.19
9634.00	1.53	15.75	9631.91	93.83	93.81	2.07	1.07	93.83	1.26



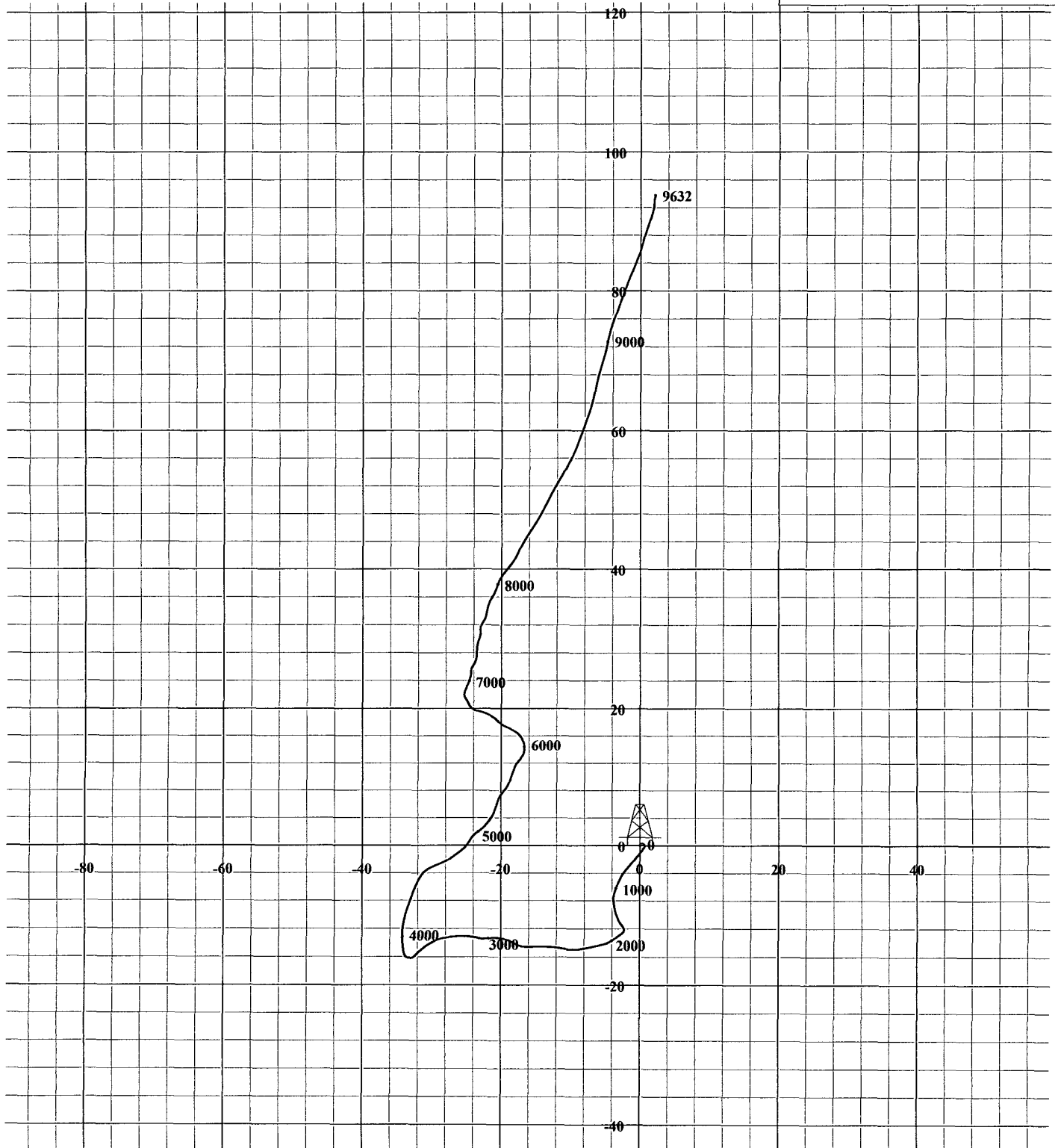
Scientific
Drilling

Field: Antero
Site: Lea County, NM
Well: Antera 12 Fee #3
Wellpath: VH - Job #32K11071044
Survey: 11/19/07



Azimuths to Grid North
True North 0.00°
Magnetic North 0.00°
Magnetic Field
Strength 0.0 T
Dip Angle 0.00°
Date 12/16/2007
Model igf2000

South(-)/North(+) [20ft/in]



West(-)/East(+) [20ft/in]

OPERATOR
WELL/LEASE
COUNTY

Cimarex Energy Company
Antero 12 Fee 5
Lea

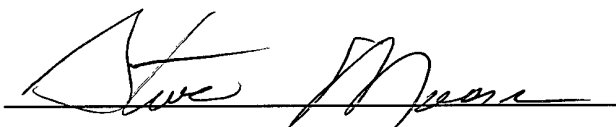
RIG 75

STATE OF NEW MEXICO
DEVIATION REPORT

262	0.50
645	0.50
1,026	1.00
1,471	1.00
1,926	0.75
2,395	0.75
2,840	1.00
3,083	0.50
3,571	1.00
4,047	0.75
4,439	0.75
5,100	1.00
5,608	0.75
6,198	1.20
6,593	1.00
7,090	1.00
7,548	0.75
8,056	0.50
8,564	1.00
9,185	1.00
9,517	0.75
9,810	0.75

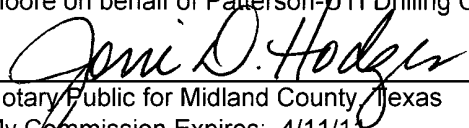
STATE OF TEXAS

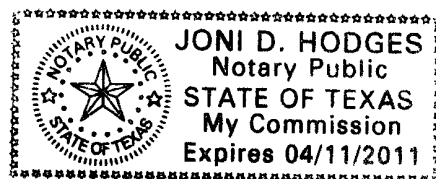
COUNTY OF MIDLAND

BY: 

The foregoing instrument was acknowledged before me on
Moore on behalf of Patterson-UTL Drilling Company LLC.

June 5th, 2008 , by Steve


Notary Public for Midland County, Texas
My Commission Expires: 4/11/11





ANTERO 12 FEE #5 LEA COUNTY, NEW MEXICO



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	9215.00	0.69	242.86	9214.52	-5.12	-56.03	0.00	0.00	5.12	
2	9227.00	2.20	178.24	9226.52	-5.39	-56.09	16.67	-82.76	5.39	
3	9232.00	2.20	178.24	9231.52	-5.58	-56.08	0.00	0.00	5.58	
4	9553.07	90.00	178.24	9433.00	-214.84	-49.65	27.35	0.00	214.84	
5	11169.00	90.00	178.24	9433.00	-1830.00	0.00	0.00	0.00	1830.00	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#5	0.00	0.00	740669.60	902222.80	33°01'49.933N	103°09'20.957W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	9433.00	-1830.00	0.00	738839.71	902243.30	Point

FIELD DETAILS

Lea Co., NM (NAD 83)

Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Eastern Zone
Magnetic Model: bggm2007

System Datum: Mean Sea Level
Local North: True North

SITE DETAILS

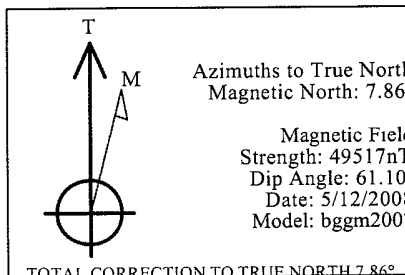
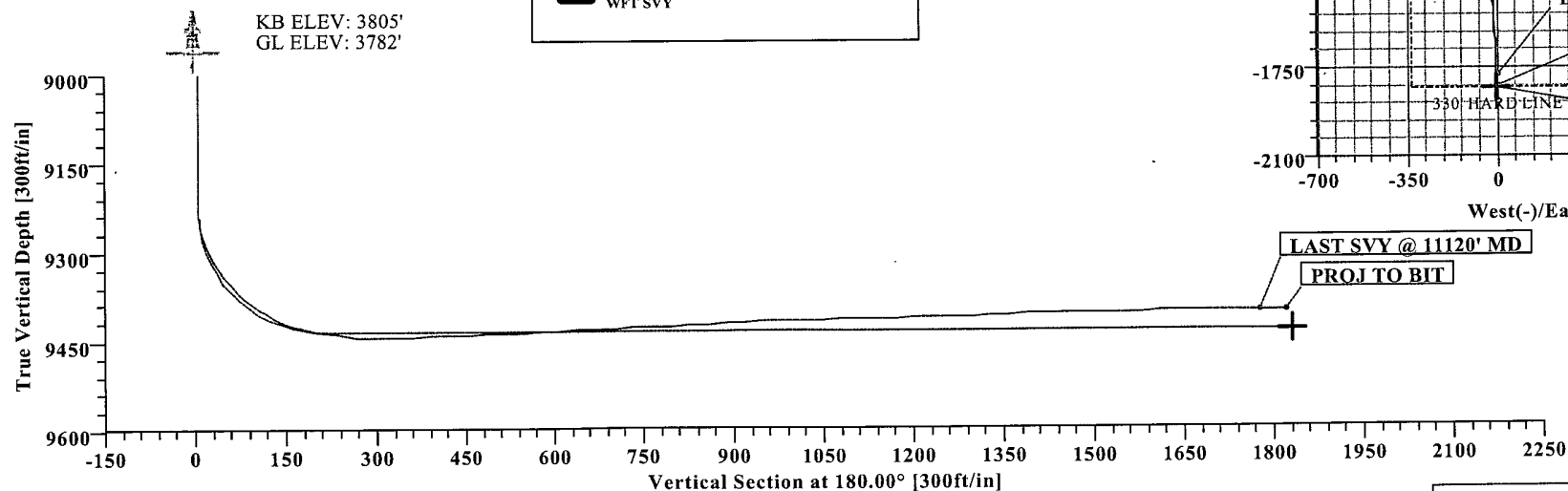
Antero 12 Fee #5
2160' FSL 1980' FWL of SEC 12, T-15-S, R-37-E

Site Centre Northing: 740669.60
Easting: 902222.80

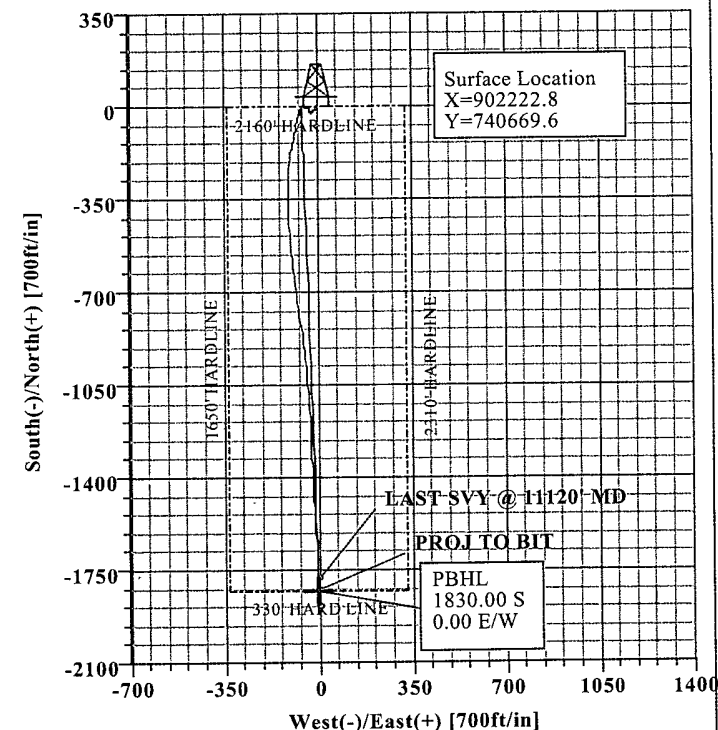
Ground Level: 3782.00
Positional Uncertainty: 0.00
Convergence: 0.64

LEGEND

— #5.1, Plan #4
— WFT SVY



VERTICAL SECTION AZIMUTH: 180.00°



LAST SVY @ 11120' MD
PROJ TO BIT

Survey WFT SVY (#5/1)

Created By: Lindsey Maddux

Date: 6/24/2008



Weatherford International, Inc.

Survey Report



Weatherford

Company: Cimarex Date: 6/24/2008 Time: 09:50:24 Page: 1
 Field: Lea Co., NM (NAD 83) Co-ordinate(NE) Reference: Site: Antero 12 Fee #5 True North
 Site: Antero 12 Fee #5 Vertical (TVD) Reference: SITE 3805.0
 Well: #5 Section (VS) Reference: Well (0.00N 0.00E 180.00Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Field: Lea Co., NM (NAD 83)

Map System: US State Plane Coordinate System 1983
 Geo Datum: GRS 1980
 Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
 Coordinate System: Site Centre
 Geomagnetic Model: bggm2007

Site: Antero 12 Fee #5

2160' FSL 1980' FWL of SEC 12, T-15-S, R-37-E

Site Position: Northing: 740669.60 ft Latitude: 33 1 49.933 N
 From: Map Easting: 902222.80 ft Longitude: 103 9 20.957 W
 Position Uncertainty: 0.00 ft North Reference: True
 Ground Level: 3782.00 ft Grid Convergence: 0.64 deg

Well: #5

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 740669.60 ft Latitude: 33 1 49.933 N
 +E/-W 0.00 ft Easting: 902222.80 ft Longitude: 103 9 20.957 W
 Position Uncertainty: 0.00 ft

Wellpath: 1

Current Datum: SITE Height 3805.00 ft Drilled From: Surface
 Magnetic Data: 5/12/2008 Tie-on Depth: 0.00 ft
 Field Strength: 49517 nT Above System Datum: Mean Sea Level
 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction
 ft ft ft deg
 0.00 0.00 0.00 180.00

Survey: WFT SVY

Start Date: 6/18/2008

Company: Weatherford International, Inc
 Tool: MWD;MWD - Standard

Engineer: Lindsey Maddux
 Tied-to: From: SDI GYRO

Survey: WFT SVY

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
9200.00	0.73	263.06	9199.52	-5.07	-55.86	5.07	0.00	0.00	0.00	MWD
9258.00	11.30	201.20	9257.14	-10.43	-58.29	10.43	18.92	18.22	-106.66	MWD
9273.00	15.70	198.10	9271.72	-13.73	-59.45	13.73	29.72	29.33	-20.67	MWD
9290.00	21.21	195.90	9287.84	-18.88	-61.01	18.88	32.66	32.41	-12.94	MWD
9305.00	25.50	195.20	9301.61	-24.61	-62.60	24.61	28.66	28.60	-4.67	MWD
9319.00	29.80	195.90	9314.00	-30.86	-64.34	30.86	30.80	30.71	5.00	MWD
9343.00	36.50	196.30	9334.09	-43.46	-67.98	43.46	27.93	27.92	1.67	MWD
9351.00	38.00	196.60	9340.45	-48.11	-69.35	48.11	18.89	18.75	3.75	MWD
9367.00	41.60	194.20	9352.75	-57.98	-72.06	57.98	24.46	22.50	-15.00	MWD
9383.00	45.10	192.80	9364.38	-68.66	-74.62	68.66	22.68	21.87	-8.75	MWD
9399.00	49.10	192.10	9375.27	-80.10	-77.15	80.10	25.20	25.00	-4.37	MWD
9415.00	52.70	191.60	9385.36	-92.25	-79.70	92.25	22.63	22.50	-3.12	MWD
9431.00	56.40	191.00	9394.64	-105.03	-82.25	105.03	23.33	23.12	-3.75	MWD
9446.00	60.00	191.00	9402.54	-117.54	-84.68	117.54	24.00	24.00	0.00	MWD
9462.00	63.80	191.00	9410.07	-131.40	-87.37	131.40	23.75	23.75	0.00	MWD
9477.00	67.30	190.70	9416.28	-144.81	-89.94	144.81	23.40	23.33	-2.00	MWD
9493.00	70.90	190.30	9421.99	-159.50	-92.66	159.50	22.62	22.50	-2.50	MWD
9508.00	74.60	189.80	9426.44	-173.60	-95.16	173.60	24.87	24.67	-3.33	MWD
9524.00	77.90	189.30	9430.24	-188.93	-97.74	188.93	20.85	20.62	-3.12	MWD
9540.00	80.90	188.70	9433.18	-204.46	-100.20	204.46	19.11	18.75	-3.75	MWD
9569.00	83.30	185.60	9437.17	-232.95	-103.77	232.95	13.44	8.28	-10.69	MWD
9601.00	83.10	183.50	9440.96	-264.63	-106.29	264.63	6.55	-0.62	-6.56	MWD
9617.00	85.20	182.60	9442.59	-280.52	-107.14	280.52	14.27	13.12	-5.62	MWD
9632.00	87.50	181.50	9443.54	-295.48	-107.68	295.48	16.99	15.33	-7.33	MWD



Weatherford International, Inc.

Survey Report

**Weatherford**

Company: Cimarex	Date: 6/24/2008	Time: 09:50:24	Page: 2
Field: Lea Co., NM (NAD 83)	Co-ordinate(NE) Reference:	Site: Antero 12 Fee #5, True North	
Site: Antero 12 Fee #5	Vertical (TVD) Reference:	SITE 3805.0	
Well: #5	Section (VS) Reference:	Well (0.00N,0.00E,180.00Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: WFT SVY

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
9664.00	92.30	181.00	9443.60	-327.46	-108.37	327.46	15.08	15.00	-1.56	MWD
9695.00	94.50	178.90	9441.76	-358.40	-108.35	358.40	9.80	7.10	-6.77	MWD
9726.00	91.90	176.80	9440.03	-389.33	-107.19	389.33	10.77	-8.39	-6.77	MWD
9758.00	91.50	176.30	9439.08	-421.26	-105.26	421.26	2.00	-1.25	-1.56	MWD
9789.00	91.20	175.70	9438.35	-452.17	-103.10	452.17	2.16	-0.97	-1.94	MWD
9820.00	92.70	176.30	9437.29	-483.08	-100.94	483.08	5.21	4.84	1.94	MWD
9851.00	92.80	174.70	9435.81	-513.95	-98.51	513.95	5.17	0.32	-5.16	MWD
9883.00	92.30	174.90	9434.38	-545.78	-95.61	545.78	1.68	-1.56	0.62	MWD
9915.00	92.50	174.30	9433.04	-577.61	-92.60	577.61	1.97	0.62	-1.87	MWD
9947.00	92.20	174.00	9431.73	-609.42	-89.34	609.42	1.33	-0.94	-0.94	MWD
9978.00	91.60	173.30	9430.70	-640.21	-85.92	640.21	2.97	-1.94	-2.26	MWD
10009.00	91.10	172.70	9429.97	-670.97	-82.14	670.97	2.52	-1.61	-1.94	MWD
10041.00	92.20	172.70	9429.05	-702.70	-78.08	702.70	3.44	3.44	0.00	MWD
10072.00	91.40	172.20	9428.08	-733.41	-74.00	733.41	3.04	-2.58	-1.61	MWD
10103.00	92.90	172.60	9426.91	-764.12	-69.91	764.12	5.01	4.84	1.29	MWD
10134.00	93.10	172.70	9425.29	-794.82	-65.95	794.82	0.72	0.65	0.32	MWD
10165.00	93.00	172.90	9423.64	-825.53	-62.07	825.53	0.72	-0.32	0.65	MWD
10196.00	93.00	172.60	9422.02	-856.24	-58.16	856.24	0.97	0.00	-0.97	MWD
10228.00	92.90	172.40	9420.37	-887.93	-53.99	887.93	0.70	-0.31	-0.62	MWD
10260.00	92.60	172.60	9418.84	-919.62	-49.82	919.62	1.13	-0.94	0.62	MWD
10291.00	91.40	174.90	9417.76	-950.41	-46.44	950.41	8.36	-3.87	7.42	MWD
10322.00	90.80	174.50	9417.16	-981.27	-43.58	981.27	2.33	-1.94	-1.29	MWD
10354.00	90.80	173.80	9416.71	-1013.10	-40.32	1013.10	2.19	0.00	-2.19	MWD
10386.00	91.50	175.20	9416.07	-1044.95	-37.25	1044.95	4.89	2.19	4.37	MWD
10417.00	91.50	174.90	9415.26	-1075.82	-34.58	1075.82	0.97	0.00	-0.97	MWD
10448.00	91.40	175.00	9414.48	-1106.69	-31.85	1106.69	0.46	-0.32	0.32	MWD
10480.00	91.80	178.20	9413.58	-1138.62	-29.96	1138.62	10.07	1.25	10.00	MWD
10512.00	91.60	177.70	9412.63	-1170.59	-28.81	1170.59	1.68	-0.62	-1.56	MWD
10544.00	91.50	177.30	9411.77	-1202.54	-27.42	1202.54	1.29	-0.31	-1.25	MWD
10575.00	91.40	177.70	9410.98	-1233.50	-26.06	1233.50	1.33	-0.32	1.29	MWD
10607.00	91.30	177.70	9410.23	-1265.47	-24.78	1265.47	0.31	-0.31	0.00	MWD
10638.00	91.70	177.70	9409.42	-1296.43	-23.54	1296.43	1.29	1.29	0.00	MWD
10669.00	91.80	177.30	9408.47	-1327.39	-22.18	1327.39	1.33	0.32	-1.29	MWD
10701.00	92.20	177.50	9407.35	-1359.34	-20.73	1359.34	1.40	1.25	0.62	MWD
10732.00	92.70	177.00	9406.03	-1390.27	-19.25	1390.27	2.28	1.61	-1.61	MWD
10764.00	93.10	177.50	9404.41	-1422.20	-17.71	1422.20	2.00	1.25	1.56	MWD
10795.00	89.70	177.10	9403.65	-1453.15	-16.26	1453.15	11.04	-10.97	-1.29	MWD
10826.00	89.70	177.50	9403.82	-1484.11	-14.79	1484.11	1.29	0.00	1.29	MWD
10858.00	90.30	177.30	9403.82	-1516.08	-13.34	1516.08	1.98	1.87	-0.62	MWD
10889.00	90.50	177.10	9403.60	-1547.04	-11.83	1547.04	0.91	0.65	-0.65	MWD
10921.00	90.90	177.50	9403.21	-1579.00	-10.32	1579.00	1.77	1.25	1.25	MWD
10952.00	90.90	176.80	9402.72	-1609.96	-8.78	1609.96	2.26	0.00	-2.26	MWD
10984.00	90.90	176.40	9402.22	-1641.90	-6.88	1641.90	1.25	0.00	-1.25	MWD
11016.00	91.30	176.30	9401.60	-1673.83	-4.85	1673.83	1.29	1.25	-0.31	MWD
11048.00	90.80	177.50	9401.02	-1705.78	-3.12	1705.78	4.06	-1.56	3.75	MWD
11079.00	89.90	177.80	9400.83	-1736.75	-1.84	1736.75	3.06	-2.90	0.97	MWD
11110.00	89.60	176.80	9400.96	-1767.71	-0.38	1767.71	3.37	-0.97	-3.23	MWD
11120.00	89.60	176.80	9401.03	-1777.70	0.17	1777.70	0.00	0.00	0.00	LAST SVY @ 11120' MD
11163.00	89.60	176.80	9401.33	-1820.63	2.57	1820.63	0.00	0.00	0.00	PROJ TO BIT



Weatherford International, Inc.

Survey Report



Weatherford

Company: Cimarex	Date: 6/24/2008	Time: 09:50:24	Page: 3
Field: Lea Co., NM (NAD 83)	Co-ordinate (NE) Reference:	Site: Antero 12 Fee #5, True North	
Site: Antero 12 Fee #5	Vertical (TVD) Reference:	SITE 3805.0	
Well: #5	Section (VS) Reference:	Well (0.00N, 0.00E, 180.00Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Annotation

MD ft	TVD ft	
11120.00	9401.03	LAST SVY @ 11120' MD
11163.00	9401.33	PROJ TO BIT

CIMAREX

ANTERO 12 FEE #5 LEA COUNTY, NEW MEXICO



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	9215.00	0.69	242.86	9214.52	-5.12	-56.03	0.00	0.00	5.12	
2	9227.00	2.20	178.24	9226.52	-5.39	-56.09	16.67	-82.76	5.39	
3	9232.00	2.20	178.24	9231.52	-5.58	-56.08	0.00	0.00	5.58	
4	9553.07	90.00	178.24	9433.00	-214.84	-49.65	27.35	0.00	214.84	
5	11169.00	90.00	178.24	9433.00	-1830.00	0.00	0.00	0.00	1830.00	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#5	0.00	0.00	740669.60	902222.80	33°01'49.933N	103°09'20.957W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	9433.00	-1830.00	0.00	738839.71	902243.30	Point

FIELD DETAILS

Lea Co., NM (NAD 83)

Geodetic System: US State Plane Coordinate System 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico, Eastern Zone
 Magnetic Model: bggm2007

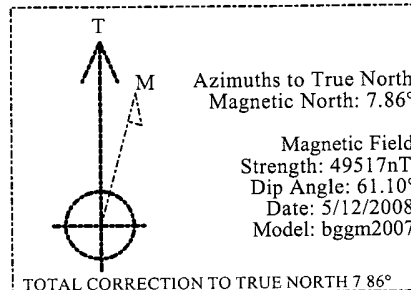
System Datum: Mean Sea Level
 Local North: True North

SITE DETAILS

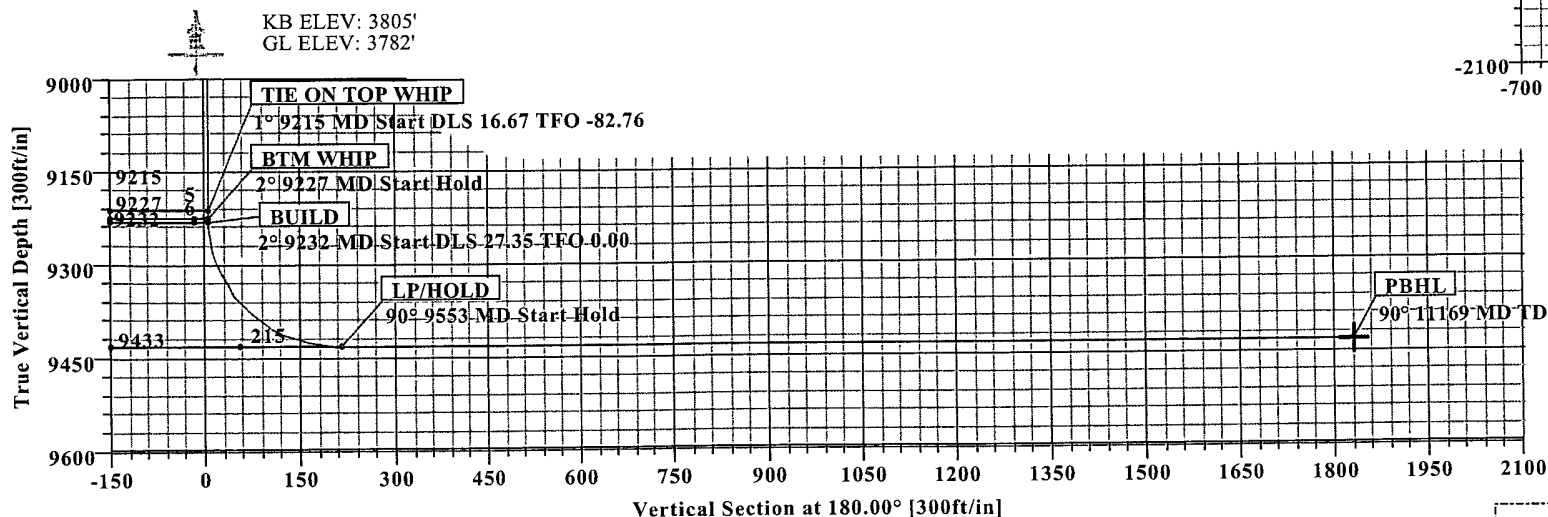
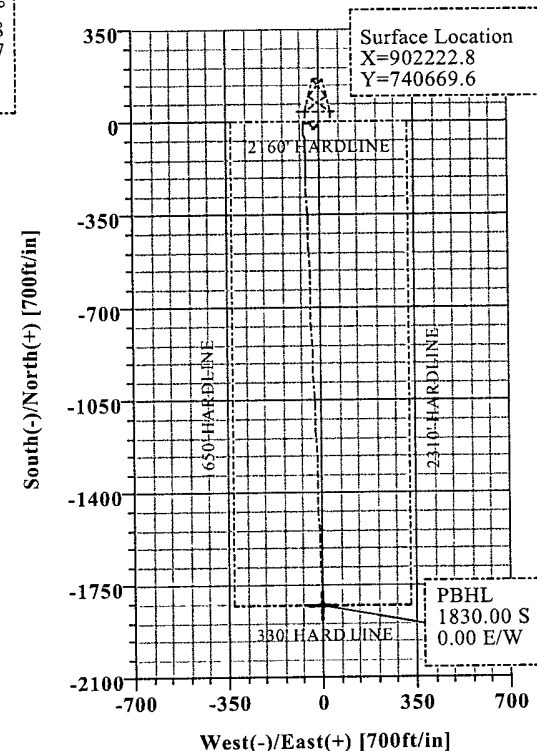
Antero 12 Fee #5
 2160' FSL 1980' FWL of SEC 12, T-15-S, R-37-E

Site Centre Northing: 740669.60
 Easting: 902222.80

Ground Level: 3782.00
 Positional Uncertainty: 0.00
 Convergence: 0.64



VERTICAL SECTION AZIMUTH: 180.00°



Plan: Plan #4 (#5/1)

Created By: Lindsey Maddux

Date: 6/16/2008



Weatherford International, Inc.

Proposal Plan Report

**Weatherford**

Company: Cimarex Date: 6/16/2008 Time: 20:14:31 Page: 1
Field: Lea Co. NM (NAD 83) Co-ordinate(NE) Reference: Site: Antero 12 Fee #5, True North
Site: Antero 12 Fee #5 Vertical (TVD) Reference: SITE 3805.0
Well: #5 Section (VS) Reference: Well (0.00N, 0.00E, 180.00Azi)
Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Plan: Plan #4 Date Composed: 6/16/2008
Principal: Yes Version: 1
Tied-to: From: Definitive Path

Field: Lea Co., NM (NAD 83)
Map System: US State Plane Coordinate System 1983 Map Zone: New Mexico, Eastern Zone
Geo Datum: GRS 1980 Coordinate System: Site Centre
Sys Datum: Mean Sea Level Geomagnetic Model: bggm2007

Site: Antero 12 Fee #5
2160' FSL 1980' FWL of SEC 12, T-15-S, R-37-E
Site Position: Northing: 740669.60 ft Latitude: 33 1 49.933 N
From: Map Easting: 902222.80 ft Longitude: 103 9 20.957 W
Position Uncertainty: 0.00 ft North Reference: True
Ground Level: 3782.00 ft Grid Convergence: 0.64 deg

Well: #5 Slot Name:
Well Position: +N/-S 0.00 ft Northing: 740669.60 ft Latitude: 33 1 49.933 N
+E/-W 0.00 ft Easting: 902222.80 ft Longitude: 103 9 20.957 W
Position Uncertainty: 0.00 ft

Wellpath: 1
Current Datum: SITE Height 3805.00 ft
Magnetic Data: 5/12/2008
Field Strength: 49517 nT
Vertical Section: Depth From (TVD) +N/-S
ft ft
0.00 0.00 0.00 180.00
Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 7.86 deg
Mag Dip Angle: 61.10 deg
Direction deg

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
9215.00	0.69	242.86	9214.52	-5.12	-56.03	0.00	0.00	0.00	0.00	
9227.00	2.20	178.24	9226.52	-5.39	-56.09	16.67	12.56	-538.57	-82.76	
9232.00	2.20	178.24	9231.52	-5.58	-56.08	0.00	0.00	0.00	0.00	
9553.07	90.00	178.24	9433.00	-214.84	-49.65	27.35	27.35	0.00	0.00	
11169.00	90.00	178.24	9433.00	-1830.00	0.00	0.00	0.00	0.00	0.00	PBHL

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	Build deg/100ft	Turn deg/100ft	DLS deg/100ft	TFO deg	Comment
9215.00	0.69	242.86	9214.52	-5.12	-56.03	5.12	0.00	0.00	0.00	0.00	TIE ON TOP WHIP
9227.00	2.20	178.24	9226.52	-5.39	-56.09	5.39	12.56	-538.57	16.67	277.24	BTM WHIP
9232.00	2.20	178.24	9231.52	-5.58	-56.08	5.58	0.00	0.00	0.00	180.00	BUILD
9240.00	4.38	178.24	9239.50	-6.04	-56.07	6.04	27.35	0.02	27.35	0.00	
9260.00	9.85	178.24	9259.34	-8.51	-55.99	8.51	27.35	0.00	27.35	0.00	
9280.00	15.32	178.24	9278.85	-12.87	-55.86	12.87	27.35	0.00	27.35	0.00	
9300.00	20.79	178.24	9297.86	-19.06	-55.67	19.06	27.35	0.00	27.35	0.00	
9320.00	26.26	178.24	9316.19	-27.04	-55.42	27.04	27.35	0.00	27.35	0.00	
9340.00	31.73	178.24	9333.68	-36.73	-55.12	36.73	27.35	0.00	27.35	0.00	
9360.00	37.20	178.24	9350.16	-48.03	-54.78	48.03	27.35	0.00	27.35	0.00	
9380.00	42.67	178.24	9365.49	-60.86	-54.38	60.86	27.35	0.00	27.35	0.00	
9400.00	48.14	178.24	9379.53	-75.09	-53.95	75.09	27.35	0.00	27.35	0.00	
9420.00	53.61	178.24	9392.14	-90.59	-53.47	90.59	27.35	0.00	27.35	0.00	
9440.00	59.08	178.24	9403.22	-107.23	-52.96	107.23	27.35	0.00	27.35	0.00	
9460.00	64.55	178.24	9412.67	-124.84	-52.42	124.84	27.35	0.00	27.35	0.00	
9480.00	70.02	178.24	9420.39	-143.27	-51.85	143.27	27.35	0.00	27.35	0.00	



Weatherford International, Inc.

Proposal Plan Report

**Weatherford**

Company: Cimarex Date: 6/16/2008 Time: 20:14:31 Page: 2
Field: Lea Co. NM (NAD 83) Co-ordinate(NE) Reference: Site: Antero 12 Fee #5, True North
Site: Antero 12 Fee #5 Vertical (TVD) Reference: SITE 3805.0
Well: #5 Section (VS) Reference: Well (0.00N,0.00E,180.00Azi)
Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	Build deg/100ft	Turn deg/100ft	DLS deg/100ft	TFO deg	Comment
9500.00	75.49	178.24	9426.31	-162.36	-51.26	162.36	27.35	0.00	27.35	0.00	
9520.00	80.96	178.24	9430.40	-181.92	-50.66	181.92	27.35	0.00	27.35	0.00	
9540.00	86.43	178.24	9432.59	-201.78	-50.05	201.78	27.35	0.00	27.35	0.00	
9553.07	90.00	178.24	9433.00	-214.84	-49.65	214.84	27.35	0.00	27.35	0.00	LP/HOLD
9600.00	90.00	178.24	9433.00	-261.74	-48.21	261.74	0.00	0.00	0.00	180.00	
9700.00	90.00	178.24	9433.00	-361.70	-45.14	361.70	0.00	0.00	0.00	180.00	
9800.00	90.00	178.24	9433.00	-461.65	-42.06	461.65	0.00	0.00	0.00	180.00	
9900.00	90.00	178.24	9433.00	-561.60	-38.99	561.60	0.00	0.00	0.00	180.00	
10000.00	90.00	178.24	9433.00	-661.56	-35.92	661.56	0.00	0.00	0.00	180.00	
10100.00	90.00	178.24	9433.00	-761.51	-32.85	761.51	0.00	0.00	0.00	180.00	
10200.00	90.00	178.24	9433.00	-861.46	-29.77	861.46	0.00	0.00	0.00	180.00	
10300.00	90.00	178.24	9433.00	-961.41	-26.70	961.41	0.00	0.00	0.00	180.00	
10400.00	90.00	178.24	9433.00	-1061.37	-23.63	1061.37	0.00	0.00	0.00	180.00	
10500.00	90.00	178.24	9433.00	-1161.32	-20.56	1161.32	0.00	0.00	0.00	180.00	
10600.00	90.00	178.24	9433.00	-1261.27	-17.48	1261.27	0.00	0.00	0.00	180.00	
10700.00	90.00	178.24	9433.00	-1361.23	-14.41	1361.23	0.00	0.00	0.00	180.00	
10800.00	90.00	178.24	9433.00	-1461.18	-11.34	1461.18	0.00	0.00	0.00	180.00	
10900.00	90.00	178.24	9433.00	-1561.13	-8.26	1561.13	0.00	0.00	0.00	180.00	
11000.00	90.00	178.24	9433.00	-1661.08	-5.19	1661.08	0.00	0.00	0.00	180.00	
11100.00	90.00	178.24	9433.00	-1761.04	-2.12	1761.04	0.00	0.00	0.00	180.00	
11169.00	90.00	178.24	9433.00	-1830.00	0.00	1830.00	0.00	0.00	0.00	180.00	PBHL

Targets

Name	Description Dip	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude Deg Min Sec	Longitude Deg Min Sec
PBHL		9433.00	-1830.00	0.00	738839.71	902243.30	33 1 31.828 N	103 9 20.957 W

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

Annotation

MD ft	TVD ft	
9215.00	9214.52	TIE ON TOP WHIP
9227.00	9226.52	BTM WHIP
9232.00	9231.52	BUILD
9553.07	9433.00	LP/HOLD
11168.99	9433.00	PBHL

Casing Points

MD	TVD	Diameter	Hole Size	Name



Weatherford

BHA Report

Drilling Services
v4 2 2674

BHA 1 - Curve Section

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis, Guy Embry

DIR Supervisor: Jay Vinson, Jeff Ruddock, Michael Williamson

MWD Supervisor: Craig Harrison, Jesse Koves

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 4.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Tri-Cone Bit	Hughes	5148287	STX-30C	4.75	0	0		2 7/8" REG Pin	0.50 ft	0.50 ft
1	Drilling Motor	Wft-PES	375-724	LN7823	3.6875	0	0.65	2 7/8" REG Box	2 7/8" REG Box	17.10 ft	17.60 ft
1	X/O Float Sub	WFT	350-004		3.9375	1.25	0	2 7/8" REG Pin	2 7/8" SA Box	2.71 ft	20.31 ft
1	Tensor UBHO Sub	WFT-PES	NN # 1		3.4375	2.125	0	2 7/8" SA Pin	2 7/8" SA Box	2.66 ft	22.97 ft
1	Flex NMDC	WFT-PES	375-9984		3.5	3.1875	3.36	2 7/8" SA Pin	2 7/8" SA Box	31.05 ft	54.02 ft
1	Flex NMDC	Wft-PES	375-9983		3.4375	2.25	3.33	2 7/8" SA Pin	2 7/8" SA Box	31.04 ft	85.06 ft
1	X/O Sub	WFT	350-181		3.5	2	0	2 7/8" SA Pin	2 7/8" AOH Box	1.54 ft	86.60 ft
1	Gyro UBHO Sub	Wft-PES	SDI-7-161		3.6875	2.3125	0	2 7/8" AOH Pin	2 7/8" AOH Box	2.24 ft	88.84 ft

(O D. units are in; I D. units are in, FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2008/06/16 TO 2008/06/17
 DEPTH IN: 9233.00 ft ANGLE IN: 0.00 °
 DEPTH OUT: 9343.00 ft ANGLE OUT: 25.50 °
 DRILL HRS: 8.75 BUILD: 25.50 °
 ORIENTING HRS: 8.75 HOLE MADE: 110.00 ft
 ROTATING HRS: 0.00 AVG R.O.P.: 12.57 ft/hr

MOTOR INFORMATION

MANFCT. Wft-PES
 SERIAL #: 375-724
 MODEL: LN7823
 LOBE CFG: 7/8
 BIT TO BEND: 3.65
 SETTING: 2.77 °
 KICK PAD: No
 STABILIZER: No
 MOTOR HRS: 10.00

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	90	0	0
STROKE VOLUME:	1.3759 gal/stk	0.0 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	117.64101 gal/min		
PUMP PRESSURE:	OFF BTM: 1050 psi ON BTM: 1180 psi		

MUD INFORMATION

MUD TYPE: Brine or Salt
 LIQUID BASE: Water
 DENSITY: 0 lb/gal
 TEMP: 0 °F
 VISCOSITY: 0 sec/qt
 pH: 0
 WTR LOSS: 0 cc/30min
 SAND: 0
 LIQUID RATE: 0 gal/min
 PLAST VISC: 0 cP
 SOLIDS: 0
 GAS TYPE:
 YIELD PT: 0 lb/100 ft²
 OIL: 0
 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Hughes TYPE: STX-30C IADC BIT GRADE: 1 / 1 / NO / A / E / I / NO / BHA
 NOZZLES: 16, 16, 16, n/a: 0.589 in² TFA

REASON FOR BHA CHANGE

TOH to dial down motor.

FORMATION CHARACTERISTICS

Formation produced more than expected build rates

MWD COMMENTS

MWD performed with out any issues.

SIDETRACKING PROCEDURE COMMENTS



BHA Report

BHA 1 - Curve Section

Drilling Services
v4 2.2674

RUN SUMMARY

BHA produced well over projected build rates. Proposed well plan called for 27.35 after receiving build rates of over 30 with this BHA the decision was made to come out of the hole and dial the motor down so as not to lose any vertical section.



BHA Report

BHA 2 - Curve Section

Drilling Services
v4 2 2674

FILE #: 4014560
JOB TYPE: Horizontal
RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5
COMPANY: Cimarex Energy Company
SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services
SURVEY TYPE: Positive Pulse MWD
FIELD / LOCATION: Lea County / New Mexico / USA

DIR Supervisor: Jay Vinson, Michael Williamson
Company Man: Lee Mermis
MWD Supervisor: Craig Harrison, Jesse Koves

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 4.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Tri-Cone Bit	Hughes	5148287	STX-30C	4.75	0	0		2 7/8" REG Pin	0.50 ft	0.50 ft
1	Drilling Motor	Wft-PES	375-724	LN7823	3.6875	0	0.65	2 7/8" REG Box	2 7/8" REG Box	17.10 ft	17.60 ft
1	X/O Float Sub	WFT	350-004		3.9375	1.25	0	2 7/8" REG Pin	2 7/8" SA Box	2.71 ft	20.31 ft
1	Tensor UBHO Sub	WFT-PES	NN # 1		3.4375	2.125	0	2 7/8" SA Pin	2 7/8" SA Box	2.66 ft	22.97 ft
1	Flex NMDC	WFT-PES	375-9984		3.5	3.1875	3.36	2 7/8" SA Pin	2 7/8" SA Box	31.05 ft	54.02 ft
1	Flex NMDC	Wft-PES	375-9983		3.4375	2.25	3.33	2 7/8" SA Pin	2 7/8" SA Box	31.04 ft	85.06 ft
1	X/O Sub	WFT	350-181		3.5	2	0	2 7/8" SA Pin	2 7/8" AOH Box	1.54 ft	86.60 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2008/06/18 TO 2008/06/20
DEPTH IN: 9343.00 ft ANGLE IN: 25.50 °
DEPTH OUT: 9639.00 ft ANGLE OUT: 83.10 °
DRILL HRS: 26.00 BUILD: 57.60 °
ORIENTING HRS: 26.00 HOLE MADE: 296.00 ft
ROTATING HRS: 0.00 AVG R.O.P.: 11.38 ft/hr

MOTOR INFORMATION

MANFCT. Wft-PES
SERIAL #: 375-724
MODEL: LN7823
LOBE CFG: 7/8
BIT TO BEND: 3.65
SETTING: 2.38 °
KICK PAD: No
STABILIZER: No
MOTOR HRS: 32.08

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	88	0	0
STROKE VOLUME:	1.3759 gal/stk	0.0 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	115.02677 gal/min		
PUMP PRESSURE:	OFF BTM: 1700 psi	ON BTM: 1950 psi	

MUD INFORMATION

MUD TYPE: Brine or Salt LIQUID BASE: Water
DENSITY: 8.5 lb/gal TEMP: 0 °F
VISCOSITY: 28 sec/qt pH: 10
WTR LOSS: 0 cc/30min SAND: 0 LIQUID RATE: 0 gal/min
PLAST VISC: 1 cP SOLIDS: 0.2 GAS TYPE:
YIELD PT: 1 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Hughes TYPE: STX-30C IADC BIT GRADE: 8 / 8 / BT / A / E / 1 / BT / BHA
NOZZLES: 16, 16, 16, n/a: 0.589 in² TFA

REASON FOR BHA CHANGE

Could not get any build after drilling 43 ft. inclination remained at 83°. TOH to check motor and bit.

FORMATION CHARACTERISTICS

Formation gave us slightly more or equal to projected build rates.

MWD COMMENTS

MWD performed with out any issues.

SIDETRACKING PROCEDURE COMMENTS



Weatherford®

BHA Report

Drilling Services
v4 2 2674

BHA 2 - Curve Section

RUN SUMMARY

At survey point 9558' with an inclination of 83° hole stopped building angle. After sliding 43 more feet and getting to survey point 9601 and still not seeing any increase in inclination and after talking with company man the decision was made to come out of the hole check motor and bit.

When motor came above floor there was a gap in the adjustable assembly of the motor where it had backed off. When we attempted to screw the adjustable assembly back together it would not screw together the lower section threads were stripped, not allowing it to tighten back up.



Weatherford

BHA Report

Drilling Services
v4.2 2674

BHA 3 - Lateral Section

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis

DIR Supervisor: Jay Vinson, Michael Williamson

MWD Supervisor: Craig Harrison, Jesse Koves

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 4.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	PDC Bit	Hughes	7119214	HC306 Z	4.75	0	0		2 7/8" REG Pin	0.75 ft	0.75 ft
1	Drilling Motor	Wft-PES	375-2518	ME7867	3.6875	0	1.78	2 7/8" REG Pin	2 7/8" REG Box	21.75 ft	22.50 ft
1	X/O Float Sub	WFT	350-004		3.9375	1.25	0	2 7/8" REG Pin	2 7/8" SA Box	2.71 ft	25.21 ft
1	Tensor UBHO Sub	WFT-PES	NN # 1		3.4375	2.125	0	2 7/8" SA Pin	2 7/8" SA Box	2.66 ft	27.87 ft
1	Flex NMDC	WFT-PES	375-9984		3.5	3.1875	3.36	2 7/8" SA Pin	2 7/8" SA Box	31.05 ft	58.92 ft
1	Flex NMDC	Wft-PES	375-9983		3.4375	2.25	3.33	2 7/8" SA Pin	2 7/8" SA Box	31.04 ft	89.96 ft
1	X/O Sub	WFT	350-181		3.5	2	0	2 7/8" SA Pin	2 7/8" AOH Box	1.54 ft	91.50 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2008/06/20 TO 2008/06/23
 DEPTH IN: 9639.00 ft ANGLE IN: 83.10 °
 DEPTH OUT: 11163.00 ft ANGLE OUT: 89.60 °
 DRILL HRS: 54.75 BUILD: 6.50 °
 ORIENTING HRS: 15.33 HOLE MADE: 1524.00 ft
 ROTATING HRS: 39.42 AVG R.O.P.: 27.84 ft/hr

MOTOR INFORMATION

MANFCT. Wft-PES SETTING: 1.83 °
 SERIAL #: 375-2518 KICK PAD: No
 MODEL: ME7867 STABILIZER: No
 LOBE CFG: 7/8 MOTOR HRS: 67.58
 BIT TO BEND: 3.56

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	90	0	0
STROKE VOLUME:	1.3759 gal/stk	0.0 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	117.64101 gal/min		
PUMP PRESSURE:	OFF BTM: 1750 psi ON BTM: 2000 psi		

MUD INFORMATION

MUD TYPE: Brine or Salt LIQUID BASE: Water
 DENSITY: 8.5 lb/gal TEMP: 0 °F
 VISCOSITY: 28 sec/qt pH: 10
 WTR LOSS: 0 cc/30min SAND: 0.2 LIQUID RATE: 0 gal/min
 PLAST VISC: 1 cP SOLIDS: 0 GAS TYPE:
 YIELD PT: 1 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Hughes TYPE: HC306 Z IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD
 NOZZLES: 0.768 in² TFA

REASON FOR BHA CHANGE

TD'ed well.

FORMATION CHARACTERISTICS

Formation held angle and direction very well.

MWD COMMENTS

MWD performed without any issues.

SIDETRACKING PROCEDURE COMMENTS



Weatherford

BHA Report

Drilling Services
v4 2.2674

BHA 3 - Lateral Section

RUN SUMMARY

This BHA performed flawlessly. Holding angle and direction very well in rotation and produced better than projected build rates what few times we had to slide.



Cimarex Energy Company

Drilling Services

v4.2.2674

Antero 12 Fee #5

BHA NO.: 1



8 Gyro UBHO Sub

7 X/O Sub

6 Flex NMDC

5 Flex NMDC

4 Tensor UBHO Sub

3 X/O Float Sub

2 Drilling Motor

1 Tri-Cone Bit

ITEM#	QTY	COMPONENT	SERIAL #	DETAIL	BOT OD	TOP OD	I.D.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	1	Tri-Cone Bit	5148287		0	4.75	0		2 7/8" REG Pin	0.50 ft	0.50 ft
2	1	Drilling Motor	375-724	3 3/4" (95mm)	0	3.687	0	2 7/8" REG Box	2 7/8" REG Box	17.10 ft	17.60 ft
3	1	X/O Float Sub	350-004	3.9375	3.875	3.937	1.25	2 7/8" REG Pin	2 7/8" SA Box	2.71 ft	20.31 ft
4	1	Tensor UBHO Sub	NN # 1	3.4375	3.4375	3.437	2.125	2 7/8" SA Pin	2 7/8" SA Box	2.66 ft	22.97 ft
5	1	Flex NMDC	375-9984	3.75	3.5	3.5	3.1875	2 7/8" SA Pin	2 7/8" SA Box	31.05 ft	54.02 ft
6	1	Flex NMDC	375-9983	3.6875	3.4375	3.437	2.25	2 7/8" SA Pin	2 7/8" SA Box	31.04 ft	85.06 ft
7	1	X/O Sub	350-181	3.5	3.5	3.5	2	2 7/8" SA Pin	2 7/8" AOH Box	1.54 ft	86.60 ft
8	1	Gyro UBHO Sub	SDI-7-161	3.6875	3.6875	3.687	2.3125	2 7/8" AOH Pin	2 7/8" AOH Box	2.24 ft	88.84 ft
(O.D. units are in; I.D. units are in; FNeck units are ft)										TOTAL:	88.84 ft

COMMENTS



Cimarex Energy Company

Drilling Services
v4.2 2674

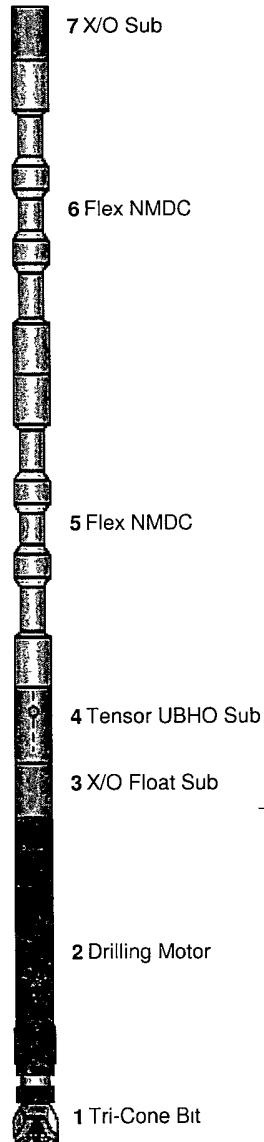
Antero 12 Fee #5

BHA NO.: 2

ITEM#	QTY	COMPONENT	SERIAL #	DETAIL	BOT OD	TOP OD	I.D.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	1	Tri-Cone Bit	5148287		0	4.75	0		2 7/8" REG Pin	0.50 ft	0.50 ft
2	1	Drilling Motor	375-724	3 3/4" (95mm)	0	3.687	0	2 7/8" REG Box	2 7/8" REG Box	17.10 ft	17.60 ft
3	1	X/O Float Sub	350-004	3.9375	3.875	3.937	1.25	2 7/8" REG Pin	2 7/8" SA Box	2.71 ft	20.31 ft
4	1	Tensor UBHO Sub	NN # 1	3.4375	3.4375	3.437	2.125	2 7/8" SA Pin	2 7/8" SA Box	2.66 ft	22.97 ft
5	1	Flex NMDC	375-9984	3.75	3.5	3.5	3.187	2 7/8" SA Pin	2 7/8" SA Box	31.05 ft	54.02 ft
6	1	Flex NMDC	375-9983	3.6875	3.4375	3.437	2.25	2 7/8" SA Pin	2 7/8" SA Box	31.04 ft	85.06 ft
7	1	X/O Sub	350-181	3.5	3.5	3.5	2	2 7/8" SA Pin	2 7/8" AOH Box	1.54 ft	86.60 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

TOTAL: 86.60 ft



COMMENTS



Cimarex Energy Company

Drilling Services
v4.2 2674

Antero 12 Fee #5

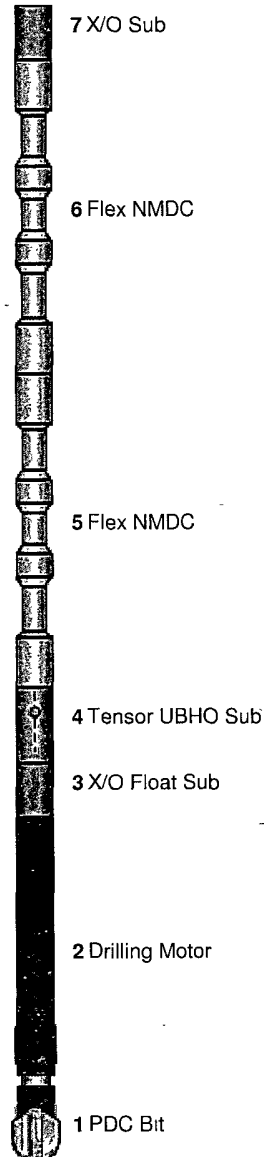
BHA NO.: 3

ITEM#	QTY	COMPONENT	SERIAL #	DETAIL	BOT OD	TOP OD	I.D.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	1	PDC Bit	7119214		0	4.75	0		2 7/8" REG Pin	0.75 ft	0.75 ft
2	1	Drilling Motor	375-2518	3 3/4" (95mm)	0	3.687	0	2 7/8" REG Pin	2 7/8" REG Box	21.75 ft	22.50 ft
3	1	X/O Float Sub	350-004	3.9375	3.875	3.937	1.25	2 7/8" REG Pin	2 7/8" SA Box	2.71 ft	25.21 ft
4	1	Tensor UBHO Sub	NN # 1	3.4375	3.4375	3.437	2.125	2 7/8" SA Pin	2 7/8" SA Box	2.66 ft	27.87 ft
5	1	Flex NMDC	375-9984	3.75	3.5	3.5	3.1875	2 7/8" SA Pin	2 7/8" SA Box	31.05 ft	58.92 ft
6	1	Flex NMDC	375-9983	3.6875	3.4375	3.437	2.25	2 7/8" SA Pin	2 7/8" SA Box	31.04 ft	89.96 ft
7	1	X/O Sub	350-181	3.5	3.5	3.5	2	2 7/8" SA Pin	2 7/8" AOH Box	1.54 ft	91.50 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

TOTAL:

91.50 ft



COMMENTS

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services
v4 2 2674

BHA 1 - Curve Section, Motor #375-724

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis, Guy Embry

DIR Supervisor: Jay Vinson, Jeff Ruddock, Michael Williamson

MWD Supervisor: Craig Harrison, Jesse Koves

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 4.75 in

GENERAL INFORMATION:

BHA #: 1
DATE IN: 2008/06/16
DATE OUT: 2008/06/17
ANGLE IN: 0.00 °
ANGLE OUT: 25.50 °
ORIENTING HRS: 8.75

START DEPTH: 9233.00 ft
END DEPTH: 9343.00 ft
HOLE MADE: 110.00 ft
AVG ROP: 12.57 ft/hr
ROTATING HRS: 0.00

MOTOR INFORMATION:

MANFCT: Wft-PES
SERIAL #: 375-724
MODEL: LN7823
LOBE: 7/8
SETTING: 2.77 °

BIT TO BEND: 3.65 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: STX-30C

IADC BIT GRADE: 1 / 1 / NO / A / E / 1 / NO / BHA

BIT PRESS DROP: 0.00 psi

TOTAL FLOW RATE: 117.64 gal/min

PUMP PRESS: (OFF) 1050.00 psi

MTR PRESS DROP: 0.00 psi

NOZZLES: 16, 16, 16, n/a: 0.589 in² TFA

(ON) 1180.00 psi

MUD INFORMATION:

MUD TYPE: Brine or Salt
DENSITY: 0 lb/gal
SAND: 0.000
SOLIDS: 0.000
OIL: 0.000
TEMP: 0 °F

LIQUID BASE: Water
VISCOSITY: 0 sec/qt
WATER LOSS: 0.00 cc/30min
PLASTIC VISC: 0.0 cP
YIELD POINT: 0.0 lb/100 ft²
pH: 0.0

(All units are imperial.)
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min

TIME INFORMATION:

CIRCULATING HOURS: 1.25
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 8.75
MOTOR HOURS THIS RUN: 10.00
PREVIOUS HOURS: 0.00
TOTAL MOTOR HOURS: 10.00
TOTAL BRT HOURS: 10.00

MOTOR EVALUATION COMMENTS:

Motor performed with out any issues.

REASON FOR BHA CHANGE:

TOH to dial down motor.

COMMENTS FROM LAST DAY RAN:

05:00 a.m. RIH with gyro to begin kicking off with gyro.

06:30 a.m. Began drilling from MD 9227. Had no problems getting out window and orienting toolface. We have a very good window cut with very little drag.



Weatherford

Motor / RSS Evaluation Report

Drilling Services
v4.2 2674

BHA 1 - Curve Section, Motor #375-724

17:00 p.m. Released Scientific Gyro at MD 9296. Received first clean survey with Wft's MWD at MD 9258 11.3 inc. / 201.2 az.

21:00 p.m. POOH to turn motor down to a 2.38 due to build rates being to high.



Weatherford

Motor / RSS Evaluation Report

Drilling Services
v4.2 2674

BHA 2 - Curve Section, Motor #375-724

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

DIR Supervisor: Jay Vinson, Michael Williamson

Company Man: Lee Mermis

MWD Supervisor: Craig Harrison, Jesse Koves

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 4.75 in

GENERAL INFORMATION:

BHA #: 2
DATE IN: 2008/06/18
DATE OUT: 2008/06/20
ANGLE IN: 25.50 °
ANGLE OUT: 83.10 °
ORIENTING HRS: 26.00
START DEPTH: 9343.00 ft
END DEPTH: 9639.00 ft
HOLE MADE: 296.00 ft
AVG ROP: 11.38 ft/hr
ROTATING HRS: 0.00

MOTOR INFORMATION:

MANFCT: Wft-PES
SERIAL #: 375-724
MODEL: LN7823
LOBE: 7/8
SETTING: 2.38 °
BIT TO BEND: 3.65 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: STX-30C
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: 8 / 8 / BT / A / E / 1 / BT / BHA
TOTAL FLOW RATE: 115.03 gal/min
NOZZLES: 16, 16, 16, n/a: 0.589 in² TFA
PUMP PRESS: (OFF) 1700.00 psi
(ON) 1950.00 psi

MUD INFORMATION:

MUD TYPE: Brine or Salt
DENSITY: 9 lb/gal
SAND: 0.000
SOLIDS: 0.200
OIL: 0.000
TEMP: 0 °F
LIQUID BASE: Water
VISCOSITY: 28 sec/qt
WATER LOSS: 0.00 cc/30min
PLASTIC VISC: 1.0 cP
YIELD POINT: 1.0 lb/100 ft²
pH: 10.0
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
(All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 6.08
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 26.00
MOTOR HOURS THIS RUN: 32.08
PREVIOUS HOURS: 10.00
TOTAL MOTOR HOURS: 42.08
TOTAL BRT HOURS: 32.08

MOTOR EVALUATION COMMENTS:

When motor came above floor there was a gap in the adjustable assembly of the motor where it had backed off. When we attempted to screw the adjustable assembly back together it would not screw together the lower section threads were stripped, not allowing it to tighten back up.

REASON FOR BHA CHANGE:

Could not get any build after drilling 43 ft. inclination remained at 83°. TOH to check motor and bit.

COMMENTS FROM LAST DAY RAN:

When motor came above floor there was a gap in the adjustable assembly of the motor where it had backed off. When we attempted to screw the adjustable assembly back together it would not screw together the lower section threads were stripped, not allowing it to tighten back up.



BHA 2 - Curve Section, Motor #375-724

09:45 a.m. Resumed drilling ahead from MD 9639.

19:00 p.m. Received a target change from Mel Klinger instead of holding 9433 TVD she wants us to gradually let TVD climb to 9400 TVD and then hold around 9400 TVD until TD.

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services
v4 2.2674

BHA 3 - Lateral Section, Motor #375-2518

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis

DIR Supervisor: Jay Vinson, Michael Williamson

MWD Supervisor: Craig Harrison, Jesse Koves

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 4.75 in

GENERAL INFORMATION:

BHA #:	3	START DEPTH:	9639.00 ft
DATE IN:	2008/06/20	END DEPTH:	11163.00 ft
DATE OUT:	2008/06/23	HOLE MADE:	1524.00 ft
ANGLE IN:	83.10 °	AVG ROP:	27.84 ft/hr
ANGLE OUT:	89.60 °		
ORIENTING HRS:	15.33	ROTATING HRS:	39.42

MOTOR INFORMATION:

MANFCT:	Wft-PES		
SERIAL #:	375-2518		
MODEL:	ME7867		
LOBE:	7/8	BIT TO BEND:	3.56 ft
SETTING:	1.83 °	KICKPAD:	No
		STABILIZER:	No

DRILLING INFORMATION:

BIT TYPE:	HC306 Z	IADC BIT GRADE:	1 / 1 / NO / A / X / 1 / NO / TD		
BIT PRESS DROP:	0.00 psi	TOTAL FLOW RATE:	117.64 gal/min	PUMP PRESS:	(OFF) 1750.00 psi
MTR PRESS DROP:	0.00 psi	NOZZLES:	0.768 in ² TFA		(ON) 2000.00 psi

MUD INFORMATION:

MUD TYPE:	Brine or Salt	LIQUID BASE:	Water	(All units are imperial.)	
DENSITY:	9 lb/gal	VISCOSITY:	28 sec/qt		
SAND:	0.200	WATER LOSS:	0.00 cc/30min	LIQUID RATE:	0.00 gal/min
SOLIDS:	0.000	PLASTIC VISC:	1.0 cP	GAS TYPE:	
OIL:	0.000	YIELD POINT:	1.0 lb/100 ft ²	GAS RATE:	0.00 cu ft/min
TEMP:	0 °F	pH:	10.0		

TIME INFORMATION:

CIRCULATING HOURS:	12.83
REAMING HOURS:	0.00
TIME DRILL HOURS:	0.00
MOTOR DRILL HOURS:	54.75
MOTOR HOURS THIS RUN:	67.58
PREVIOUS HOURS:	0.00
TOTAL MOTOR HOURS:	67.58
TOTAL BRT HOURS:	68.17

MOTOR EVALUATION COMMENTS:

Motor performed like a champ without any issues.

REASON FOR BHA CHANGE:

TD'ed well.

COMMENTS FROM LAST DAY RAN:

Drill ahead as per well plan. Nearing our TD point lacking approx. 34 ft. to TD.

06:30 a.m. TD'ed well @ MD 11163.

15:00 p.m. Layed down directional tools.

**Weatherford**

Daily Activity Report

Drilling Services
v4 2.2674

Day 1 - 2008/06/14

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis
 DIR Supervisor: Jay Vinson, Jeff Ruddock
 MWD Supervisor: Craig Harrison, Jesse Koves
 MWD Trainee: Blake Darden

GROUND ELEV: 3782 ft START DEPTH: 9227.0 ft PROGRESS: 0.0 ft DAILY COST: USD\$10355.00
 KB ELEV: 3803 ft END DEPTH: 9227.0 ft AVG. ROP.: 0.0 ft/hr PREVIOUS COST: USD\$0.00
 WORK STATUS: Standby (All units are imperial.) TOTAL COST: USD\$10355.00

TIME	DAILY ACTIVITY	HRS	DEPTH	BHA	TIME	DAILY ACTIVITY	HRS	DEPTH	BHA
00:00-24:00	Rig Up RBOPs - Wait on new BOP's	24.00	9227	n/a			0.00		

TIME SUMMARY (hrs):					DRILLING PARAMETERS:				
MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00	ROTARY TORQUE:		STRING WEIGHT	0 lbs
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00	WOB SLIDING (HI):	0 lbf	WOB ROTATE (HI):	0 lbf
MOTOR REAM:	0.00			TRIP:	0.00	WOB SLIDING (LO):	0 lbf	WOB ROTATE (LO):	0 lbf
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	24.00	RPM (ROTARY):		DRAG UP:	0 lbf
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00	RPM (MOTOR):		DRAG DN:	0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: HOLE SIZE: SECTION TYPE: SURVEY TYPE:
 MANFCT.: STABILIZER: SERIAL#: MODEL: LOBE CFG.:
 SETTING: KICKPAD: SIZE: MTR HRS THIS DAY: MTR HRS TO DATE:
 MANFCT: BIT TYPE: TYPE: NOZZLES:
 IADC BIT GRADE:

PUMP PARAMETERS

PRESSURE ON BTM: 0 PRESSURE OFF BTM: 0 TOTAL FLOW RATE: 0.00 gal/min
 PUMP 1: TYPE: PZ-7 EFF.: 95.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
 PUMP 2: TYPE: PZ-7 EFF.: 95.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
 PUMP 3: TYPE: EFF.: 100.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: VISC: 0 sec/qt WTR LOSS: 0 cc/30min PV: 0 cP YP: 0 lb/100 ft² pH: 0
 DENSITY: 0 lb/gal GEL 0/10: 0.00 lb/100 ft² SAND: 0 SOLIDS: 0 OIL: 0 TEMP: 0 °F
 LIQUID BASE: LIQUID RATE: 0 gal/min GAS TYPE: GAS RATE: 0 cu ft/min

COMMENTS:

Arrived on location rigged up MWD and all surface equipment & strapped tools.

Waiting on rig to pressure test BOP's. Presently rig waiting on new set of BOP's.

CUSTOMER SIGNATURE: _____

**Weatherford**

Daily Activity Report

Drilling Services
v4.2 2674

Day 2 - 2008/06/15

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis
 DIR Supervisor: Jay Vinson, Jeff Ruddock, Michael Williamson
 MWD Supervisor: Craig Harrison, Jesse Koves
 MWD Trainee: Blake Darden

GROUND ELEV: 3782 ft

KB ELEV: 3803 ft

START DEPTH: 9227.0 ft

END DEPTH: 9227.0 ft

PROGRESS: 0.0 ft

AVG. ROP.: 0.0 ft/hr

DAILY COST: USD\$7575.00

PREVIOUS COST: USD\$10355.00

TOTAL COST: USD\$17930.00

WORK STATUS: Standby

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-06:00	Rig Up RBOPs - waiting on new BOP's	6.00	9227	n/a	19:00-22:45	POOH - See Comments	3.75	9227	n/a
06:00-16:30	Pick Up Drill Pipe - TIH to tag btm	10.50	9227	n/a	22:45-24:00	MU Whipstock	1.25	9227	n/a
16:30-19:00	Circ & Condition Hole - pump sweep around	2.50	9227	n/a			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 3.75
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 20.25
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT: 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:
IADC BIT GRADE:			LOBE CFG.:
			MTR HRS TO DATE:

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-7	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: PZ-7	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Rig changed out BOP's & Pressure tested new BOP's.

06:00 a.m. Started picking up drill pipe and running in hole to tag btm. PooH after tagging btm and circulating hole clean and sweep around. Coming out to pick up whipstock assembly

CUSTOMER SIGNATURE:

**Weatherford**

Daily Activity Report

Drilling Services

v4 2 2674

Day 3 - 2008/06/16

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis, Guy Embry
 DIR Supervisor: Jay Vinson, Jeff Ruddock, Michael Williamson
 MWD Supervisor: Craig Harrison, Jesse Koves
 MWD Trainee: Blake Darden

GROUND ELEV: 3782 ft START DEPTH: 9227.0 ft PROGRESS: 6.0 ft DAILY COST: USD\$7575.00
 KB ELEV: 3803 ft END DEPTH: 9233.0 ft AVG. ROP.: 0.0 ft/hr PREVIOUS COST: USD\$17930.00
 TOTAL COST: USD\$25505.00

WORK STATUS: Standby (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-06:00	RIH With Whipstock	6.00	9227	n/a	09:30-10:15	POOH With Gyro	0.75	9227	n/a
06:00-07:30	RIH With Gyro - R/U W/L & RIH w/gyro	1.50	9227	n/a	10:15-18:00	Mill Window - mill + 5 ft rathole	7.75	9233	n/a
07:30-07:45	Other - See Comments - orient whipstock	0.25	9227	n/a	18:00-22:00	POOH - See Comments - TOH w/mills	4.00	9233	n/a
07:45-08:45	POOH With Gyro - POOH gyro & ck tool	1.00	9227	n/a	22:00-23:30	Handle Directional Tools	1.50	9233	1
08:45-09:30	RIH With Gyro - set whipstock @ 178°	0.75	9227	n/a	23:30-24:00	Shallow Test Tools	0.50	9233	1

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00 ORIENTING HRS: 0.00
 TIME DRILL: 0.00 ROTATING HRS: 0.00
 MOTOR REAM: 0.00
 CIRC: 0.00 ROTARY DRILL: 0.00
 MOTOR HRS: 0.00 DRILL HRS: 0.00

ROTARY DRILL: 0.00
 MOTOR HRS: 0.00
 TRIP: 14.00
 OTHER: 10.00
 TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: STRING WEIGHT 0 lbs
 WOB SLIDING (HI): 0 lbf WOB ROTATE (HI): 0 lbf
 WOB SLIDING (LO): 0 lbf WOB ROTATE (LO): 0 lbf
 RPM (ROTARY): DRAG UP: 0 lbf
 RPM (MOTOR): DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1 HOLE SIZE: 4.75 in SECTION TYPE: Curve SURVEY TYPE: Positive Pulse MWD
 MANFCT.: Wft-PES STABILIZER: No SERIAL#: 375-724 MODEL: LN7823 LOBE CFG.: 7/8
 SETTING: 2.77° KICKPAD: No SIZE: 3 3/4" (95mm) MTR HRS THIS DAY: 0 MTR HRS TO DATE: 0
 MANFCT: Hughes BIT TYPE: Tri-Cone Bit TYPE: STX-30C NOZZLES: 16, 16, 16, n/a: 0.589 in² TFA
 IADC BIT GRADE: 1 / 1 / NO / A / E / I / NO / BHA

PUMP PARAMETERS

PRESSURE ON BTM: 0 PRESSURE OFF BTM: 0 TOTAL FLOW RATE: 0.00 gal/min
 PUMP 1: TYPE: PZ-7 EFF.: 95.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
 PUMP 2: TYPE: PZ-7 EFF.: 95.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
 PUMP 3: TYPE: EFF.: 100.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt VISC: 0 sec/qt WTR LOSS: 0 cc/30min PV: 0 cP YP: 0 lb/100 ft² pH: 0
 DENSITY: 0 lb/gal GEL 0/10: 0.00 lb/100 ft² SAND: 0 SOLIDS: 0 OIL: 0 TEMP: 0 °F
 LIQUID BASE: Water LIQUID RATE: 0 gal/min GAS TYPE: GAS RATE: 0 cu ft/min

COMMENTS:

TIH w/whipstock assembly. Set whipstock at 178°.
 10:15 a.m. Began milling window plus 5 ft. of rathole.
 18:00 p.m. Finished milling window and began TOH with mills.

CUSTOMER SIGNATURE:

**Weatherford**

Daily Activity Report

Drilling Services
v4.2.2674

Day 4 - 2008/06/17

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Guy Embry, Lee Mermis
 DIR Supervisor: Jay Vinson, Michael Williamson, Jeff Ruddock
 MWD Supervisor: Craig Harrison, Jesse Koves
 MWD Trainee: Blake Darden

GROUND ELEV: 3782 ft START DEPTH: 9233.0 ft PROGRESS: 110.0 ft DAILY COST: USD\$14370.00
 KB ELEV: 3803 ft END DEPTH: 9343.0 ft AVG. ROP.: 12.6 ft/hr PREVIOUS COST: USD\$25505.00
 TOTAL COST: USD\$39875.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:15	Handle Directional Tools - Make up bit	0.25	9233	1	16:00-17:00	POOH With Gyro - Rig down wireline	1.00	9296	1
00:15-04:00	RIH With Directional	3.75	9233	1	17:00-17:15	Circ & Accumulate Surveys - 9258' 11.3/201.2	0.25	9296	1
04:00-06:30	RIH With Gyro - R/U wireline & seats	2.50	9233	1	17:15-18:30	Orienting With Motor - 15' @ 10L	1.25	9311	1
06:30-07:45	Orienting With Motor - 6' @GyroTF=180	1.25	9233	1	18:30-18:45	Circ & Accumulate Surveys - 9273'	0.25	9311	1
07:45-08:30	POOH With Gyro - connection	0.75	9233	1	18:45-19:45	Orienting With Motor - TF=10L	1.00	9328	1
08:30-09:30	RIH With Gyro - Get seats	1.00	9233	1	19:45-20:15	Circ & Accumulate Surveys - @ 9290	0.50	9328	1
09:30-12:00	Orienting With Motor - 32' @ GyroTF=178	2.50	9265	1	20:15-20:45	Orienting With Motor - TF=20L	0.50	9343	1
12:00-12:45	POOH With Gyro - connection	0.75	9265	1	20:45-21:00	Circ & Accumulate Surveys - @ 9305	0.25	9343	1
12:45-13:45	RIH With Gyro - Get seats	1.00	9265	1	21:00-24:00	POOH For Motor - Adjust Motor 2.38	3.00	9343	1
13:45-16:00	Orienting With Motor - 31' @ GyroTF=178	2.25	9296	1			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 8.75 ORIENTING HRS: 8.75 ROTARY DRILL: 0.00
 TIME DRILL: 0.00 ROTATING HRS: 0.00 MOTOR HRS: 10.00
 MOTOR REAM: 0.00 TRIP: 13.75
 CIRC: 1.25 ROTARY DRILL: 0.00 OTHER: 0.25
 MOTOR HRS: 10.00 DRILL HRS: 8.75 TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: STRING WEIGHT 100000 lbs
 WOB SLIDING (HI): 12000 lbf WOB ROTATE (HI): 0 lbf
 WOB SLIDING (LO): 8000 lbf WOB ROTATE (LO): 0 lbf
 RPM (ROTARY): DRAG UP: 5000 lbf
 RPM (MOTOR): 75 rpm DRAG DN: 2000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1 HOLE SIZE: 4.75 in SECTION TYPE: Curve SURVEY TYPE: Positive Pulse MWD
 MANFCT.: Wft-PES STABILIZER: No SERIAL#: 375-724 MODEL: LN7823 LOBE CFG.: 7/8
 SETTING: 2.77 ° KICKPAD: No SIZE: 3 3/4" (95mm) MTR HRS THIS DAY: 10 MTR HRS TO DATE: 10
 MANFCT: Hughes BIT TYPE: Tri-Cone Bit TYPE: STX-30C NOZZLES: 16, 16, 16, n/a: 0.589 in² TFA
 IADC BIT GRADE: 1 / 1 / NO / A / E / 1 / NO / BHA

PUMP PARAMETERS

PRESSURE ON BTM: 1180 PRESSURE OFF BTM: 1050 TOTAL FLOW RATE: 117.64 gal/min
 PUMP 1: TYPE: PZ-7 EFF.: 95.0% SPM: 90.00 LINER: 4.50 in STROKE VOL.: 1.3759 gal/stk
 PUMP 2: TYPE: PZ-7 EFF.: 95.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
 PUMP 3: TYPE: EFF.: 100.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt VISC: 0 sec/qt WTR LOSS: 0 cc/30min PV: 0 cP YP: 0 lb/100 ft² pH: 0
 DENSITY: 0 lb/gal GEL 0/10: 0.00 lb/100 ft² SAND: 0 SOLIDS: 0 OIL: 0 TEMP: 0 °F
 LIQUID BASE: Water LIQUID RATE: 0 gal/min GAS TYPE: GAS RATE: 0 cu ft/min

COMMENTS:

05:00 a.m. RIH with gyro to begin kicking off with gyro.

06:30 a.m. Began drilling from MD 9227. Had no problems getting out window and orienting toolface. We have a very good window cut with very little drag.

17:00 p.m. Released Scientific Gyro at MD 9296. Received first clean survey with Wft's MWD at MD 9258 11.3 inc. / 201.2 az.



Daily Activity Report

Day 4 - 2008/06/17

Drilling Services
v4 2 2674

21:00 p.m. POOH to turn motor down to a 2.38 due to build rates being to high.

CUSTOMER SIGNATURE: _____

**Weatherford**

Daily Activity Report

Drilling Services
v4 2 2674

Day 5 - 2008/06/18

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

DIR Supervisor: Jay Vinson, Michael Williamson

Company Man: Lee Mermis

MWD Supervisor: Craig Harrison, Jesse Koves

MWD Trainee: Blake Darden

GROUND ELEV: 3782 ft

KB ELEV: 3803 ft

START DEPTH: 9343.0 ft

END DEPTH: 9484.0 ft

PROGRESS: 141.0 ft

AVG. ROP.: 12.4 ft/hr

DAILY COST: USD\$12020.00

PREVIOUS COST: USD\$39875.00

TOTAL COST: USD\$51895.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:15	Shallow Test Tools - Test MWD & Mtr	0.25	9343	2	15:00-16:15	Orienting With Motor - 16' @ 10L	1.25	9405	2
00:15-02:45	POOH For Motor - Adjust motor 2.38	2.50	9343	2	16:15-16:30	Circ & Accumulate Surveys - 9367' 41.6/194 2	0.25	9405	2
02:45-03:15	Change Bit - make up bit	0.50	9343	2	16:30-17:30	Orienting With Motor - 16' @ 10L	1.00	9421	2
03:15-06:00	RIH With Directional - TIH w/BHA #2	2.75	9343	2	17:30-17:45	Circ & Accumulate Surveys - 9383' 45.1/192 8	0.25	9421	2
06:00-07:00	Rig Repair - wk on brakes	1.00	9343	2	17:45-18:50	Orienting With Motor - 16' @	1.08	9437	2
07:00-09:00	RIH With Directional - TIH w/BHA #2	2.00	9343	2	18:50-19:05	Circ & Accumulate Surveys - @ 9399	0.25	9437	2
09:00-10:15	Wash To Bottom - P/U swivel-2jts btm	1.25	9343	2	19:05-20:15	Orienting With Motor - 16' @ 10L	1.17	9453	2
10:15-11:45	Orienting With Motor - 14' @ 5L	1.50	9357	2	20:15-20:30	Circ & Accumulate Surveys - @ 9415	0.25	9453	2
11:45-12:00	Circ & Accumulate Surveys - 9319' 29.8/195.9	0.25	9357	2	20:30-21:50	Orienting With Motor - 16' 10L	1.33	9469	2
12:00-13:45	Orienting With Motor - 24' @ 15L	1.75	9381	2	21:50-22:10	Circ & Accumulate Surveys - @9431	0.33	9469	2
13:45-14:00	Circ & Accumulate Surveys - 9343' 36.5/196.3	0.25	9381	2	22:10-23:45	Orienting With Motor - 15' @ 10L	1.58	9484	2
14:00-14:45	Orienting With Motor - 8' @ 20L	0.75	9389	2	23:45-24:00	Circ & Accumulate Surveys - @ 9446	0.25	9484	2
14:45-15:00	Circ & Accumulate Surveys - 9351' 38.0/196.6	0.25	9389	2			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 11.42	ORIENTING HRS: 11.42	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 15.00
MOTOR REAM: 0.00		TRIP: 7.25
CIRC: 3.58	ROTARY DRILL: 0.00	OTHER: 1.75
MOTOR HRS: 15.00	DRILL HRS: 11.42	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT 104000 lbs
WOB SLIDING (HI): 16000 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 10000 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 5000 lbf
RPM (MOTOR): 80 rpm	DRAG DN: 4000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2	HOLE SIZE: 4.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Wft-PES	STABILIZER: No	SERIAL#: 375-724	MODEL: LN7823
SETTING: 2.38 °	KICKPAD: No	SIZE: 3 3/4" (95mm)	LOBE CFG.: 7/8
MANFCT: Hughes	BIT TYPE: Tri-Cone Bit	TYPE: STX-30C	MTR HRS THIS DAY: 15
IADC BIT GRADE: 8 / 8 / BT / A / E / 1 / BT / BHA			MTR HRS TO DATE: 25
			NOZZLES: 16, 16, 16, n/a: 0.589 in² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 1300	PRESSURE OFF BTM: 1200	TOTAL FLOW RATE: 111.11 gal/min
PUMP 1: TYPE: PZ-7	EFF.: 95.0% SPM: 85.00	LINER: 4.50 in
PUMP 2: TYPE: PZ-7	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in
		STROKE VOL.: 1.3759 gal/stk
		STROKE VOL.: 0.0000 gal/stk
		STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt	VISC: 28 sec/qt	WTR LOSS: 0 cc/30min	PV: 1 cP	YP: 1 lb/100 ft²	pH: 11.5
DENSITY: 8.4 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0.1	OIL: 0	TEMP: 0 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

00:15 Handle BHA L/D gyro sub adjust motor to 2.38.

10:15 a.m. Resumed drilling ahead from MD 9343.



Daily Activity Report

Day 5 - 2008/06/18

Drilling Services
v4 2 2674

Sliding ahead as per well plan.

CUSTOMER SIGNATURE: _____

**Weatherford**

Daily Activity Report

Drilling Services
v4 2 2674

Day 6 - 2008/06/19

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis
 DIR Supervisor: Jay Vinson, Michael Williamson
 MWD Supervisor: Craig Harrison, Jesse Koves
 MWD Trainee: Blake Darden

GROUND ELEV: 3782 ft START DEPTH: 9484.0 ft PROGRESS: 155.0 ft DAILY COST: USD\$12020.00
 KB ELEV: 3803 ft END DEPTH: 9639.0 ft AVG. ROP.: 10.6 ft/hr PREVIOUS COST: USD\$51895.00
 TOTAL COST: USD\$63915.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:20	Orienting With Motor - 16' @ 15L	1.33	9500	2	11:45-12:00	Circ & Accumulate Surveys - 9540' 80.9/188.7	0.25	9578	2
01:20-01:45	Circ & Accumulate Surveys - 9462' 63.8/191.0	0.42	9500	2	12:00-13:35	Orienting With Motor - 18' @ 40L	1.58	9596	2
01:45-02:50	POOH For MWD - Check MWD	1.08	9500	2	13:35-13:45	Circ & Accumulate Surveys - 9558' 83.0/186.3	0.17	9596	2
02:50-04:20	Orienting With Motor - 15' @ 15L	1.50	9515	2	13:45-14:35	Orienting With Motor - 11' @ 20L	0.83	9607	2
04:20-04:35	Circ & Accumulate Surveys - 9477' 67.3/190.7	0.25	9515	2	14:35-14:45	Circ & Accumulate Surveys - 9569' 83.3/185.6	0.17	9607	2
04:35-06:10	Orienting With Motor - 16' @ 10L	1.58	9531	2	14:45-16:15	Orienting With Motor - 16' @ HS	1.50	9623	2
06:10-06:25	Circ & Accumulate Surveys - 9493' 70.9/190.3	0.25	9531	2	16:15-16:30	Circ & Accumulate Surveys - 9585' 83.1/184.3	0.25	9623	2
06:25-08:10	Orienting With Motor - 15' @ 15L	1.75	9546	2	16:30-17:55	Orienting With Motor - 16' @ HS	1.42	9639	2
08:10-08:25	Circ & Accumulate Surveys - 9508' 74.6/189.8	0.25	9546	2	17:55-18:10	Circ & Accumulate Surveys - @ 9601	0.25	9639	2
08:25-10:00	Orienting With Motor - 16' @ 30L	1.58	9562	2	18:10-22:00	POOH For Motor	3.83	9639	2
10:00-10:15	Circ & Accumulate Surveys - 9524' 77.9/189.3	0.25	9562	2	22:00-23:00	Wait On Weather	1.00	9639	2
10:15-11:45	Orienting With Motor - 16' @ 20L	1.50	9578	2	23:00-24:00	POOH For Motor	1.00	9639	2

TIME SUMMARY (hrs):

MOTOR DRILL: 14.58 ORIENTING HRS: 14.58 ROTARY DRILL: 0.00
 TIME DRILL: 0.00 ROTATING HRS: 0.00 MOTOR HRS: 17.08
 MOTOR REAM: 0.00 TRIP: 5.92
 CIRC: 2.50 ROTARY DRILL: 0.00 OTHER: 1.00
 MOTOR HRS: 17.08 DRILL HRS: 14.58 TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: STRING WEIGHT 104000 lbs
 WOB SLIDING (HI): 20000 lbf WOB ROTATE (HI): 0 lbf
 WOB SLIDING (LO): 15000 lbf WOB ROTATE (LO): 0 lbf
 RPM (ROTARY): DRAG UP: 5500 lbf
 RPM (MOTOR): 80 rpm DRAG DN: 2000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2 HOLE SIZE: 4.75 in SECTION TYPE: Curve SURVEY TYPE: Positive Pulse MWD
 MANFCT.: Wft-PES STABILIZER: No SERIAL#: 375-724 MODEL: LN7823 LOBE CFG.: 7/8
 SETTING: 2.38 ° KICKPAD: No SIZE: 3 3/4" (95mm) MTR HRS THIS DAY: 17.08333333 MTR HRS TO DATE: 42.08333333
 MANFCT: Hughes BIT TYPE: Tri-Cone Bit TYPE: STX-30C NOZZLES: 16, 16, 16, n/a: 0.589 in² TFA
 IADC BIT GRADE: 8 / 8 / BT / A / E / 1 / BT / BHA

PUMP PARAMETERS

PRESSURE ON BTM: 1500 PRESSURE OFF BTM: 1400 TOTAL FLOW RATE: 111.11 gal/min
 PUMP 1: TYPE: PZ-7 EFF.: 95.0% SPM: 85.00 LINER: 4.50 in STROKE VOL.: 1.3759 gal/stk
 PUMP 2: TYPE: PZ-7 EFF.: 95.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
 PUMP 3: TYPE: EFF.: 100.0% SPM: 0.00 LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt VISC: 28 sec/qt WTR LOSS: 0 cc/30min PV: 1 cP YP: 1 lb/100 ft² pH: 11.5
 DENSITY: 8.4 lb/gal GEL 0/10: 0.00 lb/100 ft² SAND: 0 SOLIDS: 0.1 OIL: 0 TEMP: 0 °F
 LIQUID BASE: Water LIQUID RATE: 0 gal/min GAS TYPE: GAS RATE: 0 cu ft/min

COMMENTS:

Drilling ahead as per well plan.

01:45 - Due to getting the same Azi 3 times in a row pulled back 2 stands to known survey point at 9319 to check mwd tool all was good. Back to btm. at 02:50.



Daily Activity Report

Drilling Services
v4 2 2674

Day 6 - 2008/06/19

At survey point 9558' with an inclination of 83 hole stopped building angle. After sliding 43 more feet and getting to survey point 9601 and still not seeing any increase in inclination and after talking with company man the decision was made to come out of the hole check motor and bit.

CUSTOMER SIGNATURE: _____

**Weatherford**

Daily Activity Report

Drilling Services
v4 2 2674

Day 7 - 2008/06/20

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis
 DIR Supervisor: Jay Vinson, Michael Williamson
 MWD Supervisor: Craig Harrison, Jesse Koves
 MWD Trainee: Blake Darden

GROUND ELEV: 3782 ft
 KB ELEV: 3803 ft

START DEPTH: 9639.0 ft
 END DEPTH: 10000.0 ft

PROGRESS: 361.0 ft
 AVG. ROP.: 34.6 ft/hr

DAILY COST: USD\$13670.00
 PREVIOUS COST: USD\$63915.00
 TOTAL COST: USD\$77585.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	POOH For Motor	0.50	9639	2	16:25-16:40	Circ & Accumulate Surveys - 9726' 91.9/176.8	0.25	9769	3
00:30-02:00	Change Bit And Motor	1.50	9639	3	16:40-17:10	Rotating With Motor - WOB=5K RPM=40	0.50	9801	3
02:00-02:15	Shallow Test Tools - - GOOD TEST	0.25	9639	3	17:10-17:25	Circ & Accumulate Surveys - 9758' 91.5/176.3	0.25	9801	3
02:15-03:30	RIH With New BHA	1.25	9639	3	17:25-18:00	Unplug Nozzles - try to unplug jets	0.58	9801	3
03:30-05 15	Slip And Cut	1.75	9639	3	18:00-18 15	Rig Repair - wk on pump line	0.25	9801	3
05:15-09:15	RIH With New BHA - TIH w/BHA #3	4.00	9639	3	18:15-18:50	Orienting With Motor - 10' @ 10l	0.58	9811	3
09:15-09:45	Displace Hole - P/U swivel&fill hole	0.50	9639	3	18 50-19:10	Rotating With Motor	0.33	9832	3
09:45-10:45	Orienting With Motor - 5' @ 5L	1.00	9644	3	19:10-19:25	Circ & Accumulate Surveys - @ 9789	0.25	9832	3
10:45-11:00	Circ & Accumulate Surveys - 9601' 83.1/183.1	0.25	9644	3	19:25-19:55	Rotating With Motor	0.50	9863	3
11:00-12:00	Orienting With Motor - 16' @ 5L	1.00	9660	3	19 55-20:10	Circ & Accumulate Surveys - @ 9820	0.25	9863	3
12:00-12:10	Circ & Accumulate Surveys - 9617' 85.2/182.6	0.17	9660	3	20:10-20:40	Rotating With Motor	0.50	9894	3
12:10-13:10	Orienting With Motor - 15' @ 45L	1.00	9675	3	20:40-20:55	Circ & Accumulate Surveys - @ 9851	0.25	9894	3
13:10-13:25	Circ & Accumulate Surveys - 9632' 87.5/181.5	0.25	9675	3	20 55-21:40	Rotating With Motor	0.75	9926	3
13:25-14:00	Orienting With Motor - 10' @ 70L	0.58	9685	3	21:40-21:50	Circ & Accumulate Surveys - @ 9883	0.17	9926	3
14:00-14:20	Rotating With Motor - WOB=5K RPM=40	0.33	9707	3	21:50-22:35	Rotating With Motor	0.75	9958	3
14 20-14:30	Circ & Accumulate Surveys - 9664' 92.3/181.0	0.17	9707	3	22:35-22:50	Circ & Accumulate Surveys - @ 9915	0.25	9958	3
14:30-15:35	Orienting With Motor - 20' @ 140L	1.08	9727	3	22:50-23 30	Rotating With Motor	0.67	9990	3
15:35-15:45	Rotating With Motor - WOB=5K RPM=40	0.17	9738	3	23:30-23:45	Circ & Accumulate Surveys - @ 9947	0.25	9990	3
15:45-16:00	Circ & Accumulate Surveys - 9695' 94.5/178.9	0.25	9738	3	23:45-24:00	Rotating With Motor	0.25	10000	3
16:00-16 25	Rotating With Motor - WOB=5K RPM=40	0.42	9769	3			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 10.42 ORIENTING HRS: 0.00 ROTARY DRILL: 0.00
 TIME DRILL: 0.00 ROTATING HRS: 0.00 MOTOR HRS: 13.92
 MOTOR REAM: 0.00 TRIP: 5.75
 CIRC: 3.50 ROTARY DRILL: 0.00 OTHER: 4.33
 MOTOR HRS: 13.92 DRILL HRS: 10.42 TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: STRING WEIGHT 104000 lbs
 WOB SLIDING (HI): 14000 lbf WOB ROTATE (HI): 8000 lbf
 WOB SLIDING (LO): 10000 lbf WOB ROTATE (LO): 5000 lbf
 RPM (ROTARY): 40 rpm DRAG UP: 6000 lbf
 RPM (MOTOR): 175 rpm DRAG DN: 3000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2 HOLE SIZE: 4.75 in
 MANFCT.: Wft-PES STABILIZER: No
 SETTING: 2.38 ° KICKPAD: No
 MANFCT: Hughes BIT TYPE: Tri-Cone Bit
 IADC BIT GRADE: 8 / 8 / BT / A / E / 1 / BT / BHA

SECTION TYPE: Curve
 SERIAL#: 375-724
 SIZE: 3 3/4" (95mm)
 TYPE: STX-30C

SURVEY TYPE: Positive Pulse MWD
 MODEL: LN7823 LOBE CFG.: 7/8
 MTR HRS THIS DAY: 0 MTR HRS TO DATE: 42.083333333
 NOZZLES: 16, 16, 16, n/a: 0.589 in² TFA

BHA: 3 HOLE SIZE: 4.75 in
 MANFCT.: Wft-PES STABILIZER: No
 SETTING: 1.83 ° KICKPAD: No
 MANFCT: Hughes BIT TYPE: PDC Bit
 IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD

SECTION TYPE: Lateral
 SERIAL#: 375-2518
 SIZE: 3 3/4" (95mm)
 TYPE: HC306 Z

SURVEY TYPE: Positive Pulse MWD
 MODEL: ME7867 LOBE CFG.: 7/8
 MTR HRS THIS DAY: 13.916666666 MTR HRS TO DATE: 13.916666666
 NOZZLES: 0.768 in² TFA

**Weatherford**

Daily Activity Report

Drilling Services
v4 2 2674

Day 8 - 2008/06/21

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis
 DIR Supervisor: Jay Vinson, Michael Williamson
 MWD Supervisor: Craig Harrison, Jesse Koves
 MWD Trainee: Blake Darden

GROUND ELEV: 3782 ft START DEPTH: 10000.0 ft PROGRESS: 505.0 ft DAILY COST: USD\$12020.00
 KB ELEV: 3803 ft END DEPTH: 10505.0 ft AVG. ROP.: 25.4 ft/hr PREVIOUS COST: USD\$77585.00
 TOTAL COST: USD\$89605.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:20	Rotating With Motor	0.33	10021	3	09:45-10:00	Circ & Accumulate Surveys - 10228' 92.9/172.4	0.25	10271	3
00:20-00:35	Circ & Accumulate Surveys - @ 9978	0.25	10021	3	10:00-11:15	Orienting With Motor - 17' @ 100R	1.25	10288	3
00:35-01:30	Orienting With Motor - 10' HS	0.92	10031	3	11:15-11:40	Rotating With Motor - same parameters	0.42	10303	3
01:30-02:00	Rotating With Motor	0.50	10052	3	11:40-11:50	Circ & Accumulate Surveys - 10260' 92.6/172.6	0.17	10303	3
02:00-02:15	Circ & Accumulate Surveys - @ 10009	0.25	10052	3	11:50-13:15	Rotating With Motor - same parameters	1.42	10334	3
02:15-02:50	Rotating With Motor	0.58	10084	3	13:15-13:25	Circ & Accumulate Surveys - 10291' 91.4/174.9	0.17	10334	3
02:50-03:05	Circ & Accumulate Surveys - @ 10041	0.25	10084	3	13:25-14:40	Rotating With Motor - same parameters	1.25	10365	3
03:05-04:05	Orienting With Motor	1.00	10097	3	14:40-14:50	Circ & Accumulate Surveys - 10322' 90.8/174.5	0.17	10365	3
04:05-04:35	Rotating With Motor	0.50	10115	3	14:50-16:25	Orienting With Motor - 17' @ 60R	1.58	10382	3
04:35-04:50	Circ & Accumulate Surveys - @ 10072	0.25	10115	3	16:25-16:55	Rotating With Motor - same parameters	0.50	10397	3
04:50-05:30	Rotating With Motor	0.67	10146	3	16:55-17:10	Circ & Accumulate Surveys - 10354' 90.8/173.8	0.25	10397	3
05:30-05:45	Circ & Accumulate Surveys - 10103' 92.9/172.6	0.25	10146	3	17:10-18:30	Rotating With Motor - WOB=5K RPM=28	1.33	10429	3
05:45-06:15	Other - See Comments - gamma relog	0.50	10146	3	18:30-18:45	Circ & Accumulate Surveys - 10386'	0.25	10429	3
06:15-07:10	Rotating With Motor - WOB=7K RPM=30	0.92	10177	3	18:45-20:25	Rotating With Motor	1.67	10460	3
07:10-07:20	Circ & Accumulate Surveys - 10134' 93.1/172.7	0.17	10177	3	20:25-20:40	Circ & Accumulate Surveys - @ 10417	0.25	10460	3
07:20-08:00	Rotating With Motor - WOB=7K RPM=30	0.67	10208	3	20:40-22:40	Orienting With Motor - 22' 70R	2.00	10482	3
08:00-08:15	Circ & Accumulate Surveys - 10165' 93.0/172.9	0.25	10208	3	22:40-23:05	Rotating With Motor	0.42	10491	3
08:15-09:00	Rotating With Motor - WOB=7K RPM=30	0.75	10239	3	23:05-23:20	Circ & Accumulate Surveys - @ 10448	0.25	10491	3
09:00-09:10	Circ & Accumulate Surveys - 10196' 93.0/172.6	0.17	10239	3	23:20-24:00	Rotating With Motor	0.67	10505	3
09:10-09:45	Rotating With Motor - same parameters	0.58	10271	3			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 19.92 ORIENTING HRS: 6.75 ROTARY DRILL: 0.00
 TIME DRILL: 0.00 ROTATING HRS: 13.17 MOTOR HRS: 23.50
 MOTOR REAM: 0.00 TRIP: 0.00
 CIRC: 3.58 ROTARY DRILL: 0.00 OTHER: 0.50
 MOTOR HRS: 23.50 DRILL HRS: 19.92 TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: STRING WEIGHT 104000 lbs
 WOB SLIDING (HI): 24000 lbf WOB ROTATE (HI): 7000 lbf
 WOB SLIDING (LO): 18000 lbf WOB ROTATE (LO): 5000 lbf
 RPM (ROTARY): 55 rpm DRAG UP: 9000 lbf
 RPM (MOTOR): 175 rpm DRAG DN: 6000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3 HOLE SIZE: 4.75 in SECTION TYPE: Lateral SURVEY TYPE: Positive Pulse MWD
 MANFCT.: Wft-PES STABILIZER: No SERIAL#: 375-2518 MODEL: ME7867 LOBE CFG.: 7/8
 SETTING: 1.83 ° KICKPAD: No SIZE: 3 3/4" (95mm) MTR HRS THIS DAY: 23.5 MTR HRS TO DATE: 37.416666666
 MANFCT: Hughes BIT TYPE: PDC Bit TYPE: HC306 Z NOZZLES: 0.768 in² TFA
 IADC BIT GRADE: 1 / 1 / NO / A / X / 1 / NO / TD

**Weatherford**

Daily Activity Report

Drilling Services
v4 2 2674

Day 8 - 2008/06/21

PUMP PARAMETERS

PRESSURE ON BTM: 2000

PRESSURE OFF BTM: 1750

TOTAL FLOW RATE: 109.97 gal/min

PUMP 1: TYPE: PZ-7

EFF.: 95.0%

SPM: 88.00

LINER: 4.50 in

STROKE VOL.: 1.3154 gal/stk

PUMP 2: TYPE: PZ-7

EFF.: 95.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

PUMP 3: TYPE:

EFF.: 100.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt

VISC: 28 sec/qt

WTR LOSS: 0 cc/30min

PV: 1 cP

YP: 1 lb/100 ft²

pH: 10

DENSITY: 8.5 lb/gal

GEL 0/10: 0.00 lb/100 ft²

SAND: 0

SOLIDS: 0.2

OIL: 0

TEMP: 0 °F

LIQUID BASE: Water

LIQUID RATE: 0 gal/min

GAS TYPE:

GAS RATE: 0 cu ft/min

COMMENTS:

Drilling ahead as per well plan.

CUSTOMER SIGNATURE:

**Weatherford**

Daily Activity Report

Drilling Services

v4.2 2674

Day 9 - 2008/06/22

FILE #: 4014560

JOB TYPE: Horizontal

RIG & NO: Key #482

WELL NAME: Antero 12 Fee #5

COMPANY: Cimarex Energy Company

SURFACE LOCATION: S12-15S-37E

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Lea County / New Mexico / USA

Company Man: Lee Mermis

DIR Supervisor: Jay Vinson, Michael Williamson

MWD Supervisor: Craig Harrison, Jesse Koves

MWD Trainee: Blake Darden

GROUND ELEV: 3782 ft

START DEPTH: 10505.0 ft

PROGRESS: 441.0 ft

DAILY COST: USD\$12020.00

KB ELEV: 3803 ft

END DEPTH: 10946.0 ft

AVG. ROP.: 22.7 ft/hr

PREVIOUS COST: USD\$89605.00

TOTAL COST: USD\$101625.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:00	Rotating With Motor	1.00	10523	3	13:05-14:15	Rotating With Motor - WOB=5K RPM=55	1.17	10775	3
01:00-01:15	Circ & Accumulate Surveys - @ 10480	0.25	10523	3	14:15-14:30	Circ & Accumulate Surveys - 10732' 92 7/177.0	0.25	10775	3
01:15-02:45	Rotating With Motor	1.50	10555	3	14:30-17:00	Orienting With Motor - 20' @ 160R	2.50	10795	3
02:45-03:00	Circ & Accumulate Surveys - @ 10512	0.25	10555	3	17:00-17:40	Rotating With Motor - WOB=6K RPM=40	0.67	10807	3
03:00-04:50	Rotating With Motor	1.83	10587	3	17:40-17:55	Circ & Accumulate Surveys - 10764'	0.25	10807	3
04:50-05:05	Circ & Accumulate Surveys - @ 10544	0.25	10587	3	17:55-17:55	Circ & Accumulate Surveys - @ 10764	0.00	10807	3
05:05-06:15	Rotating With Motor - same parameters	1.17	10618	3	17:55-18:55	Rotating With Motor	1.00	10838	3
06:15-06:30	Circ & Accumulate Surveys - 10575' 91 4/177.7	0.25	10618	3	18:55-19:10	Circ & Accumulate Surveys - @ 10795	0.25	10838	3
06:30-08:00	Rotating With Motor - WOB=5K RPM=30	1.50	10650	3	19:10-20:10	Rotating With Motor	1.00	10869	3
08:00-08:15	Circ & Accumulate Surveys - 10607' 91.3/177.7	0.25	10650	3	20:10-20:25	Circ & Accumulate Surveys - @ 10826	0.25	10869	3
08:15-09:45	Rotating With Motor - same parameters	1.50	10681	3	20:25-21:15	Rotating With Motor	0.83	10901	3
09:45-10:00	Circ & Accumulate Surveys - 10638' 91.7/177.7	0.25	10681	3	21:15-21:40	Circ & Accumulate Surveys - @ 10858	0.42	10901	3
10:00-11:25	Rotating With Motor - same parameters	1.42	10712	3	21:40-22:30	Rotating With Motor	0.83	10932	3
11:25-11:40	Circ & Accumulate Surveys - 10669' 91.8/177.3	0.25	10712	3	22:30-23:20	Wait On Weather	0.83	10932	3
11:40-12:50	Rotating With Motor - WOB=5K RPM=40	1.17	10744	3	23:20-23:40	Circ & Accumulate Surveys - @ 10889	0.33	10932	3
12:50-13:05	Circ & Accumulate Surveys - 10701' 92 2/177.5	0.25	10744	3	23:40-24:00	Rotating With Motor	0.33	10946	3

TIME SUMMARY (hrs):

MOTOR DRILL: 19.42	ORIENTING HRS: 2.50	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 16.92	MOTOR HRS: 23.17
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 3.75	ROTARY DRILL: 0.00	OTHER: 0.83
MOTOR HRS: 23.17	DRILL HRS: 19.42	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT 0 lbs
WOB SLIDING (HI): 20000 lbf	WOB ROTATE (HI): 5000 lbf
WOB SLIDING (LO): 15000 lbf	WOB ROTATE (LO): 3000 lbf
RPM (ROTARY): 30 rpm	DRAG UP: 9000 lbf
RPM (MOTOR): 175 rpm	DRAG DN: 6000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 4.75 in	SECTION TYPE: Lateral	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Wft-PES	STABILIZER: No	SERIAL#: 375-2518	MODEL: ME7867
SETTING: 1.83 °	KICKPAD: No	SIZE: 3 3/4" (95mm)	LOBE CFG.: 7/8
MANFCT: Hughes	BIT TYPE: PDC Bit	TYPE: HC306 Z	MTR HRS THIS DAY: 23.16666667
IADC BIT GRADE: 1 / 1 / NO / A / X / 1 / NO / TD			HRS TO DATE: 60.58333333
			NOZZLES: 0.768 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 2000	PRESSURE OFF BTM: 1750	TOTAL FLOW RATE: 117.64 gal/min
PUMP 1: TYPE: PZ-7	EFF.: 95.0% SPM: 90.00	LINER: 4.50 in
PUMP 2: TYPE: PZ-7	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in
		STROKE VOL.: 1.3759 gal/stk
		STROKE VOL.: 0.0000 gal/stk
		STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Brine or Salt	VISC: 28 sec/qt	WTR LOSS: 0 cc/30min	PV: 1 cP	YP: 1 lb/100 ft ²	pH: 10
DENSITY: 8.5 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0.2	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min



Weatherford

Daily Activity Report

Drilling Services
v4 2 2674

Day 9 - 2008/06/22

COMMENTS:

Drill-ahead as per well plan.

CUSTOMER SIGNATURE:

**Weatherford**

Daily Activity Report

Day 10 - 2008/06/23**Drilling Services**
v4.2 2674**FILE #:** 4014560**JOB TYPE:** Horizontal**RIG & NO:** Key #482**WELL NAME:** Antero 12 Fee #5**COMPANY:** Cimarex Energy Company**SURFACE LOCATION:** S12-15S-37E**SERVICE CO.:** Weatherford Directional Services**SURVEY TYPE:** Positive Pulse MWD**FIELD / LOCATION:** Lea County / New Mexico / USA**Company Man:** Lee Mermis**DIR Supervisor:** Jay Vinson, Michael Williamson**MWD Supervisor:** Craig Harrison, Jesse Koves**MWD Trainee:** Blake Darden**GROUND ELEV:** 3782 ft**START DEPTH:** 10946.0 ft**PROGRESS:** 217.0 ft**DAILY COST:** USD\$17050.00**KB ELEV:** 3803 ft**END DEPTH:** 11163.0 ft**AVG. ROP.:** 43.4 ft/hr**PREVIOUS COST:** USD\$101625.00**TOTAL COST:** USD\$118675.00**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:20	Rotating With Motor	0.33	10964	3	05:25-05:35	Circ & Accumulate Surveys - @ 11079	0.17	11122	3
00:20-00:35	Circ & Accumulate Surveys - @ 10921	0.25	10964	3	05:35-06:05	Rotating With Motor	0.50	11153	3
00:35-01:15	Rotating With Motor	0.67	10995	3	06:05-06:15	Circ & Accumulate Surveys - 11110' 89.6/176.8	0.17	11153	3
01:15-01:30	Circ & Accumulate Surveys - @ 10952	0.25	10995	3	06:15-06:30	Rotating With Motor - same parameters	0.25	11163	3
01:30-02:05	Rotating With Motor	0.58	11027	3	06:30-06:40	Circ & Accumulate Surveys - 11120' 89.6/176.8	0.17	11163	3
02:05-02:20	Circ & Accumulate Surveys - @ 10984	0.25	11027	3	06:40-07:00	Circ & Condition Hole	0.33	11163	3
02:20-03:10	Orienting With Motor	0.83	11041	3	07:00-09:00	POOH, Lay Down DP - TOH L/D DP	2.00	11163	3
03:10-03:45	Rotating With Motor	0.58	11059	3	09:00-15:00	POOH - See Comments - TOH to L/D BHA #3	6.00	11163	3
03:45-03:55	Circ & Accumulate Surveys - @ 11016	0.17	11059	3	15:00-16:30	Lay Down Directional Tools	1.50	11163	3
03:55-04:25	Rotating With Motor	0.50	11091	3	16:30-17:30	Handle Directional Tools	1.00	11163	3
04:25-04:40	Circ & Accumulate Surveys - @ 11048	0.25	11091	3	17:30-24:00	Travel Home	6.50	11163	3
04:40-05:25	Rotating With Motor	0.75	11122	3			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 5.00
TIME DRILL: 0.00
MOTOR REAM: 0.00
CIRC: 2.00
MOTOR HRS: 7.00

ORIENTING HRS: 0.83
ROTATING HRS: 4.17
ROTARY DRILL: 0.00
ROTARY DRILL: 0.00
DRILL HRS: 5.00

ROTARY DRILL: 0.00
MOTOR HRS: 7.00
TRIP: 6.00
OTHER: 11.00
TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE:
WOB SLIDING (HI): 20000 lbf
WOB SLIDING (LO): 15000 lbf
RPM (ROTARY): 50 rpm
RPM (MOTOR): 175 rpm

STRING WEIGHT 105000 lbs
WOB ROTATE (HI): 7000 lbf
WOB ROTATE (LO): 5000 lbf
DRAG UP: 10000 lbf
DRAG DN: 7000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3
MANFCT.: Wft-PES
SETTING: 1.83 °
MANFCT: Hughes
IADC BIT GRADE: 1 / 1 / NO / A / X / I / NO / TD

HOLE SIZE: 4.75 in
STABILIZER: No
KICKPAD: No
BIT TYPE: PDC Bit

SECTION TYPE: Lateral
SERIAL#: 375-2518
SIZE: 3 3/4" (95mm)
TYPE: HC306 Z

SURVEY TYPE: Positive Pulse MWD
MODEL: ME7867
MTR HRS THIS DAY: 7
NOZZLES: 0.768 in² TFA
LOBE CFG.: 7/8
MTR HRS TO DATE: 67.583333333

PUMP PARAMETERS**PRESSURE ON BTM:** 2000**PRESSURE OFF BTM:** 1750**TOTAL FLOW RATE:** 117.64 gal/min**PUMP 1:** TYPE: PZ-7**EFF.:** 95.0%**SPM:** 90.00**LINER:** 4.50 in**STROKE VOL.:** 1.3759 gal/stk**PUMP 2:** TYPE: PZ-7**EFF.:** 95.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk**PUMP 3:** TYPE:**EFF.:** 100.0%**SPM:** 0.00**LINER:** 0.00 in**STROKE VOL.:** 0.0000 gal/stk**MUD RECORD****MUD TYPE:** Brine or Salt**VISC:** 28 sec/qt**WTR LOSS:** 0 cc/30min**PV:** 1 cP**YP:** 1 lb/100 ft²**pH:** 10**DENSITY:** 8.5 lb/gal**GEL 0/10:** 0.00 lb/100 ft²**SAND:** 0.2**SOLIDS:** 0**OIL:** 0**TEMP:** 0 °F**LIQUID BASE:** Water**LIQUID RATE:** 0 gal/min**GAS TYPE:****GAS RATE:** 0 cu ft/min**COMMENTS:**

Drill ahead as per well plan. Nearing our TD point lacking approx. 34 ft. to TD.

06:30 a.m. TD'ed well @ MD 11163.

15:00 p.m. Layed down directional tools.



Daily Activity Report

Drilling Services
v4 2 2674

Day 10 - 2008/06/23

CUSTOMER SIGNATURE: _____