



COTTON DRAW UNIT 164H

WEST UNRESTRICTED

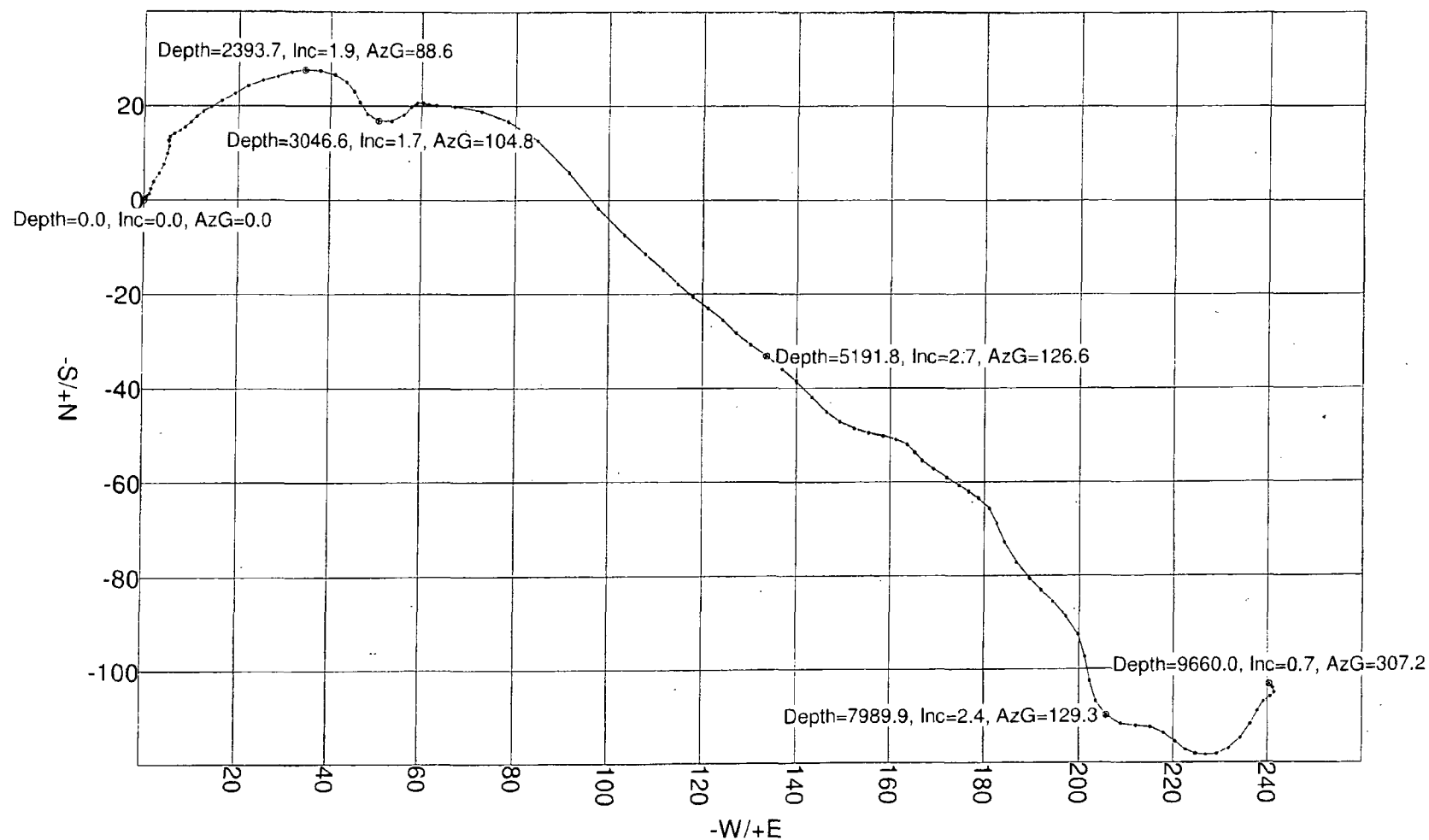
Perforation Summary

15-39376

District		County		Field Name		Project Group		State/Province							
PERMIAN BASIN		EDDY		PADUCA		DELAWARE BASIN		NM							
Surface Legal Location		API/UWI		Latitude (°)		Longitude (°)		Ground Elev MSL (ft)		KB - Ground Level (ft)		Orig KB Elevation (ft)		Tubing Head Elevation (ft)	
SEC11 T25S R31E		3001539376		32° 9' 4.507" N		103° 44' 47.447" W		3,433.70		25.00		3,458.70			
Date	Zone	Top (ftKB)	Top (TVD) (ftKB)	9in (ftKB)	8in (TVD) (ftKB)	Current Status	Carrier Des	Gun Size (in)	Charge Type	Chg Sz (g)	Shot Dens (shots/ft)	Phasing (°)	Conveyance Method		
6/5/2013	BONE SPRING 2ND, OH	10,760.0	10,366.8	10,762.0	10,366.9			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/5/2013	BONE SPRING 2ND, OH	10,880.0	10,372.0	10,882.0	10,372.1			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/5/2013	BONE SPRING 2ND, OH	11,000.0	10,375.5	11,002.0	10,375.5			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/5/2013	BONE SPRING 2ND, OH	11,120.0	10,376.5	11,122.0	10,376.4			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/5/2013	BONE SPRING 2ND, OH	11,240.0	10,376.4	11,242.0	10,376.5			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/5/2013	BONE SPRING 2ND, OH	11,360.0	10,377.1	11,362.0	10,377.1			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/5/2013	BONE SPRING 2ND, OH	11,480.0	10,378.6	11,482.0	10,378.6			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/5/2013	BONE SPRING 2ND, OH	11,600.0	10,379.5	11,602.0	10,379.5			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/5/2013	BONE SPRING 2ND, OH	11,720.0	10,378.8	11,722.0	10,378.8			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	11,840.0	10,379.5	11,842.0	10,379.5			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	11,960.0	10,384.3	11,962.0	10,384.4			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	12,080.0	10,393.9	12,082.0	10,394.1			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	12,200.0	10,402.3	12,202.0	10,402.4			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	12,320.0	10,406.5	12,322.0	10,406.6			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	12,440.0	10,407.2	12,442.0	10,407.2			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	12,560.0	10,406.0	12,562.0	10,405.9			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	12,680.0	10,405.1	12,682.0	10,405.1			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	12,800.0	10,404.2	12,802.0	10,404.2			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	12,920.0	10,404.1	12,922.0	10,404.1			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	13,040.0	10,408.6	13,042.0	10,408.7			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/4/2013	BONE SPRING 2ND, OH	13,160.0	10,413.6	13,162.0	10,413.7			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/3/2013	BONE SPRING 2ND, OH	13,280.0	10,421.2	13,282.0	10,421.4			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/3/2013	BONE SPRING 2ND, OH	13,400.0	10,429.9	13,402.0	10,430.1			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/3/2013	BONE SPRING 2ND, OH	13,520.0	10,438.4	13,522.0	10,438.5			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/3/2013	BONE SPRING 2ND, OH	13,640.0	10,443.7	13,642.0	10,443.8			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/3/2013	BONE SPRING 2ND, OH	13,760.0	10,444.1	13,762.0	10,444.1			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
6/3/2013	BONE SPRING 2ND, OH	13,880.0	10,444.2	13,882.0	10,444.2			3 1/8	SHAPED	23.0	6.0	60	WIRELINE		
5/31/2013	BONE SPRING 2ND, OH	14,000.0	10,443.7	14,002.0	10,443.7			3 1/8	SHAPED	23.0	6.0	60	TUBING		
5/31/2013	BONE SPRING 2ND, OH	14,100.0	10,441.5	14,102.0	10,441.5			3 1/8	SHAPED	23.0	6.0	60	TUBING		
5/31/2013	BONE SPRING 2ND, OH	14,200.0	10,439.7	14,202.0	10,439.7			3 1/8	SHAPED	23.0	6.0	60	TUBING		
5/31/2013	BONE SPRING 2ND, OH	14,300.0	10,438.3	14,302.0	10,438.3			3 1/8	SHAPED	23.0	6.0	60	TUBING		



Vaughn Energy Services
Midland, Texas
432-563-5444
Surveyor: Tim Dillon
Cotton Draw Unit No 164H / API 30-015-39376



VES Survey Date: 05/02/2013



Company: Devon Energy Production Company

Lease/Well: Cotton Draw Unit /No 164H

Rig Name: H&P 214

State/County: New Mexico/Eddy

Latitude: 32.15, Longitude: -103.75

GRID North is 0.31 Degrees East of True North

VS-Azi: 179.67 Degrees



Depth Reference : RKB= 25'

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: drop survey.ut

Minimum Curvature Method

Report Date/Time: 9/20/2013 / 08:27

Vaughn Energy Services

Midland, Texas

432-563-5444

Surveyor: Tim Dillon

Cotton Draw Unit No 164H / API 30-015-39376

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
155.19	0.36	27.16	155.19	0.44	0.22	-0.44	0.49	27.16	0.23
248.46	0.41	66.83	248.46	0.83	0.66	-0.83	1.06	38.61	0.28
341.73	0.53	24.48	341.72	1.35	1.15	-1.35	1.77	40.29	0.38
435.00	0.89	14.64	434.99	2.44	1.51	-2.43	2.87	31.66	0.41
528.27	1.14	24.13	528.24	3.99	2.07	-3.98	4.50	27.40	0.32
621.54	1.38	38.07	621.49	5.72	3.14	-5.71	6.53	28.77	0.42
714.81	1.36	16.61	714.73	7.67	4.15	-7.65	8.72	28.43	0.55
808.08	1.47	22.41	807.98	9.84	4.93	-9.81	11.01	26.59	0.19
901.35	0.73	359.97	901.23	11.54	5.38	-11.51	12.73	25.00	0.90
994.62	0.75	342.20	994.49	12.71	5.20	-12.68	13.73	22.23	0.25
1087.89	0.67	55.74	1087.75	13.60	5.46	-13.57	14.65	21.87	0.91
1181.16	0.81	61.97	1181.02	14.21	6.49	-14.18	15.62	24.53	0.17
1274.43	0.76	62.01	1274.28	14.81	7.62	-14.77	16.66	27.21	0.05
1367.70	0.86	43.73	1367.54	15.61	8.65	-15.56	17.85	28.99	0.30
1460.97	1.04	53.15	1460.80	16.63	9.81	-16.57	19.30	30.55	0.25
1554.24	1.08	36.87	1554.05	17.83	11.01	-17.77	20.96	31.70	0.32
1647.51	1.05	67.18	1647.31	18.87	12.33	-18.80	22.54	33.15	0.60
1740.78	1.56	53.62	1740.55	19.95	14.13	-19.87	24.45	35.31	0.64
1834.05	1.71	65.64	1833.78	21.28	16.42	-21.18	26.88	37.66	0.40
1927.32	2.03	59.57	1927.00	22.69	19.12	-22.58	29.67	40.12	0.40

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
2020.59	2.03	59.37	2020.21	24.37	21.96	-24.24	32.81	42.03	0.01
2113.86	2.26	81.40	2113.42	25.49	25.21	-25.34	35.84	44.68	0.91
2207.13	1.88	69.84	2206.63	26.29	28.46	-26.12	38.74	47.27	0.61
2300.40	1.93	74.88	2299.85	27.22	31.42	-27.04	41.57	49.09	0.19
2393.67	1.93	88.57	2393.07	27.67	34.51	-27.48	44.23	51.27	0.49
2486.94	2.12	96.73	2486.28	27.51	37.79	-27.29	46.74	53.94	0.36
2580.21	2.03	113.61	2579.49	26.65	41.01	-26.41	48.91	56.99	0.66
2673.48	1.71	133.31	2672.71	25.03	43.54	-24.78	50.22	60.11	0.76
2766.75	1.44	144.82	2765.94	23.11	45.23	-22.85	50.80	62.93	0.44
2860.02	1.66	159.46	2859.18	20.89	46.39	-20.62	50.87	65.76	0.48
2953.29	2.09	134.62	2952.40	18.42	48.07	-18.15	51.48	69.03	0.98
3046.56	1.72	104.76	3045.62	16.87	50.64	-16.58	53.38	71.57	1.12
3139.83	1.81	76.24	3138.85	16.86	53.42	-16.56	56.02	72.48	0.94
3233.10	1.81	50.19	3232.07	18.16	55.98	-17.83	58.85	72.03	0.87
3326.37	1.17	36.88	3325.31	19.86	57.69	-19.53	61.01	71.00	0.78
3419.64	0.88	79.33	3418.57	20.76	58.96	-20.42	62.51	70.61	0.85
3512.91	0.88	109.59	3511.83	20.65	60.35	-20.30	63.78	71.11	0.49
3606.18	0.70	102.00	3605.09	20.29	61.59	-19.93	64.84	71.77	0.22
3699.45	1.26	87.87	3698.35	20.21	63.17	-19.84	66.32	72.26	0.64
3792.72	3.57	95.44	3791.53	19.97	67.09	-19.58	70.00	73.42	2.50
3885.99	3.56	105.17	3884.62	18.94	72.77	-18.52	75.20	75.41	0.65
3979.26	4.09	114.69	3977.68	16.79	78.58	-16.34	80.36	77.94	0.88
4072.53	5.22	128.65	4070.64	12.75	84.92	-12.26	85.87	81.46	1.71
4165.80	6.52	141.49	4163.43	5.96	91.53	-5.43	91.72	86.27	1.98
4259.07	5.58	138.47	4256.18	-1.58	97.83	2.14	97.84	90.92	1.07
4352.34	4.30	133.63	4349.10	-7.39	103.37	7.98	103.63	94.09	1.44
4445.61	3.09	130.61	4442.17	-11.44	107.81	12.06	108.41	96.06	1.31
4538.88	2.99	132.27	4535.31	-14.71	111.52	15.35	112.48	97.51	0.15
4632.15	2.65	133.14	4628.47	-17.82	114.89	18.48	116.26	98.81	0.37
4725.42	2.41	125.78	4721.65	-20.43	118.05	21.11	119.80	99.82	0.43
4818.69	2.57	128.54	4814.83	-22.88	121.28	23.58	123.42	100.69	0.22
4911.96	2.36	129.61	4908.01	-25.41	124.39	26.13	126.96	101.55	0.24
5005.23	2.45	138.21	5001.20	-28.12	127.20	28.85	130.27	102.47	0.40
5098.50	2.45	122.88	5094.39	-30.69	130.21	31.44	133.77	103.26	0.70
5191.77	2.69	126.58	5187.56	-33.08	133.64	33.85	137.67	103.90	0.31
5285.04	2.50	131.52	5280.74	-35.73	136.92	36.52	141.50	104.63	0.31
5378.31	2.59	132.70	5373.92	-38.51	139.99	39.31	145.19	105.38	0.11
5471.58	3.30	137.26	5467.06	-41.91	143.36	42.73	149.36	106.30	0.80
5564.85	2.11	131.25	5560.23	-45.01	146.47	45.86	153.23	107.08	1.31
5658.12	2.18	119.63	5653.43	-47.02	149.31	47.88	156.54	107.48	0.47
5751.39	2.11	110.49	5746.64	-48.50	152.45	49.38	159.98	107.65	0.37
5844.66	1.82	104.27	5839.85	-49.47	155.50	50.36	163.18	107.65	0.38

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5937.93	1.98	100.20	5933.07	-50.12	158.52	51.03	166.25	107.54	0.22
6031.20	1.60	109.86	6026.30	-50.84	161.32	51.77	169.14	107.49	0.52
6124.47	1.61	121.82	6119.53	-51.98	163.66	52.92	171.71	107.62	0.36
6217.74	1.21	155.16	6212.77	-53.56	165.19	54.51	173.65	107.96	0.96
6311.01	1.77	130.30	6306.01	-55.38	166.69	56.34	175.65	108.38	0.90
6404.28	1.91	118.60	6399.23	-57.06	169.16	58.03	178.52	108.64	0.43
6497.55	2.29	124.38	6492.44	-58.85	172.06	59.84	181.85	108.88	0.46
6590.82	1.59	123.88	6585.66	-60.63	174.67	61.63	184.90	109.14	0.74
6684.09	1.36	120.20	6678.90	-61.91	176.71	62.92	187.24	109.31	0.27
6777.36	1.82	126.48	6772.13	-63.35	178.86	64.37	189.74	109.50	0.53
6870.63	2.06	141.93	6865.35	-65.55	181.08	66.59	192.58	109.90	0.61
6963.90	2.37	162.87	6958.55	-68.71	182.68	69.76	195.18	110.61	0.92
7057.17	2.97	155.46	7051.72	-72.75	184.25	73.81	198.10	111.55	0.74
7150.44	3.25	143.52	7144.85	-77.08	186.83	78.15	202.11	112.42	0.76
7243.71	2.13	139.12	7238.02	-80.51	189.54	81.60	205.93	113.01	1.23
7336.98	2.04	134.00	7331.23	-82.97	191.86	84.08	209.03	113.39	0.22
7430.25	2.33	135.93	7424.43	-85.49	194.37	86.60	212.34	113.74	0.32
7523.52	2.96	138.04	7517.60	-88.64	197.30	89.77	216.29	114.19	0.68
7616.79	2.93	155.40	7610.75	-92.59	199.90	93.74	220.30	114.85	0.95
7710.06	3.25	170.76	7703.88	-97.36	201.31	98.52	223.62	115.81	0.95
7803.33	3.11	168.64	7797.01	-102.45	202.24	103.61	226.70	116.87	0.19
7896.60	2.51	157.09	7890.17	-106.81	203.53	107.98	229.86	117.69	0.88
7989.87	2.43	129.30	7983.35	-109.95	205.85	111.13	233.37	118.11	1.27
8083.14	2.04	108.23	8076.55	-111.72	208.96	112.92	236.95	118.13	0.97
8176.41	1.94	86.08	8169.77	-112.13	212.11	113.35	239.92	117.86	0.83
8269.68	1.89	105.76	8262.99	-112.44	215.17	113.68	242.78	117.59	0.70
8362.95	2.00	120.16	8356.21	-113.68	218.06	114.93	245.91	117.53	0.54
8456.22	1.73	134.79	8449.43	-115.49	220.47	116.75	248.89	117.65	0.59
8549.49	1.66	122.20	8542.66	-117.20	222.61	118.48	251.58	117.77	0.40
8642.76	1.31	101.55	8635.90	-118.13	224.80	119.42	253.95	117.72	0.68
8736.03	1.44	94.38	8729.14	-118.43	227.01	119.74	256.05	117.55	0.23
8829.30	1.48	74.27	8822.38	-118.20	229.34	119.51	258.01	117.27	0.55
8922.57	1.94	57.97	8915.61	-117.03	231.83	118.37	259.70	116.79	0.71
9015.84	2.24	39.27	9008.82	-114.79	234.32	116.14	260.93	116.10	0.79
9109.11	2.24	29.88	9102.02	-111.80	236.38	113.16	261.49	115.31	0.39
9202.38	1.65	25.69	9195.23	-109.01	237.87	110.38	261.66	114.62	0.65
9295.65	1.33	45.12	9288.47	-107.04	239.22	108.41	262.08	114.11	0.63
9388.92	0.98	60.92	9381.72	-105.88	240.69	107.27	262.95	113.75	0.51
9482.19	0.64	15.46	9474.98	-104.99	241.52	106.38	263.36	113.50	0.75
9575.46	0.81	320.51	9568.25	-103.98	241.24	105.37	262.70	113.32	0.74
9660.00	0.71	307.21	9652.78	-103.20	240.44	104.58	261.66	113.23	0.24



Weatherford

**DRILLING SERVICES
END OF WELL REPORT
FOR
John Logemann
Devon Energy
Cotton Draw Unit 164H
Eddy County, New Mexico**

Weatherford Drilling Services job start date : 4-30-2013

Weatherford Drilling Services job end date : 5-22-2013

Presented By:

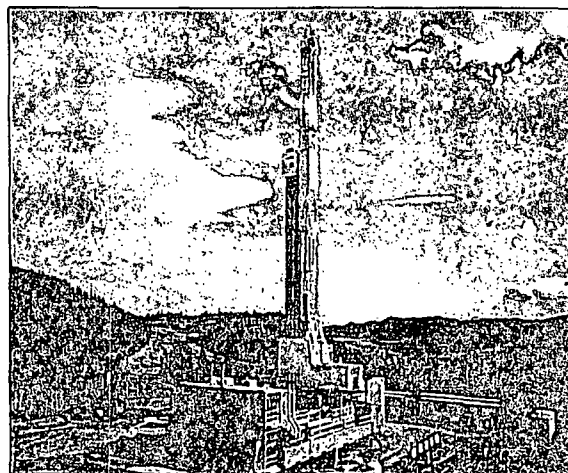
Damien Tarpley
Area Manager

Scott Dixon
Account Manager

Orry Armendariz
Directional Drilling Coordinator

Jesse Aguilar
MWD Coordinator

H&P 214





10000 West County Road 116
P.O. Box 61028
Midland, Texas 79711
Phone (432) 561-8892

May 29, 2013

John Logemann
333 W. Sherridan Ave
Oklahoma City, OK 73102

Reference Well Name : Cotton Draw Unit 164H
Location : Eddy County, New Mexico
Wft Job # : 4029310
Rig : H&P 214

Dear Mr. Logemann

Thank you for allowing us the opportunity to provide our services on your Cotton Draw Unit 164H in Eddy County, New Mexico.

Please find the final End Of Well (EOW) report enclosed behind this coverletter.

The EOW report contains the following information :

Section 1 - Weatherford (Wft) Final Definitive Survey & 8.5" x 11".

* Note: This survey contains the Directional Survey's obtained by Weatherford Drilling Services via Weatherford MWD Services, and any gyro survey needed for Tie On (if required).

Section 2- Days vs. Feet Drilled (24 hrs) and Days vs. Depth Graphs

Section 3- Wft Gamma Logs

Section 4 - Wft Final BHA reports (BHA Graphic Reports, BHA Detail Reports, Motor Evaluation Reports, and BHA Slide Reports).

Section 5 - Wft Final Daily Drilling reports.

Section 6 - Wft Personnel list with contact numbers.

We at *Weatherford Drilling Services'* understand the importance of this project to you and hope that you were satisfied with our Directional Drilling and MWD services provided.

Please feel free to contact me if you have any questions.

Sincerely,

Damien Tarpley
Area Manager
Weatherford Drilling Services
Midland, TX (432) 561-8892



Weatherford

Devon Energy
Cotton Draw Unit 164H
Eddy County, New Mexico

Section 1

Weatherford (Wft) Final Definitive

Plot & Survey

devon

Cotton Draw #164H
Eddy Co., New Mexico

KB ELEV: 3458
GL ELEV: 3433

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	11529.00	89.23	183.41	10379.21	-1537.15	165.95	0.00	0.00	1538.07	
2	11687.43	84.55	182.58	10387.81	-1695.08	157.68	3.00	190.02	1695.95	
3	11844.17	89.25	182.57	10396.28	-1851.39	150.66	3.00	-0.18	1852.22	
4	14623.03	89.25	182.57	10432.54	-4627.23	26.31	0.00	0.00	4627.30	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slut
#164H	0.00	0.00	419194.51	722955.98	32°09'03.892N	103°44'47.362W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Pbhl	10432.54	-4627.23	26.31	414567.28	722982.29	Rectangle (2934x50)

Survey: Wft Svy (#164H/1)

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
77	14620.00	89.65	181.21	10442.64	-4622.13	23.00	0.00	0.00	4622.18

SITE DETAILS

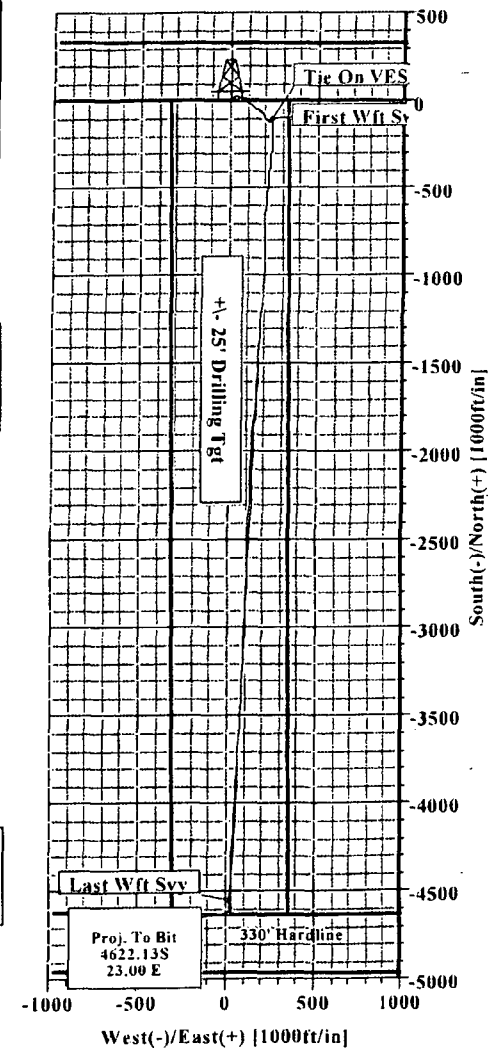
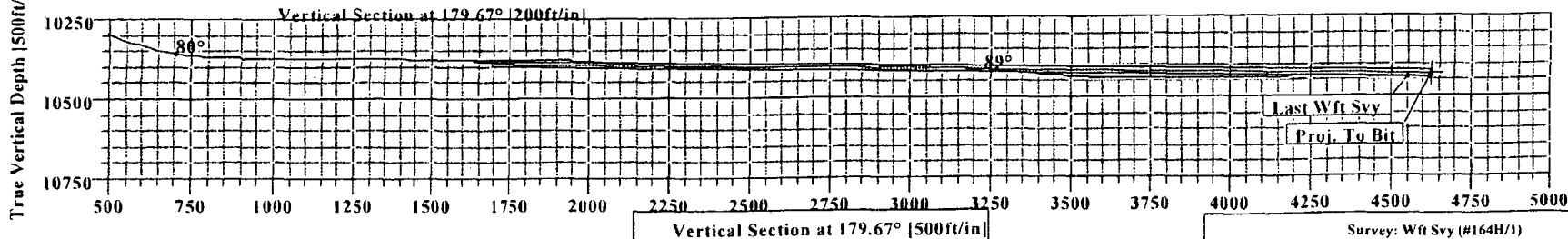
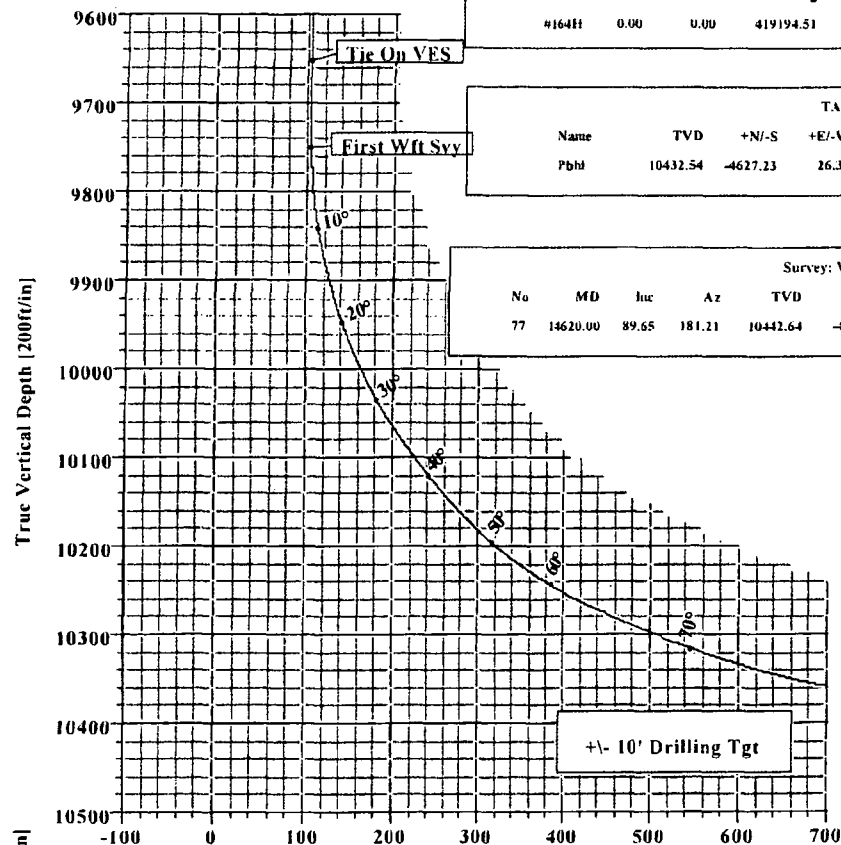
Cotton Draw Unit #164H
Site Centre Northing: 419194.51
Easting: 722955.98
Ground Level: 3433.00
Positional Uncertainty: 0.00
Convergence: 0.31

LEGEND

- #164H.1, Plan #5
- #164H.1, Gyro
- Wft Svy



Weatherford



Survey: Wft Svy (#164H/1)

Created By: Russell W. Joyner

Date: 5/15/2013



Weatherford

WFT Survey Report X & Y's



Weatherford

Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Cotton Draw Unit #164H
Well: #164H
Wellpath: 1
Date: 5/15/2013
Time: 07:29:06
Page: 1
Co-ordinate(NE) Reference: Well: #164H, Grid-North
Vertical(TVD) Reference: SITE 3458.0
Section (VS) Reference: Well (0.00N,0.00E,179.67Azi)
Survey Calculation Method: Minimum Curvature
Db: Sybase

Survey: Wft Svy
Start Date: 5/4/2013
Company: Weatherford
Tool: MWD/MWD - Standard
Engineer: Russell W. Joyner
Tied-to: User Defined

Site: Cotton Draw Unit #164H

Site Position: Northing: 419194.51 ft Latitude: 32 9 3.892 N
From: Map Easting: 722955.98 ft Longitude: 103 44 47.362 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 3433.00 ft Grid Convergence: 0.31 deg

Well: #164H Slot Name:
Well Position: +N/-S 0.00 ft Northing: 419194.51 ft Latitude: 32 9 3.892 N
+E/-W 0.00 ft Easting: 722955.98 ft Longitude: 103 44 47.362 W
Position Uncertainty: 0.00 ft

Wellpath: 1
Current Datum: SITE Height 3458.00 ft
Magnetic Data: 5/15/2013
Field Strength: 48387 nT
Vertical Section: Depth From (TVD) +N/-S +E/-W Direction
ft ft ft deg
0.00 0.00 0.00 179.67

Survey

MD	Incl	Azim	TVD	N/S	E/W	DLS	VS	MapN	MapE	Comment
ft	deg	deg	ft	ft	ft	deg/100ft	ft	ft	ft	
9660.00	0.71	307.21	9652.78	-103.20	240.44	0.00	104.57	419091.31	723196.42	Tie On VES
9758.00	0.56	208.82	9750.77	-103.25	239.73	0.99	104.61	419091.26	723195.71	First Wft Svy
9789.00	3.34	183.36	9781.75	-104.29	239.60	9.18	105.65	419090.22	723195.58	
9821.00	6.88	176.67	9813.62	-107.13	239.66	11.20	108.49	419087.38	723195.64	
9853.00	10.34	172.06	9845.26	-111.89	240.16	11.02	113.25	419082.62	723196.14	
9884.00	13.91	173.40	9875.56	-118.35	240.98	11.55	119.72	419076.16	723196.96	
9915.00	16.46	176.60	9905.48	-126.44	241.67	8.66	127.81	419068.07	723197.65	
9946.00	18.91	179.06	9935.01	-135.85	242.01	8.26	137.22	419058.66	723197.99	
9977.00	21.20	177.64	9964.13	-146.47	242.32	7.55	147.85	419048.04	723198.30	
10009.00	24.38	177.81	9993.63	-158.85	242.81	9.94	160.23	419035.66	723198.79	
10040.00	28.26	177.52	10021.41	-172.58	243.38	12.52	173.97	419021.93	723199.36	
10072.00	31.99	178.65	10049.08	-188.63	243.90	11.79	190.02	419005.88	723199.88	
10103.00	34.99	182.68	10074.93	-205.73	243.68	12.04	207.11	418988.78	723199.66	
10134.00	37.67	187.84	10099.91	-224.00	241.97	13.11	225.37	418970.51	723197.95	
10165.00	40.44	187.87	10123.98	-243.34	239.30	8.94	244.70	418951.17	723195.28	
10196.00	42.84	186.17	10147.15	-263.78	236.79	8.56	265.13	418930.73	723192.77	
10228.00	45.44	184.64	10170.11	-285.97	234.70	8.78	287.30	418908.54	723190.68	
10259.00	49.11	184.17	10191.14	-308.67	232.96	11.89	309.99	418885.84	723188.94	
10291.00	52.87	185.21	10211.28	-333.45	230.92	12.02	334.75	418861.06	723186.90	
10322.00	56.83	185.57	10229.12	-358.68	228.53	12.81	359.97	418835.83	723184.51	
10353.00	60.13	185.38	10245.33	-384.98	226.01	10.66	386.26	418809.53	723181.99	
10385.00	62.90	185.76	10260.59	-412.97	223.28	8.72	414.23	418781.54	723179.26	
10416.00	66.24	185.72	10273.90	-440.82	220.48	10.77	442.07	418753.69	723176.46	
10448.00	67.40	185.70	10286.49	-470.09	217.56	3.63	471.32	418724.42	723173.54	
10479.00	68.13	185.40	10298.22	-498.65	214.78	2.52	499.86	418695.86	723170.76	
10511.00	68.53	185.67	10310.04	-528.25	211.91	1.48	529.45	418666.26	723167.89	
10542.00	71.10	184.88	10320.74	-557.22	209.24	8.63	558.40	418637.29	723165.22	
10573.00	72.24	184.39	10330.49	-586.55	206.86	3.97	587.72	418607.96	723162.84	
10604.00	74.19	183.78	10339.44	-616.15	204.75	6.57	617.31	418578.36	723160.73	
10636.00	75.35	182.90	10347.84	-646.98	202.95	4.49	648.12	418547.53	723158.93	



Weatherford WFT Survey Report X & Y's

**Weatherford**

Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Cotton Draw Unit #164H
Well: #164H
Wellpath: 1

Date: 5/15/2013 Time: 07:29:06 Page: 2
Co-ordinate(N/E) Reference: Well: #164H, Grid North
Vertical (TVD) Reference: SITE 3458.0
Section (VS) Reference: Well (0.00N, 0.00E, 179.67Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
10667.00	77.38	182.68	10355.15	-677.07	201.49	6.58	678.20	418517.44	723157.47	
10699.00	80.95	181.89	10361.17	-708.47	200.23	11.42	709.59	418486.04	723156.21	
10731.00	85.31	180.94	10364.99	-740.22	199.45	13.94	741.34	418454.29	723155.43	
10762.00	87.69	180.59	10366.88	-771.15	199.04	7.76	772.27	418423.36	723155.02	
10776.00	87.76	180.94	10367.44	-785.14	198.85	2.55	786.26	418409.37	723154.83	
10870.00	87.20	180.75	10371.57	-879.04	197.47	0.63	880.15	418315.47	723153.45	
10964.00	88.81	181.90	10374.85	-972.95	195.29	2.10	974.05	418221.56	723151.27	
11058.00	89.51	182.31	10376.22	-1066.88	191.84	0.86	1067.95	418127.63	723147.82	
11153.00	90.14	183.27	10376.51	-1161.77	187.22	1.21	1162.81	418032.74	723143.20	
11247.00	89.93	183.26	10376.46	-1255.61	181.86	0.22	1256.63	417938.90	723137.84	
11341.00	89.51	183.36	10376.92	-1349.45	176.44	0.46	1350.44	417845.06	723132.42	
11435.00	89.23	183.01	10377.95	-1443.30	171.21	0.48	1444.25	417751.21	723127.19	
11529.00	89.23	183.41	10379.21	-1537.15	165.95	0.43	1538.07	417657.36	723121.93	
11624.00	90.63	183.63	10379.33	-1631.97	160.12	1.49	1632.85	417562.54	723116.10	
11718.00	90.00	183.88	10378.81	-1725.76	153.96	0.72	1726.61	417468.75	723109.94	
11813.00	89.58	184.53	10379.16	-1820.50	147.00	0.81	1821.31	417374.01	723102.98	
11907.00	87.62	184.01	10381.46	-1914.21	140.00	2.16	1914.98	417280.30	723095.98	
12001.00	85.25	183.07	10387.30	-2007.84	134.21	2.71	2008.57	417186.67	723090.19	
12096.00	85.10	183.16	10395.29	-2102.37	129.06	0.18	2103.07	417092.14	723085.04	
12190.00	86.99	182.67	10401.78	-2196.02	124.29	2.08	2196.69	416998.49	723080.27	
12284.00	88.32	181.23	10405.62	-2289.88	121.10	2.08	2290.53	416904.63	723077.08	
12379.00	89.72	180.45	10407.25	-2384.85	119.71	1.69	2385.49	416809.66	723075.69	
12473.00	90.63	181.00	10406.96	-2478.84	118.52	1.13	2479.48	416715.67	723074.50	
12568.00	90.70	181.22	10405.86	-2573.82	116.68	0.24	2574.44	416620.69	723072.66	
12662.00	90.14	181.50	10405.17	-2667.79	114.45	0.67	2668.40	416526.72	723070.43	
12756.00	90.49	182.01	10404.65	-2761.74	111.57	0.66	2762.33	416432.77	723067.55	
12852.00	90.70	182.57	10403.65	-2857.66	107.73	0.62	2858.23	416336.85	723063.71	
12946.00	87.76	182.58	10404.92	-2951.55	103.51	3.13	2952.09	416242.96	723059.49	
13040.00	87.76	182.71	10408.59	-3045.37	99.17	0.14	3045.89	416149.14	723055.15	
13134.00	87.62	183.07	10412.38	-3139.18	94.44	0.41	3139.66	416055.33	723050.42	
13229.00	86.01	182.83	10417.66	-3233.90	89.56	1.71	3234.36	415960.61	723045.54	
13323.00	85.94	183.22	10424.26	-3327.54	84.61	0.42	3327.97	415866.97	723040.59	
13417.00	85.52	183.62	10431.26	-3421.11	79.02	0.62	3421.51	415773.40	723035.00	
13511.00	86.43	183.21	10437.85	-3514.71	73.43	1.06	3515.07	415679.80	723029.41	
13606.00	87.76	181.79	10442.67	-3609.49	69.29	2.05	3609.83	415585.02	723025.27	
13700.00	90.21	182.53	10444.33	-3703.41	65.75	2.72	3703.72	415491.10	723021.73	
13795.00	90.14	183.21	10444.04	-3798.29	61.00	0.72	3798.57	415396.22	723016.98	
13889.00	89.65	184.02	10444.22	-3892.10	55.07	1.01	3892.35	415302.41	723011.05	
13970.00	90.56	183.64	10444.07	-3972.92	49.66	1.22	3973.13	415221.59	723005.64	
14063.00	91.47	183.49	10442.42	-4065.72	43.88	0.99	4065.90	415128.79	722999.86	
14158.00	90.91	183.45	10440.45	-4160.52	38.13	0.59	4160.67	415033.99	722994.11	
14252.00	91.12	183.92	10438.78	-4254.32	32.09	0.55	4254.43	414940.19	722988.07	
14347.00	88.81	181.26	10438.84	-4349.20	27.80	3.71	4349.29	414845.31	722983.78	
14442.00	88.74	180.51	10440.87	-4444.17	26.33	0.79	4444.25	414750.34	722982.31	
14536.00	89.72	181.36	10442.13	-4538.15	24.79	1.38	4538.21	414656.36	722980.77	
14549.00	89.65	181.21	10442.20	-4551.14	24.50	1.27	4551.21	414643.37	722980.48	Last Wft Svy
14620.00	89.65	181.21	10442.64	-4622.13	23.00	0.00	4622.18	414572.38	722978.98	Proj. To Bit



Weatherford

WFT Survey Report X & Y's



Weatherford

Company: Devon Energy	Date: 5/15/2013	Time: 07:29:06	Page: 3
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: #164H: Grid North		
Site: Cotton Draw Unit #164H	Vertical (TVD) Reference: SITE 3458:0		
Well: #164H	Section (VS) Reference: Well (0.00N,0.00E,179.67Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Annotation

MD ft	TVD ft	
9660.00	9652.78	Tie On VES
9758.00	9750.77	First Wft Svy
14549.00	10442.20	Last Wft Svy
14620.00	10442.64	Proj. To Bit