



Weatherford[®]

Evaluation, Drilling & Intervention
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Devon Energy
20 North Broadway
Oklahoma City, OK, 73102

Date: September 23, 2011

30-015-38534

Attention: Mark Cooper

Re: Devon Energy
Well: Cotton Draw Unit #136H
Eddy County, New Mexico

Enclosed, please find the original survey performed on the referenced well by Precision Energy Services, Inc. (P-5 No. 676004), a Weatherford company. Other information required by your office is as follows:

<u>Name & Title Of Surveyor</u>	<u>Well Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Justin Ward MWD Supervisor	136H	8456' MD 16461' MD	9/3/2011 9/22/2011	Measurement While Drilling

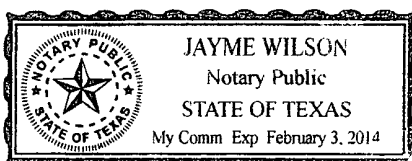
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jesse Aguilar
Area Manager

On this, the 23rd day of September, 2011, before me a notary public, the undersigned officer, personally appeared Jesse Aguilar, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Notary Public



devon

Cotton Draw Unit #136H
Eddy Co., NM

KB ELEV: 3446
GLE ELEV: 3421

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	8404.00	0.64	106.05	8402.32	-25.56	107.51	0.00	0.00	-25.95	
2	8500.00	0.64	106.05	8498.32	-25.86	108.54	0.00	0.00	-26.25	
3	9428.36	90.00	358.94	9090.00	563.93	103.94	9.71	-107.11	563.55	
4	16553.82	90.00	358.94	9090.00	7688.17	-27.96	0.00	0.00	7688.22	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
CDU #136H	0.00	0.00	419794.97	721278.16	32°09'09.924N	103°45'06.841W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Pbhl	9090.00	7688.17	-27.96	427483.14	721250.20	32°10'26.005N	103°45'06.683W	Point
HeelTgt	9090.00	599.84	1.70	420394.81	721279.86	32°09'15.860N	103°45'06.783W	Point

FIELD DETAILS

Eddy Co., NM (NAD 83)

Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010

System Datum: Mean Sea Level
Local North: Grid North

SITE DETAILS

Cotton Draw Unit #136H

Site Centre Northing: 419794.97
Easting: 721278.16

Ground Level: 3421.00
Positional Uncertainty: 0.00
Convergence: 0.31

LEGEND

- CDU #136H, 1 Gyro
- CDU #136H, 1 Plan #3
- Cotton Draw #134H (1)
- CDU #135H (1)
- CDU #137H (1)
- CDU #152H (1)
- #160H (1)
- 1 Wft Svy



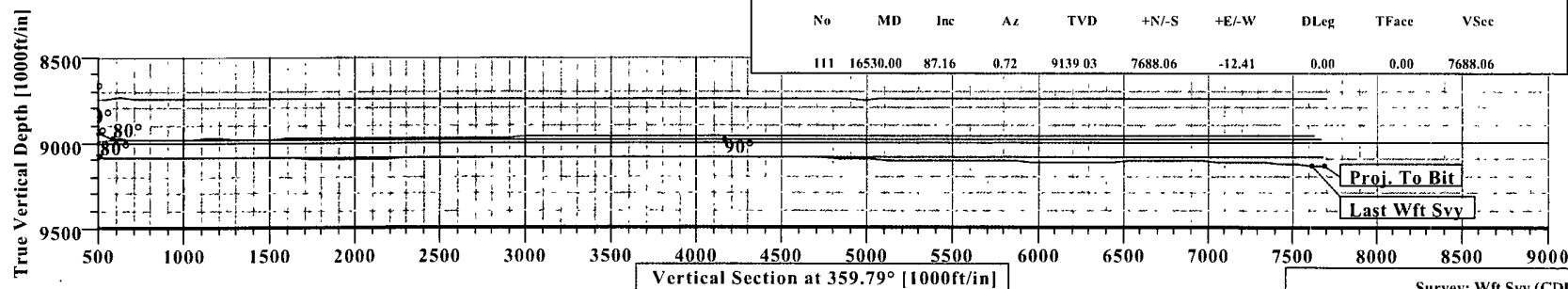
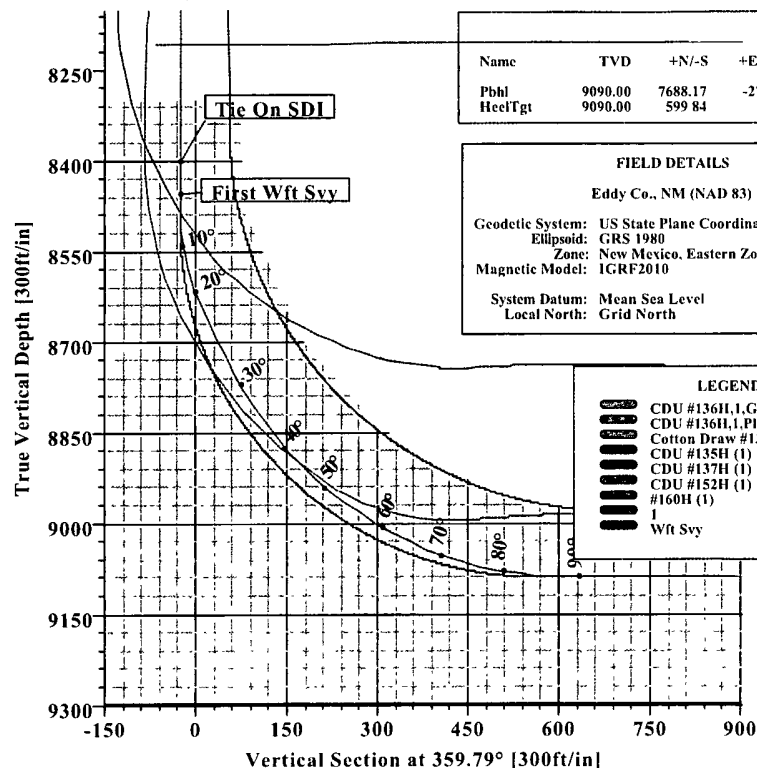
Azimuths to Grid North
True North: -0.31°
Magnetic North: 7.33°

Magnetic Field
Strength: 48558nT
Dip Angle: 60.08°
Date: 8/30/2011
Model: IGRF2010

Total Correction to Grid North: 7.33°



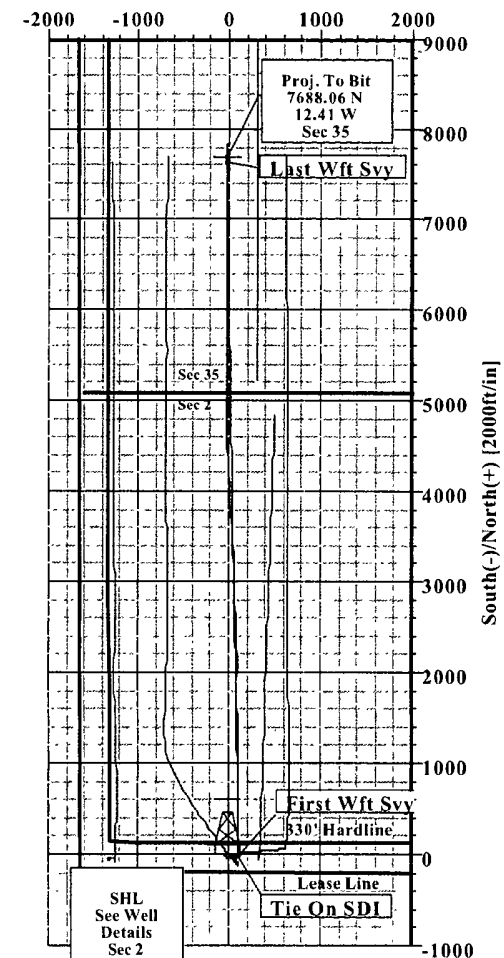
Weatherford



Survey: Wft Svy (CDU #136H/1)

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
111	16530.00	87.16	0.72	9139.03	7688.06	-12.41	0.00	0.00	7688.06

West(-)/East(+) [2000ft/in]



Survey: Wft Svy (CDU #136H/1)

Created By: Russell W. Joyner

Date: 9/20/2011



Weatherford International Ltd.

WFT Survey Report X & Y's

**Weatherford**

Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Cotton Draw Unit #136H
Well: CDU #136H
Wellpath: 1

Date: 9/20/2011
Co-ordinate(NE) Reference: Well: CDU #136H, Grid North
Vertical (TVD) Reference: SITE 3446.0
Section (VS) Reference: Well (0.00N,0.00E,359.79Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Time: 05:34:42
Page: 1

Survey: Wft Svy
Start Date: 9/6/2011

Company: Weatherford International Ltd
Tool: MWD;MWD - Standard

Engineer: Russell W Joyner
Tied-to: User Defined

Field: Eddy 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: Well Centre
Geomagnetic Model: IGRF2010

Site: Cotton Draw Unit #136H

Site Position: Northing: 419794.97 ft Latitude: 32 9 9 924 N
From: Map Easting: 721278.16 ft Longitude: 103 45 6 841 W
Position Uncertainty: 0 00 ft North Reference: Grid
Ground Level: 3421 00 ft Grid Convergence: 0.31 deg

Well: CDU #136H Slot Name:

Well Position: +N/-S 0.00 ft Northing: 419794.97 ft Latitude: 32 9 9 924 N
+E/-W 0.00 ft Easting: 721278.16 ft Longitude: 103 45 6 841 W
Position Uncertainty: 0 00 ft

Wellpath: 1

Current Datum: SITE Height 3446.00 ft
Magnetic Data: 8/30/2011
Field Strength: 48558 nT
Vertical Section: Depth From (TVD) +N/-S
ft ft
0 00 0.00 0 00 359.79

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 7.64 deg
Mag Dip Angle: 60.08 deg
+E/-W Direction
ft deg

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
8404.00	0.64	106.05	8402.32	-25.56	107.51	0.00	-25.95	419769.41	721385.67	Tie On SDI First Wft Svy
8456.00	0.50	92.69	8454.32	-25.65	108.02	0.37	-26.04	419769.32	721386.18	
8488.00	0.95	57.35	8486.32	-25.51	108.38	1.92	-25.91	419769.46	721386.54	
8519.00	5.48	11.32	8517.26	-23.92	108.89	15.70	-24.32	419771.05	721387.05	
8551.00	11.32	4.89	8548.91	-19.29	109.45	18.46	-19.69	419775.68	721387.61	
8583.00	16.06	3.72	8579.99	-11.74	110.01	14.84	-12.14	419783.23	721388.17	
8614.00	19.25	2.73	8609.53	-2.36	110.53	10.34	-2.76	419792.61	721388.69	
8646.00	22.47	0.39	8639.43	9.03	110.82	10.39	8.63	419804.00	721388.98	
8677.00	25.40	357.56	8667.76	21.60	110.58	10.15	21.20	419816.57	721388.74	
8709.00	26.60	356.17	8696.52	35.61	109.81	4.21	35.21	419830.58	721387.97	
8740.00	26.82	357.10	8724.21	49.52	108.99	1.52	49.12	419844.49	721387.15	
8772.00	28.23	356.85	8752.59	64.28	108.21	4.42	63.89	419859.25	721386.37	
8803.00	31.00	357.40	8779.54	79.58	107.45	8.98	79.19	419874.55	721385.61	
8835.00	33.70	359.86	8806.57	96.70	107.05	9.39	96.31	419891.67	721385.21	
8867.00	35.61	1.86	8832.89	114.89	107.33	6.95	114.50	419909.86	721385.49	
8898.00	37.45	1.42	8857.80	133.33	107.86	6.00	132.94	419928.30	721386.02	
8930.00	40.96	0.43	8882.59	153.55	108.18	11.14	153.16	419948.52	721386.34	
8961.00	44.48	0.55	8905.36	174.58	108.36	11.36	174.18	419969.55	721386.52	
8992.00	47.89	0.52	8926.82	196.94	108.57	11.00	196.55	419991.91	721386.73	
9024.00	51.06	359.89	8947.61	221.26	108.65	10.02	220.87	420016.23	721386.81	
9055.00	53.69	359.41	8966.54	245.81	108.50	8.57	245.42	420040.78	721386.66	
9086.00	56.08	0.20	8984.37	271.17	108.42	7.99	270.77	420066.14	721386.58	
9118.00	58.63	1.32	9001.63	298.11	108.78	8.50	297.71	420093.08	721386.94	
9149.00	61.54	2.69	9017.09	324.96	109.72	10.14	324.56	420119.93	721387.88	



Weatherford International Ltd.

WFT Survey Report X & Y's

**Weatherford**

Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Cotton Draw Unit #136H
Well: CDU #136H
Wellpath: 1

Date: 9/20/2011 Time: 05:34.42 Page: 2
Co-ordinate(NE) Reference: Well: CDU #136H, Grid North
Vertical (TVD) Reference: SITE 3446.0
Section (VS) Reference: Well (0.00N,0.00E,359.79Azi)
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
9180.00	64.20	3.03	9031.22	352.51	111 10	8.64	352.10	420147.48	721389.26	
9211.00	67.19	1.60	9043.98	380.74	112.24	10.52	380.32	420175.71	721390 40	
9243.00	70 49	0.44	9055.53	410.57	112.76	10.85	410.16	420205.54	721390 92	
9274.00	73 94	0.01	9065 00	440.08	112.88	11.21	439.67	420235 05	721391 04	
9305.00	77.28	359.60	9072.70	470.11	112.78	10 85	469 69	420265.08	721390 94	
9336 00	79.47	359.49	9078.95	500.47	112.53	7.07	500 05	420295.44	721390.69	
9368.00	81 47	359 50	9084 25	532.02	112 26	6.25	531.61	420326 99	721390 42	
9399.00	84 78	359.97	9087.96	562.79	112 11	10 78	562.38	420357 76	721390 27	
9430.00	89 41	359 68	9089.53	593 75	112.02	14 96	593 33	420388 72	721390.18	
9493.00	90.31	358.49	9089.68	656 74	111.01	2 37	656.33	420451.71	721389.17	
9542.00	90.31	358.24	9089.42	705.72	109.62	0.51	705 31	420500.69	721387.78	
9636.00	90.03	358 49	9089.14	799.68	106.93	0.40	799.28	420594.65	721385 09	
9730.00	89.76	358 88	9089 31	893.65	104 78	0 50	893.26	420688.62	721382 94	
9823.00	89.83	359 60	9089 64	986.64	103.54	0 78	986 26	420781.61	721381.70	
9918.00	89 48	0.32	9090.21	1081.64	103 48	0.84	1081 26	420876.61	721381.64	
10012.00	89.20	0.26	9091 30	1175 63	103.95	0.30	1175.25	420970.60	721382 11	
10106.00	90 87	359 92	9091.24	1269.63	104.10	1.81	1269.24	421064 60	721382 26	
10200.00	91 02	359.98	9089 69	1363 62	104.02	0.17	1363 23	421158 59	721382 18	
10293 00	90 31	357.63	9088 61	1456.58	102.08	2.64	1456 20	421251.55	721380 24	
10387 00	88.22	356.82	9089.82	1550 46	97.53	2 38	1550.09	421345.43	721375 69	
10481 00	88 42	357.98	9092.57	1644.32	93 27	1 25	1643.97	421439.29	721371 43	
10575.00	88.78	359.72	9094 87	1738.27	91.38	1 89	1737.92	421533.24	721369 54	
10669.00	88.78	0 55	9096 87	1832.25	91.60	0 88	1831.90	421627.22	721369 76	
10762.00	88.78	0 92	9098 85	1925.22	92.79	0.40	1924.87	421720.19	721370.95	
10833.00	89.96	2 40	9099.63	1996.18	94 85	2 67	1995.82	421791 15	721373 01	
10927.00	91.99	359 74	9098 03	2090.14	96 61	3.56	2089.77	421885.11	721374 77	
11021 00	92.06	357 00	9094.71	2184.03	93.93	2.91	2183 67	421979 00	721372 09	
11115.00	92.84	356.86	9090.69	2277.81	88.90	0.84	2277.47	422072 78	721367.06	
11209.00	90.60	357 40	9087.87	2371.64	84.20	2.45	2371 32	422166.61	721362.36	
11303.00	89.05	357.61	9088.16	2465.55	80.11	1.66	2465 24	422260 52	721358.27	
11396.00	89 41	357.75	9089.41	2558.47	76 34	0.42	2558 17	422353 44	721354.50	
11491 00	90 11	358.65	9089.80	2653.42	73.36	1.20	2653 13	422448 39	721351.52	
11585 00	90 24	358.88	9089.52	2747.39	71 33	0 28	2747 12	422542 36	721349.49	
11679 00	90 38	359 49	9089.01	2841.38	70 00	0.67	2841.11	422636.35	721348 16	
11773 00	90.73	0 03	9088 10	2935.38	69 60	0 68	2935.10	422730 35	721347 76	
11867 00	90.80	357.29	9086.84	3029.33	67 41	2 92	3029 07	422824.30	721345 57	
11961.00	90.45	355.73	9085.82	3123.15	61 68	1 70	3122.91	422918.12	721339 84	
12055.00	88.64	355.65	9086.56	3216.88	54 62	1.93	3216.66	423011.85	721332.78	
12149.00	88 57	356.26	9088.85	3310.62	47.99	0 65	3310.42	423105.59	721326.15	
12243 00	88.85	356.74	9090.97	3404.42	42 25	0 59	3404.24	423199.39	721320.41	
12337 00	90.52	357.86	9091.48	3498 31	37 83	2 14	3498.14	423293.28	721315.99	
12360.00	90.73	357.49	9091.23	3521 29	36 89	1 85	3521.13	423316.26	721315.05	
12454 00	91 08	357.68	9089 75	3615.19	32.93	0 42	3615.05	423410.16	721311.09	
12548 00	91 57	357.41	9087.58	3709.08	28.91	0 60	3708.95	423504.05	721307 07	
12642.00	89 48	357.45	9086.71	3802.97	24.69	2.22	3802.86	423597.94	721302 85	
12736.00	90 17	357.68	9087.00	3896.89	20.70	0.77	3896.79	423691.86	721298.86	
12830 00	88 36	357 30	9088.21	3990 79	16.58	1.97	3990.70	423785 76	721294.74	
12924.00	88 84	356.98	9090 50	4084 64	11 90	0.61	4084 57	423879 61	721290 06	
13018.00	89 06	356 55	9092 23	4178 48	6.59	0 51	4178.42	423973 45	721284.75	
13112.00	90.04	356 20	9092.96	4272 28	0 65	1.11	4272 25	424067 25	721278.81	
13206.00	91.08	356 08	9092.05	4366.06	-5.68	1.11	4366.06	424161 03	721272.48	
13299.00	92.20	357 27	9089.38	4458 87	-11 07	1 76	4458 88	424253 84	721267 09	



Company: Devon Energy	Date: 9/20/2011	Time: 05:34:42	Page: 3
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: CDU #136H, Grid North		
Site: Cotton Draw Unit #136H	Vertical (TVD) Reference: SITE 3446.0		
Well: CDU #136H	Section (VS) Reference: Well (0.00N,0.00E,359.79Azi)		
Wellpath: 1	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
13393.00	90.31	357.06	9087.33	4552.72	-15.72	2.02	4552.75	424347.69	721262.44	
13487.00	87.80	357.58	9088.88	4646.60	-20.11	2.73	4646.64	424441.57	721258.05	
13581.00	87.73	358.25	9092.54	4740.47	-23.53	0.72	4740.52	424535.44	721254.63	
13675.00	87.66	357.90	9096.32	4834.34	-26.69	0.38	4834.40	424629.31	721251.47	
13769.00	87.72	359.96	9100.11	4928.24	-28.44	2.19	4928.31	424723.21	721249.72	
13863.00	87.72	0.28	9103.85	5022.16	-28.24	0.34	5022.23	424817.13	721249.92	
13957.00	87.94	0.44	9107.41	5116.10	-27.65	0.29	5116.16	424911.07	721250.51	
14050.00	88.22	0.92	9110.53	5209.04	-26.55	0.60	5209.10	425004.01	721251.61	
14144.00	89.27	0.71	9112.58	5303.00	-25.21	1.14	5303.06	425097.97	721252.95	
14238.00	89.55	1.18	9113.55	5396.98	-23.66	0.58	5397.04	425191.95	721254.50	
14333.00	89.90	1.15	9114.01	5491.96	-21.73	0.37	5492.01	425286.93	721256.43	
14427.00	89.82	1.41	9114.24	5585.94	-19.63	0.29	5585.97	425380.91	721258.53	
14521.00	90.03	1.41	9114.36	5679.91	-17.32	0.22	5679.94	425474.88	721260.84	
14615.00	90.46	1.94	9113.96	5773.87	-14.57	0.73	5773.88	425568.84	721263.59	
14709.00	89.83	0.50	9113.72	5867.85	-12.57	1.67	5867.85	425662.82	721265.59	
14803.00	88.50	359.59	9115.09	5961.83	-12.49	1.71	5961.84	425756.80	721265.67	
14897.00	88.85	359.83	9117.26	6055.81	-12.97	0.45	6055.81	425850.78	721265.19	
14991.00	88.99	0.12	9119.04	6149.79	-13.01	0.34	6149.80	425944.76	721265.15	
15085.00	90.73	359.99	9119.27	6243.78	-12.92	1.86	6243.79	426038.75	721265.24	
15179.00	91.57	0.06	9117.38	6337.77	-12.88	0.90	6337.77	426132.74	721265.28	
15273.00	91.43	359.28	9114.92	6431.73	-13.42	0.84	6431.74	426226.70	721264.74	
15367.00	91.36	0.54	9112.63	6525.70	-13.57	1.34	6525.71	426320.67	721264.59	
15437.00	91.64	0.05	9110.80	6595.68	-13.21	0.81	6595.68	426390.65	721264.95	
15531.00	89.96	359.18	9109.49	6689.66	-13.84	2.01	6689.67	426484.63	721264.32	
15625.00	89.55	359.43	9109.89	6783.65	-14.98	0.51	6783.66	426578.62	721263.18	
15719.00	89.76	359.77	9110.45	6877.65	-15.64	0.43	6877.66	426672.62	721262.52	
15813.00	88.36	359.52	9112.00	6971.63	-16.22	1.51	6971.64	426766.60	721261.94	
15907.00	88.28	359.65	9114.75	7065.59	-16.90	0.16	7065.60	426860.56	721261.26	
16001.00	88.50	359.90	9117.39	7159.55	-17.27	0.35	7159.57	426954.52	721260.89	
16095.00	88.15	0.16	9120.14	7253.51	-17.22	0.46	7253.52	427048.48	721260.94	
16190.00	87.73	0.37	9123.56	7348.45	-16.78	0.49	7348.46	427143.42	721261.38	
16284.00	87.45	0.88	9127.51	7442.36	-15.76	0.62	7442.37	427237.33	721262.40	
16378.00	87.44	0.80	9131.70	7536.25	-14.38	0.09	7536.26	427331.22	721263.78	
16461.00	87.16	0.72	9135.61	7619.15	-13.28	0.35	7619.15	427414.12	721264.88	Last Wft Svy
16530.00	87.16	0.72	9139.03	7688.06	-12.41	0.00	7688.06	427483.03	721265.75	Proj. To Bit

Annotation

MD ft	TVD ft	
8404.00	8402.32	Tie On SDI
8456.00	8454.32	First Wft Svy
16461.00	9135.61	Last Wft Svy
16530.00	9139.03	Proj To Bit

DEVON ENERGY

Paduca
Eddy County, NM
Cotton Draw Unit #136H
VH - Job #32K0911844

Survey: Actual

SDI Standard Survey Report

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

K. Stanton

Notarized this date 4th of October, 2011.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Cotton Draw Unit #136H
Project:	Paduca	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Cotton Draw Unit #136H	North Reference:	Grid
Wellbore:	VH - Job #32K0911844	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0911844	Database:	EDM-Regulatory

Project	Paduca		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:		Eddy County, NM			
Site Position:		Northing:	419,864.24 usft	Latitude:	32° 9' 10.800 N
From:	Lat/Long	Easting:	717,841.09 usft	Longitude:	103° 45' 46.800 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.30 °

Well:	Cotton Draw Unit #136H, Directional (Weatherford)					
Well Position	+N/-S	0 0 usft	Northing:	419,795 01 usft	Latitude:	32° 9' 9 933 N
	+E/-W	0 0 usft	Easting:	721,278 15 usft	Longitude:	103° 45' 6 824 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	0 0 usft

Wellbore	VH - Job #32K0911844				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/5/2011	7.64	60 08	48,557

Design:	VH - Job #32K0911844			
Audit Notes:				
Version:	1 0	Phase:	ACTUAL	Tie On Depth: 0 0
Vertical Section	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0 0	0 0	0 0	359 79

Survey Program		Date 10/23/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	8,404.0	Actual (VH - Job #32K0911844)	Keeper	Keeper Gyro

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
100.0	0.26	97.77	100.0	0.0	0.2	97.77	0.2
200.0	0.22	164.26	200.0	-0.2	0.5	116.13	0.6
300.0	0.61	182.01	300.0	-1.0	0.5	150.94	1.1
400.0	1.11	181.70	400.0	-2.5	0.5	168.80	2.5
500.0	1.82	168.50	500.0	-5.0	0.8	171.16	5.0
600.0	2.48	161.75	599.9	-8.6	1.8	168.37	8.8
700.0	2.59	161.96	699.8	-12.8	3.1	166.19	13.2
800.0	2.03	163.11	799.7	-16.6	4.4	165.32	17.2
900.0	1.59	168.26	899.7	-19.7	5.2	165.33	20.4
1,000.0	1.51	170.80	999.6	-22.4	5.7	165.81	23.1
1,100.0	1.23	167.34	1,099.6	-24.7	6.1	166.14	25.4

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Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Cotton Draw Unit #136H	North Reference:	Grid
Wellbore:	VH - Job #32K0911844	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0911844	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200.0	1.07	155.99	1,199.6	-26.6	6.7	165.84	27.4
1,300.0	0.94	135.51	1,299.6	-28.0	7.7	164.71	29.1
1,400.0	0.93	103.04	1,399.5	-28.8	9.0	162.59	30.2
1,500.0	0.99	88.92	1,499.5	-29.0	10.7	159.76	30.9
1,600.0	1.10	79.07	1,599.5	-28.8	12.5	156.53	31.4
1,700.0	1.56	70.93	1,699.5	-28.2	14.7	152.39	31.8
1,800.0	1.90	60.72	1,799.4	-26.9	17.5	147.02	32.1
1,900.0	1.91	63.97	1,899.4	-25.4	20.4	141.18	32.5
2,000.0	2.01	64.13	1,999.3	-23.9	23.5	135.47	33.5
2,100.0	1.88	68.15	2,099.3	-22.5	26.6	130.23	34.8
2,200.0	1.63	63.09	2,199.2	-21.2	29.4	125.86	36.2
2,300.0	1.66	61.80	2,299.2	-19.9	31.9	121.95	37.6
2,400.0	1.60	63.86	2,399.1	-18.6	34.4	118.37	39.1
2,500.0	1.48	73.85	2,499.1	-17.6	36.9	115.51	40.9
2,600.0	1.21	87.14	2,599.1	-17.2	39.2	113.69	42.8
2,700.0	0.84	95.01	2,699.1	-17.2	41.0	112.78	44.5
2,800.0	0.62	85.26	2,799.0	-17.2	42.3	112.19	45.7
2,900.0	0.37	129.52	2,899.0	-17.4	43.1	112.01	46.5
3,000.0	0.53	165.48	2,999.0	-18.1	43.4	112.58	47.0
3,100.0	0.26	147.62	3,099.0	-18.7	43.7	113.18	47.5
3,200.0	0.80	72.24	3,199.0	-18.7	44.5	112.79	48.2
3,300.0	1.03	70.94	3,299.0	-18.2	46.0	111.57	49.4
3,400.0	0.50	59.74	3,399.0	-17.7	47.2	110.51	50.4
3,500.0	0.19	311.95	3,499.0	-17.3	47.5	110.06	50.5
3,600.0	0.33	17.38	3,599.0	-16.9	47.4	109.66	50.4
3,700.0	1.45	100.96	3,699.0	-16.9	48.7	109.13	51.6
3,800.0	1.39	93.83	3,799.0	-17.2	51.2	108.60	54.0
3,900.0	1.96	111.92	3,898.9	-17.9	54.0	108.39	56.9
4,000.0	2.87	131.64	3,998.8	-20.2	57.5	109.42	60.9
4,100.0	2.68	131.27	4,098.7	-23.5	61.1	111.01	65.4
4,200.0	1.34	112.88	4,198.7	-25.5	63.9	111.71	68.8
4,300.0	0.58	85.63	4,298.6	-25.9	65.5	111.55	70.4
4,400.0	0.55	79.40	4,398.6	-25.7	66.5	111.17	71.3
4,500.0	0.54	89.33	4,498.6	-25.6	67.4	110.83	72.1
4,600.0	0.60	74.69	4,598.6	-25.5	68.4	110.45	73.0
4,700.0	0.65	69.84	4,698.6	-25.2	69.4	109.93	73.9
4,800.0	0.68	67.71	4,798.6	-24.7	70.5	109.34	74.7
4,900.0	0.60	55.48	4,898.6	-24.2	71.5	108.72	75.5
5,000.0	0.63	59.61	4,998.6	-23.7	72.4	108.09	76.2
5,100.0	0.64	68.79	5,098.6	-23.2	73.4	107.52	77.0
5,200.0	0.77	67.00	5,198.6	-22.7	74.5	106.95	77.9
5,300.0	0.75	65.38	5,298.6	-22.2	75.7	106.32	78.9
5,400.0	0.65	63.10	5,398.6	-21.6	76.8	105.73	79.8
5,500.0	0.64	51.97	5,498.6	-21.0	77.8	105.14	80.6

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Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Cotton Draw Unit #136H	North Reference:	Grid
Wellbore:	VH - Job #32K0911844	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0911844	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,600.0	0.65	50.02	5,598.6	-20.3	78.7	104.49	81.3
5,700.0	0.56	59.68	5,698.6	-19.7	79.5	103.93	81.9
5,800.0	0.52	59.84	5,798.6	-19.2	80.3	103.47	82.6
5,900.0	0.54	37.19	5,898.5	-18.6	81.0	102.96	83.1
6,000.0	0.70	29.22	5,998.5	-17.7	81.6	102.26	83.5
6,100.0	0.41	25.94	6,098.5	-16.9	82.1	101.63	83.8
6,200.0	0.42	74.32	6,198.5	-16.5	82.6	101.28	84.2
6,300.0	0.49	75.96	6,298.5	-16.3	83.3	101.04	84.9
6,400.0	0.54	83.32	6,398.5	-16.1	84.2	100.82	85.7
6,500.0	0.55	80.32	6,498.5	-16.0	85.2	100.62	86.6
6,600.0	0.61	82.16	6,598.5	-15.8	86.2	100.40	87.6
6,700.0	0.54	99.02	6,698.5	-15.8	87.1	100.28	88.6
6,800.0	0.58	100.20	6,798.5	-16.0	88.1	100.28	89.5
6,900.0	0.63	92.09	6,898.5	-16.1	89.2	100.23	90.6
7,000.0	0.65	94.99	6,998.5	-16.2	90.3	100.15	91.7
7,100.0	0.46	93.01	7,098.5	-16.2	91.2	100.08	92.7
7,200.0	0.38	65.67	7,198.5	-16.1	91.9	99.94	93.3
7,300.0	0.31	80.01	7,298.5	-15.9	92.5	99.77	93.9
7,400.0	0.55	112.11	7,398.5	-16.1	93.2	99.77	94.6
7,500.0	1.02	93.42	7,498.5	-16.3	94.6	99.78	95.9
7,600.0	1.13	110.66	7,598.5	-16.7	96.4	99.83	97.8
7,700.0	1.20	118.70	7,698.4	-17.5	98.2	100.13	99.8
7,800.0	1.16	125.90	7,798.4	-18.6	99.9	100.57	101.7
7,900.0	1.10	130.64	7,898.4	-19.9	101.5	101.07	103.4
8,000.0	0.96	133.11	7,998.4	-21.1	102.8	101.57	105.0
8,100.0	1.21	139.31	8,098.4	-22.4	104.1	102.16	106.5
8,200.0	1.08	140.62	8,198.3	-24.0	105.4	102.81	108.1
8,300.0	0.73	121.98	8,298.3	-25.0	106.6	103.22	109.5
8,400.0	0.44	119.92	8,398.3	-25.6	107.4	103.38	110.4
8,404.0	0.64	106.05	8,402.3	-25.6	107.5	103.38	110.5



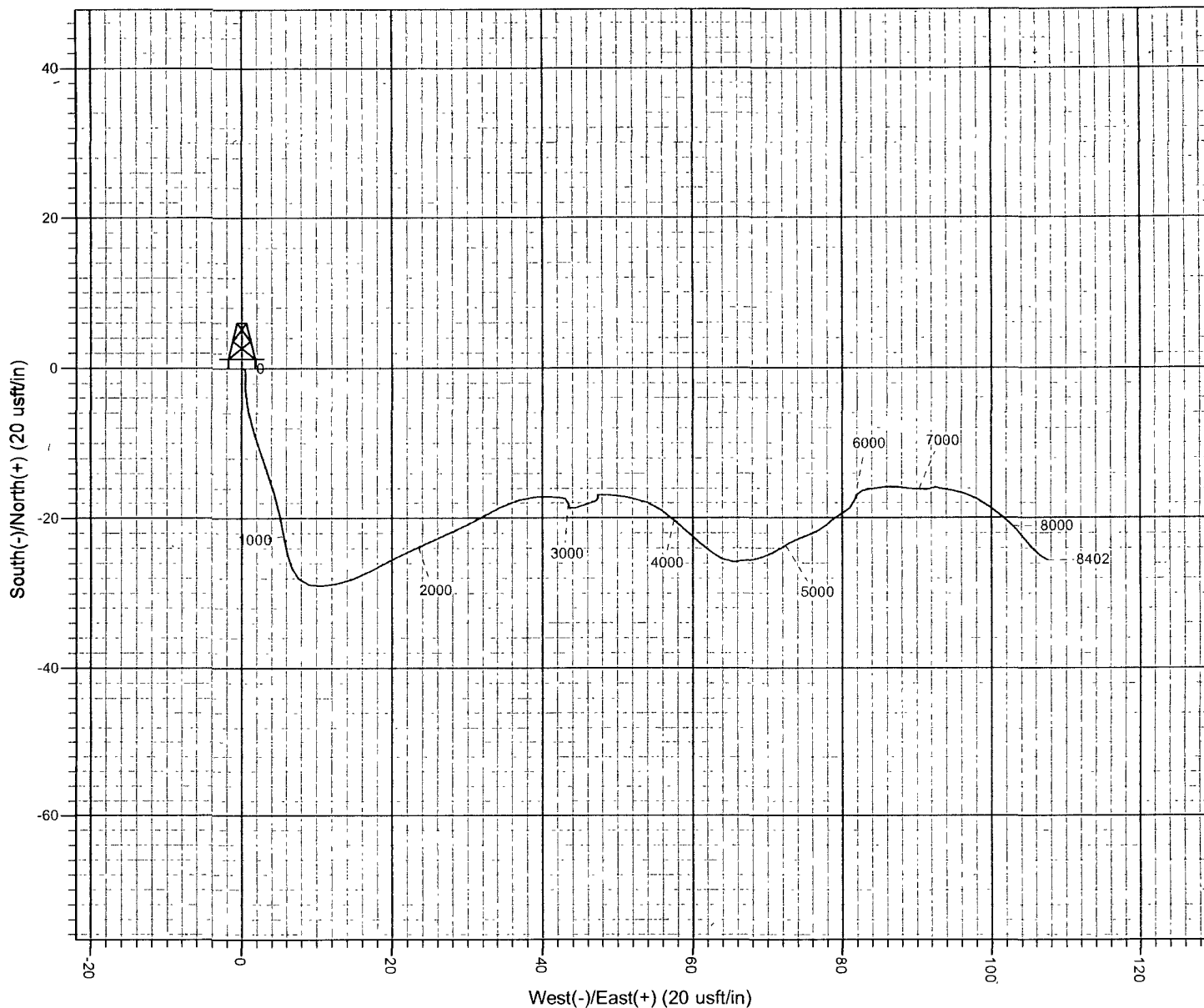
Project: Paduca
 Eddy County, NM
 Well: Cotton Draw Unit #136H
 Wellbore: VH - Job #32K0911844
 Design: VH - Job #32K0911844



Azimuths to Grid North
 True North -0 31°
 Magnetic North 7 33°
 Magnetic Field
 Strength 48556 6snT
 Dip Angle 60 08°
 Date 9/5/2011
 Model. IGRF2010

WELL DETAILS: Cotton Draw Unit #136H
 WELL @ 0.0usft (Original Well Elev)
 Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	419795.01	721278.15	32° 9' 9.933 N	103° 45' 6.824 W	



PROJECT DETAILS: Paduca
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level

SITE DETAILS: Eddy County, NM
 Site Centre Latitude: 32° 9' 10.800 N
 Longitude: 103° 45' 46.800 W
 Positional Uncertainty: 0.0
 Convergence: 0.30
 Local North: Grid