



A GYRO TECHNOLOGIES INC. COMPANY

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

*30-015-38952*

January 31, 2012

Devon Energy Production Company  
20 North Broadway  
Oklahoma City, OK 73102

Attn: Mark Cooper

Re: Cotton Draw Unit 154H

Please find enclosed a copy of the survey from 0' to 7,540' ran on the above referenced well.

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

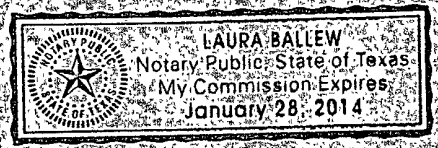
Sincerely,

Keith Havelka  
Operations  
*[Signature]*

STATE OF TEXAS §  
§  
COUNTY OF NUECES §

This instrument was acknowledged before me on the 31<sup>st</sup> day of January A.D. 2012, by Keith Havelka

*[Signature]*  
Laura Ballew  
Notary Public, State of Texas



Company: Devon Energy  
 Lease/Well: Cotton Draw Unit/154H



Rig Name: H&P #214  
 State/County: New Mexico/Eddy  
 Latitude: 32.17



GRID North is 0.31 Degrees East of True North  
 VS-Azi: 0.00 Degrees

Depth Reference : RKB=25 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: cotton draw unit 154h.ut  
 Minimum Curvature Method  
 Report Date/Time: 2/1/2012 / 09:04

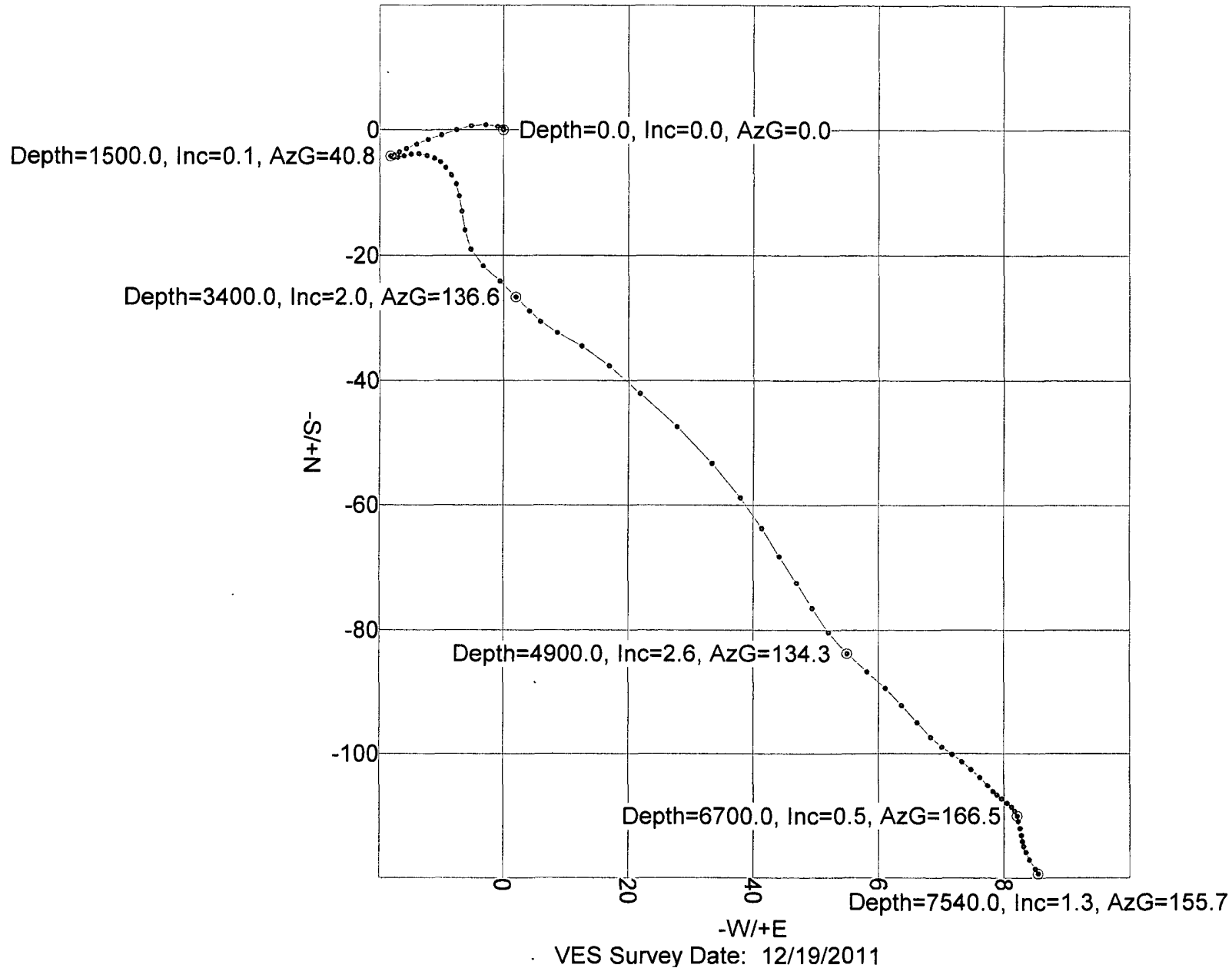
Vaughn Energy Services  
 Midland, TX  
 432-563-5444

Surveyor: Zach Garcia  
 Cotton Draw Unit 154H / API 30-015-38952

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.13	337.83	100.00	0.10	-0.04	0.10	0.11	337.83	0.13
200.00	0.07	34.13	200.00	0.26	-0.05	0.26	0.26	348.48	0.11
300.00	0.07	274.55	300.00	0.31	-0.08	0.31	0.32	344.77	0.12
400.00	0.93	284.50	400.00	0.52	-0.93	0.52	1.07	299.11	0.85
500.00	1.26	273.46	499.98	0.79	-2.82	0.79	2.92	285.64	0.40
600.00	1.37	259.96	599.95	0.65	-5.10	0.65	5.14	277.23	0.33
700.00	1.52	251.04	699.92	0.01	-7.53	0.01	7.53	270.05	0.27
800.00	1.45	251.42	799.89	-0.83	-9.99	-0.83	10.02	265.26	0.08
900.00	1.14	253.84	899.86	-1.51	-12.14	-1.51	12.23	262.92	0.31
1000.00	1.21	243.95	999.84	-2.25	-14.04	-2.25	14.22	260.91	0.21
1100.00	0.88	248.72	1099.82	-2.99	-15.71	-2.99	15.99	259.22	0.34
1200.00	0.60	239.52	1199.81	-3.53	-16.87	-3.53	17.24	258.17	0.30
1300.00	0.43	237.14	1299.81	-4.01	-17.64	-4.01	18.09	257.21	0.17
1400.00	0.19	266.61	1399.81	-4.22	-18.13	-4.22	18.61	256.89	0.28
1500.00	0.09	40.75	1499.81	-4.17	-18.25	-4.17	18.72	257.12	0.26
1600.00	0.17	135.03	1599.81	-4.22	-18.09	-4.22	18.58	256.87	0.20
1700.00	0.24	105.97	1699.81	-4.38	-17.78	-4.38	18.32	256.15	0.12
1800.00	0.55	80.32	1799.80	-4.36	-17.11	-4.36	17.66	255.70	0.35

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
1900.00	0.67	74.65	1899.80	-4.12	-16.07	-4.12	16.59	255.61	0.13
2000.00	0.68	79.01	1999.79	-3.86	-14.93	-3.86	15.42	255.51	0.05
2100.00	0.80	92.77	2099.78	-3.78	-13.65	-3.78	14.17	254.53	0.21
2200.00	0.79	113.29	2199.77	-4.08	-12.32	-4.08	12.98	251.67	0.28
2300.00	0.65	108.69	2299.77	-4.54	-11.15	-4.54	12.04	247.86	0.15
2400.00	0.70	127.69	2399.76	-5.10	-10.13	-5.10	11.34	243.29	0.23
2500.00	0.73	145.83	2499.75	-6.00	-9.28	-6.00	11.05	237.13	0.23
2600.00	0.95	141.68	2599.74	-7.17	-8.41	-7.17	11.06	229.55	0.23
2700.00	0.94	159.12	2699.73	-8.59	-7.61	-8.59	11.47	221.56	0.29
2800.00	1.32	168.64	2799.71	-10.48	-7.09	-10.48	12.66	214.08	0.43
2900.00	1.55	170.43	2899.68	-12.95	-6.64	-12.95	14.55	207.15	0.23
3000.00	1.91	168.47	2999.63	-15.92	-6.08	-15.92	17.04	200.91	0.36
3100.00	1.79	156.99	3099.58	-18.99	-5.14	-18.99	19.67	195.14	0.39
3200.00	2.03	133.15	3199.52	-21.64	-3.23	-21.64	21.88	188.49	0.83
3300.00	2.09	132.14	3299.46	-24.07	-0.59	-24.07	24.08	181.40	0.06
3400.00	2.05	136.63	3399.40	-26.59	1.99	-26.59	26.67	175.72	0.17
3500.00	1.49	137.03	3499.35	-28.85	4.11	-28.85	29.14	171.90	0.56
3600.00	1.38	130.39	3599.32	-30.58	5.91	-30.58	31.15	169.06	0.20
3700.00	2.30	119.05	3699.26	-32.34	8.59	-32.34	33.46	165.13	0.98
3800.00	2.93	117.91	3799.16	-34.51	12.60	-34.51	36.74	159.95	0.63
3900.00	3.29	133.25	3899.01	-37.67	16.94	-37.67	41.30	155.78	0.90
4000.00	4.27	131.49	3998.79	-42.10	21.82	-42.10	47.42	152.60	0.99
4100.00	4.88	131.80	4098.48	-47.40	27.78	-47.40	54.94	149.63	0.61
4200.00	4.52	140.51	4198.14	-53.28	33.46	-53.28	62.91	147.87	0.80
4300.00	3.66	141.30	4297.88	-58.81	37.96	-58.81	69.99	147.16	0.86
4400.00	3.15	149.17	4397.71	-63.66	41.36	-63.66	75.91	146.99	0.69
4500.00	2.95	147.05	4497.57	-68.18	44.17	-68.18	81.24	147.06	0.23
4600.00	2.78	147.59	4597.44	-72.39	46.87	-72.39	86.24	147.08	0.18
4700.00	2.69	148.47	4697.33	-76.44	49.40	-76.44	91.01	147.13	0.10
4800.00	2.70	143.88	4797.22	-80.35	52.02	-80.35	95.72	147.08	0.22
4900.00	2.56	134.35	4897.11	-83.81	55.01	-83.81	100.25	146.72	0.46
5000.00	2.36	130.49	4997.02	-86.71	58.17	-86.71	104.42	146.14	0.26
5100.00	2.21	137.11	5096.94	-89.46	61.05	-89.46	108.31	145.69	0.30
5200.00	2.16	136.95	5196.87	-92.25	63.65	-92.25	112.08	145.40	0.05
5300.00	2.13	137.75	5296.80	-95.00	66.18	-95.00	115.78	145.14	0.04
5400.00	1.55	136.04	5396.75	-97.35	68.37	-97.35	118.96	144.92	0.58
5500.00	1.22	126.32	5496.72	-98.96	70.17	-98.96	121.31	144.66	0.41
5600.00	1.10	127.02	5596.70	-100.16	71.79	-100.16	123.23	144.37	0.12
5700.00	1.13	126.43	5696.68	-101.32	73.34	-101.32	125.08	144.10	0.04

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
5800.00	1.08	133.92	5796.66	-102.56	74.81	-102.56	126.95	143.89	0.15
5900.00	1.12	132.79	5896.64	-103.87	76.21	-103.87	128.83	143.73	0.04
6000.00	0.87	143.22	5996.62	-105.14	77.38	-105.14	130.54	143.65	0.31
6100.00	0.59	133.67	6096.62	-106.10	78.20	-106.10	131.81	143.61	0.30
6200.00	0.38	123.94	6196.61	-106.64	78.85	-106.64	132.63	143.52	0.22
6300.00	0.71	132.26	6296.61	-107.25	79.58	-107.25	133.55	143.42	0.34
6400.00	0.60	124.82	6396.60	-107.96	80.47	-107.96	134.65	143.30	0.14
6500.00	0.45	138.58	6496.60	-108.55	81.15	-108.55	135.53	143.22	0.19
6600.00	0.55	144.54	6596.59	-109.24	81.69	-109.24	136.40	143.21	0.11
6700.00	0.46	166.50	6696.59	-110.02	82.06	-110.02	137.25	143.28	0.21
6800.00	0.54	169.84	6796.59	-110.87	82.24	-110.87	138.04	143.43	0.08
6900.00	0.79	163.25	6896.58	-111.99	82.52	-111.99	139.11	143.62	0.26
7000.00	0.55	177.03	6996.57	-113.13	82.75	-113.13	140.16	143.82	0.28
7100.00	0.57	166.59	7096.57	-114.10	82.89	-114.10	141.03	144.00	0.10
7200.00	0.41	161.04	7196.56	-114.92	83.12	-114.92	141.83	144.12	0.17
7300.00	0.70	157.51	7296.56	-115.83	83.47	-115.83	142.77	144.22	0.30
7400.00	0.85	154.65	7396.55	-117.06	84.02	-117.06	144.09	144.33	0.15
7500.00	1.22	141.07	7496.53	-118.56	85.00	-118.56	145.88	144.36	0.44
7540.00	1.32	155.69	7536.52	-119.31	85.46	-119.31	146.76	144.39	0.84





# Weatherford®

Evaluation, Drilling & Intervention  
10000 West County Rd. 116  
P.O. Box 61028  
Midland, TX USA 79711  
Tel. (432) 561-8892 Fax (432) 561-8895

Devon Energy  
20 North Broadway  
Oklahoma City, OK, 73102

Date: January 5, 2012

Attention: Mark Cooper

Re: Devon Energy  
Well: Cotton Draw Unit 154H  
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 &amp; Title Of Surveyor</u>	<u>Well Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Bruce Loudon MWD Supervisor	154H	7569' MD 12499' MD	12/18/2011 12/30/2011	Measurement While Drilling

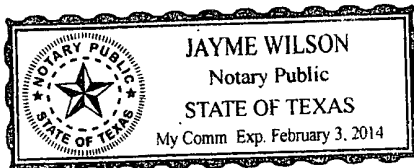
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jesse Aguilar  
Area Manager

On this, the 5<sup>th</sup> day of January, 2012, 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





Cotton Draw #154H  
Eddy Co., New Mexico

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	7540.00	1.32	155.69	7536.52	-119.31	85.46	0.00	0.00	119.57	
2	7600.00	1.32	155.69	7596.51	-120.57	86.03	0.00	0.00	120.83	
3	8573.77	89.71	180.96	8213.66	-747.56	81.57	9.09	25.28	747.80	
4	12577.92	89.71	180.96	8234.00	-4751.10	14.50	0.00	0.00	4751.12	Pbhl

WELL DETAILS							
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#154H	0.00	0.00	424684.63	718954.61	32°09'58.434N	103°45'33.565W	N/A

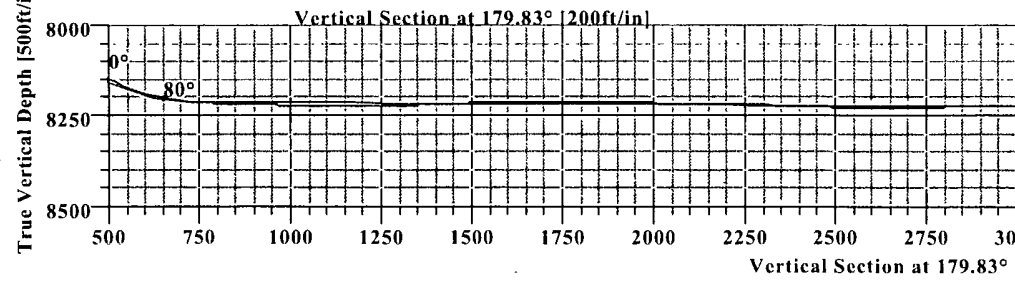
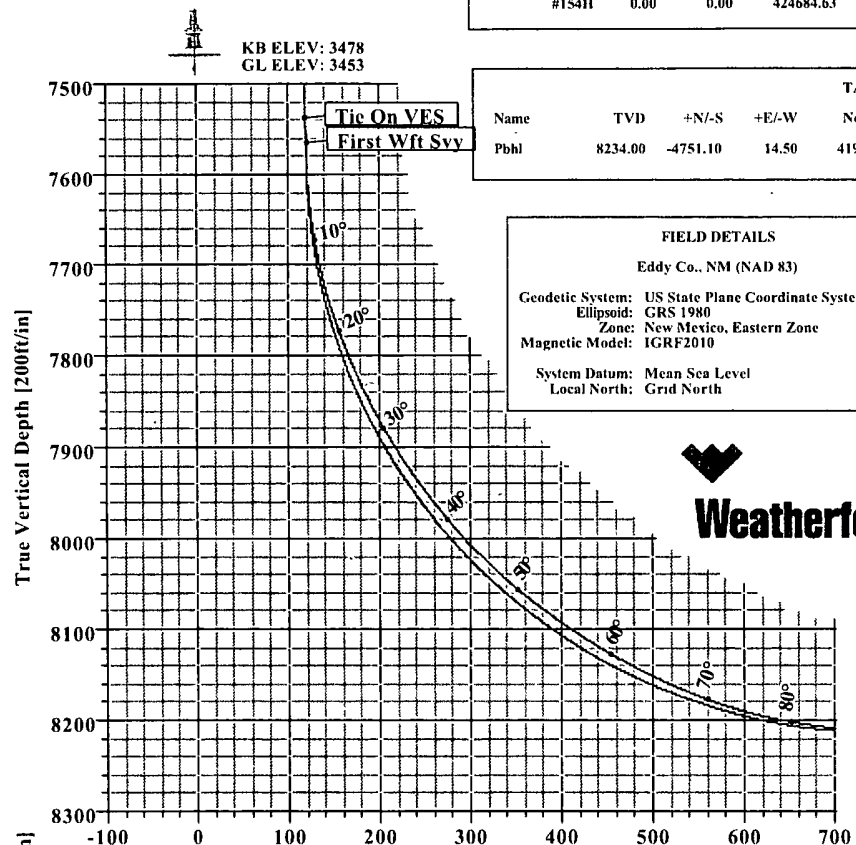
TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Pbhl	8234.00	-4751.10	14.50	419933.53	718969.11	32°09'11.418N	103°45'33.691W	Point

**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

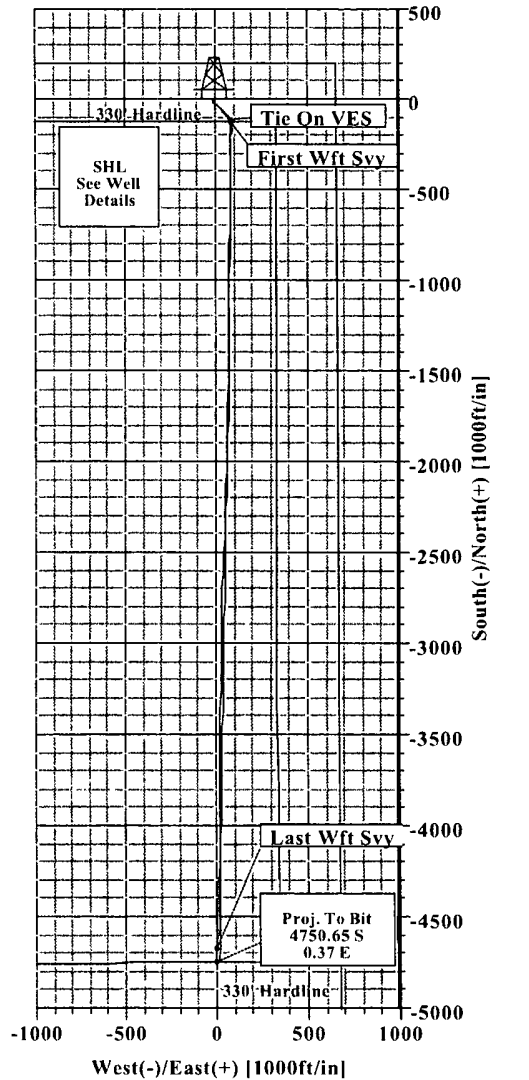
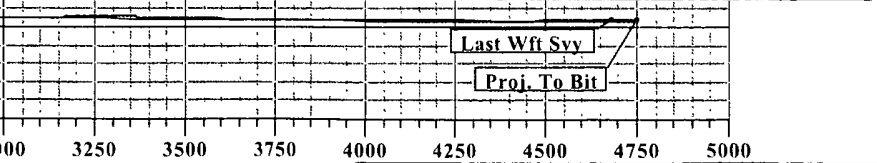
**SITE DETAILS**  
Cotton Draw Unit #154H  
Site Centre Northing: 424684.63  
Easting: 718954.61  
Ground Level: 3453.00  
Positional Uncertainty: 0.00  
Convergence: 0.31

**LEGEND**  

 Azimuths to Grid North  
 True North: -0.31°  
 Magnetic North: 7.31°  
 Magnetic Field Strength: 48544nT  
 Dip Angle: 60.09°  
 Date: 11/15/2011  
 Model: IGRF2010  
 Total Correction to Grid North: 7.31°



Survey: Wft Svy (#154H/I)										
No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	
77	12568.00	91.01	181.91	8227.12	-4750.65	0.37	0.00	0.00	4750.63	



Survey: Wft Svy (#154H/I)  
Created By: Russell W. Joyner Date: 1/2/2012





# Weatherford International Ltd.

## WFT Survey Report X & Y's



<b>Company:</b> Devon Energy	<b>Date:</b> 1/2/2012	<b>Time:</b> 06:11:32	<b>Page:</b> 1
<b>Field:</b> Eddy Co., NM (NAD 83)	<b>Co-ordinate(NE) Reference:</b> Well: #154H, Grid North		
<b>Site:</b> Cotton Draw Unit #154H	<b>Vertical (TVD) Reference:</b> SITE 3479.0		
<b>Well:</b> #154H	<b>Section (VS) Reference:</b> Well (0.00N,0.00E,179.83Azi)		
<b>Wellpath:</b> 1	<b>Survey Calculation Method:</b> Minimum Curvature	<b>Db:</b> Sybase	

<b>Survey:</b> Wft Svy	<b>Start Date:</b> 12/23/2011	
<b>Company:</b> Weatherford International Ltd	<b>Engineer:</b> Russell W. Joyner	
<b>Tool:</b> MWD;MWD - Standard	<b>Tied-to:</b> User Defined	

<b>Field:</b> Eddy Co , NM (NAD 83)		
<b>Map System:</b> US State Plane Coordinate System 1983	<b>Map Zone:</b> New Mexico, Eastern Zone	
<b>Geo Datum:</b> GRS 1980	<b>Coordinate System:</b> Well Centre	
<b>Sys Datum:</b> Mean Sea Level	<b>Geomagnetic Model:</b> IGRF2010	

<b>Site:</b> Cotton Draw Unit #154H		
<b>Site Position:</b>	<b>Northing:</b> 424684.63 ft	<b>Latitude:</b> 32 9 58.434 N
<b>From:</b> Map	<b>Easting:</b> 718954.61 ft	<b>Longitude:</b> 103 45 33.565 W
<b>Position Uncertainty:</b> 0.00 ft		<b>North Reference:</b> Grid
<b>Ground Level:</b> 3453.00 ft		<b>Grid Convergence:</b> 0.31 deg

<b>Well:</b> #154H	<b>Slot Name:</b>
<b>Well Position:</b>	<b>+N/-S</b> 0.00 ft <b>Northing:</b> 424684 63 ft <b>Latitude:</b> 32 9 58 434 N
	<b>+E/-W</b> 0.00 ft <b>Easting :</b> 718954 61 ft <b>Longitude:</b> 103 45 33.565 W
<b>Position Uncertainty:</b> 0.00 ft	

<b>Wellpath:</b> 1	<b>Drilled From:</b> Surface
<b>Current Datum:</b> SITE	<b>Tie-on Depth:</b> 0.00 ft
<b>Magnetic Data:</b> 11/15/2011	<b>Above System Datum:</b> Mean Sea Level
<b>Field Strength:</b> 48544 nT	<b>Declination:</b> 7.62 deg
<b>Vertical Section:</b> Depth From (TVD)	<b>Mag Dip Angle:</b> 60.09 deg
ft	<b>+N/-S</b>
	ft
0.00	0.00
	ft
	ft
	deg
	179.83

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	
7540.00	1.32	155.69	7536.52	-119.31	85.46	0.00	119.57	424565.32	719040.07	Tie On VES
7569.00	1.18	148.93	7565.52	-119.87	85.75	0.70	120.13	424564.76	719040.36	First Wft Svy
7601.00	2.43	160.49	7597.50	-120.79	86.15	4.05	121.05	424563.84	719040.76	
7632.00	5.48	171.78	7628.42	-122.88	86.58	10.11	123.14	424561.75	719041.19	
7663.00	8.74	171.96	7659.18	-126.67	87.12	10.52	126.94	424557.96	719041.73	
7695.00	11.52	173.07	7690.68	-132.26	87.85	8.71	132.52	424552.37	719042.46	
7727.00	14.62	175.54	7721.85	-139.46	88.55	9.84	139.72	424545.17	719043.16	
7758.00	18.05	178.60	7751.59	-148.16	88.97	11.40	148.43	424536.47	719043.58	
7789.00	20.70	179.54	7780.83	-158.44	89.13	8.61	158.71	424526.19	719043.74	
7821.00	23.36	181.13	7810.50	-170.44	89.05	8.52	170.71	424514.19	719043.66	
7852.00	26.03	182.27	7838.66	-183.39	88.66	8.75	183.65	424501.24	719043.27	
7883.00	28.78	182.23	7866.18	-197.64	88.10	8.87	197.91	424486.99	719042.71	
7915.00	31.47	182.04	7893.85	-213.69	87.50	8.41	213.95	424470.94	719042.11	
7946.00	33.93	181.59	7919.94	-230.43	86.97	7.97	230.69	424454.20	719041.58	
7977.00	36.73	181.34	7945.22	-248.35	86.52	9.04	248.61	424436.28	719041.13	
8008.00	39.08	181.33	7969.68	-267.39	86.07	7.58	267.64	424417.24	719040.68	
8040.00	41.61	180.56	7994.07	-288.10	85.73	8.06	288.35	424396.53	719040.34	
8071.00	44.69	179.42	8016.68	-309.30	85.74	10.25	309.55	424375.33	719040.35	
8102.00	47.73	178.65	8038.13	-331.67	86.13	9.97	331.92	424352.96	719040.74	
8134.00	50.49	179.14	8059.08	-355.85	86.59	8.70	356.11	424328.78	719041.20	
8165.00	53.11	179.70	8078.25	-380.21	86.83	8.57	380.47	424304.42	719041.44	
8196.00	55.27	180.25	8096.39	-405.35	86.84	7.11	405.61	424279.28	719041.45	
8228.00	58.04	180.36	8113.97	-432.08	86.70	8.66	432.34	424252.55	719041.31	
8259.00	60.50	179.95	8129.81	-458.72	86.63	8.02	458.98	424225.91	719041.24	





# Weatherford International Ltd.

## WFT Survey Report X & Y's



<b>Company:</b> Devon Energy <b>Field:</b> Eddy Co. NM (NAD 83) <b>Site:</b> Cotton Draw Unit #154H <b>Well:</b> #154H <b>Wellpath:</b> 1	<b>Date:</b> 1/2/2012 <b>Co-ordinate(NE) Reference:</b> Well: #154H, Grid North <b>Vertical (TVD) Reference:</b> SITE 3479.0 <b>Section (VS) Reference:</b> Well (0.00N 0.00E: 179.83Azi) <b>Survey Calculation Method:</b> Minimum Curvature	<b>Time:</b> 06:11:32 <b>Page:</b> 2 <b>Db:</b> Sybase
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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	
8290.00	62.87	180.30	8144.52	-486.01	86.57	7.71	486.27	424198.62	719041.18	
8322.00	65.20	180.89	8158.53	-514.78	86.27	7.47	515.03	424169.85	719040.88	
8353.00	67.34	180.88	8171.00	-543.15	85.83	6.90	543.41	424141.48	719040.44	
8384.00	71.60	181.70	8181.87	-572.17	85.17	13.96	572.42	424112.46	719039.78	
8415.00	74.82	181.98	8190.82	-601.83	84.22	10.42	602.08	424082.80	719038.83	
8447.00	78.92	182.11	8198.09	-632.96	83.11	12.82	633.21	424051.67	719037.72	
8478.00	80.76	182.06	8203.56	-663.46	82.00	5.94	663.70	424021.17	719036.61	
8509.00	82.52	182.36	8208.07	-694.10	80.82	5.76	694.34	423990.53	719035.43	
8541.00	85.20	181.53	8211.49	-725.90	79.74	8.76	726.13	423958.73	719034.35	
8632.00	87.44	180.89	8217.33	-816.68	77.82	2.56	816.91	423867.95	719032.43	
8647.00	87.24	180.54	8218.03	-831.67	77.63	2.69	831.90	423852.96	719032.24	
8741.00	89.20	180.08	8220.94	-925.61	77.12	2.14	925.84	423759.02	719031.73	
8835.00	90.03	180.06	8221.58	-1019.61	77.01	0.88	1019.84	423665.02	719031.62	
8929.00	89.62	181.21	8221.86	-1113.60	75.97	1.30	1113.83	423571.03	719030.58	
9022.00	90.24	181.32	8221.98	-1206.58	73.92	0.68	1206.80	423478.05	719028.53	
9117.00	89.96	182.10	8221.81	-1301.54	71.08	0.87	1301.74	423383.09	719025.69	
9210.00	92.34	181.05	8219.95	-1394.47	68.52	2.80	1394.67	423290.16	719023.13	
9304.00	92.28	179.63	8216.16	-1488.39	67.97	1.51	1488.59	423196.24	719022.58	
9398.00	89.90	179.26	8214.37	-1582.37	68.88	2.56	1582.57	423102.26	719023.49	
9492.00	89.55	180.09	8214.82	-1676.36	69.41	0.96	1676.56	423008.27	719024.02	
9586.00	90.17	181.30	8215.05	-1770.35	68.27	1.45	1770.55	422914.28	719022.88	
9680.00	90.66	181.07	8214.37	-1864.33	66.33	0.58	1864.52	422820.30	719020.94	
9775.00	88.43	182.13	8215.12	-1959.28	63.67	2.60	1959.47	422725.35	719018.28	
9868.00	88.85	182.24	8217.33	-2052.19	60.13	0.47	2052.36	422632.44	719014.74	
9962.00	90.10	182.42	8218.19	-2146.11	56.31	1.34	2146.26	422538.52	719010.92	
10057.00	88.57	181.30	8219.29	-2241.04	53.23	2.00	2241.19	422443.59	719007.84	
10151.00	88.35	181.17	8221.82	-2334.99	51.20	0.27	2335.13	422349.64	719005.81	
10244.00	88.28	182.47	8224.55	-2427.90	48.25	1.40	2428.03	422256.73	719002.86	
10338.00	87.87	182.99	8227.71	-2521.74	43.77	0.70	2521.86	422162.89	718998.38	
10432.00	90.52	184.58	8229.03	-2615.51	37.57	3.29	2615.61	422069.12	718992.18	
10527.00	90.59	182.13	8228.11	-2710.34	32.01	2.58	2710.42	421974.29	718986.62	
10621.00	91.57	181.90	8226.34	-2804.26	28.71	1.07	2804.34	421880.37	718983.32	
10715.00	91.57	180.89	8223.77	-2898.20	26.42	1.07	2898.26	421786.43	718981.03	
10809.00	90.11	179.35	8222.39	-2992.18	26.22	2.26	2992.25	421692.45	718980.83	
10903.00	90.31	179.58	8222.04	-3086.18	27.10	0.32	3086.25	421598.45	718981.71	
10998.00	90.80	180.09	8221.12	-3181.17	27.37	0.74	3181.24	421503.46	718981.98	
11092.00	90.17	181.18	8220.33	-3275.16	26.33	1.34	3275.23	421409.47	718980.94	
11185.00	88.50	180.23	8221.41	-3368.14	25.19	2.07	3368.20	421316.49	718979.80	
11279.00	88.71	180.03	8223.69	-3462.12	24.97	0.31	3462.18	421222.51	718979.58	
11373.00	88.70	180.36	8225.82	-3556.09	24.65	0.35	3556.15	421128.54	718979.26	
11467.00	88.92	180.36	8227.77	-3650.07	24.06	0.23	3650.12	421034.56	718978.67	
11561.00	89.13	180.25	8229.37	-3744.05	23.56	0.25	3744.11	420940.58	718978.17	
11655.00	89.55	180.48	8230.45	-3838.05	22.96	0.51	3838.10	420846.58	718977.57	
11749.00	89.26	180.90	8231.43	-3932.03	21.83	0.54	3932.08	420752.60	718976.44	
11843.00	89.27	180.65	8232.64	-4026.02	20.56	0.27	4026.06	420658.61	718975.17	
11937.00	89.48	180.85	8233.66	-4120.00	19.33	0.31	4120.04	420564.63	718973.94	
12031.00	90.24	181.10	8233.89	-4213.99	17.73	0.85	4214.02	420470.64	718972.34	
12125.00	90.45	181.51	8233.32	-4307.96	15.59	0.49	4307.99	420376.67	718970.20	
12219.00	90.52	182.02	8232.53	-4401.91	12.70	0.55	4401.93	420282.72	718967.31	
12313.00	90.80	181.99	8231.45	-4495.85	9.41	0.30	4495.86	420188.78	718964.02	
12407.00	91.01	182.20	8229.96	-4589.78	5.97	0.32	4589.77	420094.85	718960.58	
12499.00	91.01	181.91	8228.34	-4681.70	2.67	0.32	4681.69	420002.93	718957.28	Last Wft Svy



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## WFT Survey Report X & Y's



# Weatherford

<b>Company:</b> Devon Energy	<b>Date:</b> 1/2/2012	<b>Time:</b> 06:11:32	<b>Page:</b> 3
<b>Field:</b> Eddy Co. NM (NAD 83)	<b>Co-ordinate (NE) Reference:</b> Well: #154H, Grid North		
<b>Site:</b> Cotton Draw Unit #154H	<b>Vertical (TVD) Reference:</b> SITE 3479.0		
<b>Well:</b> #154H	<b>Section (VS) Reference:</b> Well: (0.00N, 0.00E, 179.83Azi)		
<b>Wellpath:</b> 1	<b>Survey Calculation Method:</b> Minimum Curvature	<b>Db:</b> 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
12568.00	91.01	181.91	8227.12	-4750.65	0.37	0.00	4750.63	419933.98	718954.98	Proj To Bit

### Annotation

MD ft	TVD ft	
7540.00	7536.52	Tie On VES
7569.00	7565.52	First Wft Svy
12499.00	8228.34	Last Wft Svy
12568.00	8227.12	Proj. To Bit



# Weatherford<sup>®</sup>

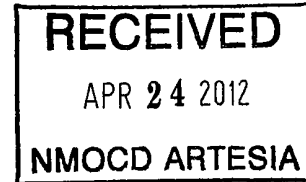
Evaluation, Drilling & Intervention  
10000 West County Rd. 116  
P.O. Box 61028  
Midland, TX USA 79711  
Tel. (432) 561-8892 Fax (432) 561-8895

Devon Energy  
20 North Broadway  
Oklahoma City, OK, 73102

Date: January 5, 2012

Attention: Mark Cooper

Re: Devon Energy  
Well: Cotton Draw Unit 154H  
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 &amp; Title Of Surveyor</u>	<u>Well Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Bruce Loudon MWD Supervisor	154H	7569' MD 12499' MD	12/18/2011 12/30/2011	Measurement While Drilling

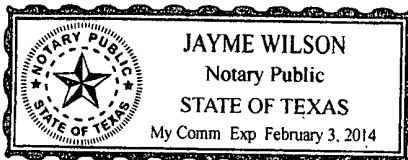
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jesse Aguilar  
Area Manager

On this, the 5<sup>th</sup> day of JANUARY, 2012, 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.

Jayne Wilson  
Notary Public





Cotton Draw #154H  
Eddy Co., New Mexico

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	7540.00	1.32	155.69	7536.52	-119.31	85.46	0.00	0.00	119.57	
2	7600.00	1.32	155.69	7596.51	-120.57	86.03	0.00	0.00	120.83	
3	8573.77	89.71	180.96	8213.66	-747.56	81.57	9.09	25.28	747.80	
4	12577.92	89.71	180.96	8234.00	-4751.10	14.50	0.00	0.00	4751.12	Pbhl

WELL DETAILS							
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#154H	0.00	0.00	424684.63	718954.61	32°09'58.434N	103°45'33.565W	N/A

TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Pbhl	8234.00	-4751.10	14.50	419933.53	718969.11	32°09'11.418N	103°45'33.691W	Point

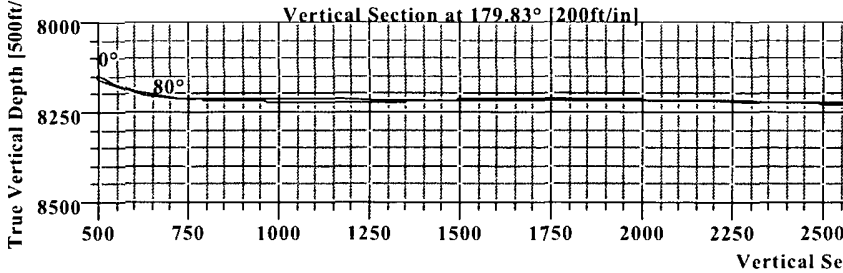
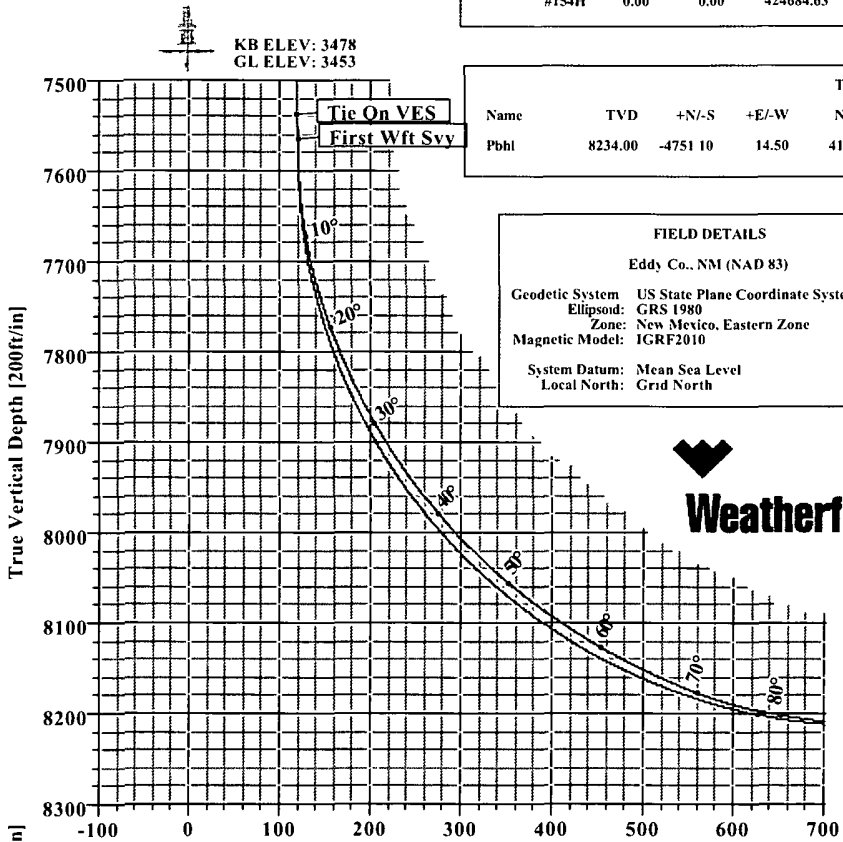
**FIELD DETAILS**  
Eddy Co., NM (NAD 83)  
Geodetic System: US State Plane Coordinate System 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico, Eastern Zone  
Magnetic Model: IGRF2010  
System Datum: Mean Sea Level  
Local North: Grid North

**SITE DETAILS**  
Cotton Draw Unit #154H  
Site Centre Northing: 424684.63  
Easting: 718954.61  
Ground Level: 3453.00  
Positional Uncertainty: 0.00  
Convergence: 0.31

**LEGEND**  

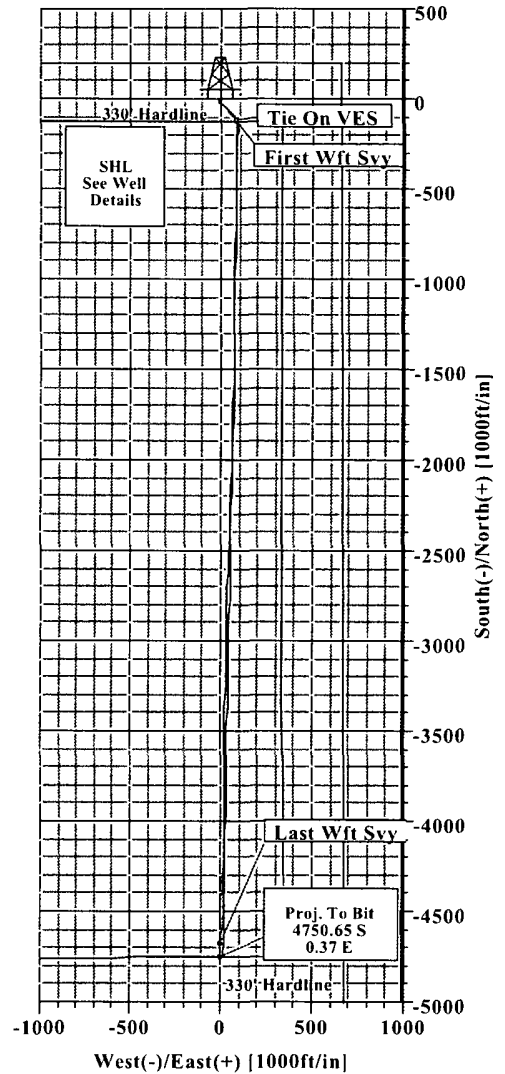
 #154H.1.Plan #4  
 #154H.1.Gyro  
 Wft Svy

**LEGEND**  
 Azimuths to Grid North  
 True North: -0.31°  
 Magnetic North: 7.31°  
 Magnetic Field  
 Strength: 48544nT  
 Dip Angle: 60.09°  
 Date: 11/15/2011  
 Model: IGRF2010  
 Total Correction to Grid North: 7.31°



Survey: Wft Svy (#154H/1)										
No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	
77	12568.00	91.01	181.91	8227.12	-4750.65	0.37	0.00	0.00	4750.63	

Survey: Wft Svy (#154H/1)  
Created By: Russell W. Joyner Date: 1/2/2012





# Weatherford International Ltd.

## WFT Survey Report X & Y's



<b>Company:</b> Devon Energy		<b>Date:</b> 1/2/2012		<b>Time:</b> 06:11:32		<b>Page:</b> 1				
<b>Field:</b> Eddy Co., NM (NAD 83)		<b>Co-ordinate(NE) Reference:</b> Well: #154H, Grid North								
<b>Site:</b> Cotton Draw Unit #154H		<b>Vertical (TVD) Reference:</b> SITE 3479.0								
<b>Well:</b> #154H		<b>Section (VS) Reference:</b> Well (0 00N,0.00E,179 83Azi)								
<b>Wellpath:</b> 1		<b>Survey Calculation Method:</b> Minimum Curvature		<b>Db:</b> Sybase						
<b>Survey:</b> Wft Svy		<b>Start Date:</b> 12/23/2011								
<b>Company:</b> Weatherford International Ltd.		<b>Engineer:</b> Russell W. Joyner								
<b>Tool:</b> MWD;MWD - Standard		<b>Tied-to:</b> User Defined								
<b>Field:</b> Eddy Co , NM (NAD 83)										
<b>Map System:</b> US State Plane Coordinate System 1983				<b>Map Zone:</b> New Mexico, Eastern Zone						
<b>Geo Datum:</b> GRS 1980				<b>Coordinate System:</b> Well Centre						
<b>Sys Datum:</b> Mean Sea Level				<b>Geomagnetic Model:</b> IGRF2010						
<b>Site:</b> Cotton Draw Unit #154H										
<b>Site Position:</b>		<b>Northing:</b> 424684.63 ft		<b>Latitude:</b> 32 9 58.434 N						
<b>From:</b> Map		<b>Easting:</b> 718954.61 ft		<b>Longitude:</b> 103 45 33.565 W						
<b>Position Uncertainty:</b> 0.00 ft				<b>North Reference:</b> Grd						
<b>Ground Level:</b> 3453.00 ft				<b>Grid Convergence:</b> 0.31 deg						
<b>Well:</b> #154H <span style="float: right;"><b>Slot Name:</b></span>										
<b>Well Position:</b>		<b>Northing:</b> 424684.63 ft		<b>Latitude:</b> 32 9 58.434 N						
<b>+N/-S</b> 0.00 ft		<b>Easting :</b> 718954.61 ft		<b>Longitude:</b> 103 45 33.565 W						
<b>+E/-W</b> 0.00 ft										
<b>Position Uncertainty:</b> 0.00 ft										
<b>Wellpath:</b> 1										
<b>Current Datum:</b> SITE		<b>Height</b> 3479.00 ft		<b>Drilled From:</b> Surface						
<b>Magnetic Data:</b> 11/15/2011				<b>Tie-on Depth:</b> 0 00 ft						
<b>Field Strength:</b> 48544 nT				<b>Above System Datum:</b> Mean Sea Level						
<b>Vertical Section:</b> Depth From (TVD)		<b>+N/-S</b>		<b>Declination:</b> 7.62 deg						
ft		ft		<b>Mag Dip Angle:</b> 60.09 deg						
		ft		<b>+E/-W</b>		<b>Direction</b>				
		ft		ft		deg				
0 00		0 00		0 00		179 83				
<b>Survey</b>										
MD	Incl	Azim	TVD	N/S	E/W	DLS	VS	MapN	MapE	Comment
ft	deg	deg	ft	ft	ft	deg/100ft	ft	ft	ft	
7540.00	1.32	155 69	7536 52	-119 31	85 46	0 00	119.57	424565 32	719040 07	Tie On VES
7569.00	1.18	148 93	7565 52	-119 87	85.75	0 70	120.13	424564 76	719040 36	First Wft Svy
7601.00	2.43	160 49	7597 50	-120 79	86 15	4.05	121 05	424563 84	719040.76	
7632.00	5.48	171.78	7628.42	-122.88	86.58	10 11	123.14	424561 75	719041 19	
7663.00	8.74	171.96	7659 18	-126 67	87.12	10 52	126.94	424557 96	719041 73	
7695 00	11 52	173 07	7690 68	-132 26	87.85	8 71	132.52	424552 37	719042.46	
7727 00	14 62	175 54	7721.85	-139 46	88.55	9 84	139.72	424545 17	719043.16	
7758.00	18 05	178 60	7751.59	-148.16	88.97	11 40	148 43	424536.47	719043.58	
7789.00	20 70	179 54	7780 83	-158 44	89.13	8.61	158.71	424526.19	719043.74	
7821.00	23 36	181 13	7810 50	-170 44	89 05	8.52	170 71	424514.19	719043 66	
7852.00	26 03	182.27	7838 66	-183.39	88 66	8.75	183.65	424501 24	719043 27	
7883 00	28.78	182 23	7866 18	-197.64	88 10	8.87	197 91	424486.99	719042 71	
7915.00	31 47	182 04	7893.85	-213.69	87 50	8.41	213.95	424470 94	719042 11	
7946.00	33.93	181.59	7919.94	-230.43	86 97	7.97	230.69	424454 20	719041 58	
7977 00	36.73	181 34	7945 22	-248.35	86 52	9.04	248.61	424436.28	719041 13	
8008.00	39.08	181 33	7969.68	-267.39	86 07	7 58	267.64	424417 24	719040.68	
8040 00	41.61	180 56	7994 07	-288.10	85.73	8 06	288 35	424396.53	719040 34	
8071 00	44.69	179 42	8016 68	-309.30	85 74	10 25	309.55	424375 33	719040 35	
8102.00	47.73	178.65	8038.13	-331.67	86.13	9.97	331 92	424352.96	719040.74	
8134.00	50 49	179 14	8059.08	-355 85	86.59	8.70	356 11	424328 78	719041.20	
8165.00	53.11	179.70	8078.25	-380 21	86 83	8 57	380.47	424304 42	719041 44	
8196.00	55.27	180.25	8096.39	-405.35	86.84	7 11	405 61	424279 28	719041 45	
8228.00	58 04	180.36	8113.97	-432 08	86 70	8.66	432.34	424252 55	719041.31	
8259 00	60 50	179.95	8129.81	-458.72	86.63	8.02	458.98	424225.91	719041 24	



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<b>Wellpath:</b> 1	<b>Survey Calculation Method:</b> Minimum Curvature	<b>Db:</b> 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
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8353.00	67.34	180.88	8171.00	-543.15	85.83	6 90	543.41	424141.48	719040.44	
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8541.00	85.20	181.53	8211.49	-725.90	79.74	8 76	726.13	423958.73	719034.35	
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8647.00	87.24	180.54	8218.03	-831.67	77.63	2 69	831.90	423852.96	719032.24	
8741.00	89.20	180.08	8220.94	-925.61	77.12	2 14	925.84	423759.02	719031.73	
8835.00	90.03	180.06	8221.58	-1019.61	77.01	0 88	1019.84	423665.02	719031.62	
8929.00	89.62	181.21	8221.86	-1113.60	75.97	1.30	1113.83	423571.03	719030.58	
9022.00	90.24	181.32	8221.98	-1206.58	73.92	0 68	1206.80	423478.05	719028.53	
9117.00	89.96	182.10	8221.81	-1301.54	71.08	0 87	1301.74	423383.09	719025.69	
9210.00	92.34	181.05	8219.95	-1394.47	68.52	2 80	1394.67	423290.16	719023.13	
9304.00	92.28	179.63	8216.16	-1488.39	67.97	1 51	1488.59	423196.24	719022.58	
9398.00	89.90	179.26	8214.37	-1582.37	68.88	2 56	1582.57	423102.26	719023.49	
9492.00	89.55	180.09	8214.82	-1676.36	69.41	0 96	1676.56	423008.27	719024.02	
9586.00	90.17	181.30	8215.05	-1770.35	68.27	1 45	1770.55	422914.28	719022.88	
9680.00	90.66	181.07	8214.37	-1864.33	66.33	0 58	1864.52	422820.30	719020.94	
9775.00	88.43	182.13	8215.12	-1959.28	63.67	2 60	1959.47	422725.35	719018.28	
9868.00	88.85	182.24	8217.33	-2052.19	60.13	0.47	2052.36	422632.44	719014.74	
9962.00	90.10	182.42	8218.19	-2146.11	56.31	1 34	2146.26	422538.52	719010.92	
10057.00	88.57	181.30	8219.29	-2241.04	53.23	2 00	2241.19	422443.59	719007.84	
10151.00	88.35	181.17	8221.82	-2334.99	51.20	0 27	2335.13	422349.64	719005.81	
10244.00	88.28	182.47	8224.55	-2427.90	48.25	1.40	2428.03	422256.73	719002.86	
10338.00	87.87	182.99	8227.71	-2521.74	43.77	0 70	2521.86	422162.89	718998.38	
10432.00	90.52	184.58	8229.03	-2615.51	37.57	3.29	2615.61	422069.12	718992.18	
10527.00	90.59	182.13	8228.11	-2710.34	32.01	2 58	2710.42	421974.29	718986.62	
10621.00	91.57	181.90	8226.34	-2804.26	28.71	1 07	2804.34	421880.37	718983.32	
10715.00	91.57	180.89	8223.77	-2898.20	26.42	1 07	2898.26	421786.43	718981.03	
10809.00	90.11	179.35	8222.39	-2992.18	26.22	2 26	2992.25	421692.45	718980.83	
10903.00	90.31	179.58	8222.04	-3086.18	27.10	0 32	3086.25	421598.45	718981.71	
10998.00	90.80	180.09	8221.12	-3181.17	27.37	0 74	3181.24	421503.46	718981.98	
11092.00	90.17	181.18	8220.33	-3275.16	26.33	1 34	3275.23	421409.47	718980.94	
11185.00	88.50	180.23	8221.41	-3368.14	25.19	2 07	3368.20	421316.49	718979.80	
11279.00	88.71	180.03	8223.69	-3462.12	24.97	0.31	3462.18	421222.51	718979.58	
11373.00	88.70	180.36	8225.82	-3556.09	24.65	0.35	3556.15	421128.54	718979.26	
11467.00	88.92	180.36	8227.77	-3650.07	24.06	0.23	3650.12	421034.56	718978.67	
11561.00	89.13	180.25	8229.37	-3744.05	23.56	0.25	3744.11	420940.58	718978.17	
11655.00	89.55	180.48	8230.45	-3838.05	22.96	0 51	3838.10	420846.58	718977.57	
11749.00	89.26	180.90	8231.43	-3932.03	21.83	0 54	3932.08	420752.60	718976.44	
11843.00	89.27	180.65	8232.64	-4026.02	20.56	0 27	4026.06	420658.61	718975.17	
11937.00	89.48	180.85	8233.66	-4120.00	19.33	0.31	4120.04	420564.63	718973.94	
12031.00	90.24	181.10	8233.89	-4213.99	17.73	0.85	4214.02	420470.64	718972.34	
12125.00	90.45	181.51	8233.32	-4307.96	15.59	0 49	4307.99	420376.67	718970.20	
12219.00	90.52	182.02	8232.53	-4401.91	12.70	0 55	4401.93	420282.72	718967.31	
12313.00	90.80	181.99	8231.45	-4495.85	9.41	0.30	4495.86	420188.78	718964.02	
12407.00	91.01	182.20	8229.96	-4589.78	5.97	0.32	4589.77	420094.85	718960.58	
12499.00	91.01	181.91	8228.34	-4681.70	2 67	0 32	4681.69	420002.93	718957.28	Last Wft Svy



# Weatherford International Ltd.

## WFT Survey Report X & Y's



<b>Company:</b> Devon Energy	<b>Date:</b> 1/2/2012	<b>Time:</b> 06:11.32	<b>Page:</b> 3
<b>Field:</b> Eddy Co., NM (NAD 83)	<b>Co-ordinate(NE) Reference:</b> Well. #154H, Grid North		
<b>Site:</b> Cotton Draw Unit #154H	<b>Vertical (TVD) Reference:</b> SITE 3479.0		
<b>Well:</b> #154H	<b>Section (VS) Reference:</b> Well (0 00N,0.00E,179 83Azi)		
<b>Wellpath:</b> 1	<b>Survey Calculation Method:</b> Minimum Curvature	<b>Db:</b> 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
12568.00	91.01	181.91	8227.12	-4750.65	0.37	0.00	4750.63	419933.98	718954.98	Proj To Bit

### Annotation

MD ft	TVD ft	
7540.00	7536.52	Tie On VES
7569.00	7565.52	First Wft Svy
12499.00	8228.34	Last Wft Svy
12568.00	8227.12	Proj. To Bit