

Results of Directional Survey

API number:	30-025-41032			
OGRID:		Operator:	DEVON ENERGY PRODUCTION COMPANY, LP	
		Property:	THISTLE UNIT	# 44H

surface	ULSTR:	N	33	T	23S	R	33E
				350	FSL	1980	FWL

BH Loc	ULSTR:	C	33	T	23S	R	33E
15666	MD	11198.8	TVD	321	FNL	1892	FWL
				4959	FSL		

Top Perf/OH	ULSTR:	N	33	T	23S	R	33E
11386	MD	11252.4	TVD	686	FSL	1862	FWL

Bot Perf/OH	ULSTR:	C	33	T	23S	R	33E
15605	MD	11199.1	TVD	382	FNL	1893	FWL
				4898	FSL		

	MD	N/S	E/W	VD
	11355	307.14	-113.81	11241.18
TOP PERFS/OH	11386	335.72	-118.16	11252.37
	11386	335.72	-118.16	11252.37
	15601	4544.29	-87.39	11199.08
BOT PERFS/OH	15605	4548.29	-87.42	11199.06
	15666	4609.29	-87.83	11198.76

NEXT TO LAST	15601	4544.29	-87.39	11199.08
LAST READING	15666	4609.29	-87.83	11198.76
TD	15666	4609.29	-87.83	11198.76

Surface Location	350	FS	1980	FW
Projected BHL	4959	FS	1892	FW
Location of				
Top Perfs/OH	686	FS	1862	FW
Bottom Perfs/OH	4898	FS	1893	FW

SUMMARY of Subsurface Locations

Surface Location	N-33-23S-33E	350	FS	1980	FW	Vert. Depth
Top Perfs/OH	N-33-23S-33E	686	FS	1862	FW	11252.37
Bottom Perfs/OH	C-33-23S-33E	4898	FS	1893	FW	11199.06
Projected TD	C-33-23S-33E	4959	FS	1892	FW	11198.76

OCT 22 2013



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

A GYRO TECHNOLOGIES INC. COMPANY

July 2, 2013

Devon Energy Production Co., L. P.
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010

Attn: Patti Riechers

Re: **Thistle Unit No. 044H**

HOBBS OCD

OCT 10 2013

RECEIVED

Please find enclosed a copy of the survey from 0.00' to 10718.00' ran on the above referenced well.

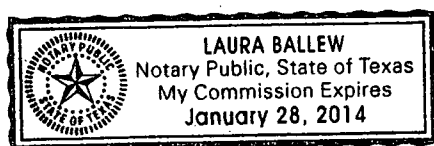
If I can be of any further service please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 2nd day of July, A.D., 2013, by Keith Havelka.



Laura Ballew
Notary Public, State of Texas



Company: Devon Energy
Lease/Well: Thistle Unit /No. 044H
Location: Sec 33 T23S R33E
Rig Name: H&P 416
State/County: New Mexico/Lea
Latitude: 32.26, Longitude: -103.58
GRID North is 0.40 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB 25 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 7/2/2013 / 11:06

Vaughn Energy Services
Midland, Texas
432-563-5444

Surveyor: Chris Bankson
Thistle Unit No. 044H / API 30-025-41032

OCT 10 2013

RECEIVED

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	****
105.45	0.69	122.98	105.45	-0.35	0.53	-0.35	0.64	122.98	0.66
200.50	0.64	106.31	200.49	-0.81	1.52	-0.81	1.72	117.94	0.21
295.55	0.74	109.73	295.53	-1.16	2.61	-1.16	2.85	114.05	0.12
390.60	0.75	78.27	390.58	-1.24	3.79	-1.24	3.99	108.15	0.42
485.65	0.60	126.10	485.62	-1.41	4.80	-1.41	5.01	106.35	0.59
580.70	0.74	116.10	580.66	-1.97	5.76	-1.97	6.09	108.92	0.19
675.75	0.68	121.82	675.71	-2.54	6.79	-2.54	7.25	110.52	0.10
770.80	0.59	137.29	770.75	-3.19	7.60	-3.19	8.24	112.81	0.20
865.85	0.55	135.67	865.80	-3.88	8.24	-3.88	9.11	115.18	0.04
960.90	0.39	144.46	960.84	-4.46	8.75	-4.46	9.82	117.03	0.19
1055.95	0.40	193.15	1055.89	-5.04	8.86	-5.04	10.19	119.65	0.34
1151.00	0.47	180.79	1150.94	-5.76	8.78	-5.76	10.50	123.26	0.13
1246.05	0.60	166.80	1245.98	-6.64	8.89	-6.64	11.09	126.75	0.19
1341.10	0.93	219.77	1341.03	-7.72	8.51	-7.72	11.49	132.21	0.78
1436.15	0.47	162.40	1436.07	-8.68	8.13	-8.68	11.89	136.87	0.83
1531.20	0.35	168.63	1531.12	-9.34	8.30	-9.34	12.49	138.35	0.13
1626.25	0.24	275.30	1626.17	-9.61	8.16	-9.61	12.60	139.65	0.51
1721.30	0.22	297.09	1721.22	-9.50	7.80	-9.50	12.30	140.62	0.10

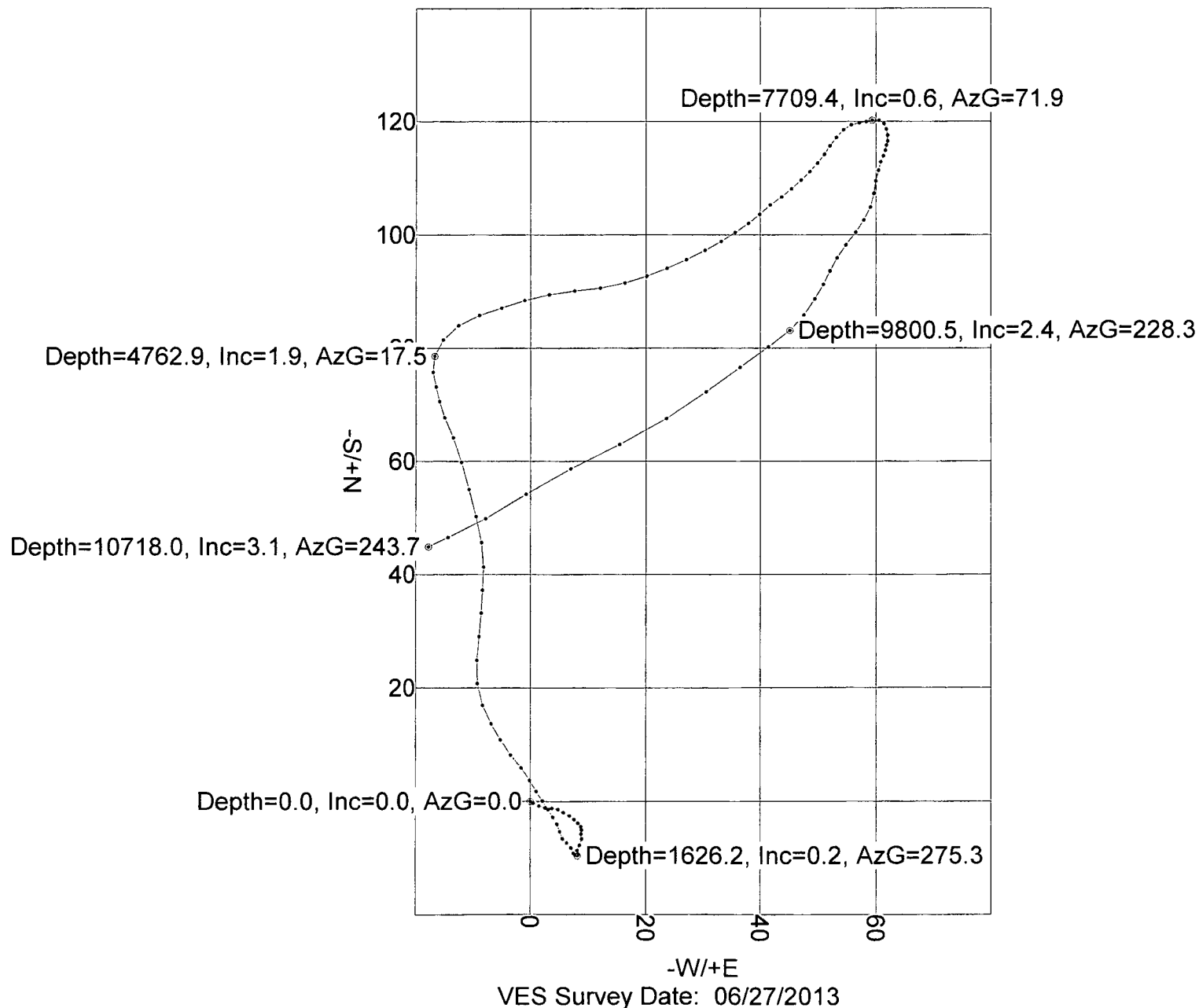
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1816.35	0.35	328.72	1816.27	-9.17	7.49	-9.17	11.84	140.77	0.21
1911.40	0.92	337.61	1911.31	-8.22	7.05	-8.22	10.82	139.39	0.60
2006.45	0.56	293.35	2006.35	-7.33	6.33	-7.33	9.68	139.18	0.68
2101.50	0.78	330.54	2101.40	-6.58	5.59	-6.58	8.63	139.67	0.50
2196.55	0.81	346.68	2196.44	-5.37	5.12	-5.37	7.41	136.38	0.24
2291.60	0.91	334.83	2291.48	-4.03	4.64	-4.03	6.14	130.98	0.22
2386.65	0.83	325.12	2386.52	-2.78	3.93	-2.78	4.81	125.32	0.18
2481.70	1.04	330.11	2481.55	-1.47	3.10	-1.47	3.43	115.35	0.24
2576.75	1.15	327.54	2576.59	0.09	2.16	0.09	2.16	87.71	0.13
2671.80	1.26	325.83	2671.61	1.76	1.06	1.76	2.05	31.03	0.12
2766.85	1.51	331.39	2766.64	3.73	-0.13	3.73	3.73	357.98	0.30
2861.90	1.65	321.00	2861.65	5.89	-1.59	5.89	6.11	344.87	0.33
2956.95	1.88	320.91	2956.65	8.17	-3.44	8.17	8.86	337.17	0.24
3052.00	2.07	332.05	3051.65	10.89	-5.22	10.89	12.08	334.37	0.45
3147.05	1.87	327.87	3146.64	13.72	-6.85	13.72	15.33	333.46	0.26
3242.10	2.45	340.44	3241.63	16.95	-8.36	16.95	18.90	333.75	0.79
3337.15	2.36	354.00	3336.59	20.81	-9.24	20.81	22.77	336.05	0.61
3432.20	2.59	3.99	3431.55	24.90	-9.30	24.90	26.58	339.52	0.51
3527.25	2.49	5.24	3526.51	29.09	-8.96	29.09	30.44	342.88	0.12
3622.30	2.50	5.09	3621.47	33.21	-8.59	33.21	34.31	345.50	0.01
3717.35	2.38	0.88	3716.43	37.25	-8.37	37.25	38.18	347.33	0.22
3812.40	2.50	3.40	3811.40	41.30	-8.22	41.30	42.11	348.74	0.16
3907.45	2.78	348.90	3906.35	45.63	-8.54	45.63	46.42	349.40	0.76
4002.50	2.93	346.97	4001.28	50.26	-9.53	50.26	51.15	349.26	0.18
4097.55	2.99	344.55	4096.20	55.01	-10.74	55.01	56.05	348.95	0.15
4192.60	3.03	345.51	4191.12	59.84	-12.03	59.84	61.03	348.63	0.06
4287.65	2.52	336.76	4286.06	64.18	-13.48	64.18	65.58	348.14	0.70
4382.70	2.06	337.47	4381.04	67.68	-14.96	67.68	69.32	347.53	0.48
4477.75	1.59	348.02	4476.04	70.55	-15.89	70.55	72.32	347.31	0.61
4572.80	1.63	346.10	4571.05	73.15	-16.49	73.15	74.99	347.30	0.07
4667.85	1.57	351.84	4666.06	75.75	-17.00	75.75	77.63	347.35	0.18
4762.90	1.94	17.45	4761.07	78.57	-16.70	78.57	80.33	348.00	0.90
4857.95	2.03	35.85	4856.06	81.47	-15.23	81.47	82.88	349.41	0.67
4953.00	2.49	55.60	4951.04	84.00	-12.55	84.00	84.93	351.50	0.94
5048.05	2.42	71.75	5046.00	85.79	-8.94	85.79	86.26	354.05	0.73
5143.10	2.53	71.00	5140.97	87.10	-5.05	87.10	87.25	356.68	0.12
5238.15	2.57	72.58	5235.92	88.42	-1.04	88.42	88.43	359.33	0.09
5333.20	2.72	79.61	5330.87	89.47	3.21	89.47	89.52	2.05	0.37
5428.25	2.64	83.97	5425.82	90.10	7.60	90.10	90.42	4.82	0.23

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
5523.30	2.79	82.35	5520.76	90.64	12.07	90.64	91.44	7.59	0.17
5618.35	2.50	74.05	5615.71	91.52	16.36	91.52	92.97	10.13	0.51
5713.40	2.32	70.38	5710.68	92.74	20.16	92.74	94.90	12.27	0.24
5808.45	2.22	66.55	5805.65	94.12	23.67	94.12	97.05	14.12	0.19
5903.50	2.29	65.18	5900.63	95.65	27.08	95.65	99.41	15.81	0.09
5998.55	2.10	62.16	5995.61	97.26	30.35	97.26	101.88	17.33	0.23
6093.60	1.81	59.14	6090.60	98.84	33.18	98.84	104.26	18.55	0.33
6188.65	1.74	54.14	6185.61	100.45	35.63	100.45	106.58	19.53	0.18
6283.70	1.64	57.97	6280.62	102.02	37.96	102.02	108.85	20.41	0.16
6378.75	1.42	42.10	6375.63	103.62	39.90	103.62	111.03	21.06	0.50
6473.80	1.58	53.45	6470.65	105.27	41.74	105.27	113.24	21.63	0.35
6568.85	1.30	55.88	6565.67	106.65	43.68	106.65	115.25	22.27	0.30
6663.90	1.47	44.97	6660.69	108.12	45.44	108.12	117.28	22.79	0.33
6758.95	1.28	49.09	6755.71	109.67	47.09	109.67	119.36	23.24	0.22
6854.00	1.26	44.15	6850.74	111.11	48.62	111.11	121.29	23.63	0.12
6949.05	1.19	38.04	6945.77	112.64	49.96	112.64	123.22	23.92	0.16
7044.10	1.14	35.46	7040.80	114.18	51.11	114.18	125.10	24.11	0.07
7139.15	1.02	30.65	7135.83	115.68	52.09	115.68	126.86	24.24	0.16
7234.20	1.23	43.02	7230.86	117.15	53.21	117.15	128.67	24.43	0.34
7329.25	1.01	40.10	7325.90	118.53	54.44	118.53	130.44	24.67	0.24
7424.30	0.97	75.49	7420.93	119.37	55.76	119.37	131.75	25.04	0.63
7519.35	0.77	76.50	7515.97	119.72	57.15	119.72	132.66	25.52	0.21
7614.40	0.68	81.82	7611.02	119.95	58.33	119.95	133.38	25.93	0.12
7709.45	0.63	71.89	7706.06	120.19	59.39	120.19	134.06	26.29	0.13
7804.50	0.82	104.19	7801.10	120.18	60.54	120.18	134.57	26.74	0.47
7899.55	0.59	153.03	7896.15	119.58	61.43	119.58	134.44	27.19	0.65
7994.60	0.68	163.40	7991.19	118.61	61.81	118.61	133.75	27.53	0.15
8089.65	0.66	173.18	8086.23	117.53	62.04	117.53	132.89	27.83	0.12
8184.70	0.53	187.13	8181.28	116.54	62.05	116.54	132.03	28.03	0.20
8279.75	0.44	203.31	8276.32	115.77	61.85	115.77	131.25	28.11	0.17
8374.80	0.66	184.82	8371.37	114.89	61.66	114.89	130.39	28.22	0.30
8469.85	0.63	212.85	8466.41	113.90	61.33	113.90	129.36	28.30	0.33
8564.90	0.81	197.12	8561.46	112.82	60.85	112.82	128.18	28.34	0.28
8659.95	1.02	192.48	8656.49	111.35	60.46	111.35	126.71	28.50	0.23
8755.00	1.32	195.83	8751.52	109.47	59.98	109.47	124.83	28.72	0.33
8850.05	1.37	181.39	8846.55	107.28	59.66	107.28	122.75	29.08	0.36
8945.10	1.64	203.67	8941.57	104.90	59.08	104.90	120.39	29.39	0.67
9040.15	1.44	210.64	9036.58	102.62	57.93	102.62	117.84	29.44	0.29
9135.20	1.64	214.58	9131.60	100.48	56.55	100.48	115.30	29.37	0.24

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
9230.25	1.79	220.22	9226.61	98.23	54.82	98.23	112.50	29.17	0.24
9325.30	1.57	206.30	9321.62	95.94	53.29	95.94	109.74	29.05	0.48
9420.35	1.55	208.43	9416.63	93.64	52.10	93.64	107.15	29.09	0.06
9515.40	1.59	203.64	9511.64	91.29	50.96	91.29	104.55	29.17	0.14
9610.45	2.05	214.36	9606.65	88.68	49.47	88.68	101.54	29.15	0.60
9705.50	2.03	213.60	9701.64	85.87	47.58	85.87	98.17	28.99	0.03
9800.55	2.42	228.29	9796.61	83.13	45.14	83.13	94.60	28.50	0.73
9895.60	3.27	234.54	9891.55	80.22	41.43	80.22	90.29	27.32	0.95
9990.65	4.18	233.45	9986.39	76.59	36.44	76.59	84.81	25.45	0.97
10085.70	4.67	233.80	10081.16	72.24	30.53	72.24	78.43	22.91	0.51
10180.75	5.45	238.14	10175.84	67.57	23.58	67.57	71.57	19.24	0.92
10275.80	5.89	242.79	10270.43	62.96	15.41	62.96	64.82	13.75	0.67
10370.85	5.56	243.43	10365.00	58.67	6.95	58.67	59.08	6.76	0.36
10465.90	5.21	235.93	10459.63	54.20	-0.74	54.20	54.20	359.22	0.83
10560.95	4.86	241.56	10554.32	49.86	-7.85	49.86	50.47	351.05	0.63
10656.00	3.98	244.83	10649.08	46.54	-14.38	46.54	48.71	342.83	0.97
10718.00	3.08	243.71	10710.97	44.89	-17.82	44.89	48.29	338.35	1.46



Vaughn Energy Services
Midland, Texas
432-563-5444
Surveyor: Chris Bankson
Thistle Unit No. 044H / API 30-025-41032





Thistle Unit 44H
Lea County, New Mexico

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	11576.00	89.37	359.03	11280.98	521.58	-134.83	0.00	0.00	523.70	
2	11657.52	91.00	0.86	11280.71	603.10	-134.91	3.00	48.31	605.21	
3	15666.11	91.00	0.86	11211.00	4610.63	-75.00	0.00	0.00	4611.24	PBHL

WELL DETAILS

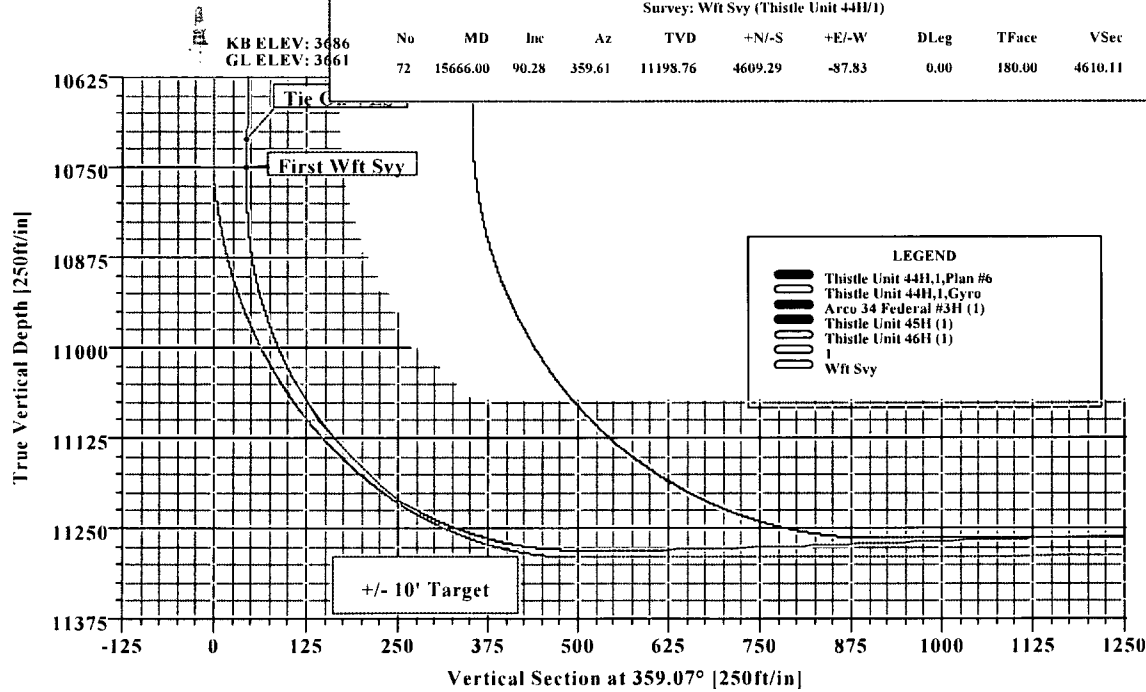
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Thistle Unit 44H	0.00	0.00	457321.40	774378.37	32°15'18.00"N	103°34'46.129"W	N/A

TARGET DETAILS

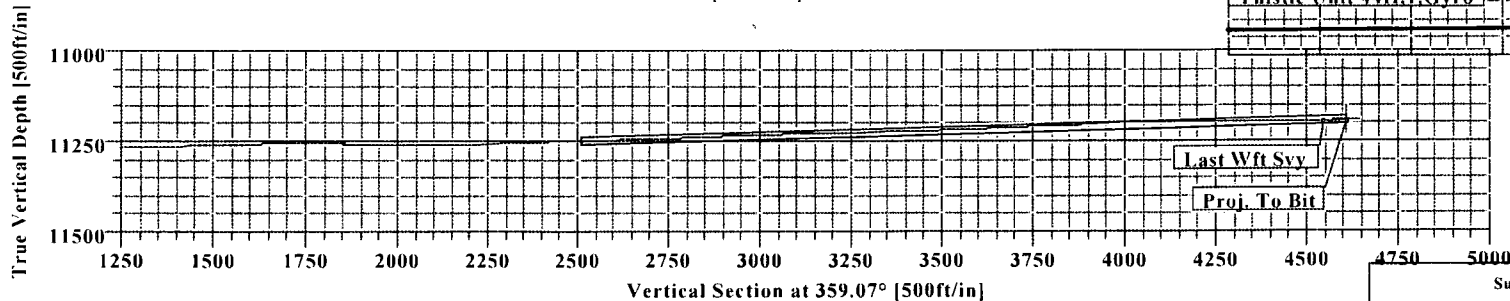
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	11191.00	4610.63	-75.00	461932.03	774303.37	Rectangle (2100x75)

Survey: Wft Svy (Thistle Unit 44H/1)

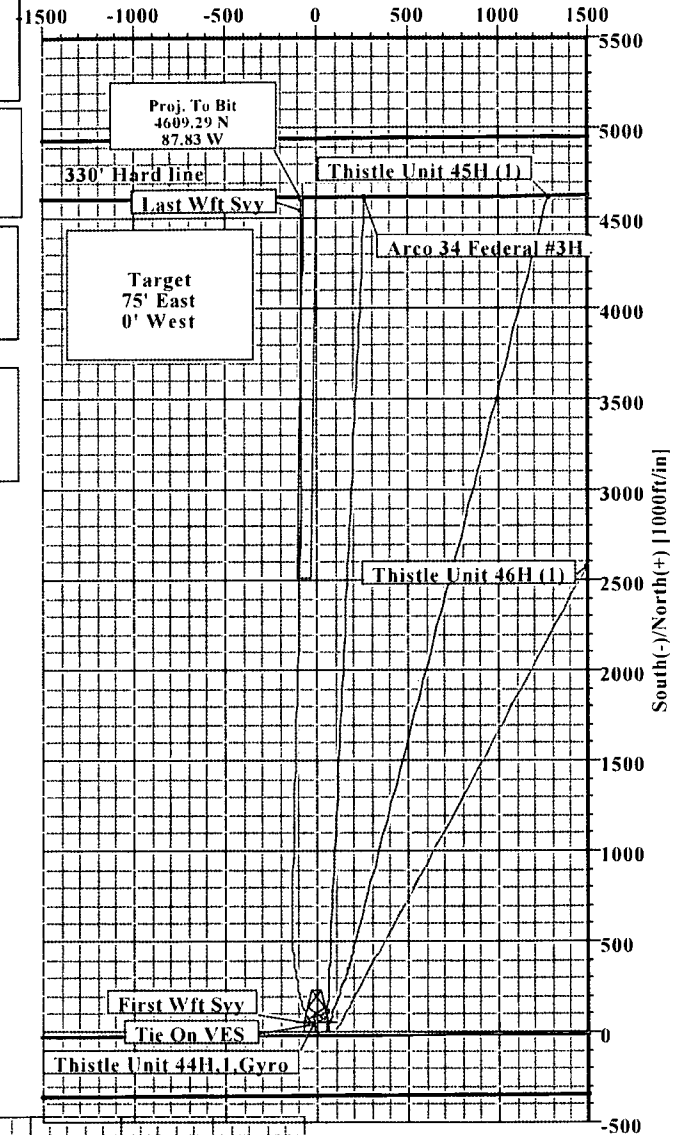
No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
72	15666.00	90.28	359.61	11198.76	4609.29	-87.83	0.00	180.00	4610.11



- LEGEND**
- Thistle Unit 44H, I, Plan #6
 - Thistle Unit 44H, I, Gyro
 - Arco 34 Federal #3H (1)
 - Thistle Unit 45H (1)
 - Thistle Unit 46H (1)
 - Wft Svy



West(-)/East(+) [1000ft/in]



Weatherford

Survey: Wft Svy (Thistle Unit 44H/1)

Created By: Russell W. Joyner

Date: 7/7/2013



HOBBS OCD
OCT 10 2013

Weatherford

WFT Survey Report X & Y's



Weatherford®

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Site: Thistle Unit 44H
Well: Thistle Unit 44H
Wellpath: 1

Date: 7/7/2013 Time: 09:14:25 Page: 1
Co-ordinate(NE) Reference: Well: Thistle Unit 44H, Grid North
Vertical (TVD) Reference: SITE 3686.0
Section (VS) Reference: Well (0.00N,0.00E,359.07Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: Wft Svy

Start Date: 6/28/2013

Company: Weatherford
Tool: MWD;MWD - Standard

Engineer: Russell W. Joyner
Tied-to: User Defined

Site: Thistle Unit 44H

Site Position: Northing: 457321.40 ft Latitude: 32 15 18.000 N
From: Map Easting: 774378.37 ft Longitude: 103 34 46.129 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 3661.00 ft Grid Convergence: 0.40 deg

Well: Thistle Unit 44H

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 457321.40 ft Latitude: 32 15 18.000 N
+E/-W 0.00 ft Easting: 774378.37 ft Longitude: 103 34 46.129 W
Position Uncertainty: 0.00 ft

Wellpath: 1

Current Datum: SITE Height 3686.00 ft
Magnetic Data: 7/1/2013
Field Strength: 48455 nT
Vertical Section: Depth From (TVD) +N/-S
ft ft
0.00 0.00 0.00 359.07

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
10718.00	3.08	243.71	10710.97	44.89	-17.82	0.00	45.17	457366.29	774360.55	Tie On VES First Wft Svy
10756.00	2.85	256.00	10748.92	44.21	-19.65	1.77	44.52	457365.61	774358.72	
10788.00	3.74	277.19	10780.87	44.15	-21.46	4.67	44.49	457365.55	774356.91	
10819.00	6.41	299.26	10811.75	45.12	-23.97	10.52	45.50	457366.52	774354.40	
10850.00	9.36	305.03	10842.45	47.41	-27.55	9.84	47.85	457368.81	774350.82	
10882.00	12.64	310.38	10873.86	51.18	-32.35	10.72	51.69	457372.58	774346.02	
10913.00	15.59	319.95	10903.92	56.56	-37.61	12.10	57.17	457377.96	774340.76	
10945.00	18.48	327.00	10934.52	64.11	-43.14	11.09	64.80	457385.51	774335.23	
10976.00	21.32	329.49	10963.67	73.09	-48.68	9.56	73.87	457394.49	774329.69	
11008.00	24.64	331.35	10993.12	83.96	-54.84	10.62	84.84	457405.36	774323.53	
11039.00	27.53	333.69	11020.96	96.05	-61.11	9.89	97.03	457417.45	774317.26	
11071.00	30.57	337.08	11048.94	110.18	-67.56	10.80	111.27	457431.58	774310.81	
11103.00	34.07	339.90	11075.98	126.10	-73.81	11.91	127.28	457447.50	774304.56	
11134.00	37.29	342.62	11101.15	143.22	-79.60	11.58	144.50	457464.62	774298.77	
11166.00	40.59	344.02	11126.04	162.49	-85.37	10.67	163.85	457483.89	774293.00	
11197.00	43.48	346.32	11149.07	182.55	-90.67	10.56	184.00	457503.95	774287.70	
11231.00	46.44	348.95	11173.12	206.02	-95.79	10.28	207.54	457527.42	774282.58	
11262.00	50.33	349.98	11193.71	228.80	-100.03	12.79	230.39	457550.20	774278.34	
11294.00	56.27	349.84	11212.82	254.05	-104.52	18.57	255.71	457575.45	774273.85	
11323.00	62.43	349.90	11227.60	278.59	-108.90	21.24	280.32	457599.99	774269.47	
11355.00	67.32	350.60	11241.18	307.14	-113.81	15.41	308.95	457628.54	774264.56	
11386.00	70.37	352.08	11252.37	335.72	-118.16	10.80	337.59	457657.12	774260.21	
11418.00	73.91	353.00	11262.18	365.91	-122.11	11.40	367.85	457687.31	774256.26	
11449.00	77.36	353.87	11269.87	395.74	-125.54	11.46	397.73	457717.14	774252.83	
11481.00	81.78	354.37	11275.66	427.04	-128.76	13.90	429.07	457748.44	774249.61	
11513.00	85.94	355.14	11279.09	458.72	-131.67	13.22	460.79	457780.12	774246.70	
11544.00	88.88	357.13	11280.49	489.61	-133.75	11.45	491.71	457811.01	774244.62	
11576.00	89.37	359.03	11280.98	521.58	-134.83	6.13	523.70	457842.98	774243.54	
11670.00	91.33	0.65	11280.40	615.57	-135.09	2.71	617.69	457936.97	774243.28	
11733.00	91.54	0.57	11278.82	678.55	-134.42	0.36	680.64	457999.95	774243.95	



Weatherford

WFT Survey Report X & Y's

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Site: Thistle Unit 44H
Well: Thistle Unit 44H
Wellpath: 1

Date: 7/7/2013 Time: 09:14:25 Page: 2
Co-ordinate(NE) Reference: Well: Thistle Unit 44H, Grid North
Vertical (TVD) Reference: SITE 3686.0
Section (VS) Reference: Well (0.00N,0.00E,359.07Azi)
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
11828.00	91.75	0.72	11276.10	773.51	-133.35	0.27	775.57	458094.91	774245.02	
11923.00	92.31	0.90	11272.73	868.44	-132.01	0.62	870.46	458189.84	774246.36	
12017.00	91.89	1.31	11269.29	962.36	-130.19	0.62	964.34	458283.76	774248.18	
12112.00	92.24	1.48	11265.86	1057.27	-127.88	0.41	1059.20	458378.67	774250.49	
12206.00	89.86	1.41	11264.14	1151.21	-125.51	2.53	1153.10	458472.61	774252.86	
12301.00	90.00	1.21	11264.26	1246.19	-123.34	0.26	1248.03	458567.59	774255.03	
12395.00	90.49	1.63	11263.86	1340.16	-121.01	0.69	1341.95	458661.56	774257.36	
12490.00	90.84	1.78	11262.75	1435.11	-118.19	0.40	1436.84	458756.51	774260.18	
12584.00	91.47	1.83	11260.86	1529.04	-115.23	0.67	1530.71	458850.44	774263.14	
12679.00	92.03	1.86	11257.96	1623.95	-112.17	0.59	1625.56	458945.35	774266.20	
12774.00	89.51	1.28	11256.68	1718.90	-109.57	2.72	1720.45	459040.30	774268.80	
12869.00	89.65	1.60	11257.38	1813.86	-107.18	0.37	1815.37	459135.26	774271.19	
12963.00	88.39	1.97	11258.98	1907.80	-104.25	1.40	1909.24	459229.20	774274.12	
13080.00	89.44	1.81	11261.20	2024.72	-100.39	0.91	2026.08	459346.12	774277.98	
13175.00	90.84	1.03	11260.97	2119.68	-98.04	1.69	2121.00	459441.08	774280.33	
13270.00	91.82	0.87	11258.76	2214.64	-96.46	1.05	2215.92	459536.04	774281.91	
13364.00	91.75	0.64	11255.83	2308.59	-95.23	0.26	2309.83	459629.99	774283.14	
13459.00	91.47	1.01	11253.17	2403.54	-93.86	0.49	2404.75	459724.94	774284.51	
13554.00	91.68	1.70	11250.55	2498.48	-91.61	0.76	2499.64	459819.88	774286.76	
13648.00	91.40	0.54	11248.03	2592.43	-89.78	1.27	2593.54	459913.83	774288.59	
13743.00	91.61	1.02	11245.53	2687.38	-88.48	0.55	2688.47	460008.78	774289.89	
13838.00	92.17	1.08	11242.40	2782.32	-86.74	0.59	2783.36	460103.72	774291.63	
13932.00	93.08	1.59	11238.09	2876.19	-84.56	1.11	2877.18	460197.59	774293.81	
14027.00	91.33	0.98	11234.44	2971.09	-82.43	1.95	2972.04	460292.49	774295.94	
14122.00	92.17	1.36	11231.54	3066.03	-80.49	0.97	3066.93	460387.43	774297.88	
14216.00	91.05	359.99	11228.90	3159.98	-79.38	1.88	3160.85	460481.38	774298.99	
14311.00	91.12	0.21	11227.10	3254.96	-79.22	0.24	3255.82	460576.36	774299.15	
14406.00	91.12	359.35	11225.24	3349.94	-79.58	0.91	3350.79	460671.34	774298.79	
14501.00	91.61	359.23	11222.98	3444.91	-80.76	0.53	3445.77	460766.31	774297.61	
14596.00	92.10	359.15	11219.90	3539.85	-82.10	0.52	3540.72	460861.25	774296.27	
14691.00	92.52	358.85	11216.07	3634.76	-83.76	0.54	3635.64	460956.16	774294.61	
14785.00	93.15	358.70	11211.43	3728.62	-85.76	0.69	3729.52	461050.02	774292.61	
14880.00	91.54	359.37	11207.54	3823.52	-87.36	1.84	3824.44	461144.92	774291.01	
14975.00	92.66	359.36	11204.06	3918.45	-88.42	1.18	3919.37	461239.85	774289.95	
15070.00	92.66	1.34	11199.65	4013.34	-87.84	2.08	4014.24	461334.74	774290.53	
15164.00	90.07	359.88	11197.41	4107.30	-86.84	3.16	4108.17	461428.70	774291.53	
15259.00	89.58	0.06	11197.70	4202.30	-86.89	0.55	4203.16	461523.70	774291.48	
15354.00	89.58	359.79	11198.40	4297.30	-87.01	0.28	4298.14	461618.70	774291.36	
15448.00	89.65	0.11	11199.03	4391.29	-87.09	0.35	4392.13	461712.69	774291.28	
15543.00	90.07	359.86	11199.26	4486.29	-87.12	0.51	4487.12	461807.69	774291.25	
15601.00	90.28	359.61	11199.08	4544.29	-87.39	0.56	4545.11	461865.69	774290.98	Last Wft Svy
15666.00	90.28	359.61	11198.76	4609.29	-87.83	0.00	4610.11	461930.69	774290.54	Proj. To Bit

Annotation

MD ft	TVD ft	
10718.00	10710.97	Tie On VES
10756.00	10748.92	First Wft Svy
15601.00	11199.08	Last Wft Svy
15666.00	11198.76	Proj. To Bit



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
333 W. Sherridan Ave
Oklahoma City, OK, 73102

Date: July 9, 2013

Attention: Kurtis Schmitz

HOBBS OCD

Re: Devon Energy
Well: Thistle Unit 44H
Lea County, New Mexico

OCT 10 2013

RECEIVED

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>
Dave Latch MWD Supervisor	44H	10756 MD 15601 MD	6/24/2013 7/7/2013	Measurement While Drilling

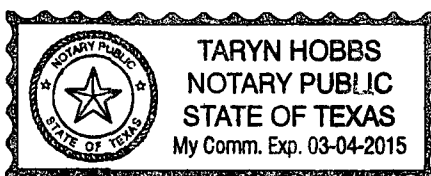
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jesus Aguilar
MWD Coordinator

On this, the 9th day of July, 2013, before me a notary public, the undersigned officer, personally appeared Jesus 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





Weatherford

WFT Survey Report X & Y's

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Site: Thistle Unit 44H
Well: Thistle Unit 44H
Wellpath: 1

Date: 7/7/2013 Time: 09:14:25 Page: 1
Co-ordinate(NE) Reference: Well: Thistle Unit 44H, Grid North
Vertical (TVD) Reference: SITE 3686.0
Section (VS) Reference: Well (0.00N,0.00E,359.07Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: Wft Svy Start Date: 6/28/2013

Company: Weatherford Engineer: Russell W. Joyner
Tool: MWD/MWD - Standard Tied-to: User Defined

Site: Thistle Unit 44H

Site Position: Northing: 457321.40 ft Latitude: 32 15 18.000 N
From: Map Easting: 774378.37 ft Longitude: 103 34 46.129 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 3661.00 ft Grid Convergence: 0.40 deg

Well: Thistle Unit 44H Slot Name:

Well Position: +N/-S 0.00 ft Northing: 457321.40 ft Latitude: 32 15 18.000 N
+E/-W 0.00 ft Easting: 774378.37 ft Longitude: 103 34 46.129 W
Position Uncertainty: 0.00 ft

Wellpath: 1

Current Datum: SITE Height 3686.00 ft
Magnetic Data: 7/1/2013
Field Strength: 48455 nT
Vertical Section: Depth From (TVD) +N/-S
ft ft
0.00 0.00 0.00 359.07

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 7.34 deg
Mag Dip Angle: 60.16 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
10718.00	3.08	243.71	10710.97	44.89	-17.82	0.00	45.17	457366.29	774360.55	Tie On VES
10756.00	2.85	256.00	10748.92	44.21	-19.65	1.77	44.52	457365.61	774358.72	First Wft Svy
10788.00	3.74	277.19	10780.87	44.15	-21.46	4.67	44.49	457365.55	774356.91	
10819.00	6.41	299.26	10811.75	45.12	-23.97	10.52	45.50	457366.52	774354.40	
10850.00	9.36	305.03	10842.45	47.41	-27.55	9.84	47.85	457368.81	774350.82	
10882.00	12.64	310.38	10873.86	51.18	-32.35	10.72	51.69	457372.58	774346.02	
10913.00	15.59	319.95	10903.92	56.56	-37.61	12.10	57.17	457377.96	774340.76	
10945.00	18.48	327.00	10934.52	64.11	-43.14	11.09	64.80	457385.51	774335.23	
10976.00	21.32	329.49	10963.67	73.09	-48.68	9.56	73.87	457394.49	774329.69	
11008.00	24.64	331.35	10993.12	83.96	-54.84	10.62	84.84	457405.36	774323.53	
11039.00	27.53	333.69	11020.96	96.05	-61.11	9.89	97.03	457417.45	774317.26	
11071.00	30.57	337.08	11048.94	110.18	-67.56	10.80	111.27	457431.58	774310.81	
11103.00	34.07	339.90	11075.98	126.10	-73.81	11.91	127.28	457447.50	774304.56	
11134.00	37.29	342.62	11101.15	143.22	-79.60	11.58	144.50	457464.62	774298.77	
11166.00	40.59	344.02	11126.04	162.49	-85.37	10.67	163.85	457483.89	774293.00	
11197.00	43.48	346.32	11149.07	182.55	-90.67	10.56	184.00	457503.95	774287.70	
11231.00	46.44	348.95	11173.12	206.02	-95.79	10.28	207.54	457527.42	774282.58	
11262.00	50.33	349.98	11193.71	228.80	-100.03	12.79	230.39	457550.20	774278.34	
11294.00	56.27	349.84	11212.82	254.05	-104.52	18.57	255.71	457575.45	774273.85	
11323.00	62.43	349.90	11227.60	278.59	-108.90	21.24	280.32	457599.99	774269.47	
11355.00	67.32	350.60	11241.18	307.14	-113.81	15.41	308.95	457628.54	774264.56	
11386.00	70.37	352.08	11252.37	335.72	-118.16	10.80	337.59	457657.12	774260.21	
11418.00	73.91	353.00	11262.18	365.91	-122.11	11.40	367.85	457687.31	774256.26	
11449.00	77.36	353.87	11269.87	395.74	-125.54	11.46	397.73	457717.14	774252.83	
11481.00	81.78	354.37	11275.66	427.04	-128.76	13.90	429.07	457748.44	774249.61	
11513.00	85.94	355.14	11279.09	458.72	-131.67	13.22	460.79	457780.12	774246.70	
11544.00	88.88	357.13	11280.49	489.61	-133.75	11.45	491.71	457811.01	774244.62	
11576.00	89.37	359.03	11280.98	521.58	-134.83	6.13	523.70	457842.98	774243.54	
11670.00	91.33	0.65	11280.40	615.57	-135.09	2.71	617.69	457936.97	774243.28	
11733.00	91.54	0.57	11278.82	678.55	-134.42	0.36	680.64	457999.95	774243.95	



Weatherford

WFT Survey Report X & Y's

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Site: Thistle Unit 44H
Well: Thistle Unit 44H
Wellpath: 1

Date: 7/7/2013 Time: 09:14:25 Page: 2
Co-ordinate(NE) Reference: Well: Thistle Unit 44H, Grid North
Vertical (TVD) Reference: SITE 3686.0
Section (VS) Reference: Well (0.00N,0.00E,359.07Azi)
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
11828.00	91.75	0.72	11276.10	773.51	-133.35	0.27	775.57	458094.91	774245.02	
11923.00	92.31	0.90	11272.73	868.44	-132.01	0.62	870.46	458189.84	774246.36	
12017.00	91.89	1.31	11269.29	962.36	-130.19	0.62	964.34	458283.76	774248.18	
12112.00	92.24	1.48	11265.86	1057.27	-127.88	0.41	1059.20	458378.67	774250.49	
12206.00	89.86	1.41	11264.14	1151.21	-125.51	2.53	1153.10	458472.61	774252.86	
12301.00	90.00	1.21	11264.26	1246.19	-123.34	0.26	1248.03	458567.59	774255.03	
12395.00	90.49	1.63	11263.86	1340.16	-121.01	0.69	1341.95	458661.56	774257.36	
12490.00	90.84	1.78	11262.75	1435.11	-118.19	0.40	1436.84	458756.51	774260.18	
12584.00	91.47	1.83	11260.86	1529.04	-115.23	0.67	1530.71	458850.44	774263.14	
12679.00	92.03	1.86	11257.96	1623.95	-112.17	0.59	1625.56	458945.35	774266.20	
12774.00	89.51	1.28	11256.68	1718.90	-109.57	2.72	1720.45	459040.30	774268.80	
12869.00	89.65	1.60	11257.38	1813.86	-107.18	0.37	1815.37	459135.26	774271.19	
12963.00	88.39	1.97	11258.98	1907.80	-104.25	1.40	1909.24	459229.20	774274.12	
13080.00	89.44	1.81	11261.20	2024.72	-100.39	0.91	2026.08	459346.12	774277.98	
13175.00	90.84	1.03	11260.97	2119.68	-98.04	1.69	2121.00	459441.08	774280.33	
13270.00	91.82	0.87	11258.76	2214.64	-96.46	1.05	2215.92	459536.04	774281.91	
13364.00	91.75	0.64	11255.83	2308.59	-95.23	0.26	2309.83	459629.99	774283.14	
13459.00	91.47	1.01	11253.17	2403.54	-93.86	0.49	2404.75	459724.94	774284.51	
13554.00	91.68	1.70	11250.55	2498.48	-91.61	0.76	2499.64	459819.88	774286.76	
13648.00	91.40	0.54	11248.03	2592.43	-89.78	1.27	2593.54	459913.83	774288.59	
13743.00	91.61	1.02	11245.53	2687.38	-88.48	0.55	2688.47	460008.78	774289.89	
13838.00	92.17	1.08	11242.40	2782.32	-86.74	0.59	2783.36	460103.72	774291.63	
13932.00	93.08	1.59	11238.09	2876.19	-84.56	1.11	2877.18	460197.59	774293.81	
14027.00	91.33	0.98	11234.44	2971.09	-82.43	1.95	2972.04	460292.49	774295.94	
14122.00	92.17	1.36	11231.54	3066.03	-80.49	0.97	3066.93	460387.43	774297.88	
14216.00	91.05	359.99	11228.90	3159.98	-79.38	1.88	3160.85	460481.38	774298.99	
14311.00	91.12	0.21	11227.10	3254.96	-79.22	0.24	3255.82	460576.36	774299.15	
14406.00	91.12	359.35	11225.24	3349.94	-79.58	0.91	3350.79	460671.34	774298.79	
14501.00	91.61	359.23	11222.98	3444.91	-80.76	0.53	3445.77	460766.31	774297.61	
14596.00	92.10	359.15	11219.90	3539.85	-82.10	0.52	3540.72	460861.25	774296.27	
14691.00	92.52	358.85	11216.07	3634.76	-83.76	0.54	3635.64	460956.16	774294.61	
14785.00	93.15	358.70	11211.43	3728.62	-85.76	0.69	3729.52	461050.02	774292.61	
14880.00	91.54	359.37	11207.54	3823.52	-87.36	1.84	3824.44	461144.92	774291.01	
14975.00	92.66	359.36	11204.06	3918.45	-88.42	1.18	3919.37	461239.85	774289.95	
15070.00	92.66	1.34	11199.65	4013.34	-87.84	2.08	4014.24	461334.74	774290.53	
15164.00	90.07	359.88	11197.41	4107.30	-86.84	3.16	4108.17	461428.70	774291.53	
15259.00	89.58	0.06	11197.70	4202.30	-86.89	0.55	4203.16	461523.70	774291.48	
15354.00	89.58	359.79	11198.40	4297.30	-87.01	0.28	4298.14	461618.70	774291.36	
15448.00	89.65	0.11	11199.03	4391.29	-87.09	0.35	4392.13	461712.69	774291.28	
15543.00	90.07	359.86	11199.26	4486.29	-87.12	0.51	4487.12	461807.69	774291.25	
15601.00	90.28	359.61	11199.08	4544.29	-87.39	0.56	4545.11	461865.69	774290.98	Last Wft Svy
15666.00	90.28	359.61	11198.76	4609.29	-87.83	0.00	4610.11	461930.69	774290.54	Proj. To Bit

Annotation

MD ft	TVD ft	
10718.00	10710.97	Tie On VES
10756.00	10748.92	First Wft Svy
15601.00	11199.08	Last Wft Svy
15666.00	11198.76	Proj. To Bit



Thistle Unit 44H
Lea County, New Mexico

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	11576.00	89.37	359.03	11280.98	521.58	-134.83	0.00	0.00	523.70	
2	11657.52	91.00	0.86	11280.71	603.10	-134.91	3.00	48.31	605.21	
3	15666.11	91.00	0.86	11211.00	4610.63	-75.00	0.00	0.00	4611.24	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Thistle Unit 44H	0.00	0.00	457321.40	774378.37	32°15'18.000N	103°34'46.129W	N/A

TARGET DETAILS

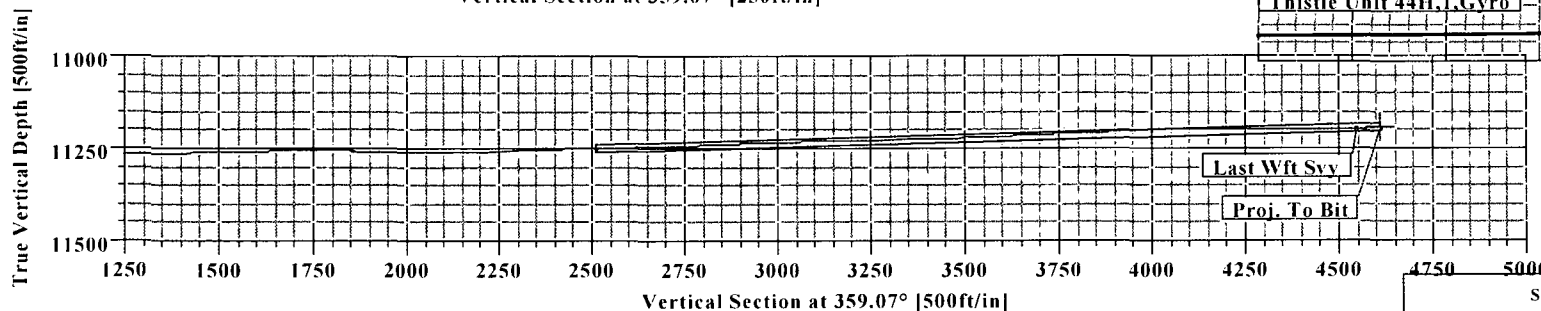
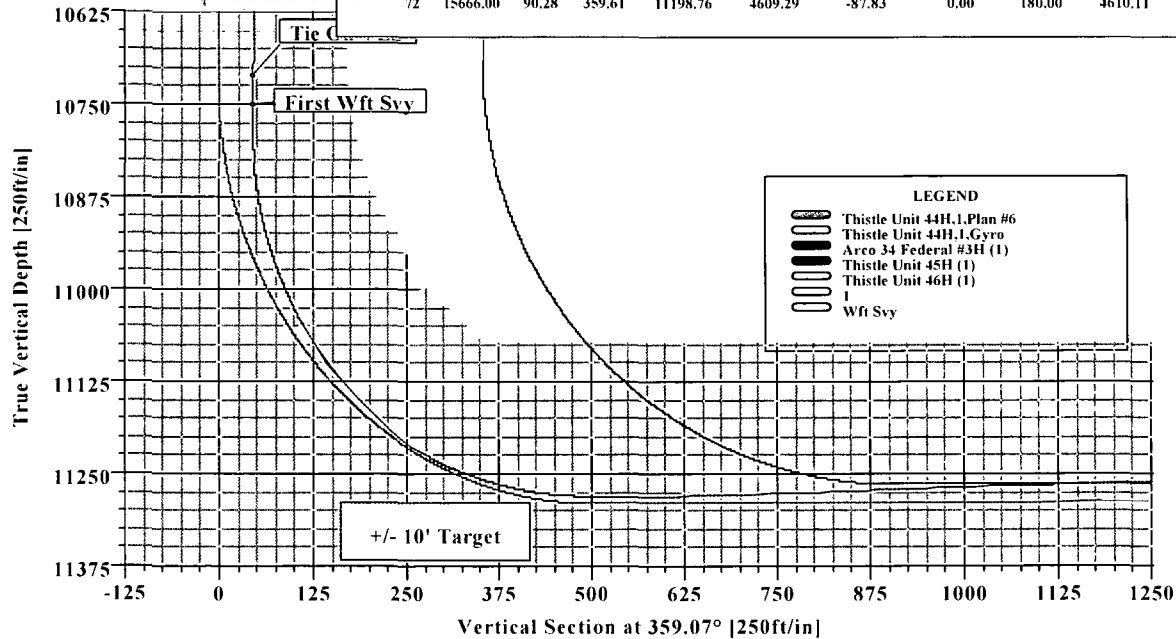
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	11191.00	4610.63	-75.00	461932.03	774303.37	Rectangle (2100x75)

Survey: Wft Svy (Thistle Unit 44H/1)

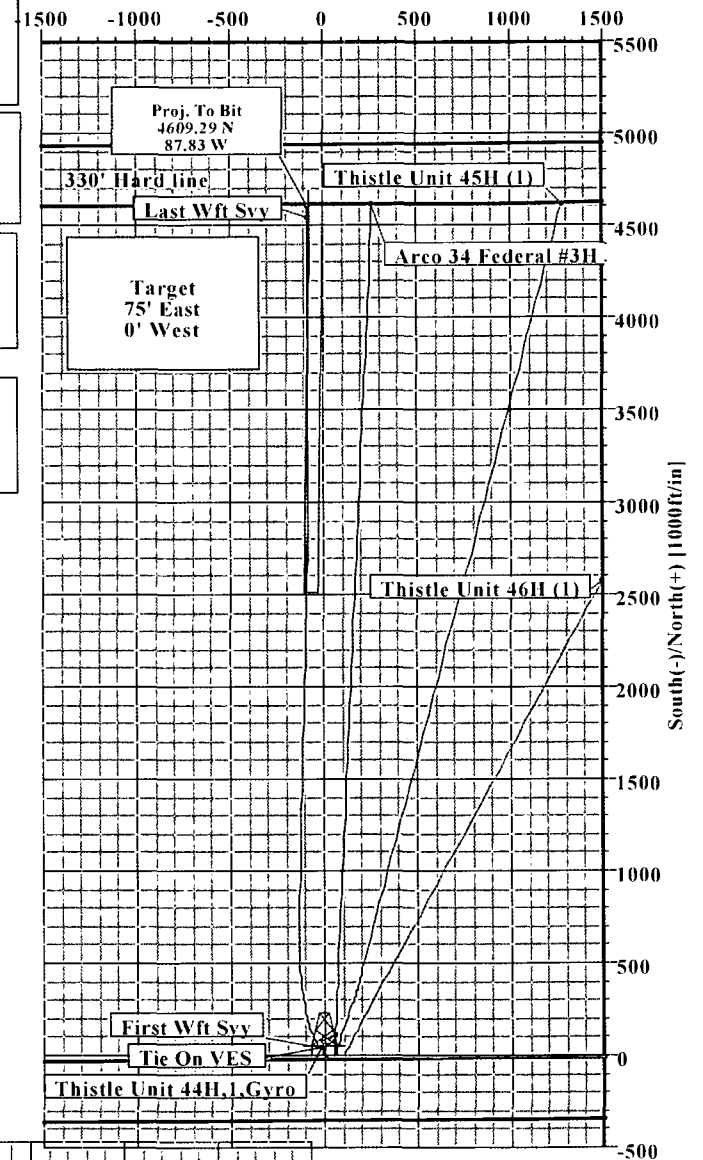
No	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
72	15666.00	90.28	359.61	11198.76	4609.29	-87.83	0.00	180.00	4610.11

LEGEND

- Thistle Unit 44H.1.Plan #6
- Thistle Unit 44H.1.Gyro
- Arco 34 Federal #3H (1)
- Thistle Unit 45H (1)
- Thistle Unit 46H (1)
- Wft Svy



West(-)/East(+) [1000ft/in]



Weatherford

Survey: Wft Svy (Thistle Unit 44H/1)

Created By: Russell W. Joyner

Date: 7/7/2013