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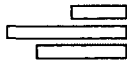
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Drilling Services

30-025-41253

Proposal



devon

THISTLE UNIT 48H

LEA COUNTY, NM

WELL FILE: **PLAN 1**

JUNE 27, 2013

Weatherford International, Ltd.

P.O. Box 61028

Midland, TX 79711 USA

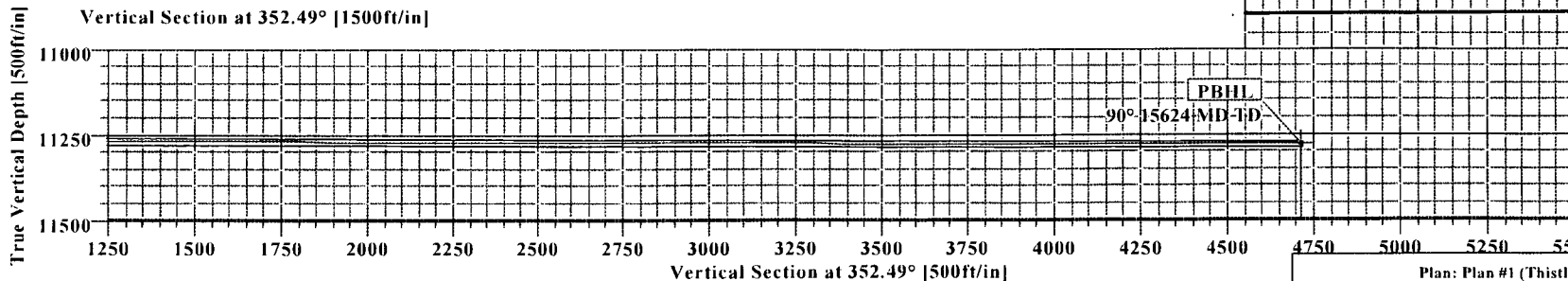
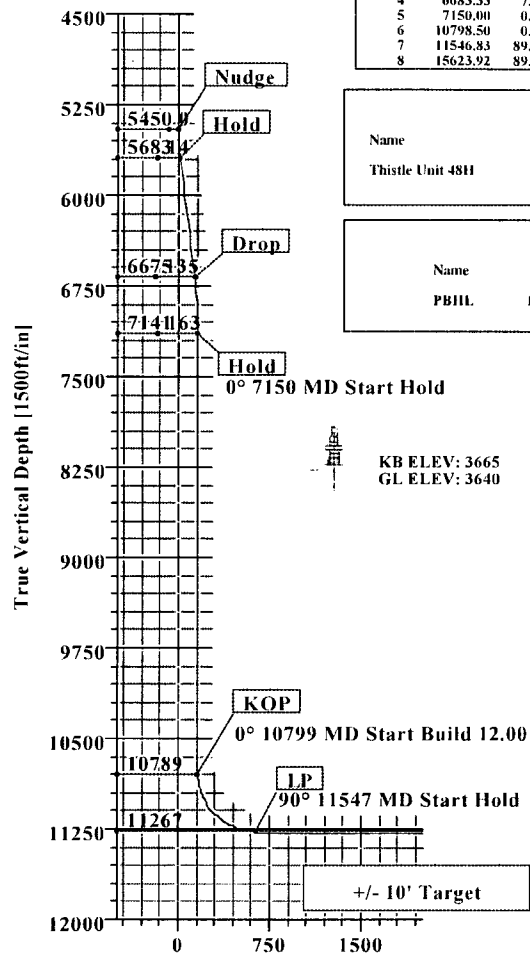
+1.432.561.8892 Main

+1.432.561.8895 Fax

www.weatherford.com

JUL 11 2013

devon
Thistle Unit 48H
Lea County, New Mexico



Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	352.49	0.00	0.00	0.00	0.00	0.00	0.00	
2	5450.00	0.00	352.49	5450.00	0.00	0.00	0.00	352.49	0.00	
3	5683.33	7.00	0.00	5682.75	14.24	0.00	3.00	0.00	14.11	
4	6683.33	7.00	0.00	6675.30	136.11	0.00	0.00	0.00	134.94	
5	7150.00	0.00	352.22	7140.81	164.58	0.00	1.50	180.00	163.17	
6	10798.50	0.00	352.22	10789.31	164.58	0.00	0.00	0.00	163.17	
7	11546.83	89.80	352.22	11266.77	635.99	-64.44	12.00	352.22	638.96	
8	15623.92	89.80	352.22	11281.00	4675.49	-616.62	0.00	0.00	4715.98	PBHL

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Thistle Unit 48H	0.00	0.00	457286.54	780234.28	32°15'17.243N	103°33'37.942W	N/A

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	11281.00	4675.49	-616.62	461962.03	779617.66	Rectangle (4078x50)

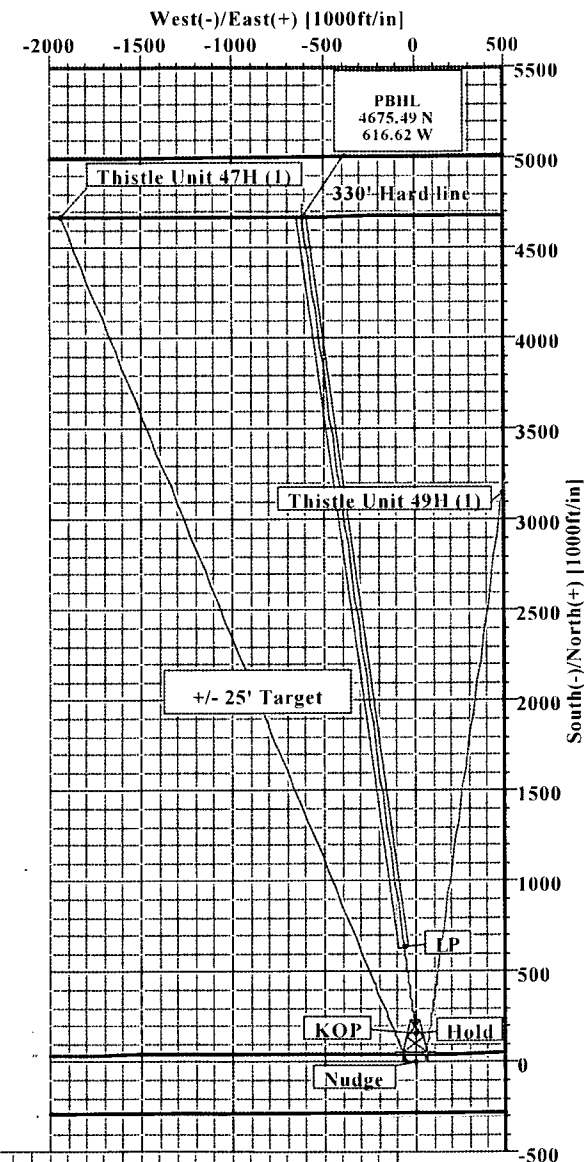
Thistle Unit 48H	
Site Centre Northing:	457286.54
Easting:	780234.28
Ground Level:	3640.00
Positional Uncertainty:	0.00
Convergence:	0.41

	Thistle Unit 47H (1)
	Thistle Unit 49H (1)
	Plan #1



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Weatherford Wft Plan Report X Y's.

**Weatherford**

Company: Devon Energy		Date: 6/27/2013	Time: 07:21:08	Page: 1
Field: Lea County, New Mexico (NAD 83)		Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North		
Site: Thistle Unit 48H		Vertical (TVD) Reference: SITE 3655.0		
Well: Thistle Unit 48H		Section (VS) Reference: Well (0.00N,0.00E,352.49Azi)		
Wellpath: 1		Survey Calculation Method: Minimum Curvature Db: Sybase		

Plan: Plan #1	Date Composed: 6/26/2013
Principal: Yes	Version: 1
	Tied-to: From Surface

Site: Thistle Unit 48H	
Site Position:	Northing: 457286.54 ft Latitude: 32 15 17.243 N
From: Map	Easting: 780234.28 ft Longitude: 103 33 37.942 W
Position Uncertainty: 0.00 ft	North Reference: Grid
Ground Level: 3640.00 ft	Grid Convergence: 0.41 deg

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Well: Thistle Unit 48H		Slot Name:	
Well Position: +N/-S 0.00 ft	Northing: 457286.54 ft	Latitude: 32 15 17.243 N	
+E/-W 0.00 ft	Easting: 780234.28 ft	Longitude: 103 33 37.942 W	
Position Uncertainty: 0.00 ft			

Wellpath: 1	Drilled From: Surface		
Current Datum: SITE	Tie-on Depth: 0.00 ft		
Magnetic Data: 1/30/2014	Above System Datum: Mean Sea Level		
Field Strength: 48399 nT	Declination: 7.26 deg		
Vertical Section: Depth From (TVD)	Mag Dip Angle: 60.15 deg		
ft	+N/-S	+E/-W	Direction
	ft	ft	deg
0.00	0.00	0.00	352.49

Plan Section Information										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	352.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5450.00	0.00	352.49	5450.00	0.00	0.00	0.00	0.00	0.00	352.49	
5683.33	7.00	0.00	5682.75	14.24	0.00	3.00	3.00	0.00	0.00	
6683.33	7.00	0.00	6675.30	136.11	0.00	0.00	0.00	0.00	0.00	
7150.00	0.00	352.22	7140.81	164.58	0.00	1.50	-1.50	0.00	180.00	
10798.50	0.00	352.22	10789.31	164.58	0.00	0.00	0.00	0.00	0.00	
11546.83	89.80	352.22	11266.77	635.99	-64.44	12.00	12.00	0.00	352.22	
15623.92	89.80	352.22	11281.00	4675.49	-616.62	0.00	0.00	0.00	0.00	PBHL

Survey										
MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comments
5400.00	0.00	352.49	5400.00	0.00	0.00	0.00	0.00	457286.54	780234.28	
5450.00	0.00	352.49	5450.00	0.00	0.00	0.00	0.00	457286.54	780234.28	Nudge
5500.00	1.50	0.00	5499.99	0.65	0.00	0.65	3.00	457287.19	780234.28	
5600.00	4.50	0.00	5599.85	5.89	0.00	5.84	3.00	457292.43	780234.28	
5683.33	7.00	0.00	5682.75	14.24	0.00	14.11	3.00	457300.78	780234.28	Hold
5700.00	7.00	0.00	5699.30	16.27	0.00	16.13	0.00	457302.81	780234.28	
5800.00	7.00	0.00	5798.55	28.45	0.00	28.21	0.00	457314.99	780234.28	
5900.00	7.00	0.00	5897.80	40.64	0.00	40.29	0.00	457327.18	780234.28	
6000.00	7.00	0.00	5997.06	52.83	0.00	52.37	0.00	457339.37	780234.28	
6100.00	7.00	0.00	6096.31	65.01	0.00	64.46	0.00	457351.55	780234.28	
6200.00	7.00	0.00	6195.57	77.20	0.00	76.54	0.00	457363.74	780234.28	
6300.00	7.00	0.00	6294.82	89.39	0.00	88.62	0.00	457375.93	780234.28	
6400.00	7.00	0.00	6394.08	101.58	0.00	100.70	0.00	457388.12	780234.28	
6500.00	7.00	0.00	6493.33	113.76	0.00	112.79	0.00	457400.30	780234.28	
6600.00	7.00	0.00	6592.59	125.95	0.00	124.87	0.00	457412.49	780234.28	
6683.33	7.00	0.00	6675.30	136.11	0.00	134.94	0.00	457422.65	780234.28	Drop
6700.00	6.75	0.00	6691.85	138.10	0.00	136.92	1.50	457424.64	780234.28	
6800.00	5.25	0.00	6791.30	148.55	0.00	147.28	1.50	457435.09	780234.28	
6900.00	3.75	0.00	6890.98	156.40	0.00	155.06	1.50	457442.94	780234.28	
7000.00	2.25	0.00	6990.84	161.63	0.00	160.25	1.50	457448.17	780234.28	



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Wft Plan Report X Y's.

**Weatherford®**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Site: Thistle Unit 48H
Well: Thistle Unit 48H
Wellpath: 1

Date: 6/27/2013 Time: 07:21:08 Page: 2
Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North
Vertical (TVD) Reference: SITE 3655.0
Section (VS) Reference: Well (0.00N,0.00E,352.49Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
7100.00	0.75	0.00	7090.81	164.25	0.00	162.84	1.50	457450.79	780234.28	
7150.00	0.00	352.22	7140.81	164.58	0.00	163.17	1.50	457451.12	780234.28	Hold
7200.00	0.00	352.22	7190.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
7300.00	0.00	352.22	7290.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
7400.00	0.00	352.22	7390.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
7500.00	0.00	352.22	7490.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
7600.00	0.00	352.22	7590.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
7700.00	0.00	352.22	7690.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
7800.00	0.00	352.22	7790.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
7900.00	0.00	352.22	7890.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
8000.00	0.00	352.22	7990.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
8100.00	0.00	352.22	8090.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
8200.00	0.00	352.22	8190.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
8300.00	0.00	352.22	8290.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
8400.00	0.00	352.22	8390.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
8500.00	0.00	352.22	8490.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
8600.00	0.00	352.22	8590.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
8700.00	0.00	352.22	8690.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
8800.00	0.00	352.22	8790.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
8900.00	0.00	352.22	8890.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
9000.00	0.00	352.22	8990.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
9100.00	0.00	352.22	9090.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
9200.00	0.00	352.22	9190.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
9300.00	0.00	352.22	9290.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
9400.00	0.00	352.22	9390.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
9500.00	0.00	352.22	9490.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
9600.00	0.00	352.22	9590.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
9700.00	0.00	352.22	9690.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
9800.00	0.00	352.22	9790.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
9900.00	0.00	352.22	9890.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
10000.00	0.00	352.22	9990.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
10100.00	0.00	352.22	10090.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
10200.00	0.00	352.22	10190.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
10300.00	0.00	352.22	10290.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
10400.00	0.00	352.22	10390.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
10500.00	0.00	352.22	10490.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
10600.00	0.00	352.22	10590.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
10700.00	0.00	352.22	10690.81	164.58	0.00	163.17	0.00	457451.12	780234.28	
10798.50	0.00	352.22	10789.31	164.58	0.00	163.17	0.00	457451.12	780234.28	KOP
10800.00	0.18	352.22	10790.81	164.58	0.00	163.17	12.00	457451.12	780234.28	
10900.00	12.18	352.22	10890.04	175.23	-1.46	173.91	12.00	457461.77	780232.82	
11000.00	24.18	352.22	10984.88	206.08	-5.67	205.06	12.00	457492.62	780228.61	
11100.00	36.18	352.22	11071.17	255.80	-12.47	255.24	12.00	457542.34	780221.81	
11200.00	48.18	352.22	11145.13	322.21	-21.55	322.26	12.00	457608.75	780212.73	
11300.00	60.18	352.22	11203.55	402.40	-32.51	403.19	12.00	457688.94	780201.77	
11400.00	72.18	352.22	11243.86	492.87	-44.88	494.51	12.00	457779.41	780189.40	
11500.00	84.18	352.22	11264.31	589.67	-58.11	592.21	12.00	457876.21	780176.17	
11546.83	89.80	352.22	11266.77	635.99	-64.44	638.96	12.00	457922.53	780169.84	LP
11600.00	89.80	352.22	11266.95	688.67	-71.64	692.12	0.00	457975.21	780162.64	
11700.00	89.80	352.22	11267.30	787.75	-85.18	792.12	0.00	458074.29	780149.10	
11800.00	89.80	352.22	11267.65	886.82	-98.73	892.12	0.00	458173.36	780135.55	
11900.00	89.80	352.22	11268.00	985.90	-112.27	992.12	0.00	458272.44	780122.01	



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Wft Plan Report X Y's.

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Site: Thistle Unit 48H
Well: Thistle Unit 48H
Wellpath: 1

Date: 6/27/2013 Time: 07:21:08 Page: 3
Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North
Vertical (TVD) Reference: SITE 3655.0
Section (VS) Reference: Well (0.00N,0.00E,352.49Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comments
12000.00	89.80	352.22	11268.35	1084.98	-125.81	1092.12	0.00	458371.52	780108.47	
12100.00	89.80	352.22	11268.70	1184.06	-139.36	1192.11	0.00	458470.60	780094.92	
12200.00	89.80	352.22	11269.05	1283.14	-152.90	1292.11	0.00	458569.68	780081.38	HOBBBS OCT
12300.00	89.80	352.22	11269.40	1382.21	-166.45	1392.11	0.00	458668.75	780067.83	
12400.00	89.80	352.22	11269.75	1481.29	-179.99	1492.11	0.00	458767.83	780054.29	
12500.00	89.80	352.22	11270.10	1580.37	-193.53	1592.11	0.00	458866.91	780040.75	JUL 05 2013
12600.00	89.80	352.22	11270.44	1679.45	-207.08	1692.11	0.00	458965.99	780027.20	
12700.00	89.80	352.22	11270.79	1778.53	-220.62	1792.10	0.00	459065.07	780013.66	
12800.00	89.80	352.22	11271.14	1877.60	-234.16	1892.10	0.00	459164.14	780000.12	RECEIVED
12900.00	89.80	352.22	11271.49	1976.68	-247.71	1992.10	0.00	459263.22	779986.57	
13000.00	89.80	352.22	11271.84	2075.76	-261.25	2092.10	0.00	459362.30	779973.03	
13100.00	89.80	352.22	11272.19	2174.84	-274.79	2192.10	0.00	459461.38	779959.49	
13200.00	89.80	352.22	11272.54	2273.92	-288.34	2292.10	0.00	459560.46	779945.94	
13300.00	89.80	352.22	11272.89	2372.99	-301.88	2392.09	0.00	459659.53	779932.40	
13400.00	89.80	352.22	11273.24	2472.07	-315.42	2492.09	0.00	459758.61	779918.86	
13500.00	89.80	352.22	11273.59	2571.15	-328.97	2592.09	0.00	459857.69	779905.31	
13600.00	89.80	352.22	11273.94	2670.23	-342.51	2692.09	0.00	459956.77	779891.77	
13700.00	89.80	352.22	11274.28	2769.31	-356.05	2792.09	0.00	460055.85	779878.23	
13800.00	89.80	352.22	11274.63	2868.38	-369.60	2892.08	0.00	460154.92	779864.68	
13900.00	89.80	352.22	11274.98	2967.46	-383.14	2992.08	0.00	460254.00	779851.14	
14000.00	89.80	352.22	11275.33	3066.54	-396.68	3092.08	0.00	460353.08	779837.60	
14100.00	89.80	352.22	11275.68	3165.62	-410.23	3192.08	0.00	460452.16	779824.05	
14200.00	89.80	352.22	11276.03	3264.70	-423.77	3292.08	0.00	460551.24	779810.51	
14300.00	89.80	352.22	11276.38	3363.77	-437.31	3392.08	0.00	460650.31	779796.97	
14400.00	89.80	352.22	11276.73	3462.85	-450.86	3492.07	0.00	460749.39	779783.42	
14500.00	89.80	352.22	11277.08	3561.93	-464.40	3592.07	0.00	460848.47	779769.88	
14600.00	89.80	352.22	11277.43	3661.01	-477.95	3692.07	0.00	460947.55	779756.33	
14700.00	89.80	352.22	11277.77	3760.09	-491.49	3792.07	0.00	461046.63	779742.79	
14800.00	89.80	352.22	11278.12	3859.16	-505.03	3892.07	0.00	461145.70	779729.25	
14900.00	89.80	352.22	11278.47	3958.24	-518.58	3992.07	0.00	461244.78	779715.70	
15000.00	89.80	352.22	11278.82	4057.32	-532.12	4092.06	0.00	461343.86	779702.16	
15100.00	89.80	352.22	11279.17	4156.40	-545.66	4192.06	0.00	461442.94	779688.62	
15200.00	89.80	352.22	11279.52	4255.48	-559.21	4292.06	0.00	461542.02	779675.07	
15300.00	89.80	352.22	11279.87	4354.55	-572.75	4392.06	0.00	461641.09	779661.53	
15400.00	89.80	352.22	11280.22	4453.63	-586.29	4492.06	0.00	461740.17	779647.99	
15500.00	89.80	352.22	11280.57	4552.71	-599.84	4592.05	0.00	461839.25	779634.44	
15600.00	89.80	352.22	11280.92	4651.79	-613.38	4692.05	0.00	461938.33	779620.90	
15623.92	89.80	352.22	11281.00	4675.49	-616.62	4715.98	0.00	461962.03	779617.66	PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec	<--- Longitude ---> Deg Min Sec
PBHL			11281.00	4675.49	-616.62	461962.03	779617.66	32 16 3.551 N	103 33 44.731 W

Casing Points

MD	TVD	Diameter	Hole Size	Name



Weatherford

Wft Plan Report X Y's.



Weatherford

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Site: Thistle Unit 48H
Well: Thistle Unit 48H
Wellpath: 1

Date: 6/27/2013 Time: 07:21:08 Page: 4
Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North
Vertical (TVD) Reference: SITE 3655.0
Section (VS) Reference: Well (0.00N,0.00E,352.49Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Formations

MD	TVD	Formations	Lithology	Dip Angle Dip Direction

Annotation

MD ft	TVD ft	
5450.00	5450.00	Nudge
5683.33	5682.75	Hold
6683.33	6675.30	Drop
7150.00	7140.81	Hold
10798.50	10789.31	KOP
11546.83	11266.77	LP
15623.92	11281.00	PBHL

HOEBS OCD

JUL 05 2013

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Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 48H
Reference Well: Thistle Unit 48H
Reference Wellpath:

Date: 6/27/2013 Time: 07:20:02 Page: 1
Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North
Vertical (TVD) Reference: SITE 3655.0

Db: Sybase

NO GLOBAL SCAN: Using user defined selection & scan criteria
Interpolation Method MD + Stations Interval: 100.00 ft
Depth Range: 0.00 to 15623.92 ft
Maximum Radius 0000.00 ft

Reference: Plan: Plan #1
Error Model: ISCWSA Ellipse
Scan Method: Closest Approach 3D
Error Surface: Ellipse

Plan: Plan #1

Date Composed: 6/26/2013

Principal: Yes

Version: 1
Tied-to: From Surface

Summary

Site	Well	Wellpath	Reference MD ft	Offset MD ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
Thistle Unit 47H	Thistle Unit 47H	1 V0 Plan: Plan #1 V1	5600.00	5610.85	50.43	25.51	2.02	
Thistle Unit 49H	Thistle Unit 49H	1 V0 Plan: Plan #1 V1	5600.00	5608.85	50.24	25.32	2.02	

Site: Thistle Unit 47H
Well: Thistle Unit 47H
Wellpath: 1 V0 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD ft	TVD ft	Offset MD ft	TVD ft	Semi-Major Axis Ref ft	Offset ft	TFO-HS deg	Offset Location North ft	East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
0.00	0.00	11.00	11.00	0.00	0.01	269.67	-0.29	-50.05	50.05	50.04	5398.30	HOEBS OCD
100.00	100.00	111.00	111.00	0.10	0.11	269.67	-0.29	-50.05	50.05	49.85	244.70	
200.00	200.00	211.00	211.00	0.32	0.33	269.67	-0.29	-50.05	50.05	49.40	76.52	
300.00	300.00	311.00	311.00	0.55	0.56	269.67	-0.29	-50.05	50.05	48.95	45.35	
400.00	400.00	411.00	411.00	0.77	0.78	269.67	-0.29	-50.05	50.05	48.50	32.23	JUL 05 2013
500.00	500.00	511.00	511.00	0.99	1.01	269.67	-0.29	-50.05	50.05	48.05	24.99	
600.00	600.00	611.00	611.00	1.22	1.23	269.67	-0.29	-50.05	50.05	47.60	20.41	
700.00	700.00	711.00	711.00	1.44	1.46	269.67	-0.29	-50.05	50.05	47.15	17.25	
800.00	800.00	811.00	811.00	1.67	1.68	269.67	-0.29	-50.05	50.05	46.70	14.93	RECEIVED
900.00	900.00	911.00	911.00	1.89	1.91	269.67	-0.29	-50.05	50.05	46.25	13.17	
1000.00	1000.00	1011.00	1011.00	2.12	2.13	269.67	-0.29	-50.05	50.05	45.80	11.78	
1100.00	1100.00	1111.00	1111.00	2.34	2.36	269.67	-0.29	-50.05	50.05	45.35	10.65	
1200.00	1200.00	1211.00	1211.00	2.57	2.58	269.67	-0.29	-50.05	50.05	44.90	9.72	
1300.00	1300.00	1311.00	1311.00	2.79	2.81	269.67	-0.29	-50.05	50.05	44.45	8.94	
1400.00	1400.00	1411.00	1411.00	3.02	3.03	269.67	-0.29	-50.05	50.05	44.00	8.27	
1500.00	1500.00	1511.00	1511.00	3.24	3.26	269.67	-0.29	-50.05	50.05	43.55	7.70	
1600.00	1600.00	1611.00	1611.00	3.47	3.48	269.67	-0.29	-50.05	50.05	43.10	7.20	
1700.00	1700.00	1711.00	1711.00	3.69	3.71	269.67	-0.29	-50.05	50.05	42.65	6.77	
1800.00	1800.00	1811.00	1811.00	3.92	3.93	269.67	-0.29	-50.05	50.05	42.20	6.38	
1900.00	1900.00	1911.00	1911.00	4.14	4.15	269.67	-0.29	-50.05	50.05	41.75	6.03	
2000.00	2000.00	2011.00	2011.00	4.37	4.38	269.67	-0.29	-50.05	50.05	41.31	5.72	
2100.00	2100.00	2111.00	2111.00	4.59	4.60	269.67	-0.29	-50.05	50.05	40.86	5.44	
2200.00	2200.00	2211.00	2211.00	4.82	4.83	269.67	-0.29	-50.05	50.05	40.41	5.19	
2300.00	2300.00	2311.00	2311.00	5.04	5.05	269.67	-0.29	-50.05	50.05	39.96	4.96	
2400.00	2400.00	2411.00	2411.00	5.27	5.28	269.67	-0.29	-50.05	50.05	39.51	4.75	
2500.00	2500.00	2511.00	2511.00	5.49	5.50	269.67	-0.29	-50.05	50.05	39.06	4.55	
2600.00	2600.00	2611.00	2611.00	5.71	5.73	269.67	-0.29	-50.05	50.05	38.61	4.37	
2700.00	2700.00	2711.00	2711.00	5.94	5.95	269.67	-0.29	-50.05	50.05	38.16	4.21	
2800.00	2800.00	2811.00	2811.00	6.16	6.18	269.67	-0.29	-50.05	50.05	37.71	4.06	
2900.00	2900.00	2911.00	2911.00	6.39	6.40	269.67	-0.29	-50.05	50.05	37.26	3.91	
3000.00	3000.00	3011.00	3011.00	6.61	6.63	269.67	-0.29	-50.05	50.05	36.81	3.78	
3100.00	3100.00	3111.00	3111.00	6.84	6.85	269.67	-0.29	-50.05	50.05	36.36	3.66	
3200.00	3200.00	3211.00	3211.00	7.06	7.08	269.67	-0.29	-50.05	50.05	35.91	3.54	
3300.00	3300.00	3311.00	3311.00	7.29	7.30	269.67	-0.29	-50.05	50.05	35.46	3.43	
3400.00	3400.00	3411.00	3411.00	7.51	7.53	269.67	-0.29	-50.05	50.05	35.01	3.33	
3500.00	3500.00	3511.00	3511.00	7.74	7.75	269.67	-0.29	-50.05	50.05	34.56	3.23	



Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 48H
Reference Well: Thistle Unit 48H
Reference Wellpath:

Date: 6/27/2013 Time: 07:20:02 Page: 2
Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North
Vertical (TVD) Reference: SITE 3655.0

Db: Sybase

Site: Thistle Unit 47H
Well: Thistle Unit 47H
Wellpath: 1 V0 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD	TVD ft	Offset MD	TVD ft	Semi-Major Axis Ref	Offset ft	TFO-HS deg	Offset North	Location East	Ctr-Ctr Distance	Edge Distance	Separation Factor	Warning
3600.00	3600.00	3611.00	3611.00	7.96	7.98	269.67	-0.29	-50.05	50.05	34.11	3.14	
3700.00	3700.00	3711.00	3711.00	8.19	8.20	269.67	-0.29	-50.05	50.05	33.66	3.05	
3800.00	3800.00	3811.00	3811.00	8.41	8.43	269.67	-0.29	-50.05	50.05	33.21	2.97	
3900.00	3900.00	3911.00	3911.00	8.64	8.65	269.67	-0.29	-50.05	50.05	32.76	2.90	
4000.00	4000.00	4011.00	4011.00	8.86	8.87	269.67	-0.29	-50.05	50.05	32.31	2.82	
4100.00	4100.00	4111.00	4111.00	9.09	9.10	269.67	-0.29	-50.05	50.05	31.87	2.75	
4200.00	4200.00	4211.00	4211.00	9.31	9.32	269.67	-0.29	-50.05	50.05	31.42	2.69	
4300.00	4300.00	4311.00	4311.00	9.54	9.55	269.67	-0.29	-50.05	50.05	30.97	2.62	
4400.00	4400.00	4411.00	4411.00	9.76	9.77	269.67	-0.29	-50.05	50.05	30.52	2.56	
4500.00	4500.00	4511.00	4511.00	9.99	10.00	269.67	-0.29	-50.05	50.05	30.07	2.50	
4600.00	4600.00	4611.00	4611.00	10.21	10.22	269.67	-0.29	-50.05	50.05	29.62	2.45	
4700.00	4700.00	4711.00	4711.00	10.43	10.45	269.67	-0.29	-50.05	50.05	29.17	2.40	
4800.00	4800.00	4811.00	4811.00	10.66	10.67	269.67	-0.29	-50.05	50.05	28.72	2.35	
4900.00	4900.00	4911.00	4911.00	10.88	10.90	269.67	-0.29	-50.05	50.05	28.27	2.30	
5000.00	5000.00	5011.00	5011.00	11.11	11.12	269.67	-0.29	-50.05	50.05	27.82	2.25	
5100.00	5100.00	5111.00	5111.00	11.33	11.35	269.67	-0.29	-50.05	50.05	27.37	2.21	
5200.00	5200.00	5211.00	5211.00	11.56	11.57	269.67	-0.29	-50.05	50.05	26.92	2.16	
5300.00	5300.00	5311.00	5311.00	11.78	11.80	269.67	-0.29	-50.05	50.05	26.47	2.12	
5400.00	5400.00	5411.00	5411.00	12.01	12.02	269.67	-0.29	-50.05	50.05	26.02	2.08	
5450.00	5450.00	5461.00	5461.00	12.12	12.13	269.67	-0.29	-50.05	50.05	25.80	2.06	
5500.00	5499.99	5510.99	5510.99	12.23	12.25	268.92	-0.29	-50.05	50.06	25.58	2.04	
5600.00	5599.85	5610.85	5610.85	12.45	12.47	262.99	-0.29	-50.05	50.43	25.51	2.02	
5683.33	5682.75	5693.75	5693.75	12.64	12.66	253.93	-0.29	-50.05	52.12	26.83	2.06	
5700.00	5699.30	5710.30	5710.30	12.68	12.69	251.82	-0.29	-50.05	52.72	27.35	2.08	
5800.00	5798.55	5809.55	5809.55	12.90	12.92	240.32	-0.29	-50.05	57.72	31.92	2.24	
5900.00	5897.80	5908.80	5908.80	13.13	13.14	230.93	-0.29	-50.05	64.66	38.42	2.46	
6000.00	5997.06	6008.06	6008.06	13.36	13.36	223.51	-0.29	-50.05	72.98	46.30	2.74	
6100.00	6096.31	6107.31	6107.31	13.59	13.59	217.67	-0.29	-50.05	82.28	55.16	3.03	
6200.00	6195.57	6206.57	6206.57	13.83	13.81	213.05	-0.29	-50.05	92.25	64.68	3.35	
6300.00	6294.82	6305.82	6305.82	14.06	14.03	209.35	-0.29	-50.05	102.70	74.69	3.67	
6400.00	6394.08	6405.08	6405.08	14.31	14.26	206.34	-0.29	-50.05	113.50	85.03	3.99	
6500.00	6493.33	6504.33	6504.33	14.55	14.48	203.85	-0.29	-50.05	124.55	95.64	4.31	
6600.00	6592.59	6603.59	6603.59	14.80	14.70	201.77	-0.29	-50.05	135.80	106.44	4.62	
6683.33	6675.30	6686.30	6686.30	15.00	14.89	200.29	-0.29	-50.05	145.29	115.55	4.89	
6700.00	6691.85	6702.85	6702.85	15.04	14.93	200.01	-0.29	-50.05	147.16	117.35	4.94	
6800.00	6791.30	6802.30	6802.30	15.24	15.15	198.66	-0.29	-50.05	157.03	126.80	5.19	
6900.00	6890.98	6901.98	6901.98	15.43	15.37	197.75	-0.29	-50.05	164.49	133.84	5.37	
7000.00	6990.84	7001.84	7001.84	15.61	15.60	197.19	-0.29	-50.05	169.48	138.43	5.46	
7100.00	7090.81	7101.81	7101.81	15.79	15.82	196.92	-0.29	-50.05	171.98	140.53	5.47	
7150.00	7140.81	7151.81	7151.81	15.88	15.93	196.89	-0.29	-50.05	172.30	140.66	5.45	
7200.00	7190.81	7201.81	7201.81	15.98	16.05	196.89	-0.29	-50.05	172.30	140.45	5.41	
7300.00	7290.81	7301.81	7301.81	16.20	16.27	196.89	-0.29	-50.05	172.30	140.00	5.34	
7400.00	7390.81	7401.81	7401.81	16.42	16.50	196.89	-0.29	-50.05	172.30	139.55	5.26	
7500.00	7490.81	7501.81	7501.81	16.64	16.72	196.89	-0.29	-50.05	172.30	139.11	5.19	
7600.00	7590.81	7601.81	7601.81	16.86	16.95	196.89	-0.29	-50.05	172.30	138.66	5.12	
7700.00	7690.81	7701.81	7701.81	17.08	17.17	196.89	-0.29	-50.05	172.30	138.21	5.05	
7800.00	7790.81	7801.81	7801.81	17.30	17.40	196.89	-0.29	-50.05	172.30	137.76	4.99	
7900.00	7890.81	7901.81	7901.81	17.52	17.62	196.89	-0.29	-50.05	172.30	137.31	4.92	
8000.00	7990.81	8001.81	8001.81	17.74	17.84	196.89	-0.29	-50.05	172.30	136.86	4.86	
8100.00	8090.81	8101.81	8101.81	17.97	18.07	196.89	-0.29	-50.05	172.30	136.41	4.80	
8200.00	8190.81	8201.81	8201.81	18.19	18.29	196.89	-0.29	-50.05	172.30	135.96	4.74	

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Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 48H
Reference Well: Thistle Unit 48H
Reference Wellpath:

Date: 6/27/2013 Time: 07:20:02
Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North
Vertical (TVD) Reference: SITE 3655.0

Page: 3

Db: Sybase

Site: Thistle Unit 47H
Well: Thistle Unit 47H
Wellpath: 1 V0 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD ft	TVD ft	Offset MD ft	TVD ft	Semi-Major Axis Ref ft	Offset ft	TFO-HS deg	Offset Location North ft	East ft	Ctr-Ctr Edge Distance ft	Separation Distance ft	Factor	Warning
8300.00	8290.81	8301.81	8301.81	18.41	18.52	196.89	-0.29	-50.05	172.30	135.52	4.68	
8400.00	8390.81	8401.81	8401.81	18.63	18.74	196.89	-0.29	-50.05	172.30	135.07	4.63	
8500.00	8490.81	8501.81	8501.81	18.85	18.97	196.89	-0.29	-50.05	172.30	134.62	4.57	
8600.00	8590.81	8601.81	8601.81	19.08	19.19	196.89	-0.29	-50.05	172.30	134.17	4.52	
8700.00	8690.81	8701.81	8701.81	19.30	19.42	196.89	-0.29	-50.05	172.30	133.72	4.47	
8800.00	8790.81	8801.81	8801.81	19.52	19.64	196.89	-0.29	-50.05	172.30	133.27	4.42	
8900.00	8890.81	8901.81	8901.81	19.74	19.87	196.89	-0.29	-50.05	172.30	132.82	4.36	
9000.00	8990.81	9001.81	9001.81	19.96	20.09	196.89	-0.29	-50.05	172.30	132.37	4.32	
9100.00	9090.81	9101.81	9101.81	20.19	20.32	196.89	-0.29	-50.05	172.30	131.93	4.27	
9200.00	9190.81	9201.81	9201.81	20.41	20.54	196.89	-0.29	-50.05	172.30	131.48	4.22	
9300.00	9290.81	9301.81	9301.81	20.63	20.77	196.89	-0.29	-50.05	172.30	131.03	4.18	
9400.00	9390.81	9401.81	9401.81	20.85	20.99	196.89	-0.29	-50.05	172.30	130.58	4.13	
9500.00	9490.81	9501.81	9501.81	21.08	21.22	196.89	-0.29	-50.05	172.30	130.13	4.09	
9600.00	9590.81	9601.81	9601.81	21.30	21.44	196.89	-0.29	-50.05	172.30	129.68	4.04	
9700.00	9690.81	9701.81	9701.81	21.52	21.67	196.89	-0.29	-50.05	172.30	129.23	4.00	
9800.00	9790.81	9801.81	9801.81	21.74	21.89	196.89	-0.29	-50.05	172.30	128.78	3.96	
9900.00	9890.81	9901.81	9901.81	21.97	22.12	196.89	-0.29	-50.05	172.30	128.33	3.92	
10000.00	9990.81	10001.81	10001.81	22.19	22.34	196.89	-0.29	-50.05	172.30	127.89	3.88	
10100.00	10090.81	10101.81	10101.81	22.41	22.56	196.89	-0.29	-50.05	172.30	127.44	3.84	
10200.00	10190.81	10201.81	10201.81	22.63	22.79	196.89	-0.29	-50.05	172.30	126.99	3.80	
10300.00	10290.81	10301.81	10301.81	22.86	23.01	196.89	-0.29	-50.05	172.30	126.54	3.77	
10400.00	10390.81	10401.81	10401.81	23.08	23.24	196.89	-0.29	-50.05	172.30	126.09	3.73	
10500.00	10490.81	10501.81	10501.81	23.30	23.46	196.89	-0.29	-50.05	172.30	125.64	3.69	
10600.00	10590.81	10601.81	10601.81	23.52	23.69	196.89	-0.29	-50.05	172.30	125.19	3.66	
10700.00	10690.81	10701.81	10701.81	23.75	23.91	196.89	-0.29	-50.05	172.30	124.74	3.62	
10798.50	10789.31	10804.90	10804.89	23.97	24.15	196.95	-0.03	-50.15	172.14	124.14	3.59	
10800.00	10790.81	10806.98	10806.97	23.97	24.15	204.74	0.04	-50.18	172.10	124.09	3.58	
10825.00	10815.79	10841.62	10841.52	24.03	24.23	205.11	2.44	-51.15	171.31	123.21	3.56	
10850.00	10840.71	10876.08	10875.59	24.09	24.30	205.74	7.13	-53.05	170.32	122.20	3.54	
10875.00	10865.48	10910.27	10908.95	24.15	24.37	206.63	14.02	-55.83	169.14	121.06	3.52	
10900.00	10890.04	10944.13	10941.39	24.21	24.44	207.78	23.01	-59.46	167.82	119.83	3.50	
10925.00	10914.33	10977.61	10972.70	24.27	24.52	209.18	33.97	-63.89	166.39	118.53	3.48	
10950.00	10938.28	11010.65	11002.72	24.34	24.58	210.84	46.75	-69.06	164.91	117.19	3.46	
10975.00	10961.81	11043.21	11031.30	24.41	24.65	212.73	61.20	-74.89	163.43	115.86	3.44	
11000.00	10984.88	11075.25	11058.33	24.48	24.73	214.85	77.16	-81.34	162.01	114.57	3.42	
11025.00	11007.41	11106.77	11083.72	24.56	24.80	217.18	94.45	-88.33	160.72	113.38	3.39	
11050.00	11029.34	11137.72	11107.42	24.63	24.88	219.71	112.91	-95.79	159.62	112.32	3.37	
11075.00	11050.61	11168.11	11129.38	24.72	24.96	222.41	132.38	-103.65	158.79	111.46	3.36	
11100.00	11071.17	11197.93	11149.58	24.80	25.04	225.27	152.71	-111.87	158.28	110.85	3.34	
11125.00	11090.95	11227.19	11168.04	24.89	25.13	228.27	173.76	-120.37	158.15	110.54	3.32	
11150.00	11109.91	11255.89	11184.76	24.98	25.23	231.36	195.38	-129.11	158.47	110.57	3.31	
11175.00	11127.98	11284.04	11199.77	25.08	25.33	234.53	217.45	-138.02	159.26	111.02	3.30	
11200.00	11145.13	11311.66	11213.11	25.18	25.44	237.75	239.87	-147.08	160.57	111.91	3.30	
11225.00	11161.31	11338.76	11224.81	25.29	25.56	240.99	262.53	-156.24	162.42	113.28	3.31	
11250.00	11176.46	11365.37	11234.94	25.41	25.68	244.23	285.34	-165.45	164.82	115.17	3.32	
11275.00	11190.56	11391.50	11243.54	25.53	25.81	247.43	308.22	-174.70	167.76	117.58	3.34	
11300.00	11203.55	11417.18	11250.67	25.66	25.95	250.59	331.10	-183.94	171.23	120.52	3.38	
11325.00	11215.41	11442.44	11256.37	25.79	26.09	253.68	353.91	-193.16	175.21	123.97	3.42	
11350.00	11226.10	11467.29	11260.70	25.93	26.24	256.69	376.59	-202.32	179.66	127.93	3.47	
11375.00	11235.59	11491.76	11263.72	26.08	26.39	259.60	399.11	-211.42	184.55	132.34	3.54	
11400.00	11243.86	11515.88	11265.47	26.23	26.55	262.40	421.40	-220.43	189.84	137.19	3.61	

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Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy Date: 6/27/2013 Time: 07:20:02 Page: 4
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 48H Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North
Reference Well: Thistle Unit 48H Vertical (TVD) Reference: SITE 3655.0
Reference Wellpath: Db: Sybase

Site: Thistle Unit 47H
Well: Thistle Unit 47H
Wellpath: 1 V0 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD ft	TVD ft	Offset MD ft	TVD ft	Semi-Major Axis Ref ft	Offset ft	TFO-HS deg	Offset Location North ft	East ft	Ctr-Ctr Edge Distance ft	Separation Distance ft	Factor	Warning
11425.00	11250.89	11539.63	11266.01	26.39	26.71	265.09	443.42	-229.32	195.47	142.42	3.68	
11450.00	11256.65	11563.23	11266.09	26.56	26.88	267.48	465.30	-238.16	201.41	147.98	3.77	
11475.00	11261.13	11587.08	11266.17	26.73	27.06	269.45	487.41	-247.10	207.53	153.75	3.86	
11500.00	11264.31	11611.13	11266.25	26.91	27.25	271.02	509.71	-256.10	213.73	159.59	3.95	
11525.00	11266.19	11635.30	11266.33	27.09	27.45	272.21	532.12	-265.16	219.92	165.41	4.03	
11546.83	11266.77	11656.45	11266.40	27.25	27.63	272.93	551.73	-273.08	225.30	170.46	4.11	
11600.00	11266.95	11707.99	11266.56	27.67	28.07	272.77	599.52	-292.39	238.34	182.64	4.28	
11700.00	11267.30	11804.93	11266.88	28.54	29.02	272.52	689.40	-328.70	262.88	205.36	4.57	
11800.00	11267.65	11901.87	11267.20	29.50	30.07	272.30	779.28	-365.02	287.42	227.88	4.83	
11900.00	11268.00	11998.80	11267.52	30.55	31.21	272.12	869.15	-401.33	311.96	250.23	5.05	
12000.00	11268.35	12095.74	11267.84	31.67	32.45	271.97	959.03	-437.64	336.50	272.41	5.25	
12100.00	11268.70	12192.68	11268.16	32.87	33.75	271.84	1048.91	-473.96	361.05	294.45	5.42	
12200.00	11269.05	12289.62	11268.48	34.12	35.13	271.72	1138.79	-510.27	385.59	316.36	5.57	
12300.00	11269.40	12386.55	11268.80	35.44	36.56	271.62	1228.67	-546.58	410.14	338.16	5.70	
12400.00	11269.75	12483.49	11269.12	36.80	38.05	271.53	1318.55	-582.90	434.69	359.86	5.81	
12500.00	11270.10	12580.43	11269.43	38.21	39.58	271.45	1408.42	-619.21	459.24	381.47	5.91	
12600.00	11270.44	12677.37	11269.75	39.66	41.16	271.38	1498.30	-655.52	483.79	403.00	5.99	
12700.00	11270.79	12774.30	11270.07	41.14	42.77	271.31	1588.18	-691.84	508.35	424.46	6.06	
12800.00	11271.14	12871.24	11270.39	42.65	44.42	271.25	1678.06	-728.15	532.90	445.85	6.12	
12900.00	11271.49	12968.18	11270.71	44.20	46.09	271.20	1767.94	-764.47	557.45	467.18	6.18	
13000.00	11271.84	13065.12	11271.03	45.77	47.79	271.15	1857.82	-800.78	582.01	488.46	6.22	
13100.00	11272.19	13162.05	11271.35	47.36	49.52	271.10	1947.69	-837.09	606.56	509.70	6.26	
13200.00	11272.54	13258.99	11271.67	48.97	51.26	271.06	2037.57	-873.41	631.11	530.89	6.30	
13300.00	11272.89	13355.93	11271.99	50.61	53.03	271.02	2127.45	-909.72	655.67	552.05	6.33	
13400.00	11273.24	13452.87	11272.30	52.26	54.81	270.99	2217.33	-946.03	680.22	573.17	6.35	
13500.00	11273.59	13549.80	11272.62	53.92	56.61	270.95	2307.21	-982.35	704.78	594.27	6.38	
13600.00	11273.94	13646.74	11272.94	55.60	58.42	270.92	2397.09	-1018.66	729.33	615.33	6.40	
13700.00	11274.28	13743.68	11273.26	57.29	60.24	270.89	2486.96	-1054.97	753.89	636.37	6.41	
13800.00	11274.63	13840.62	11273.58	59.00	62.08	270.86	2576.84	-1091.29	778.44	657.38	6.43	
13900.00	11274.98	13937.56	11273.90	60.71	63.93	270.84	2666.72	-1127.60	803.00	678.37	6.44	
14000.00	11275.33	14034.49	11274.22	62.44	65.79	270.81	2756.60	-1163.91	827.56	699.35	6.45	
14100.00	11275.68	14131.43	11274.54	64.17	67.65	270.79	2846.48	-1200.23	852.11	720.30	6.46	
14200.00	11276.03	14228.37	11274.86	65.91	69.53	270.77	2936.36	-1236.54	876.67	741.24	6.47	
14300.00	11276.38	14325.31	11275.17	67.66	71.41	270.75	3026.23	-1272.85	901.23	762.16	6.48	
14400.00	11276.73	14422.24	11275.49	69.42	73.30	270.73	3116.11	-1309.17	925.78	783.07	6.49	
14500.00	11277.08	14519.18	11275.81	71.18	75.20	270.71	3205.99	-1345.48	950.34	803.97	6.49	
14600.00	11277.43	14616.12	11276.13	72.95	77.10	270.69	3295.87	-1381.79	974.89	824.85	6.50	
14700.00	11277.77	14713.06	11276.45	74.73	79.01	270.68	3385.75	-1418.11	999.45	845.73	6.50	
14800.00	11278.12	14809.99	11276.77	76.51	80.92	270.66	3475.63	-1454.42	1024.01	866.59	6.50	
14900.00	11278.47	14906.93	11277.09	78.30	82.84	270.65	3565.51	-1490.73	1048.56	887.44	6.51	
15000.00	11278.82	15003.87	11277.41	80.09	84.76	270.63	3655.38	-1527.05	1073.12	908.28	6.51	
15100.00	11279.17	15100.81	11277.72	81.88	86.69	270.62	3745.26	-1563.36	1097.68	929.12	6.51	
15200.00	11279.52	15197.74	11278.04	83.68	88.62	270.61	3835.14	-1599.67	1122.24	949.95	6.51	
15300.00	11279.87	15294.68	11278.36	85.48	90.56	270.59	3925.02	-1635.99	1146.79	970.77	6.51	
15400.00	11280.22	15391.62	11278.68	87.29	92.49	270.58	4014.90	-1672.30	1171.35	991.58	6.52	
15500.00	11280.57	15488.56	11279.00	89.10	94.44	270.57	4104.78	-1708.62	1195.91	1012.38	6.52	
15600.00	11280.92	15585.49	11279.32	90.91	96.38	270.56	4194.65	-1744.93	1220.46	1033.18	6.52	
15623.92	11281.00	15608.68	11279.40	91.34	96.85	270.56	4216.16	-1753.62	1226.34	1038.16	6.52	

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Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 48H
Reference Well: Thistle Unit 48H
Reference Wellpath:

Date: 6/27/2013 Time: 07:20:02
Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North
Vertical (TVD) Reference: SITE 3655.0

Page: 5

Db: Sybase

Site: Thistle Unit 49H
Well: Thistle Unit 49H
Wellpath: 1 V0 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference		Offset		Semi-Major Axis			Offset Location		Ctr-Ctr Edge		Separation	Warning
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	Factor	
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
0.00	0.00	9.00	9.00	0.00	0.01	89.61	0.34	49.93	49.93	49.92	6582.14	
100.00	100.00	109.00	109.00	0.10	0.10	89.61	0.34	49.93	49.93	49.73	249.60	
200.00	200.00	209.00	209.00	0.32	0.33	89.61	0.34	49.93	49.93	49.28	76.87	
300.00	300.00	309.00	309.00	0.55	0.55	89.61	0.34	49.93	49.93	48.83	45.43	
400.00	400.00	409.00	409.00	0.77	0.78	89.61	0.34	49.93	49.93	48.38	32.24	
500.00	500.00	509.00	509.00	0.99	1.00	89.61	0.34	49.93	49.93	47.93	24.99	
600.00	600.00	609.00	609.00	1.22	1.23	89.61	0.34	49.93	49.93	47.48	20.40	
700.00	700.00	709.00	709.00	1.44	1.45	89.61	0.34	49.93	49.93	47.03	17.23	
800.00	800.00	809.00	809.00	1.67	1.68	89.61	0.34	49.93	49.93	46.58	14.92	
900.00	900.00	909.00	909.00	1.89	1.90	89.61	0.34	49.93	49.93	46.13	13.15	
1000.00	1000.00	1009.00	1009.00	2.12	2.13	89.61	0.34	49.93	49.93	45.69	11.76	
1100.00	1100.00	1109.00	1109.00	2.34	2.35	89.61	0.34	49.93	49.93	45.24	10.63	
1200.00	1200.00	1209.00	1209.00	2.57	2.58	89.61	0.34	49.93	49.93	44.79	9.70	
1300.00	1300.00	1309.00	1309.00	2.79	2.80	89.61	0.34	49.93	49.93	44.34	8.93	
1400.00	1400.00	1409.00	1409.00	3.02	3.03	89.61	0.34	49.93	49.93	43.89	8.26	
1500.00	1500.00	1509.00	1509.00	3.24	3.25	89.61	0.34	49.93	49.93	43.44	7.69	
1600.00	1600.00	1609.00	1609.00	3.47	3.48	89.61	0.34	49.93	49.93	42.99	7.19	
1700.00	1700.00	1709.00	1709.00	3.69	3.70	89.61	0.34	49.93	49.93	42.54	6.75	
1800.00	1800.00	1809.00	1809.00	3.92	3.93	89.61	0.34	49.93	49.93	42.09	6.37	
1900.00	1900.00	1909.00	1909.00	4.14	4.15	89.61	0.34	49.93	49.93	41.64	6.02	
2000.00	2000.00	2009.00	2009.00	4.37	4.38	89.61	0.34	49.93	49.93	41.19	5.71	
2100.00	2100.00	2109.00	2109.00	4.59	4.60	89.61	0.34	49.93	49.93	40.74	5.43	
2200.00	2200.00	2209.00	2209.00	4.82	4.82	89.61	0.34	49.93	49.93	40.29	5.18	
2300.00	2300.00	2309.00	2309.00	5.04	5.05	89.61	0.34	49.93	49.93	39.84	4.95	
2400.00	2400.00	2409.00	2409.00	5.27	5.27	89.61	0.34	49.93	49.93	39.39	4.74	
2500.00	2500.00	2509.00	2509.00	5.49	5.50	89.61	0.34	49.93	49.93	38.94	4.54	
2600.00	2600.00	2609.00	2609.00	5.71	5.72	89.61	0.34	49.93	49.93	38.49	4.37	
2700.00	2700.00	2709.00	2709.00	5.94	5.95	89.61	0.34	49.93	49.93	38.04	4.20	
2800.00	2800.00	2809.00	2809.00	6.16	6.17	89.61	0.34	49.93	49.93	37.59	4.05	
2900.00	2900.00	2909.00	2909.00	6.39	6.40	89.61	0.34	49.93	49.93	37.14	3.90	
3000.00	3000.00	3009.00	3009.00	6.61	6.62	89.61	0.34	49.93	49.93	36.69	3.77	
3100.00	3100.00	3109.00	3109.00	6.84	6.85	89.61	0.34	49.93	49.93	36.25	3.65	
3200.00	3200.00	3209.00	3209.00	7.06	7.07	89.61	0.34	49.93	49.93	35.80	3.53	
3300.00	3300.00	3309.00	3309.00	7.29	7.30	89.61	0.34	49.93	49.93	35.35	3.42	
3400.00	3400.00	3409.00	3409.00	7.51	7.52	89.61	0.34	49.93	49.93	34.90	3.32	
3500.00	3500.00	3509.00	3509.00	7.74	7.75	89.61	0.34	49.93	49.93	34.45	3.22	
3600.00	3600.00	3609.00	3609.00	7.96	7.97	89.61	0.34	49.93	49.93	34.00	3.13	
3700.00	3700.00	3709.00	3709.00	8.19	8.20	89.61	0.34	49.93	49.93	33.55	3.05	
3800.00	3800.00	3809.00	3809.00	8.41	8.42	89.61	0.34	49.93	49.93	33.10	2.97	
3900.00	3900.00	3909.00	3909.00	8.64	8.65	89.61	0.34	49.93	49.93	32.65	2.89	
4000.00	4000.00	4009.00	4009.00	8.86	8.87	89.61	0.34	49.93	49.93	32.20	2.82	
4100.00	4100.00	4109.00	4109.00	9.09	9.10	89.61	0.34	49.93	49.93	31.75	2.75	
4200.00	4200.00	4209.00	4209.00	9.31	9.32	89.61	0.34	49.93	49.93	31.30	2.68	
4300.00	4300.00	4309.00	4309.00	9.54	9.54	89.61	0.34	49.93	49.93	30.85	2.62	
4400.00	4400.00	4409.00	4409.00	9.76	9.77	89.61	0.34	49.93	49.93	30.40	2.56	
4500.00	4500.00	4509.00	4509.00	9.99	9.99	89.61	0.34	49.93	49.93	29.95	2.50	
4600.00	4600.00	4609.00	4609.00	10.21	10.22	89.61	0.34	49.93	49.93	29.50	2.44	
4700.00	4700.00	4709.00	4709.00	10.43	10.44	89.61	0.34	49.93	49.93	29.05	2.39	
4800.00	4800.00	4809.00	4809.00	10.66	10.67	89.61	0.34	49.93	49.93	28.60	2.34	
4900.00	4900.00	4909.00	4909.00	10.88	10.89	89.61	0.34	49.93	49.93	28.15	2.29	
5000.00	5000.00	5009.00	5009.00	11.11	11.12	89.61	0.34	49.93	49.93	27.70	2.25	

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Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 48H
Reference Well: Thistle Unit 48H
Reference Wellpath:

Date: 6/27/2013 Time: 07:20:02 Page: 6
Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North
Vertical (TVD) Reference: SITE 3655.0

Db: Sybase

Site: Thistle Unit 49H
Well: Thistle Unit 49H
Wellpath: 1 V0 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD ft	TVD ft	Offset MD ft	TVD ft	Semi-Major Axis Ref ft	Offset ft	TFO-HS deg	Offset Location North ft	East ft	Ctr-Ctr Edge Distance ft	Separation Distance ft	Factor	Warning
5100.00	5100.00	5109.00	5109.00	11.33	11.34	89.61	0.34	49.93	49.93	27.25	2.20	
5200.00	5200.00	5209.00	5209.00	11.56	11.57	89.61	0.34	49.93	49.93	26.80	2.16	
5300.00	5300.00	5309.00	5309.00	11.78	11.79	89.61	0.34	49.93	49.93	26.36	2.12	
5400.00	5400.00	5409.00	5409.00	12.01	12.02	89.61	0.34	49.93	49.93	25.91	2.08	
5450.00	5450.00	5459.00	5459.00	12.12	12.13	89.61	0.34	49.93	49.93	25.68	2.06	
5500.00	5499.99	5508.99	5508.99	12.23	12.24	90.36	0.34	49.93	49.93	25.46	2.04	
5600.00	5599.85	5608.85	5608.85	12.45	12.47	96.32	0.34	49.93	50.24	25.32	2.02	
5683.33	5682.75	5691.75	5691.75	12.64	12.65	105.44	0.34	49.93	51.83	26.54	2.05	
5700.00	5699.30	5708.30	5708.30	12.68	12.69	107.57	0.34	49.93	52.41	27.05	2.07	
5800.00	5798.55	5807.55	5807.55	12.90	12.91	119.20	0.34	49.93	57.30	31.51	2.22	
5900.00	5897.80	5906.80	5906.80	13.13	13.14	128.70	0.34	49.93	64.17	37.93	2.45	
6000.00	5997.06	6006.06	6006.06	13.36	13.36	136.22	0.34	49.93	72.44	45.77	2.72	
6100.00	6096.31	6105.31	6105.31	13.59	13.58	142.12	0.34	49.93	81.71	54.59	3.01	
6200.00	6195.57	6204.57	6204.57	13.83	13.81	146.80	0.34	49.93	91.66	64.09	3.33	
6300.00	6294.82	6303.82	6303.82	14.06	14.03	150.54	0.34	49.93	102.09	74.08	3.64	
6400.00	6394.08	6403.08	6403.08	14.31	14.25	153.58	0.34	49.93	112.88	84.42	3.97	
6500.00	6493.33	6502.33	6502.33	14.55	14.47	156.08	0.34	49.93	123.93	95.02	4.29	
6600.00	6592.59	6601.59	6601.59	14.80	14.70	158.17	0.34	49.93	135.17	105.81	4.60	
6683.33	6675.30	6684.30	6684.30	15.00	14.88	159.67	0.34	49.93	144.66	114.92	4.87	
6700.00	6691.85	6700.85	6700.85	15.04	14.92	159.95	0.34	49.93	146.53	116.72	4.92	
6800.00	6791.30	6800.30	6800.30	15.24	15.14	161.31	0.34	49.93	156.40	126.17	5.17	
6900.00	6890.98	6899.98	6899.98	15.43	15.37	162.22	0.34	49.93	163.85	133.21	5.35	
7000.00	6990.84	6999.84	6999.84	15.61	15.59	162.79	0.34	49.93	168.84	137.80	5.44	
7100.00	7090.81	7099.81	7099.81	15.79	15.82	163.06	0.34	49.93	171.35	139.90	5.45	
7150.00	7140.81	7149.81	7149.81	15.88	15.93	163.09	0.34	49.93	171.66	140.00	5.42	
7200.00	7190.81	7199.81	7199.81	15.98	16.04	163.09	0.34	49.93	171.66	139.79	5.39	
7300.00	7290.81	7299.81	7299.81	16.20	16.27	163.09	0.34	49.93	171.66	139.34	5.31	
7400.00	7390.81	7399.81	7399.81	16.42	16.49	163.09	0.34	49.93	171.66	138.89	5.24	
7500.00	7490.81	7499.81	7499.81	16.64	16.72	163.09	0.34	49.93	171.66	138.45	5.17	
7600.00	7590.81	7599.81	7599.81	16.86	16.94	163.09	0.34	49.93	171.66	138.00	5.10	
7700.00	7690.81	7699.81	7699.81	17.08	17.17	163.09	0.34	49.93	171.66	137.55	5.03	
7800.00	7790.81	7799.81	7799.81	17.30	17.39	163.09	0.34	49.93	171.66	137.10	4.97	
7900.00	7890.81	7899.81	7899.81	17.52	17.62	163.09	0.34	49.93	171.66	136.65	4.90	
8000.00	7990.81	7999.81	7999.81	17.74	17.84	163.09	0.34	49.93	171.66	136.21	4.84	
8100.00	8090.81	8099.81	8099.81	17.97	18.07	163.09	0.34	49.93	171.66	135.76	4.78	
8200.00	8190.81	8199.81	8199.81	18.19	18.29	163.09	0.34	49.93	171.66	135.31	4.72	
8300.00	8290.81	8299.81	8299.81	18.41	18.51	163.09	0.34	49.93	171.66	134.86	4.66	
8400.00	8390.81	8399.81	8399.81	18.63	18.74	163.09	0.34	49.93	171.66	134.41	4.61	
8500.00	8490.81	8499.81	8499.81	18.85	18.96	163.09	0.34	49.93	171.66	133.96	4.55	
8600.00	8590.81	8599.81	8599.81	19.08	19.19	163.09	0.34	49.93	171.66	133.51	4.50	
8700.00	8690.81	8699.81	8699.81	19.30	19.41	163.09	0.34	49.93	171.66	133.07	4.45	
8800.00	8790.81	8799.81	8799.81	19.52	19.64	163.09	0.34	49.93	171.66	132.62	4.40	
8900.00	8890.81	8899.81	8899.81	19.74	19.86	163.09	0.34	49.93	171.66	132.17	4.35	
9000.00	8990.81	8999.81	8999.81	19.96	20.09	163.09	0.34	49.93	171.66	131.72	4.30	
9100.00	9090.81	9099.81	9099.81	20.19	20.31	163.09	0.34	49.93	171.66	131.27	4.25	
9200.00	9190.81	9199.81	9199.81	20.41	20.54	163.09	0.34	49.93	171.66	130.82	4.20	
9300.00	9290.81	9299.81	9299.81	20.63	20.76	163.09	0.34	49.93	171.66	130.37	4.16	
9400.00	9390.81	9399.81	9399.81	20.85	20.99	163.09	0.34	49.93	171.66	129.93	4.11	
9500.00	9490.81	9499.81	9499.81	21.08	21.21	163.09	0.34	49.93	171.66	129.48	4.07	
9600.00	9590.81	9599.81	9599.81	21.30	21.44	163.09	0.34	49.93	171.66	129.03	4.03	
9700.00	9690.81	9699.81	9699.81	21.52	21.66	163.09	0.34	49.93	171.66	128.58	3.98	

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Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 48H
Reference Well: Thistle Unit 48H
Reference Wellpath:

Date: 6/27/2013 Time: 07:20:02
Co-ordinate(N/E) Reference: Well: Thistle Unit 48H, Grid North
Vertical (TVD) Reference: SITE 3655.0

Page: 7
Db: Sybase

Site: Thistle Unit 49H
Well: Thistle Unit 49H
Wellpath: 1 V0 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD ft	TVD ft	Offset MD ft	TVD ft	Semi-Major Axis Ref ft	Offset ft	TFO-HS deg	Offset Location North ft	East ft	Ctr-Ctr Edge Distance ft	Separation Distance ft	Factor	Warning
9800.00	9790.81	9799.81	9799.81	21.74	21.89	163.09	0.34	49.93	171.66	128.13	3.94	
9900.00	9890.81	9899.81	9899.81	21.97	22.11	163.09	0.34	49.93	171.66	127.68	3.90	
10000.00	9990.81	9999.81	9999.81	22.19	22.34	163.09	0.34	49.93	171.66	127.23	3.86	
10100.00	10090.81	10099.81	10099.81	22.41	22.56	163.09	0.34	49.93	171.66	126.79	3.83	
10200.00	10190.81	10199.81	10199.81	22.63	22.79	163.09	0.34	49.93	171.66	126.34	3.79	
10300.00	10290.81	10299.81	10299.81	22.86	23.01	163.09	0.34	49.93	171.66	125.89	3.75	
10400.00	10390.81	10399.81	10399.81	23.08	23.23	163.09	0.34	49.93	171.66	125.44	3.71	
10500.00	10490.81	10499.81	10499.81	23.30	23.46	163.09	0.34	49.93	171.66	124.99	3.68	
10600.00	10590.81	10599.81	10599.81	23.52	23.68	163.09	0.34	49.93	171.66	124.54	3.64	
10700.00	10690.81	10699.81	10699.81	23.75	23.91	163.09	0.34	49.93	171.66	124.09	3.61	
10798.50	10789.31	10803.03	10803.03	23.97	24.14	163.06	0.56	49.96	171.52	123.51	3.57	
10800.00	10790.81	10805.25	10805.25	23.97	24.15	170.83	0.63	49.97	171.48	123.47	3.57	
10825.00	10815.79	10842.23	10842.12	24.03	24.23	170.52	3.33	50.35	170.53	122.46	3.55	
10850.00	10840.71	10878.98	10878.44	24.09	24.31	169.92	8.80	51.11	169.14	121.09	3.52	
10875.00	10865.48	10915.39	10913.90	24.15	24.38	169.02	16.93	52.25	167.32	119.38	3.49	
10900.00	10890.04	10951.37	10948.23	24.21	24.46	167.82	27.57	53.73	165.13	117.38	3.46	
10925.00	10914.33	10986.83	10981.18	24.27	24.53	166.32	40.54	55.55	162.61	115.11	3.42	
10950.00	10938.28	11021.72	11012.56	24.34	24.60	164.52	55.62	57.65	159.82	112.62	3.39	
10975.00	10961.81	11055.96	11042.20	24.41	24.68	162.43	72.59	60.02	156.85	109.97	3.35	
11000.00	10984.88	11089.53	11069.99	24.48	24.75	160.03	91.23	62.63	153.78	107.22	3.30	
11025.00	11007.41	11122.39	11095.84	24.56	24.82	157.34	111.30	65.43	150.70	104.42	3.26	
11050.00	11029.34	11154.52	11119.72	24.63	24.90	154.38	132.58	68.40	147.70	101.65	3.21	
11075.00	11050.61	11185.91	11141.60	24.72	24.98	151.14	154.87	71.52	144.90	98.99	3.16	
11100.00	11071.17	11216.58	11161.51	24.80	25.06	147.65	177.97	74.74	142.41	96.51	3.10	
11125.00	11090.95	11246.53	11179.46	24.89	25.15	143.94	201.70	78.06	140.32	94.31	3.05	
11150.00	11109.91	11275.77	11195.51	24.98	25.24	140.04	225.91	81.44	138.74	92.48	3.00	
11175.00	11127.98	11304.33	11209.71	25.08	25.34	135.98	250.45	84.87	137.78	91.11	2.95	
11200.00	11145.13	11332.24	11222.13	25.18	25.44	131.80	275.20	88.33	137.49	90.30	2.91	
11225.00	11161.31	11359.53	11232.84	25.29	25.54	127.56	300.05	91.80	137.96	90.13	2.88	
11250.00	11176.46	11386.22	11241.91	25.41	25.65	123.30	324.90	95.27	139.21	90.69	2.87	
11275.00	11190.56	11412.35	11249.43	25.53	25.76	119.06	349.68	98.73	141.26	92.01	2.87	
11300.00	11203.55	11437.94	11255.45	25.66	25.88	114.88	374.32	102.17	144.11	94.13	2.88	
11325.00	11215.41	11463.05	11260.05	25.79	26.00	110.81	398.76	105.58	147.71	97.04	2.92	
11350.00	11226.10	11487.68	11263.30	25.93	26.12	106.86	422.94	108.96	152.03	100.73	2.96	
11375.00	11235.59	11511.88	11265.26	26.08	26.24	103.07	446.82	112.30	157.01	105.13	3.03	
11400.00	11243.86	11535.67	11266.00	26.23	26.37	99.46	470.38	115.59	162.57	110.19	3.10	
11425.00	11250.89	11558.82	11266.08	26.39	26.50	96.22	493.30	118.79	168.65	115.85	3.19	
11450.00	11256.65	11582.26	11266.16	26.56	26.64	93.47	516.51	122.03	175.14	121.97	3.29	
11475.00	11261.13	11605.94	11266.25	26.73	26.78	91.22	539.97	125.31	181.85	128.35	3.40	
11500.00	11264.31	11629.82	11266.33	26.91	26.94	89.44	563.61	128.61	188.66	134.83	3.50	
11525.00	11266.19	11653.82	11266.41	27.09	27.10	88.12	587.38	131.93	195.49	141.32	3.61	
11546.83	11266.77	11674.82	11266.49	27.25	27.24	87.31	608.19	134.84	201.42	146.97	3.70	
11600.00	11266.95	11726.00	11266.67	27.67	27.60	87.49	658.87	141.92	215.83	160.58	3.91	
11700.00	11267.30	11822.25	11267.01	28.54	28.36	87.78	754.19	155.24	242.93	186.05	4.27	
11800.00	11267.65	11918.50	11267.35	29.50	29.20	88.01	849.52	168.55	270.03	211.35	4.60	
11900.00	11268.00	12014.75	11267.69	30.55	30.12	88.19	944.85	181.87	297.14	236.49	4.90	
12000.00	11268.35	12111.01	11268.03	31.67	31.11	88.34	1040.17	195.18	324.25	261.48	5.17	
12100.00	11268.70	12207.26	11268.37	32.87	32.16	88.48	1135.50	208.50	351.36	286.35	5.40	
12200.00	11269.05	12303.51	11268.71	34.12	33.27	88.59	1230.82	221.82	378.47	311.09	5.62	
12300.00	11269.40	12399.76	11269.05	35.44	34.43	88.68	1326.15	235.13	405.58	335.72	5.81	
12400.00	11269.75	12496.02	11269.39	36.80	35.64	88.77	1421.48	248.45	432.69	360.26	5.97	

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Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 48H
Reference Well: Thistle Unit 48H
Reference Wellpath:

Date: 6/27/2013 Time: 07:20:02
Co-ordinate(NE) Reference: Well: Thistle Unit 48H, Grid North
Vertical (TVD) Reference: SITE 3655.0

Page: 8

Db: Sybase

Site: Thistle Unit 49H
Well: Thistle Unit 49H
Wellpath: 1 V0 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference		Offset		Semi-Major Axis			Offset Location		Ctr-Ctr Edge Separation		Warning
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft	
12500.00	11270.10	12592.27	11269.72	38.21	36.89	88.84	1516.80	261.76	459.81	384.72	6.12
12600.00	11270.44	12688.52	11270.06	39.66	38.19	88.91	1612.13	275.08	486.92	409.09	6.26
12700.00	11270.79	12784.77	11270.40	41.14	39.51	88.97	1707.45	288.40	514.04	433.40	6.37
12800.00	11271.14	12881.02	11270.74	42.65	40.87	89.02	1802.78	301.71	541.16	457.64	6.48
12900.00	11271.49	12977.28	11271.08	44.20	42.25	89.07	1898.11	315.03	568.27	481.83	6.57
13000.00	11271.84	13073.53	11271.42	45.77	43.66	89.11	1993.43	328.35	595.39	505.97	6.66
13100.00	11272.19	13169.78	11271.76	47.36	45.10	89.15	2088.76	341.66	622.51	530.06	6.73
13200.00	11272.54	13266.03	11272.10	48.97	46.55	89.19	2184.08	354.98	649.62	554.11	6.80
13300.00	11272.89	13362.29	11272.44	50.61	48.02	89.23	2279.41	368.29	676.74	578.12	6.86
13400.00	11273.24	13458.54	11272.78	52.26	49.51	89.26	2374.74	381.61	703.86	602.10	6.92
13500.00	11273.59	13554.79	11273.12	53.92	51.02	89.29	2470.06	394.93	730.98	626.04	6.97
13600.00	11273.94	13651.04	11273.46	55.60	52.54	89.31	2565.39	408.24	758.10	649.96	7.01
13700.00	11274.28	13747.29	11273.80	57.29	54.08	89.34	2660.71	421.56	785.21	673.85	7.05
13800.00	11274.63	13843.55	11274.14	59.00	55.62	89.36	2756.04	434.87	812.33	697.72	7.09
13900.00	11274.98	13939.80	11274.48	60.71	57.18	89.38	2851.37	448.19	839.45	721.57	7.12
14000.00	11275.33	14036.05	11274.82	62.44	58.75	89.40	2946.69	461.51	866.57	745.39	7.15
14100.00	11275.68	14132.30	11275.16	64.17	60.32	89.42	3042.02	474.82	893.69	769.20	7.18
14200.00	11276.03	14228.56	11275.50	65.91	61.91	89.44	3137.34	488.14	920.81	792.99	7.20
14300.00	11276.38	14324.81	11275.84	67.66	63.50	89.46	3232.67	501.45	947.93	816.77	7.23
14400.00	11276.73	14421.06	11276.18	69.42	65.10	89.47	3328.00	514.77	975.05	840.53	7.25
14500.00	11277.08	14517.31	11276.52	71.18	66.71	89.49	3423.32	528.09	1002.17	864.28	7.27
14600.00	11277.43	14613.56	11276.85	72.95	68.33	89.50	3518.65	541.40	1029.29	888.01	7.29
14700.00	11277.77	14709.82	11277.19	74.73	69.95	89.52	3613.97	554.72	1056.40	911.73	7.30
14800.00	11278.12	14806.07	11277.53	76.51	71.57	89.53	3709.30	568.04	1083.52	935.44	7.32
14900.00	11278.47	14902.32	11277.87	78.30	73.21	89.54	3804.63	581.35	1110.64	959.15	7.33
15000.00	11278.82	14998.57	11278.21	80.09	74.84	89.55	3899.95	594.67	1137.76	982.84	7.34
15100.00	11279.17	15094.83	11278.55	81.88	76.48	89.56	3995.28	607.98	1164.88	1006.52	7.36
15200.00	11279.52	15191.08	11278.89	83.68	78.13	89.58	4090.60	621.30	1192.00	1030.20	7.37
15300.00	11279.87	15287.33	11279.23	85.48	79.78	89.59	4185.93	634.62	1219.12	1053.86	7.38
15400.00	11280.22	15383.58	11279.57	87.29	81.43	89.60	4281.26	647.93	1246.24	1077.52	7.39
15500.00	11280.57	15479.83	11279.91	89.10	83.09	89.60	4376.58	661.25	1273.36	1101.18	7.40
15600.00	11280.92	15576.09	11280.25	90.91	84.75	89.61	4471.91	674.56	1300.48	1124.82	7.40
15623.92	11281.00	15599.11	11280.33	91.34	85.15	89.62	4494.71	677.75	1306.97	1130.48	7.41

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JUL 05 2013

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**Weatherford®****Weatherford Drilling Services**

GeoDec v5.03

Report Date: June 26, 2013

Job Number: _____

Customer: Devon Energy

Well Name: Thistle Unit 48H

API Number: _____

Rig Name: _____

Location: Lea County, NM

Block: _____

Engineer: RWJ

HOEBS OCD

JUL 05 2013

RECEIVED

US State Plane 1983

System: New Mexico Eastern Zone

Projection: Transverse Mercator/Gauss Kruger

Datum: North American Datum 1983

Ellipsoid: GRS 1980

North/South 457286.540 USFT

East/West 780234.280 USFT

Grid Convergence: .41°

Total Correction: +6.96°

Geodetic Latitude / Longitude

System: Latitude / Longitude

Projection: Geodetic Latitude and Longitude

Datum: North American Datum 1983

Ellipsoid: GRS 1980

Latitude 32.2547923 DEG

Longitude -103.5605343 DEG

Geodetic Location WGS84

Elevation = 0.0 Meters

Latitude = 32.25479° N 32° 15 min 17.252 sec

Longitude = 103.56053° W 103° 33 min 37.924 sec

Magnetic Declination = 7.37°

[True North Offset]

Local Gravity = .9988 g

CheckSum = 6617

Local Field Strength = 48382 nT

Magnetic Vector X = 23891 nT

Magnetic Dip = 60.14°

Magnetic Vector Y = 3091 nT

Magnetic Model = bggm2013

Magnetic Vector Z = 41958 nT

Spud Date = Jan 30, 2014

Magnetic Vector H = 24090 nT

Signed: _____

Date: _____