

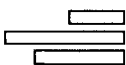


Weatherford®

Drilling Services

30-025-41252

Proposal



devon

THISTLE UNIT 47H

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
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Thistle Unit 47H
Lea County, New Mexico

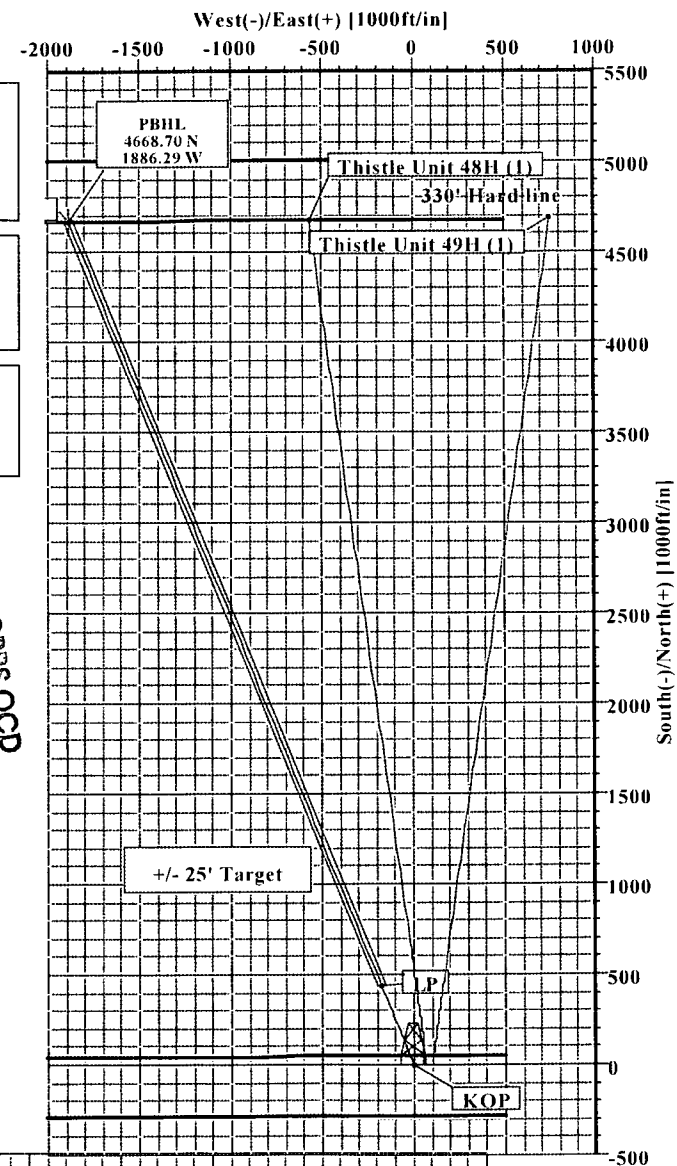
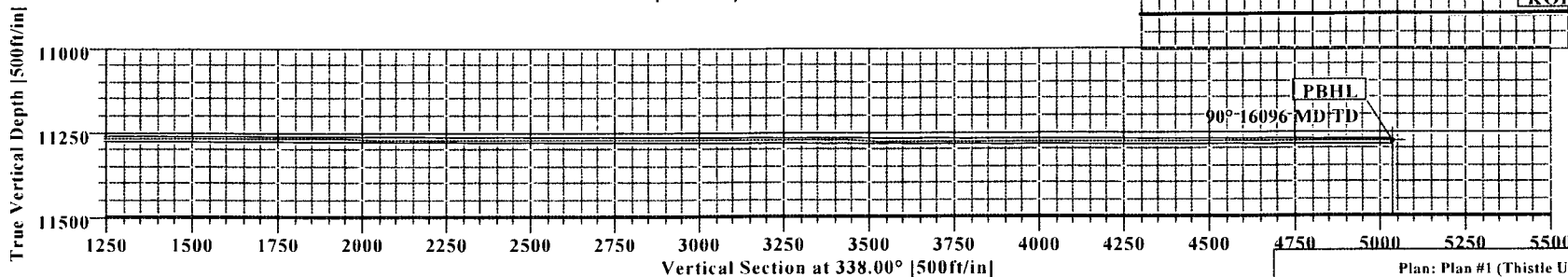
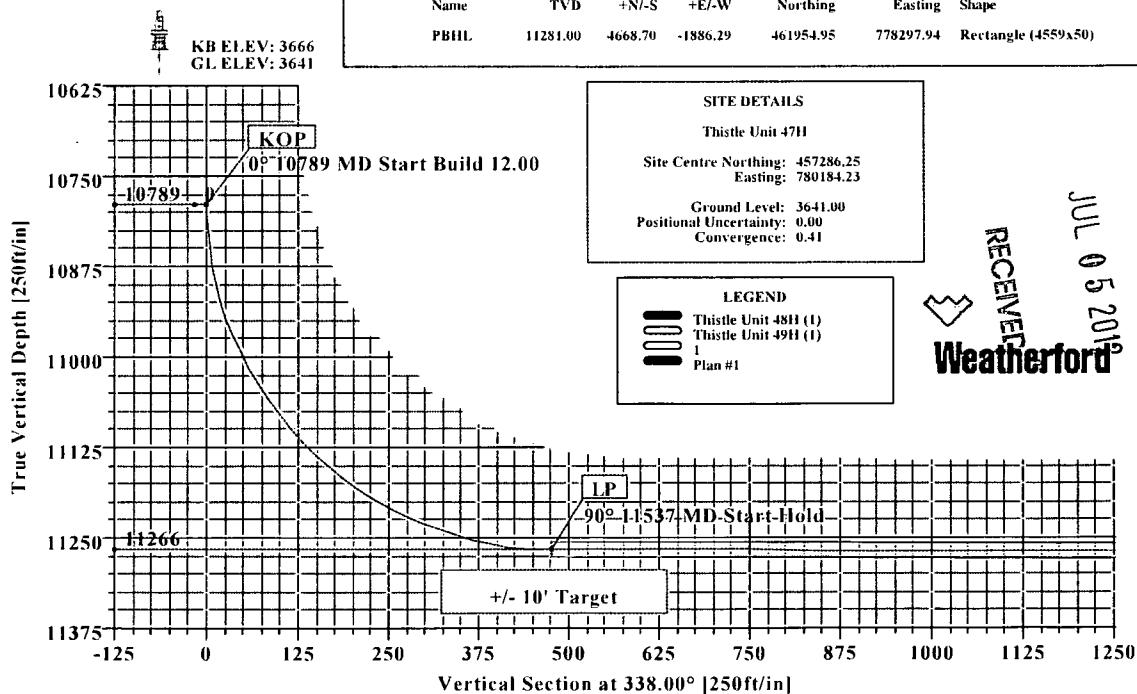
SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	338.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	10788.54	0.00	338.00	10788.54	0.00	0.00	0.00	0.00	0.00	
3	11536.97	89.81	338.00	11266.00	441.24	-178.27	12.00	338.00	475.89	
4	16096.46	89.81	338.00	11281.00	4668.70	-1886.29	0.00	0.00	5035.36	PBHL

WELL DETAILS							
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Thistle Unit 47H	0.00	0.00	457286.25	780184.23	32°15'17.244N	103°33'38.525W	N/A

TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	11281.00	4668.70	-1886.29	461954.95	778297.94	Rectangle (4559x50)

SITE DETAILS	
Thistle Unit 47H	
Site Centre Northing:	457286.25
Easting:	780184.23
Ground Level:	3641.00
Positional Uncertainty:	0.00
Convergence:	0.41

LEGEND	
	Thistle Unit 48H (1)
	Thistle Unit 49H (1)
	Plan #1





Weatherford

Wft Plan Report X Y's.

**Weatherford**

Company: Devon Energy Date: 6/27/2013 Time: 06:58:37 Page: 1
Field: Lea County, New Mexico (NAD 83) Co-ordinate(NE) Reference: Well: Thistle Unit 47H, Grid North
Site: Thistle Unit 47H Vertical (TVD) Reference: SITE 3666.0
Well: Thistle Unit 47H Section (VS) Reference: Well (0.00N,0.00E,338.00Azi)
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 **HOBS COB**

Site: Thistle Unit 47H

Site Position: Northing: 457286.25 ft Latitude: 32 15 17.244 N
From: Map Easting: 780184.23 ft Longitude: 103 33 38.525 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 3641.00 ft Grid Convergence: 0.41 deg **RECEIVED**
JUL 05 2013

Well: Thistle Unit 47H Slot Name:
Well Position: +N/-S 0.00 ft Northing: 457286.25 ft Latitude: 32 15 17.244 N
+E/-W 0.00 ft Easting: 780184.23 ft Longitude: 103 33 38.525 W
Position Uncertainty: 0.00 ft

Wellpath: 1
Current Datum: SITE Height 3666.00 ft
Magnetic Data: 1/15/2014
Field Strength: 48403 nT
Vertical Section: Depth From (TVD) +N/-S
ft ft
0.00 0.00 0.00 338.00
Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 7.27 deg
Mag Dip Angle: 60.15 deg
+E/-W Direction
ft deg
0.00 0.00 0.00 338.00

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	338.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10788.54	0.00	338.00	10788.54	0.00	0.00	0.00	0.00	0.00	0.00	
11536.97	89.81	338.00	11266.00	441.24	-178.27	12.00	12.00	0.00	338.00	
16096.46	89.81	338.00	11281.00	4668.70	-1886.29	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	Comment
10700.00	0.00	338.00	10700.00	0.00	0.00	0.00	0.00	457286.25	780184.23	
10788.54	0.00	338.00	10788.54	0.00	0.00	0.00	0.00	457286.25	780184.23	KOP
10800.00	1.38	338.00	10800.00	0.13	-0.05	0.14	12.00	457286.38	780184.18	
10900.00	13.38	338.00	10898.99	12.01	-4.85	12.95	12.00	457298.26	780179.38	
11000.00	25.38	338.00	10993.15	42.71	-17.26	46.07	12.00	457328.96	780166.97	
11100.00	37.38	338.00	11078.38	90.90	-36.72	98.03	12.00	457377.15	780147.51	
11200.00	49.38	338.00	11150.93	154.46	-62.40	166.59	12.00	457440.71	780121.83	
11300.00	61.38	338.00	11207.65	230.61	-93.17	248.72	12.00	457516.86	780091.06	
11400.00	73.38	338.00	11246.05	316.04	-127.69	340.86	12.00	457602.29	780056.54	
11500.00	85.38	338.00	11264.45	407.00	-164.44	438.97	12.00	457693.25	780019.79	
11536.97	89.81	338.00	11266.00	441.24	-178.27	475.89	12.00	457727.49	780005.96	LP
11600.00	89.81	338.00	11266.21	499.68	-201.89	538.92	0.00	457785.93	779982.34	
11700.00	89.81	338.00	11266.54	592.40	-239.35	638.92	0.00	457878.65	779944.88	
11800.00	89.81	338.00	11266.87	685.12	-276.81	738.92	0.00	457971.37	779907.42	
11900.00	89.81	338.00	11267.20	777.84	-314.27	838.92	0.00	458064.09	779869.96	
12000.00	89.81	338.00	11267.53	870.55	-351.73	938.92	0.00	458156.80	779832.50	
12100.00	89.81	338.00	11267.85	963.27	-389.19	1038.92	0.00	458249.52	779795.04	
12200.00	89.81	338.00	11268.18	1055.99	-426.65	1138.92	0.00	458342.24	779757.58	
12300.00	89.81	338.00	11268.51	1148.71	-464.11	1238.92	0.00	458434.96	779720.12	
12400.00	89.81	338.00	11268.84	1241.42	-501.57	1338.92	0.00	458527.67	779682.66	
12500.00	89.81	338.00	11269.17	1334.14	-539.03	1438.92	0.00	458620.39	779645.20	
12600.00	89.81	338.00	11269.50	1426.86	-576.49	1538.92	0.00	458713.11	779607.74	
12700.00	89.81	338.00	11269.83	1519.58	-613.95	1638.92	0.00	458805.83	779570.28	



Weatherford

Wft Plan Report X Y's.

HOESS OCD

JUL 05 2013



Weatherford

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Site: Thistle Unit 47H
Well: Thistle Unit 47H
Wellpath: 1

Date: 6/27/2013 Time: 06:58:37
Co-ordinate(NE) Reference: Well: Thistle Unit 47H, Grid North
Vertical (TVD) Reference: SITE 3666.0
Section (VS) Reference: Well (0.00N,0.00E,338.00Azi)
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
12800.00	89.81	338.00	11270.16	1612.30	-651.41	1738.92	0.00	458898.55	779532.82	
12900.00	89.81	338.00	11270.49	1705.01	-688.87	1838.92	0.00	458991.26	779495.36	
13000.00	89.81	338.00	11270.81	1797.73	-726.34	1938.92	0.00	459083.98	779457.89	
13100.00	89.81	338.00	11271.14	1890.45	-763.80	2038.92	0.00	459176.70	779420.43	
13200.00	89.81	338.00	11271.47	1983.17	-801.26	2138.92	0.00	459269.42	779382.97	
13300.00	89.81	338.00	11271.80	2075.88	-838.72	2238.92	0.00	459362.13	779345.51	
13400.00	89.81	338.00	11272.13	2168.60	-876.18	2338.91	0.00	459454.85	779308.05	
13500.00	89.81	338.00	11272.46	2261.32	-913.64	2438.91	0.00	459547.57	779270.59	
13600.00	89.81	338.00	11272.79	2354.04	-951.10	2538.91	0.00	459640.29	779233.13	
13700.00	89.81	338.00	11273.12	2446.76	-988.56	2638.91	0.00	459733.01	779195.67	
13800.00	89.81	338.00	11273.45	2539.47	-1026.02	2738.91	0.00	459825.72	779158.21	
13900.00	89.81	338.00	11273.78	2632.19	-1063.48	2838.91	0.00	459918.44	779120.75	
14000.00	89.81	338.00	11274.10	2724.91	-1100.94	2938.91	0.00	460011.16	779083.29	
14100.00	89.81	338.00	11274.43	2817.63	-1138.40	3038.91	0.00	460103.88	779045.83	
14200.00	89.81	338.00	11274.76	2910.34	-1175.86	3138.91	0.00	460196.59	779008.37	
14300.00	89.81	338.00	11275.09	3003.06	-1213.32	3238.91	0.00	460289.31	778970.91	
14400.00	89.81	338.00	11275.42	3095.78	-1250.78	3338.91	0.00	460382.03	778933.45	
14500.00	89.81	338.00	11275.75	3188.50	-1288.25	3438.91	0.00	460474.75	778895.98	
14600.00	89.81	338.00	11276.08	3281.22	-1325.71	3538.91	0.00	460567.47	778858.52	
14700.00	89.81	338.00	11276.41	3373.93	-1363.17	3638.91	0.00	460660.18	778821.06	
14800.00	89.81	338.00	11276.74	3466.65	-1400.63	3738.91	0.00	460752.90	778783.60	
14900.00	89.81	338.00	11277.06	3559.37	-1438.09	3838.91	0.00	460845.62	778746.14	
15000.00	89.81	338.00	11277.39	3652.09	-1475.55	3938.91	0.00	460938.34	778708.68	
15100.00	89.81	338.00	11277.72	3744.80	-1513.01	4038.91	0.00	461031.05	778671.22	
15200.00	89.81	338.00	11278.05	3837.52	-1550.47	4138.91	0.00	461123.77	778633.76	
15300.00	89.81	338.00	11278.38	3930.24	-1587.93	4238.90	0.00	461216.49	778596.30	
15400.00	89.81	338.00	11278.71	4022.96	-1625.39	4338.90	0.00	461309.21	778558.84	
15500.00	89.81	338.00	11279.04	4115.68	-1662.85	4438.90	0.00	461401.93	778521.38	
15600.00	89.81	338.00	11279.37	4208.39	-1700.31	4538.90	0.00	461494.64	778483.92	
15700.00	89.81	338.00	11279.70	4301.11	-1737.77	4638.90	0.00	461587.36	778446.46	
15800.00	89.81	338.00	11280.02	4393.83	-1775.23	4738.90	0.00	461680.08	778409.00	
15900.00	89.81	338.00	11280.35	4486.55	-1812.69	4838.90	0.00	461772.80	778371.54	
16000.00	89.81	338.00	11280.68	4579.26	-1850.16	4938.90	0.00	461865.51	778334.07	
16096.46	89.81	338.00	11281.00	4668.70	-1886.29	5035.36	0.00	461954.95	778297.94	PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude --->			<--- Longitude --->		
PBHL			11281.00	4668.70	-1886.29	461954.95	778297.94	32	16	3.575 N	103	34	0.101 W

Casing Points

MD	TVD	Diameter	Hole Size	Name



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Wft Plan Report X Y's.

HOBBS OCD

JUL 05 2013



Weatherford

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Site: Thistle Unit 47H
Well: Thistle Unit 47H
Wellpath: 1

Date: 6/27/2013 Time: 06:58:37 Page: 3
Co-ordinate(NE) Reference: Well: Thistle Unit 47H, Grid North
Vertical (TVD) Reference: SITE 3666.0
Section (VS) Reference: Well (0.00N,0.00E,338.00Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

Annotation

MD ft	TVD ft	
10788.54	10788.54	KOP
11536.97	11266.00	LP
16096.45	11281.00	PBHL

HOBBS OCD

JUL 05 2013

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Weatherford Anticollision Report



Company: Devon Energy Date: 6/27/2013 Time: 07:18:32 Page: 1
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 47H Co-ordinate(NE) Reference: Well: Thistle Unit 47H, Grid North
Reference Well: Thistle Unit 47H Vertical (TVD) Reference: SITE 3666.0
Reference Wellpath: Db: Sybase

NO GLOBAL SCAN: Using user defined selection & scan criteria
Interpolation Method MD + Stations Interval: 100.00 ft
Depth Range: 0.00 to 16096.46 ft
Maximum Radius 40000.00 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

<----- Offset Wellpath ----->			Reference	Offset	Ctr-Ctr Edge		Separation	Warning
Site	Well	Wellpath	MD ft	MD ft	Distance ft	Distance ft	Factor	
Thistle Unit 48H	Thistle Unit 48H	1 V0 Plan: Plan #1 V1	5600.00	5588.73	50.33	25.46	2.02	
Thistle Unit 49H	Thistle Unit 49H	1 V0 Plan: Plan #1 V1	10800.00	10797.72	100.05	51.78	2.07	

Site: Thistle Unit 48H

Well: Thistle Unit 48H

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
0.00	0.00	0.00	0.00	0.00	0.00	89.67	0.29	50.05	51.25			No Data
100.00	100.00	89.00	89.00	0.08	0.09	89.67	0.29	50.05	50.05	49.88	295.63	
200.00	200.00	189.00	189.00	0.31	0.30	89.67	0.29	50.05	50.05	49.45	82.78	
300.00	300.00	289.00	289.00	0.53	0.52	89.67	0.29	50.05	50.05	49.00	47.48	
400.00	400.00	389.00	389.00	0.76	0.75	89.67	0.29	50.05	50.05	48.55	33.29	
500.00	500.00	489.00	489.00	0.98	0.97	89.67	0.29	50.05	50.05	48.10	25.62	
600.00	600.00	589.00	589.00	1.21	1.19	89.67	0.29	50.05	50.05	47.65	20.83	
700.00	700.00	689.00	689.00	1.43	1.42	89.67	0.29	50.05	50.05	47.20	17.55	
800.00	800.00	789.00	789.00	1.66	1.64	89.67	0.29	50.05	50.05	46.75	15.16	
900.00	900.00	889.00	889.00	1.88	1.87	89.67	0.29	50.05	50.05	46.30	13.34	
1000.00	1000.00	989.00	989.00	2.11	2.09	89.67	0.29	50.05	50.05	45.85	11.91	
1100.00	1100.00	1089.00	1089.00	2.33	2.32	89.67	0.29	50.05	50.05	45.40	10.76	
1200.00	1200.00	1189.00	1189.00	2.56	2.54	89.67	0.29	50.05	50.05	44.95	9.81	
1300.00	1300.00	1289.00	1289.00	2.78	2.77	89.67	0.29	50.05	50.05	44.50	9.02	
1400.00	1400.00	1389.00	1389.00	3.01	2.99	89.67	0.29	50.05	50.05	44.05	8.34	
1500.00	1500.00	1489.00	1489.00	3.23	3.22	89.67	0.29	50.05	50.05	43.60	7.76	
1600.00	1600.00	1589.00	1589.00	3.46	3.44	89.67	0.29	50.05	50.05	43.15	7.26	
1700.00	1700.00	1689.00	1689.00	3.68	3.67	89.67	0.29	50.05	50.05	42.70	6.81	
1800.00	1800.00	1789.00	1789.00	3.91	3.89	89.67	0.29	50.05	50.05	42.25	6.42	
1900.00	1900.00	1889.00	1889.00	4.13	4.12	89.67	0.29	50.05	50.05	41.80	6.07	
2000.00	2000.00	1989.00	1989.00	4.35	4.34	89.67	0.29	50.05	50.05	41.35	5.76	
2100.00	2100.00	2089.00	2089.00	4.58	4.57	89.67	0.29	50.05	50.05	40.91	5.47	
2200.00	2200.00	2189.00	2189.00	4.80	4.79	89.67	0.29	50.05	50.05	40.46	5.22	
2300.00	2300.00	2289.00	2289.00	5.03	5.02	89.67	0.29	50.05	50.05	40.01	4.98	
2400.00	2400.00	2389.00	2389.00	5.25	5.24	89.67	0.29	50.05	50.05	39.56	4.77	
2500.00	2500.00	2489.00	2489.00	5.48	5.47	89.67	0.29	50.05	50.05	39.11	4.57	
2600.00	2600.00	2589.00	2589.00	5.70	5.69	89.67	0.29	50.05	50.05	38.66	4.39	
2700.00	2700.00	2689.00	2689.00	5.93	5.91	89.67	0.29	50.05	50.05	38.21	4.23	
2800.00	2800.00	2789.00	2789.00	6.15	6.14	89.67	0.29	50.05	50.05	37.76	4.07	
2900.00	2900.00	2889.00	2889.00	6.38	6.36	89.67	0.29	50.05	50.05	37.31	3.93	
3000.00	3000.00	2989.00	2989.00	6.60	6.59	89.67	0.29	50.05	50.05	36.86	3.79	
3100.00	3100.00	3089.00	3089.00	6.83	6.81	89.67	0.29	50.05	50.05	36.41	3.67	
3200.00	3200.00	3189.00	3189.00	7.05	7.04	89.67	0.29	50.05	50.05	35.96	3.55	
3300.00	3300.00	3289.00	3289.00	7.28	7.26	89.67	0.29	50.05	50.05	35.51	3.44	
3400.00	3400.00	3389.00	3389.00	7.50	7.49	89.67	0.29	50.05	50.05	35.06	3.34	
3500.00	3500.00	3489.00	3489.00	7.73	7.71	89.67	0.29	50.05	50.05	34.61	3.24	

HOBBSS 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 47H
Reference Well: Thistle Unit 47H
Reference Wellpath:

Date: 6/27/2013 Time: 07:18:32
Co-ordinate(NE) Reference: Well: Thistle Unit 47H, Grid North
Vertical (TVD) Reference: SITE 3666.0

Page: 2

Db: Sybase

Site: Thistle Unit 48H
Well: Thistle Unit 48H
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		
3600.00	3600.00	3589.00	3589.00	7.95	7.94	89.67	0.29	50.05	50.05	34.16	3.15	
3700.00	3700.00	3689.00	3689.00	8.18	8.16	89.67	0.29	50.05	50.05	33.71	3.06	
3800.00	3800.00	3789.00	3789.00	8.40	8.39	89.67	0.29	50.05	50.05	33.26	2.98	
3900.00	3900.00	3889.00	3889.00	8.63	8.61	89.67	0.29	50.05	50.05	32.81	2.90	
4000.00	4000.00	3989.00	3989.00	8.85	8.84	89.67	0.29	50.05	50.05	32.36	2.83	
4100.00	4100.00	4089.00	4089.00	9.07	9.06	89.67	0.29	50.05	50.05	31.91	2.76	
4200.00	4200.00	4189.00	4189.00	9.30	9.29	89.67	0.29	50.05	50.05	31.46	2.69	
4300.00	4300.00	4289.00	4289.00	9.52	9.51	89.67	0.29	50.05	50.05	31.02	2.63	
4400.00	4400.00	4389.00	4389.00	9.75	9.74	89.67	0.29	50.05	50.05	30.57	2.57	
4500.00	4500.00	4489.00	4489.00	9.97	9.96	89.67	0.29	50.05	50.05	30.12	2.51	
4600.00	4600.00	4589.00	4589.00	10.20	10.19	89.67	0.29	50.05	50.05	29.67	2.46	
4700.00	4700.00	4689.00	4689.00	10.42	10.41	89.67	0.29	50.05	50.05	29.22	2.40	
4800.00	4800.00	4789.00	4789.00	10.65	10.63	89.67	0.29	50.05	50.05	28.77	2.35	
4900.00	4900.00	4889.00	4889.00	10.87	10.86	89.67	0.29	50.05	50.05	28.32	2.30	
5000.00	5000.00	4989.00	4989.00	11.10	11.08	89.67	0.29	50.05	50.05	27.87	2.26	
5100.00	5100.00	5089.00	5089.00	11.32	11.31	89.67	0.29	50.05	50.05	27.42	2.21	
5200.00	5200.00	5189.00	5189.00	11.55	11.53	89.67	0.29	50.05	50.05	26.97	2.17	
5300.00	5300.00	5289.00	5289.00	11.77	11.76	89.67	0.29	50.05	50.05	26.52	2.13	
5400.00	5400.00	5389.00	5389.00	12.00	11.98	89.67	0.29	50.05	50.05	26.07	2.09	
5500.00	5500.00	5488.99	5488.99	12.22	12.21	89.21	0.69	50.05	50.05	25.63	2.05	
5600.00	5600.00	5588.73	5588.61	12.45	12.43	83.93	5.33	50.05	50.33	25.46	2.02	
5700.00	5700.00	5687.76	5687.15	12.67	12.65	73.25	15.07	50.05	52.30	26.99	2.07	
5800.00	5800.00	5787.02	5785.66	12.90	12.87	61.51	27.16	50.05	57.04	31.29	2.22	
5900.00	5900.00	5886.27	5884.18	13.12	13.09	51.89	39.26	50.05	63.79	37.60	2.44	
6000.00	6000.00	5985.53	5982.69	13.35	13.32	44.26	51.35	50.05	71.99	45.36	2.70	
6100.00	6100.00	6084.78	6081.21	13.57	13.55	38.27	63.45	50.05	81.19	54.12	3.00	
6200.00	6200.00	6184.04	6179.72	13.80	13.79	33.52	75.55	50.05	91.09	63.58	3.31	
6300.00	6300.00	6283.29	6278.24	14.02	14.02	29.73	87.64	50.05	101.50	73.54	3.63	
6400.00	6400.00	6382.55	6376.75	14.24	14.26	26.65	99.74	50.05	112.26	83.85	3.95	
6500.00	6500.00	6481.80	6475.27	14.47	14.51	24.11	111.83	50.05	123.29	94.43	4.27	
6600.00	6600.00	6581.05	6573.78	14.69	14.75	21.99	123.93	50.05	134.52	105.21	4.59	
6700.00	6700.00	6680.31	6672.30	14.92	15.00	20.20	136.03	50.05	145.90	116.14	4.90	
6800.00	6800.00	6783.45	6774.82	15.14	15.21	18.77	147.29	50.05	156.21	126.02	5.17	
6900.00	6900.00	6887.25	6878.26	15.37	15.40	17.81	155.83	50.05	164.03	133.41	5.36	
7000.00	7000.00	6991.44	6982.29	15.59	15.60	17.21	161.58	50.05	169.28	138.25	5.46	
7100.00	7100.00	7095.86	7086.67	15.82	15.78	16.92	164.48	50.05	171.95	140.51	5.47	
7200.00	7200.00	7198.19	7189.00	16.04	15.97	16.89	164.87	50.05	172.30	140.46	5.41	
7300.00	7300.00	7298.19	7289.00	16.27	16.19	16.89	164.87	50.05	172.30	140.01	5.34	
7400.00	7400.00	7398.19	7389.00	16.49	16.41	16.89	164.87	50.05	172.30	139.56	5.26	
7500.00	7500.00	7498.19	7489.00	16.72	16.63	16.89	164.87	50.05	172.30	139.11	5.19	
7600.00	7600.00	7598.19	7589.00	16.94	16.86	16.89	164.87	50.05	172.30	138.66	5.12	
7700.00	7700.00	7698.19	7689.00	17.17	17.08	16.89	164.87	50.05	172.30	138.22	5.06	
7800.00	7800.00	7798.19	7789.00	17.39	17.30	16.89	164.87	50.05	172.30	137.77	4.99	
7900.00	7900.00	7898.19	7889.00	17.62	17.52	16.89	164.87	50.05	172.30	137.32	4.93	
8000.00	8000.00	7998.19	7989.00	17.84	17.74	16.89	164.87	50.05	172.30	136.87	4.86	
8100.00	8100.00	8098.19	8089.00	18.07	17.96	16.89	164.87	50.05	172.30	136.42	4.80	
8200.00	8200.00	8198.19	8189.00	18.29	18.18	16.89	164.87	50.05	172.30	135.97	4.74	
8300.00	8300.00	8298.19	8289.00	18.52	18.41	16.89	164.87	50.05	172.30	135.52	4.69	
8400.00	8400.00	8398.19	8389.00	18.74	18.63	16.89	164.87	50.05	172.30	135.08	4.63	
8500.00	8500.00	8498.19	8489.00	18.96	18.85	16.89	164.87	50.05	172.30	134.63	4.57	
8600.00	8600.00	8598.19	8589.00	19.19	19.07	16.89	164.87	50.05	172.30	134.18	4.52	

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Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 47H
Reference Well: Thistle Unit 47H
Reference Wellpath:

Date: 6/27/2013 Time: 07:18:32
Co-ordinate(NE) Reference: Well: Thistle Unit 47H, Grid North
Vertical (TVD) Reference: SITE 3666.0

Page: 3
Db: Sybase

Site: Thistle Unit 48H
Well: Thistle Unit 48H
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	Warning
8700.00	8700.00	8698.19	8689.00	19.41	19.29	16.89	164.87	50.05	172.30	133.73	4.47
8800.00	8800.00	8798.19	8789.00	19.64	19.52	16.89	164.87	50.05	172.30	133.28	4.42
8900.00	8900.00	8898.19	8889.00	19.86	19.74	16.89	164.87	50.05	172.30	132.83	4.37
9000.00	9000.00	8998.19	8989.00	20.09	19.96	16.89	164.87	50.05	172.30	132.38	4.32
9100.00	9100.00	9098.19	9089.00	20.31	20.18	16.89	164.87	50.05	172.30	131.93	4.27
9200.00	9200.00	9198.19	9189.00	20.54	20.40	16.89	164.87	50.05	172.30	131.48	4.22
9300.00	9300.00	9298.19	9289.00	20.76	20.63	16.89	164.87	50.05	172.30	131.04	4.18
9400.00	9400.00	9398.19	9389.00	20.99	20.85	16.89	164.87	50.05	172.30	130.59	4.13
9500.00	9500.00	9498.19	9489.00	21.21	21.07	16.89	164.87	50.05	172.30	130.14	4.09
9600.00	9600.00	9598.19	9589.00	21.44	21.29	16.89	164.87	50.05	172.30	129.69	4.04
9700.00	9700.00	9698.19	9689.00	21.66	21.52	16.89	164.87	50.05	172.30	129.24	4.00
9800.00	9800.00	9798.19	9789.00	21.89	21.74	16.89	164.87	50.05	172.30	128.79	3.96
9900.00	9900.00	9898.19	9889.00	22.11	21.96	16.89	164.87	50.05	172.30	128.34	3.92
10000.00	10000.00	9998.19	9989.00	22.34	22.18	16.89	164.87	50.05	172.30	127.89	3.88
10100.00	10100.00	10098.19	10089.00	22.56	22.41	16.89	164.87	50.05	172.30	127.44	3.84
10200.00	10200.00	10198.19	10189.00	22.79	22.63	16.89	164.87	50.05	172.30	127.00	3.80
10300.00	10300.00	10298.19	10289.00	23.01	22.85	16.89	164.87	50.05	172.30	126.55	3.77
10400.00	10400.00	10398.19	10389.00	23.24	23.08	16.89	164.87	50.05	172.30	126.10	3.73
10500.00	10500.00	10498.19	10489.00	23.46	23.30	16.89	164.87	50.05	172.30	125.65	3.69
10600.00	10600.00	10598.19	10589.00	23.68	23.52	16.89	164.87	50.05	172.30	125.20	3.66
10700.00	10700.00	10698.19	10689.00	23.91	23.74	16.89	164.87	50.05	172.30	124.75	3.62
10788.54	10788.54	10786.73	10777.54	24.11	23.94	16.89	164.87	50.05	172.30	124.35	3.59
10800.00	10800.00	10798.19	10789.00	24.13	23.97	38.92	164.87	50.05	172.19	124.20	3.59
10825.00	10824.96	10817.10	10807.90	24.19	24.01	39.11	165.23	50.00	171.65	123.58	3.57
10850.00	10849.83	10835.94	10826.71	24.24	24.05	39.41	166.32	49.85	171.00	122.88	3.55
10875.00	10874.53	10854.81	10845.48	24.30	24.10	39.83	168.15	49.60	170.23	122.11	3.54
10900.00	10898.99	10873.69	10864.18	24.35	24.14	40.37	170.72	49.25	169.36	121.27	3.52
10925.00	10923.15	10892.59	10882.79	24.40	24.19	41.02	174.02	48.80	168.41	120.37	3.51
10950.00	10946.94	10911.53	10901.28	24.46	24.24	41.79	178.06	48.25	167.38	119.42	3.49
10975.00	10970.30	10930.49	10919.62	24.51	24.29	42.68	182.83	47.59	166.29	118.43	3.47
11000.00	10993.15	10949.49	10937.79	24.56	24.34	43.69	188.32	46.84	165.17	117.42	3.46
11025.00	11015.45	10968.52	10955.76	24.62	24.39	44.83	194.54	45.99	164.03	116.40	3.44
11050.00	11037.13	10987.60	10973.50	24.67	24.45	46.09	201.49	45.04	162.91	115.39	3.43
11075.00	11058.12	11006.73	10991.00	24.73	24.50	47.46	209.15	44.00	161.83	114.41	3.41
11100.00	11078.38	11025.91	11008.21	24.78	24.56	48.96	217.52	42.85	160.83	113.48	3.40
11125.00	11097.84	11045.15	11025.13	24.84	24.62	50.57	226.60	41.61	159.93	112.62	3.38
11150.00	11116.45	11064.45	11041.72	24.91	24.68	52.30	236.38	40.27	159.18	111.87	3.37
11175.00	11134.16	11083.83	11057.96	24.97	24.75	54.12	246.85	38.84	158.60	111.26	3.35
11200.00	11150.93	11103.29	11073.81	25.05	24.81	56.05	258.02	37.32	158.25	110.80	3.34
11225.00	11166.70	11122.84	11089.27	25.12	24.88	58.05	269.88	35.70	158.15	110.55	3.32
11250.00	11181.44	11142.48	11104.29	25.21	24.96	60.14	282.41	33.98	158.34	110.53	3.31
11275.00	11195.10	11162.23	11118.86	25.30	25.03	62.28	295.62	32.18	158.87	110.78	3.30
11300.00	11207.65	11182.10	11132.95	25.39	25.11	64.47	309.50	30.28	159.75	111.33	3.30
11325.00	11219.04	11202.10	11146.53	25.50	25.19	66.68	324.05	28.29	161.04	112.23	3.30
11350.00	11229.26	11222.24	11159.57	25.61	25.28	68.91	339.25	26.21	162.74	113.51	3.31
11375.00	11238.27	11242.53	11172.05	25.73	25.37	71.14	355.11	24.04	164.88	115.20	3.32
11400.00	11246.05	11263.00	11183.93	25.86	25.47	73.34	371.62	21.79	167.47	117.32	3.34
11425.00	11252.57	11283.65	11195.18	25.99	25.57	75.51	388.77	19.44	170.52	119.89	3.37
11450.00	11257.82	11304.50	11205.77	26.13	25.68	77.63	406.57	17.01	174.04	122.93	3.41
11475.00	11261.78	11325.58	11215.67	26.29	25.79	79.69	425.01	14.49	178.01	126.43	3.45
11500.00	11264.45	11346.91	11224.84	26.44	25.91	81.67	444.08	11.88	182.44	130.40	3.51

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Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 47H
Reference Well: Thistle Unit 47H
Reference Wellpath:

Date: 6/27/2013 Time: 07:18:32
Co-ordinate(NE) Reference: Well: Thistle Unit 47H, Grid North
Vertical (TVD) Reference: SITE 3666.0

Page: 4

Db: Sybase

Site: Thistle Unit 48H
Well: Thistle Unit 48H
Wellpath: 1 V0 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD	TVD	Offset MD	TVD	Semi-Major Axis Ref	Offset	TFO-HS	North	East	Ctr-Ctr Edge Distance	Separation Distance	Factor	Warning
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
11525.00	11265.81	11368.49	11233.24	26.61	26.04	83.58	463.78	9.19	187.29	134.83	3.57	
11536.97	11266.00	11378.93	11236.98	26.69	26.10	84.46	473.43	7.87	189.77	137.11	3.60	
11600.00	11266.21	11436.23	11253.63	27.15	26.46	89.59	527.72	0.45	204.28	150.66	3.81	
11700.00	11266.54	11533.47	11266.53	28.00	27.15	92.89	623.05	-12.58	229.09	173.98	4.16	
11800.00	11266.87	11630.72	11267.06	28.97	27.94	92.66	719.40	-25.75	253.63	196.77	4.46	
11900.00	11267.20	11727.66	11267.40	30.05	28.80	92.43	815.44	-38.88	278.17	219.35	4.73	
12000.00	11267.53	11824.60	11267.74	31.23	29.76	92.24	911.48	-52.01	302.71	241.76	4.97	
12100.00	11267.85	11921.53	11268.08	32.50	30.79	92.07	1007.53	-65.14	327.25	263.99	5.17	
12200.00	11268.18	12018.47	11268.41	33.85	31.89	91.94	1103.57	-78.27	351.80	286.08	5.35	
12300.00	11268.51	12115.41	11268.75	35.28	33.06	91.81	1199.61	-91.40	376.34	308.03	5.51	
12400.00	11268.84	12212.35	11269.09	36.76	34.29	91.71	1295.66	-104.52	400.89	329.87	5.64	
12500.00	11269.17	12309.28	11269.43	38.30	35.56	91.61	1391.70	-117.65	425.44	351.60	5.76	
12600.00	11269.50	12406.22	11269.77	39.90	36.89	91.53	1487.75	-130.78	449.99	373.23	5.86	
12700.00	11269.83	12503.16	11270.11	41.53	38.25	91.45	1583.79	-143.91	474.54	394.78	5.95	
12800.00	11270.16	12600.10	11270.44	43.20	39.66	91.38	1679.83	-157.04	499.09	416.26	6.02	
12900.00	11270.49	12697.04	11270.78	44.91	41.10	91.32	1775.88	-170.17	523.65	437.66	6.09	
13000.00	11270.81	12793.97	11271.12	46.64	42.56	91.27	1871.92	-183.30	548.20	459.01	6.15	
13100.00	11271.14	12890.91	11271.46	48.41	44.06	91.22	1967.97	-196.42	572.75	480.31	6.20	
13200.00	11271.47	12987.85	11271.80	50.19	45.58	91.17	2064.01	-209.55	597.31	501.55	6.24	
13300.00	11271.80	13084.79	11272.14	52.00	47.12	91.13	2160.05	-222.68	621.86	522.76	6.27	
13400.00	11272.13	13181.72	11272.48	53.83	48.68	91.09	2256.10	-235.81	646.42	543.92	6.31	
13500.00	11272.46	13278.66	11272.81	55.68	50.26	91.05	2352.14	-248.94	670.97	565.05	6.33	
13600.00	11272.79	13375.60	11273.15	57.54	51.85	91.01	2448.18	-262.07	695.53	586.15	6.36	
13700.00	11273.12	13472.54	11273.49	59.42	53.46	90.98	2544.23	-275.20	720.08	607.21	6.38	
13800.00	11273.45	13569.47	11273.83	61.31	55.09	90.95	2640.27	-288.33	744.64	628.25	6.40	
13900.00	11273.78	13666.41	11274.17	63.21	56.72	90.92	2736.32	-301.45	769.19	649.27	6.41	
14000.00	11274.10	13763.35	11274.51	65.12	58.37	90.90	2832.36	-314.58	793.75	670.27	6.43	
14100.00	11274.43	13860.29	11274.84	67.05	60.03	90.87	2928.40	-327.71	818.30	691.24	6.44	
14200.00	11274.76	13957.22	11275.18	68.98	61.70	90.85	3024.45	-340.84	842.86	712.20	6.45	
14300.00	11275.09	14054.16	11275.52	70.92	63.37	90.83	3120.49	-353.97	867.42	733.14	6.46	
14400.00	11275.42	14151.10	11275.86	72.87	65.06	90.81	3216.54	-367.10	891.97	754.06	6.47	
14500.00	11275.75	14248.04	11276.20	74.82	66.75	90.79	3312.58	-380.23	916.53	774.97	6.47	
14600.00	11276.08	14344.97	11276.54	76.78	68.45	90.77	3408.62	-393.36	941.09	795.86	6.48	
14700.00	11276.41	14441.91	11276.87	78.75	70.16	90.75	3504.67	-406.48	965.64	816.75	6.49	
14800.00	11276.74	14538.85	11277.21	80.72	71.87	90.73	3600.71	-419.61	990.20	837.62	6.49	
14900.00	11277.06	14635.79	11277.55	82.70	73.59	90.72	3696.75	-432.74	1014.75	858.48	6.49	
15000.00	11277.39	14732.72	11277.89	84.69	75.31	90.70	3792.80	-445.87	1039.31	879.33	6.50	
15100.00	11277.72	14829.66	11278.23	86.67	77.04	90.69	3888.84	-459.00	1063.87	900.17	6.50	
15200.00	11278.05	14926.60	11278.57	88.67	78.77	90.67	3984.89	-472.13	1088.43	921.00	6.50	
15300.00	11278.38	15023.54	11278.90	90.66	80.51	90.66	4080.93	-485.26	1112.98	941.82	6.50	
15400.00	11278.71	15120.47	11279.24	92.66	82.25	90.65	4176.97	-498.39	1137.54	962.64	6.50	
15500.00	11279.04	15217.41	11279.58	94.66	83.99	90.63	4273.02	-511.51	1162.10	983.45	6.50	
15600.00	11279.37	15314.35	11279.92	96.67	85.74	90.62	4369.06	-524.64	1186.65	1004.25	6.51	
15700.00	11279.70	15411.29	11280.26	98.68	87.49	90.61	4465.10	-537.77	1211.21	1025.05	6.51	
15800.00	11280.02	15508.22	11280.60	100.69	89.25	90.60	4561.15	-550.90	1235.77	1045.84	6.51	
15900.00	11280.35	15605.16	11280.93	102.71	91.00	90.59	4657.19	-564.03	1260.33	1066.62	6.51	
16000.00	11280.68	15623.92	11281.00	104.73	91.34	90.59	4675.78	-566.57	1287.26	1091.20	6.57	
16096.46	11281.00	15623.92	11281.00	106.67	91.34	90.59	4675.78	-566.57	1319.78	1121.78	6.67	

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Weatherford Anticollision Report

**Weatherford®**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 47H
Reference Well: Thistle Unit 47H
Reference Wellpath:

Date: 6/27/2013 Time: 07:18:32 Page: 5
Co-ordinate(NE) Reference: Well: Thistle Unit 47H, Grid North
Vertical (TVD) Reference: SITE 3666.0

Db: Sybase

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

Inter-Site Error: 0.00 ft

Reference		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	2.00	-2.00	0.00	0.00	89.64	0.63	99.98	99.98	99.98	59310.26	
100.00	100.00	98.00	98.00	0.08	0.08	89.64	0.63	99.98	99.98	99.82	599.09	
200.00	200.00	198.00	198.00	0.31	0.30	89.64	0.63	99.98	99.98	99.37	162.94	
300.00	300.00	298.00	298.00	0.53	0.53	89.64	0.63	99.98	99.98	98.92	94.04	
400.00	400.00	398.00	398.00	0.76	0.75	89.64	0.63	99.98	99.98	98.47	66.10	
500.00	500.00	498.00	498.00	0.98	0.98	89.64	0.63	99.98	99.98	98.02	50.95	
600.00	600.00	598.00	598.00	1.21	1.20	89.64	0.63	99.98	99.98	97.57	41.46	
700.00	700.00	698.00	698.00	1.43	1.43	89.64	0.63	99.98	99.98	97.12	34.94	
800.00	800.00	798.00	798.00	1.66	1.65	89.64	0.63	99.98	99.98	96.67	30.20	
900.00	900.00	898.00	898.00	1.88	1.88	89.64	0.63	99.98	99.98	96.22	26.59	
1000.00	1000.00	998.00	998.00	2.11	2.10	89.64	0.63	99.98	99.98	95.77	23.75	
1100.00	1100.00	1098.00	1098.00	2.33	2.33	89.64	0.63	99.98	99.98	95.32	21.46	
1200.00	1200.00	1198.00	1198.00	2.56	2.55	89.64	0.63	99.98	99.98	94.87	19.57	
1300.00	1300.00	1298.00	1298.00	2.78	2.78	89.64	0.63	99.98	99.98	94.42	17.99	
1400.00	1400.00	1398.00	1398.00	3.01	3.00	89.64	0.63	99.98	99.98	93.97	16.64	
1500.00	1500.00	1498.00	1498.00	3.23	3.23	89.64	0.63	99.98	99.98	93.52	15.48	
1600.00	1600.00	1598.00	1598.00	3.46	3.45	89.64	0.63	99.98	99.98	93.07	14.48	
1700.00	1700.00	1698.00	1698.00	3.68	3.68	89.64	0.63	99.98	99.98	92.63	13.59	
1800.00	1800.00	1798.00	1798.00	3.91	3.90	89.64	0.63	99.98	99.98	92.18	12.81	
1900.00	1900.00	1898.00	1898.00	4.13	4.13	89.64	0.63	99.98	99.98	91.73	12.11	
2000.00	2000.00	1998.00	1998.00	4.35	4.35	89.64	0.63	99.98	99.98	91.28	11.49	
2100.00	2100.00	2098.00	2098.00	4.58	4.58	89.64	0.63	99.98	99.98	90.83	10.92	
2200.00	2200.00	2198.00	2198.00	4.80	4.80	89.64	0.63	99.98	99.98	90.38	10.41	
2300.00	2300.00	2298.00	2298.00	5.03	5.02	89.64	0.63	99.98	99.98	89.93	9.94	
2400.00	2400.00	2398.00	2398.00	5.25	5.25	89.64	0.63	99.98	99.98	89.48	9.52	
2500.00	2500.00	2498.00	2498.00	5.48	5.47	89.64	0.63	99.98	99.98	89.03	9.13	
2600.00	2600.00	2598.00	2598.00	5.70	5.70	89.64	0.63	99.98	99.98	88.58	8.77	
2700.00	2700.00	2698.00	2698.00	5.93	5.92	89.64	0.63	99.98	99.98	88.13	8.44	
2800.00	2800.00	2798.00	2798.00	6.15	6.15	89.64	0.63	99.98	99.98	87.68	8.13	
2900.00	2900.00	2898.00	2898.00	6.38	6.37	89.64	0.63	99.98	99.98	87.23	7.84	
3000.00	3000.00	2998.00	2998.00	6.60	6.60	89.64	0.63	99.98	99.98	86.78	7.57	
3100.00	3100.00	3098.00	3098.00	6.83	6.82	89.64	0.63	99.98	99.98	86.33	7.32	
3200.00	3200.00	3198.00	3198.00	7.05	7.05	89.64	0.63	99.98	99.98	85.88	7.09	
3300.00	3300.00	3298.00	3298.00	7.28	7.27	89.64	0.63	99.98	99.98	85.43	6.87	
3400.00	3400.00	3398.00	3398.00	7.50	7.50	89.64	0.63	99.98	99.98	84.98	6.67	
3500.00	3500.00	3498.00	3498.00	7.73	7.72	89.64	0.63	99.98	99.98	84.53	6.47	
3600.00	3600.00	3598.00	3598.00	7.95	7.95	89.64	0.63	99.98	99.98	84.08	6.29	
3700.00	3700.00	3698.00	3698.00	8.18	8.17	89.64	0.63	99.98	99.98	83.63	6.12	
3800.00	3800.00	3798.00	3798.00	8.40	8.40	89.64	0.63	99.98	99.98	83.19	5.95	
3900.00	3900.00	3898.00	3898.00	8.63	8.62	89.64	0.63	99.98	99.98	82.74	5.80	
4000.00	4000.00	3998.00	3998.00	8.85	8.85	89.64	0.63	99.98	99.98	82.29	5.65	
4100.00	4100.00	4098.00	4098.00	9.07	9.07	89.64	0.63	99.98	99.98	81.84	5.51	
4200.00	4200.00	4198.00	4198.00	9.30	9.30	89.64	0.63	99.98	99.98	81.39	5.38	
4300.00	4300.00	4298.00	4298.00	9.52	9.52	89.64	0.63	99.98	99.98	80.94	5.25	
4400.00	4400.00	4398.00	4398.00	9.75	9.74	89.64	0.63	99.98	99.98	80.49	5.13	
4500.00	4500.00	4498.00	4498.00	9.97	9.97	89.64	0.63	99.98	99.98	80.04	5.01	
4600.00	4600.00	4598.00	4598.00	10.20	10.19	89.64	0.63	99.98	99.98	79.59	4.90	
4700.00	4700.00	4698.00	4698.00	10.42	10.42	89.64	0.63	99.98	99.98	79.14	4.80	
4800.00	4800.00	4798.00	4798.00	10.65	10.64	89.64	0.63	99.98	99.98	78.69	4.70	
4900.00	4900.00	4898.00	4898.00	10.87	10.87	89.64	0.63	99.98	99.98	78.24	4.60	
5000.00	5000.00	4998.00	4998.00	11.10	11.09	89.64	0.63	99.98	99.98	77.79	4.51	

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Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 47H
Reference Well: Thistle Unit 47H
Reference Wellpath:

Date: 6/27/2013 Time: 07:18:32 Page: 6
Co-ordinate(NE) Reference: Well: Thistle Unit 47H, Grid North
Vertical (TVD) Reference: SITE 3666.0

Db: Sybase

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

Inter-Site Error: 0.00 ft

Reference		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		
5100.00	5100.00	5098.00	5098.00	11.32	11.32	89.64	0.63	99.98	99.98	77.34	4.42	
5200.00	5200.00	5198.00	5198.00	11.55	11.54	89.64	0.63	99.98	99.98	76.89	4.33	
5300.00	5300.00	5298.00	5298.00	11.77	11.77	89.64	0.63	99.98	99.98	76.44	4.25	
5400.00	5400.00	5398.00	5398.00	12.00	11.99	89.64	0.63	99.98	99.98	75.99	4.17	
5500.00	5500.00	5498.00	5498.00	12.22	12.22	89.64	0.63	99.98	99.98	75.54	4.09	
5600.00	5600.00	5598.00	5598.00	12.45	12.44	89.64	0.63	99.98	99.98	75.09	4.02	
5700.00	5700.00	5698.00	5698.00	12.67	12.67	89.64	0.63	99.98	99.98	74.64	3.95	
5800.00	5800.00	5798.00	5798.00	12.90	12.89	89.64	0.63	99.98	99.98	74.19	3.88	
5900.00	5900.00	5898.00	5898.00	13.12	13.12	89.64	0.63	99.98	99.98	73.75	3.81	
6000.00	6000.00	5998.00	5998.00	13.35	13.34	89.64	0.63	99.98	99.98	73.30	3.75	
6100.00	6100.00	6098.00	6098.00	13.57	13.57	89.64	0.63	99.98	99.98	72.85	3.68	
6200.00	6200.00	6198.00	6198.00	13.80	13.79	89.64	0.63	99.98	99.98	72.40	3.62	
6300.00	6300.00	6298.00	6298.00	14.02	14.02	89.64	0.63	99.98	99.98	71.95	3.57	
6400.00	6400.00	6398.00	6398.00	14.24	14.24	89.64	0.63	99.98	99.98	71.50	3.51	
6500.00	6500.00	6498.00	6498.00	14.47	14.46	89.64	0.63	99.98	99.98	71.05	3.46	
6600.00	6600.00	6598.00	6598.00	14.69	14.69	89.64	0.63	99.98	99.98	70.60	3.40	
6700.00	6700.00	6698.00	6698.00	14.92	14.91	89.64	0.63	99.98	99.98	70.15	3.35	
6800.00	6800.00	6798.00	6798.00	15.14	15.14	89.64	0.63	99.98	99.98	69.70	3.30	
6900.00	6900.00	6898.00	6898.00	15.37	15.36	89.64	0.63	99.98	99.98	69.25	3.25	
7000.00	7000.00	6998.00	6998.00	15.59	15.59	89.64	0.63	99.98	99.98	68.80	3.21	
7100.00	7100.00	7098.00	7098.00	15.82	15.81	89.64	0.63	99.98	99.98	68.35	3.16	
7200.00	7200.00	7198.00	7198.00	16.04	16.04	89.64	0.63	99.98	99.98	67.90	3.12	
7300.00	7300.00	7298.00	7298.00	16.27	16.26	89.64	0.63	99.98	99.98	67.45	3.07	
7400.00	7400.00	7398.00	7398.00	16.49	16.49	89.64	0.63	99.98	99.98	67.00	3.03	
7500.00	7500.00	7498.00	7498.00	16.72	16.71	89.64	0.63	99.98	99.98	66.55	2.99	
7600.00	7600.00	7598.00	7598.00	16.94	16.94	89.64	0.63	99.98	99.98	66.10	2.95	
7700.00	7700.00	7698.00	7698.00	17.17	17.16	89.64	0.63	99.98	99.98	65.65	2.91	
7800.00	7800.00	7798.00	7798.00	17.39	17.39	89.64	0.63	99.98	99.98	65.20	2.87	
7900.00	7900.00	7898.00	7898.00	17.62	17.61	89.64	0.63	99.98	99.98	64.75	2.84	
8000.00	8000.00	7998.00	7998.00	17.84	17.84	89.64	0.63	99.98	99.98	64.30	2.80	
8100.00	8100.00	8098.00	8098.00	18.07	18.06	89.64	0.63	99.98	99.98	63.86	2.77	
8200.00	8200.00	8198.00	8198.00	18.29	18.29	89.64	0.63	99.98	99.98	63.41	2.73	
8300.00	8300.00	8298.00	8298.00	18.52	18.51	89.64	0.63	99.98	99.98	62.96	2.70	
8400.00	8400.00	8398.00	8398.00	18.74	18.74	89.64	0.63	99.98	99.98	62.51	2.67	
8500.00	8500.00	8498.00	8498.00	18.96	18.96	89.64	0.63	99.98	99.98	62.06	2.64	
8600.00	8600.00	8598.00	8598.00	19.19	19.18	89.64	0.63	99.98	99.98	61.61	2.61	
8700.00	8700.00	8698.00	8698.00	19.41	19.41	89.64	0.63	99.98	99.98	61.16	2.58	
8800.00	8800.00	8798.00	8798.00	19.64	19.63	89.64	0.63	99.98	99.98	60.71	2.55	
8900.00	8900.00	8898.00	8898.00	19.86	19.86	89.64	0.63	99.98	99.98	60.26	2.52	
9000.00	9000.00	8998.00	8998.00	20.09	20.08	89.64	0.63	99.98	99.98	59.81	2.49	
9100.00	9100.00	9098.00	9098.00	20.31	20.31	89.64	0.63	99.98	99.98	59.36	2.46	
9200.00	9200.00	9198.00	9198.00	20.54	20.53	89.64	0.63	99.98	99.98	58.91	2.43	
9300.00	9300.00	9298.00	9298.00	20.76	20.76	89.64	0.63	99.98	99.98	58.46	2.41	
9400.00	9400.00	9398.00	9398.00	20.99	20.98	89.64	0.63	99.98	99.98	58.01	2.38	
9500.00	9500.00	9498.00	9498.00	21.21	21.21	89.64	0.63	99.98	99.98	57.56	2.36	
9600.00	9600.00	9598.00	9598.00	21.44	21.43	89.64	0.63	99.98	99.98	57.11	2.33	
9700.00	9700.00	9698.00	9698.00	21.66	21.66	89.64	0.63	99.98	99.98	56.66	2.31	
9800.00	9800.00	9798.00	9798.00	21.89	21.88	89.64	0.63	99.98	99.98	56.21	2.28	
9900.00	9900.00	9898.00	9898.00	22.11	22.11	89.64	0.63	99.98	99.98	55.76	2.26	
10000.00	10000.00	9998.00	9998.00	22.34	22.33	89.64	0.63	99.98	99.98	55.31	2.24	
10100.00	10100.00	10098.00	10098.00	22.56	22.56	89.64	0.63	99.98	99.98	54.86	2.22	

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Weatherford Anticollision Report

**Weatherford®**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 47H
Reference Well: Thistle Unit 47H
Reference Wellpath:

Date: 6/27/2013 Time: 07:18:32
Co-ordinate(N/E) Reference: Well: Thistle Unit 47H, Grid North
Vertical (TVD) Reference: SITE 3666.0

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
10200.00	10200.00	10198.00	10198.00	22.79	22.78	89.64	0.63	99.98	99.98	54.42	2.19	
10300.00	10300.00	10298.00	10298.00	23.01	23.01	89.64	0.63	99.98	99.98	53.97	2.17	
10400.00	10400.00	10398.00	10398.00	23.24	23.23	89.64	0.63	99.98	99.98	53.52	2.15	
10500.00	10500.00	10498.00	10498.00	23.46	23.46	89.64	0.63	99.98	99.98	53.07	2.13	
10600.00	10600.00	10598.00	10598.00	23.68	23.68	89.64	0.63	99.98	99.98	52.62	2.11	
10700.00	10700.00	10698.00	10698.00	23.91	23.90	89.64	0.63	99.98	99.98	52.17	2.09	
10788.54	10788.54	10786.54	10786.54	24.11	24.10	89.64	0.63	99.98	99.98	51.77	2.07	
10800.00	10800.00	10797.72	10797.72	24.13	24.13	111.65	0.72	99.99	100.05	51.78	2.07	
10825.00	10824.96	10821.98	10821.95	24.19	24.18	111.62	1.79	100.14	100.67	52.30	2.08	
10850.00	10849.83	10846.21	10846.07	24.24	24.24	111.49	4.08	100.46	101.96	53.49	2.10	
10875.00	10874.53	10870.39	10869.99	24.30	24.29	111.26	7.56	100.95	103.90	55.35	2.14	
10900.00	10898.99	10894.49	10893.62	24.35	24.34	110.95	12.22	101.60	106.50	57.86	2.19	
10925.00	10923.15	10918.49	10916.89	24.40	24.39	110.56	18.04	102.41	109.75	61.03	2.25	
10950.00	10946.94	10942.38	10939.73	24.46	24.44	110.09	24.96	103.38	113.63	64.83	2.33	
10975.00	10970.30	10966.14	10962.07	24.51	24.49	109.56	32.97	104.50	118.13	69.25	2.42	
11000.00	10993.15	10989.74	10983.84	24.56	24.54	108.96	42.00	105.76	123.23	74.29	2.52	
11025.00	11015.45	11013.19	11004.99	24.62	24.59	108.32	52.01	107.16	128.93	79.90	2.63	
11050.00	11037.13	11036.46	11025.47	24.67	24.63	107.62	62.96	108.69	135.20	86.09	2.75	
11075.00	11058.12	11059.55	11045.23	24.73	24.68	106.89	74.78	110.34	142.02	92.82	2.89	
11100.00	11078.38	11082.46	11064.24	24.78	24.73	106.11	87.43	112.11	149.36	100.08	3.03	
11125.00	11097.84	11105.17	11082.47	24.84	24.78	105.31	100.85	113.98	157.22	107.83	3.18	
11150.00	11116.45	11127.69	11099.88	24.91	24.84	104.47	114.99	115.96	165.56	116.06	3.34	
11175.00	11134.16	11150.03	11116.47	24.97	24.89	103.60	129.80	118.02	174.35	124.74	3.51	
11200.00	11150.93	11172.18	11132.21	25.05	24.95	102.71	145.23	120.18	183.58	133.83	3.69	
11225.00	11166.70	11194.15	11147.09	25.12	25.00	101.80	161.24	122.42	193.21	143.32	3.87	
11250.00	11181.44	11215.95	11161.11	25.21	25.06	100.86	177.78	124.73	203.23	153.18	4.06	
11275.00	11195.10	11237.60	11174.26	25.30	25.13	99.90	194.80	127.10	213.60	163.37	4.25	
11300.00	11207.65	11259.10	11186.54	25.39	25.19	98.92	212.28	129.55	224.29	173.88	4.45	
11325.00	11219.04	11280.48	11197.95	25.50	25.26	97.93	230.19	132.05	235.28	184.67	4.65	
11350.00	11229.26	11301.74	11208.48	25.61	25.33	96.92	248.48	134.60	246.54	195.73	4.85	
11375.00	11238.27	11322.91	11218.14	25.73	25.40	95.90	267.13	137.21	258.04	207.01	5.06	
11400.00	11246.05	11344.01	11226.92	25.86	25.48	94.87	286.13	139.86	269.76	218.50	5.26	
11425.00	11252.57	11365.05	11234.83	25.99	25.57	93.84	305.44	142.56	281.67	230.16	5.47	
11450.00	11257.82	11386.07	11241.87	26.13	25.65	92.80	325.06	145.30	293.73	241.98	5.68	
11475.00	11261.78	11407.09	11248.02	26.29	25.74	91.77	344.96	148.08	305.93	253.92	5.88	
11500.00	11264.45	11428.13	11253.30	26.44	25.83	90.73	365.13	150.90	318.24	265.97	6.09	
11525.00	11265.81	11449.23	11257.68	26.61	25.93	89.70	385.56	153.75	330.62	278.08	6.29	
11536.97	11266.00	11459.35	11259.45	26.69	25.98	89.22	395.44	155.13	336.57	283.90	6.39	
11600.00	11266.21	11513.49	11265.35	27.15	26.25	90.31	448.71	162.57	368.01	314.60	6.89	
11700.00	11266.54	11600.20	11266.23	28.00	26.74	90.38	534.57	174.57	417.94	363.20	7.64	
11800.00	11266.87	11686.85	11266.53	28.97	27.32	90.34	620.38	186.55	467.86	411.58	8.31	
11900.00	11267.20	11773.49	11266.84	30.05	27.97	90.32	706.19	198.54	517.79	459.78	8.93	
12000.00	11267.53	11860.14	11267.14	31.23	28.68	90.30	792.01	210.53	567.72	507.81	9.48	
12100.00	11267.85	11946.78	11267.45	32.50	29.47	90.28	877.82	222.51	617.65	555.68	9.97	
12200.00	11268.18	12033.43	11267.75	33.85	30.31	90.26	963.63	234.50	667.57	603.41	10.40	
12300.00	11268.51	12120.07	11268.06	35.28	31.20	90.25	1049.44	246.49	717.50	651.02	10.79	
12400.00	11268.84	12206.71	11268.36	36.76	32.15	90.24	1135.25	258.47	767.43	698.51	11.14	
12500.00	11269.17	12293.36	11268.67	38.30	33.15	90.23	1221.06	270.46	817.36	745.90	11.44	
12600.00	11269.50	12380.00	11268.98	39.90	34.19	90.22	1306.87	282.45	867.28	793.20	11.71	
12700.00	11269.83	12466.65	11269.28	41.53	35.27	90.21	1392.68	294.44	917.21	840.41	11.94	
12800.00	11270.16	12553.29	11269.59	43.20	36.39	90.21	1478.49	306.42	967.14	887.55	12.15	

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Weatherford Anticollision Report

**Weatherford®**

Company: Devon Energy
Field: Lea County, New Mexico (NAD 83)
Reference Site: Thistle Unit 47H
Reference Well: Thistle Unit 47H
Reference Wellpath:

Date: 6/27/2013 Time: 07:18:32 Page: 8
Co-ordinate(NE) Reference: Well: Thistle Unit 47H, Grid North
Vertical (TVD) Reference: SITE 3666.0

Db: Sybase

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

Inter-Site Error: 0.00 ft

Reference		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		
12900.00	11270.49	12639.93	11269.89	44.91	37.53	90.20	1564.30	318.41	1017.07	934.63	12.34	
13000.00	11270.81	12726.58	11270.20	46.64	38.71	90.19	1650.11	330.40	1066.99	981.64	12.50	
13100.00	11271.14	12813.22	11270.50	48.41	39.91	90.19	1735.92	342.38	1116.92	1028.61	12.65	
13200.00	11271.47	12899.87	11270.81	50.19	41.13	90.18	1821.73	354.37	1166.85	1075.52	12.78	
13300.00	11271.80	12986.51	11271.12	52.00	42.39	90.18	1907.54	366.36	1216.78	1122.39	12.89	
13400.00	11272.13	13073.16	11271.42	53.83	43.66	90.18	1993.35	378.34	1266.70	1169.21	12.99	
13500.00	11272.46	13159.80	11271.73	55.68	44.95	90.17	2079.16	390.33	1316.63	1216.01	13.08	
13600.00	11272.79	13246.44	11272.03	57.54	46.25	90.17	2164.97	402.32	1366.56	1262.76	13.17	
13700.00	11273.12	13333.09	11272.34	59.42	47.57	90.17	2250.78	414.30	1416.49	1309.49	13.24	
13800.00	11273.45	13419.73	11272.64	61.31	48.91	90.16	2336.60	426.29	1466.41	1356.20	13.30	
13900.00	11273.78	13506.38	11272.95	63.21	50.26	90.16	2422.41	438.28	1516.34	1402.87	13.36	
14000.00	11274.10	13593.02	11273.25	65.12	51.62	90.16	2508.22	450.27	1566.27	1449.53	13.42	
14100.00	11274.43	13679.67	11273.56	67.05	53.00	90.15	2594.03	462.25	1616.20	1496.16	13.46	
14200.00	11274.76	13766.31	11273.87	68.98	54.38	90.15	2679.84	474.24	1666.12	1542.77	13.51	
14300.00	11275.09	13852.95	11274.17	70.92	55.77	90.15	2765.65	486.23	1716.05	1589.36	13.55	
14400.00	11275.42	13939.60	11274.48	72.87	57.18	90.15	2851.46	498.21	1765.98	1635.94	13.58	
14500.00	11275.75	14026.24	11274.78	74.82	58.59	90.15	2937.27	510.20	1815.91	1682.50	13.61	
14600.00	11276.08	14112.89	11275.09	76.78	60.00	90.14	3023.08	522.19	1865.84	1729.05	13.64	
14700.00	11276.41	14199.53	11275.39	78.75	61.43	90.14	3108.89	534.17	1915.76	1775.58	13.67	
14800.00	11276.74	14286.18	11275.70	80.72	62.86	90.14	3194.70	546.16	1965.69	1822.11	13.69	
14900.00	11277.06	14372.82	11276.01	82.70	64.30	90.14	3280.51	558.15	2015.62	1868.62	13.71	
15000.00	11277.39	14459.46	11276.31	84.69	65.74	90.14	3366.32	570.13	2065.55	1915.12	13.73	
15100.00	11277.72	14546.11	11276.62	86.67	67.19	90.14	3452.13	582.12	2115.47	1961.61	13.75	
15200.00	11278.05	14632.75	11276.92	88.67	68.65	90.14	3537.94	594.11	2165.40	2008.09	13.76	
15300.00	11278.38	14719.40	11277.23	90.66	70.11	90.13	3623.75	606.09	2215.33	2054.56	13.78	
15400.00	11278.71	14806.04	11277.53	92.66	71.57	90.13	3709.56	618.08	2265.26	2101.02	13.79	
15500.00	11279.04	14892.69	11277.84	94.66	73.04	90.13	3795.37	630.07	2315.18	2147.48	13.80	
15600.00	11279.37	14979.33	11278.14	96.67	74.52	90.13	3881.18	642.06	2365.11	2193.93	13.82	
15700.00	11279.70	15065.97	11278.45	98.68	75.99	90.13	3967.00	654.04	2415.04	2240.37	13.83	
15800.00	11280.02	15152.62	11278.76	100.69	77.47	90.13	4052.81	666.03	2464.97	2286.80	13.84	
15900.00	11280.35	15239.26	11279.06	102.71	78.95	90.13	4138.62	678.02	2514.89	2333.23	13.84	
16000.00	11280.68	15325.91	11279.37	104.73	80.44	90.13	4224.43	690.00	2564.82	2379.66	13.85	
16096.46	11281.00	15409.48	11279.66	106.67	81.88	90.13	4307.20	701.57	2612.98	2424.43	13.86	

HOESS OCD

JUL 05 2013

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

GeoDec v5.03

Report Date: June 26, 2013

HOESS OCD

Job Number: _____

JUL 05 2013

Customer: Devon Energy

Well Name: Thistle Unit 47H

RECEIVED

API Number: _____

Rig Name: _____

Location: Lea County, NM

Block: _____

Engineer: RWJ

US State Plane 1983

Geodetic Latitude / Longitude

System: New Mexico Eastern Zone

System: Latitude / Longitude

Projection: Transverse Mercator/Gauss Kruger

Projection: Geodetic Latitude and Longitude

Datum: North American Datum 1983

Datum: North American Datum 1983

Ellipsoid: GRS 1980

Ellipsoid: GRS 1980

North/South 457286.250 USFT

Latitude 32.2547924 DEG

East/West 780184.230 USFT

Longitude -103.5606962 DEG

Grid Convergence: .41°

Total Correction: +6.97°

Geodetic Location WGS84

Elevation = 0.0 Meters

Latitude = 32.25479° N 32° 15 min 17.253 sec

Longitude = 103.56070° W 103° 33 min 38.506 sec

Magnetic Declination =

7.38°

[True North Offset]

Local Gravity =

.9988 g

Checksum =

6652

Local Field Strength =

48387 nT

Magnetic Vector X =

23892 nT

Magnetic Dip =

60.14°

Magnetic Vector Y =

3093 nT

Magnetic Model =

bggm2013

Magnetic Vector Z =

41963 nT

Spud Date =

Jan 15, 2014

Magnetic Vector H =

24091 nT

Signed: _____

Date: _____