

30-025-41851

HOBBS OCD

MAR 09 2015

RECEIVED

OCCIDENTAL PERMIAN LTD.

Triple X Bone Spring
Lea County, NM (Grid North)
Foxglove 29 Federal #7H
DH - Job #321014-MPH-1204

Survey: MWD

Regulatory Report (Grid North)

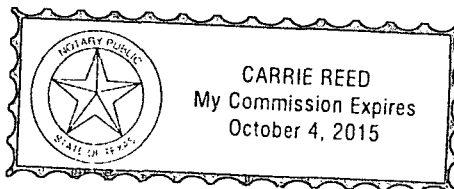
This survey is correct to the best of my knowledge and is supported by actual field data.

Richard

Notarized this date 4th of February, 2015.

Carrie Reed

Notary Signature
County of Midland
State of Texas



MAR 17 2015

Regulatory Report (Grid North)

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Foxglove 29 Federal #7H
Project:	Triple X Bone Spring	TVD Reference:	Mean Sea Level (System)
Site:	Lea County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	Foxglove 29 Federal #7H	North Reference:	Grid
Wellbore:	DH - Job #321014-MPH-1204	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #321014-MPH-1204	Database:	MID_Regulatory

Project	Triple X Bone Spring		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Lea County, NM (Grid North)		
Site Position:		Northing:	445,907.51 usft
From:	Lat/Long	Easting:	721,463.19 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 13' 25.997 N
		Longitude:	103° 37' 18.70 W
		Grid Convergence:	0.38 °

Well	Foxglove 29 Federal #7H, Horizontal		
Well Position	+N/-S	0.0 usft	Northing: 467,073.47 usft
	+E/-W	0.0 usft	Easting: 730,507.61 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 16' 54.836 N
		Longitude:	103° 35' 14.877 W
		Ground Level:	0.0 usft

Wellbore	DH - Job #321014-MPH-1204		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2014	10/15/2014	7.35
			Dip Angle (°)
			60.15
			Field Strength (nT)
			48,301

Design	DH - Job #321014-MPH-1204		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			176.22

Survey Program	Date 2/4/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
230.0	15,735.0	MWD (DH - Job #321014-MPH-1204)	MWD
			Description
			MWD

Survey								
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
230.0	0.43	332.62	230.0	0.8	-0.4	332.62	0.9	
499.0	0.57	272.21	499.0	1.7	-2.2	307.95	2.8	
774.0	0.44	258.23	774.0	1.6	-4.6	288.64	4.9	
1,049.0	0.44	322.67	1,049.0	2.2	-6.3	289.13	6.6	
1,332.0	0.49	251.35	1,332.0	2.7	-8.1	288.18	8.5	
1,343.0	0.36	352.70	1,343.0	2.7	-8.1	288.20	8.6	
1,427.0	0.31	260.47	1,427.0	2.9	-8.4	289.06	8.9	
1,521.0	0.54	263.30	1,521.0	2.8	-9.1	287.16	9.5	
1,615.0	0.92	304.03	1,615.0	3.2	-10.1	287.38	10.6	
1,709.0	0.39	15.98	1,708.9	3.9	-10.7	290.08	11.4	
1,804.0	0.70	348.07	1,803.9	4.8	-10.7	294.06	11.7	

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Design:	DH - Job #321014-MPH-1204	Database:	MID_Regulatory

Survey								
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
1,898.0	0.74	284.40	1,897.9	5.5	-11.4	295.70	12.7	
1,992.0	0.84	276.62	1,991.9	5.7	-12.7	294.28	13.9	
2,087.0	0.42	114.22	2,086.9	5.7	-13.1	293.44	14.2	
2,181.0	0.07	221.58	2,180.9	5.5	-12.8	293.19	13.9	
2,275.0	0.40	106.78	2,274.9	5.3	-12.5	293.12	13.6	
2,369.0	0.38	227.15	2,368.9	5.0	-12.4	292.05	13.4	
2,463.0	0.96	173.66	2,462.9	4.0	-12.6	287.82	13.2	
2,558.0	0.68	202.77	2,557.9	2.7	-12.7	282.13	13.0	
2,652.0	0.66	86.09	2,651.9	2.3	-12.4	280.31	12.6	
2,746.0	0.83	132.33	2,745.9	1.8	-11.3	279.17	11.5	
2,841.0	0.29	298.50	2,840.9	1.5	-11.0	277.64	11.1	
2,935.0	0.76	120.02	2,934.9	1.3	-10.7	276.83	10.8	
3,029.0	0.80	124.26	3,028.9	0.6	-9.6	273.57	9.6	
3,124.0	0.65	139.66	3,123.9	-0.2	-8.7	268.80	8.7	
3,218.0	0.31	356.11	3,217.9	-0.3	-8.4	267.71	8.4	
3,312.0	0.93	112.41	3,311.9	-0.4	-7.7	267.23	7.7	
3,407.0	0.30	40.01	3,406.9	-0.5	-6.8	266.01	6.8	
3,501.0	1.53	75.27	3,500.8	0.0	-5.5	270.33	5.5	
3,595.0	1.26	64.91	3,594.8	0.8	-3.3	283.39	3.4	
3,689.0	2.66	85.12	3,688.8	1.4	-0.2	351.86	1.4	
3,784.0	2.35	101.17	3,783.7	1.2	3.9	72.62	4.1	
3,972.0	1.70	226.91	3,971.6	-1.4	5.7	104.20	5.8	
4,161.0	1.62	256.71	4,160.5	-4.0	1.0	165.78	4.1	
4,443.0	1.24	173.27	4,442.5	-7.9	-2.5	197.67	8.3	
4,726.0	1.77	176.50	4,725.4	-15.3	-1.9	187.05	15.4	
5,010.0	2.69	142.88	5,009.2	-25.0	2.4	174.52	25.1	
5,145.0	2.42	129.76	5,144.0	-29.4	6.5	167.51	30.1	
5,200.0	1.81	131.31	5,199.0	-30.7	8.0	165.30	31.7	
5,295.0	1.59	135.76	5,294.0	-32.6	10.1	162.80	34.1	
5,389.0	1.62	128.73	5,387.9	-34.4	12.0	160.70	36.4	
5,483.0	1.00	268.79	5,481.9	-35.2	12.3	160.81	37.3	
5,578.0	1.03	266.05	5,576.9	-35.3	10.6	163.32	36.8	
5,672.0	1.02	265.17	5,670.9	-35.4	8.9	165.90	36.5	
5,766.0	1.24	313.08	5,764.9	-34.8	7.3	168.12	35.6	
5,860.0	1.19	313.43	5,858.8	-33.4	5.9	170.04	33.9	
5,954.0	1.26	310.63	5,952.8	-32.1	4.4	172.24	32.4	
6,049.0	1.20	319.12	6,047.8	-30.7	2.9	174.54	30.8	
6,143.0	1.17	311.10	6,141.8	-29.3	1.6	176.94	29.3	
6,238.0	1.16	307.01	6,236.8	-28.1	0.1	179.87	28.1	
6,333.0	1.14	311.78	6,331.7	-26.9	-1.4	183.00	26.9	
6,427.0	1.09	320.16	6,425.7	-25.5	-2.7	185.98	25.7	
6,521.0	1.24	326.29	6,519.7	-24.0	-3.8	189.03	24.3	
6,615.0	1.08	334.04	6,613.7	-22.4	-4.8	192.03	22.9	
6,710.0	0.73	311.22	6,708.7	-21.2	-5.6	194.85	21.9	

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Survey								
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
6,804.0	0.82	312.04	6,802.7	-20.3	-6.6	197.90	21.4	
6,898.0	0.54	351.94	6,896.6	-19.4	-7.1	200.14	20.7	
6,992.0	1.64	7.13	6,990.6	-17.7	-7.0	201.68	19.0	
7,087.0	1.28	9.40	7,085.6	-15.3	-6.7	203.63	16.7	
7,181.0	1.57	12.04	7,179.6	-13.0	-6.2	205.69	14.4	
7,275.0	1.46	17.50	7,273.5	-10.6	-5.6	207.96	12.0	
7,369.0	1.20	7.83	7,367.5	-8.4	-5.1	211.19	9.9	
7,463.0	0.86	24.54	7,461.5	-6.8	-4.7	214.46	8.3	
7,558.0	0.60	29.01	7,556.5	-5.7	-4.2	215.83	7.1	
7,652.0	0.80	19.40	7,650.5	-4.7	-3.7	218.17	6.0	
7,746.0	0.54	16.04	7,744.5	-3.7	-3.4	222.54	5.0	
7,840.0	0.52	20.10	7,838.5	-2.8	-3.1	227.48	4.2	
7,934.0	0.26	110.24	7,932.5	-2.5	-2.7	227.59	3.7	
8,023.0	0.34	37.30	8,021.5	-2.4	-2.4	225.33	3.4	
8,118.0	0.24	296.87	8,116.5	-2.0	-2.4	229.48	3.2	
8,212.0	0.17	287.37	8,210.5	-1.9	-2.7	234.67	3.3	
8,306.0	0.39	240.68	8,304.5	-2.0	-3.1	236.89	3.7	
8,400.0	0.34	292.72	8,398.5	-2.1	-3.7	240.33	4.2	
8,494.0	0.59	248.82	8,492.5	-2.1	-4.4	243.78	4.9	
8,588.0	0.65	272.23	8,586.5	-2.3	-5.3	246.70	5.8	
8,683.0	1.18	250.60	8,681.4	-2.6	-6.8	249.05	7.3	
8,777.0	1.42	262.12	8,775.4	-3.1	-8.9	250.81	9.4	
8,871.0	1.16	261.26	8,869.4	-3.4	-11.0	252.82	11.5	
8,965.0	0.43	43.76	8,963.4	-3.3	-11.7	254.29	12.1	
9,059.0	0.43	269.36	9,057.4	-3.0	-11.8	255.56	12.2	
9,154.0	1.36	268.22	9,152.4	-3.1	-13.3	256.96	13.6	
9,248.0	0.61	184.19	9,246.4	-3.6	-14.4	255.96	14.9	
9,342.0	1.07	266.72	9,340.4	-4.2	-15.3	254.83	15.9	
9,437.0	1.36	316.34	9,435.3	-3.4	-17.0	258.72	17.3	
9,531.0	1.81	271.38	9,529.3	-2.5	-19.2	262.46	19.4	
9,625.0	1.95	242.00	9,623.3	-3.3	-22.1	261.62	22.4	
9,720.0	1.82	245.88	9,718.2	-4.6	-24.9	259.47	25.4	
9,814.0	2.38	259.29	9,812.1	-5.6	-28.2	258.76	28.8	
9,908.0	0.96	34.73	9,906.1	-5.3	-29.7	259.83	30.2	
10,002.0	1.23	338.23	10,000.1	-3.7	-29.6	262.80	29.8	
10,097.0	1.79	4.79	10,095.1	-1.3	-29.9	267.48	29.9	
10,191.0	3.13	62.99	10,189.0	1.3	-27.5	272.74	27.5	
10,285.0	2.85	59.57	10,282.9	3.7	-23.2	278.99	23.4	
10,379.0	2.62	64.21	10,376.8	5.8	-19.2	286.75	20.1	
10,474.0	2.20	71.13	10,471.7	7.3	-15.5	295.23	17.2	
10,569.0	4.08	161.33	10,566.6	4.7	-12.7	290.29	13.6	
10,664.0	13.59	160.53	10,660.3	-9.1	-7.9	221.13	12.0	
10,758.0	23.65	155.08	10,749.3	-36.6	3.8	174.16	36.8	
10,852.0	31.26	152.29	10,832.7	-75.4	23.1	162.99	78.8	

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Design:	DH - Job #321014-MPH-1204	Database:	MID_Regulatory

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)
10,946.0	36.42	145.85	10,910.7	-120.1	50.1	157.36	130.1
11,041.0	40.96	138.53	10,984.9	-166.8	86.6	152.57	188.0
11,072.0	42.41	135.00	11,008.1	-181.8	100.7	151.02	207.9
11,134.0	46.02	139.27	11,052.5	-213.5	130.1	148.66	250.0
11,166.0	49.94	145.11	11,073.9	-232.3	144.6	148.10	273.7
11,228.0	59.02	153.63	11,110.0	-275.8	170.1	148.34	324.0
11,323.0	74.73	164.53	11,147.2	-357.1	200.6	150.67	409.6
11,354.0	79.05	168.53	11,154.3	-386.5	207.7	151.75	438.7
11,386.0	81.53	172.08	11,159.7	-417.6	213.0	152.98	468.7
11,417.0	87.01	173.64	11,162.8	-448.1	216.8	154.18	497.8
11,519.0	88.72	174.46	11,166.6	-549.5	227.4	157.52	594.7
11,613.0	88.69	174.79	11,168.7	-643.1	236.2	159.84	685.1
11,707.0	89.60	174.56	11,170.1	-736.7	244.9	161.61	776.3
11,801.0	89.60	174.83	11,170.7	-830.3	253.6	163.02	868.1
11,896.0	89.40	175.35	11,171.6	-924.9	261.7	164.20	961.2
11,990.0	89.33	174.58	11,172.6	-1,018.5	270.0	165.16	1,053.7
12,084.0	89.53	174.25	11,173.6	-1,112.1	279.1	165.91	1,146.6
12,179.0	89.57	175.03	11,174.3	-1,206.7	288.0	166.58	1,240.6
12,273.0	89.33	174.65	11,175.2	-1,300.3	296.4	167.16	1,333.6
12,367.0	88.92	174.21	11,176.6	-1,393.8	305.6	167.64	1,426.9
12,461.0	89.83	177.35	11,177.7	-1,487.6	312.5	168.14	1,520.0
12,555.0	90.20	175.66	11,177.6	-1,581.4	318.2	168.62	1,613.1
12,650.0	90.98	177.66	11,176.7	-1,676.2	323.7	169.07	1,707.2
12,744.0	91.20	180.69	11,174.9	-1,770.2	325.1	169.59	1,799.8
12,838.0	90.64	182.57	11,173.4	-1,864.1	322.4	170.19	1,891.8
12,932.0	91.08	182.85	11,172.0	-1,958.0	318.0	170.78	1,983.6
13,026.0	91.04	182.22	11,170.2	-2,051.9	313.8	171.30	2,075.7
13,120.0	91.34	182.48	11,168.3	-2,145.8	310.0	171.78	2,168.1
13,214.0	91.08	182.47	11,166.3	-2,239.7	305.9	172.22	2,260.5
13,309.0	91.45	182.42	11,164.2	-2,334.6	301.8	172.63	2,354.0
13,403.0	92.15	182.53	11,161.2	-2,428.4	297.8	173.01	2,446.6
13,497.0	90.13	180.93	11,159.4	-2,522.4	295.0	173.33	2,539.5
13,591.0	90.57	180.88	11,158.8	-2,616.3	293.5	173.60	2,632.8
13,685.0	90.91	180.94	11,157.6	-2,710.3	292.0	173.85	2,726.0
13,780.0	89.66	180.23	11,157.1	-2,805.3	291.0	174.08	2,820.4
13,874.0	88.72	179.54	11,158.4	-2,899.3	291.2	174.26	2,913.9
13,968.0	88.69	179.69	11,160.5	-2,993.3	291.8	174.43	3,007.5
14,062.0	88.32	180.01	11,163.0	-3,087.2	292.1	174.60	3,101.0
14,156.0	88.08	179.66	11,166.0	-3,181.2	292.3	174.75	3,194.6
14,250.0	89.09	178.90	11,168.3	-3,275.2	293.5	174.88	3,288.3
14,345.0	89.19	179.04	11,169.7	-3,370.1	295.2	174.99	3,383.0
14,439.0	89.36	179.14	11,170.9	-3,464.1	296.7	175.10	3,476.8
14,533.0	89.46	178.40	11,171.9	-3,558.1	298.7	175.20	3,570.6
14,628.0	89.09	178.67	11,173.1	-3,653.0	301.2	175.29	3,665.4
14,722.0	90.37	179.87	11,173.5	-3,747.0	302.4	175.39	3,759.2

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Survey								
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
14,816.0	90.74	179.41	11,172.6	-3,841.0	303.0	175.49	3,853.0	
14,910.0	91.04	181.73	11,171.1	-3,935.0	302.0	175.61	3,946.6	
15,006.0	91.08	181.77	11,169.4	-4,030.9	299.1	175.76	4,042.0	
15,099.0	91.25	181.51	11,167.5	-4,123.9	296.4	175.89	4,134.5	
15,194.0	91.31	181.56	11,165.3	-4,218.8	293.9	176.02	4,229.1	
15,288.0	91.55	181.78	11,163.0	-4,312.8	291.1	176.14	4,322.6	
15,382.0	90.27	181.39	11,161.5	-4,406.7	288.5	176.25	4,416.1	
15,476.0	90.24	180.62	11,161.1	-4,500.7	286.9	176.35	4,509.8	
15,571.0	90.30	180.39	11,160.6	-4,595.7	286.1	176.44	4,604.6	
15,665.0	90.57	180.71	11,159.9	-4,689.7	285.2	176.52	4,698.3	
15,680.0	90.54	180.87	11,159.8	-4,704.7	285.0	176.53	4,713.3	
Last MWD Survey								
15,735.0	90.54	180.87	11,159.3	-4,759.7	284.1	176.58	4,768.1	
Projection to Bit								

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
15,680.0	11,159.8	-4,704.7	285.0	Last MWD Survey
15,735.0	11,159.3	-4,759.7	284.1	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____



F29F 7H
Lea County, New Mexico
Northing: 467073.50
Easting: 730507.60
Plan #5

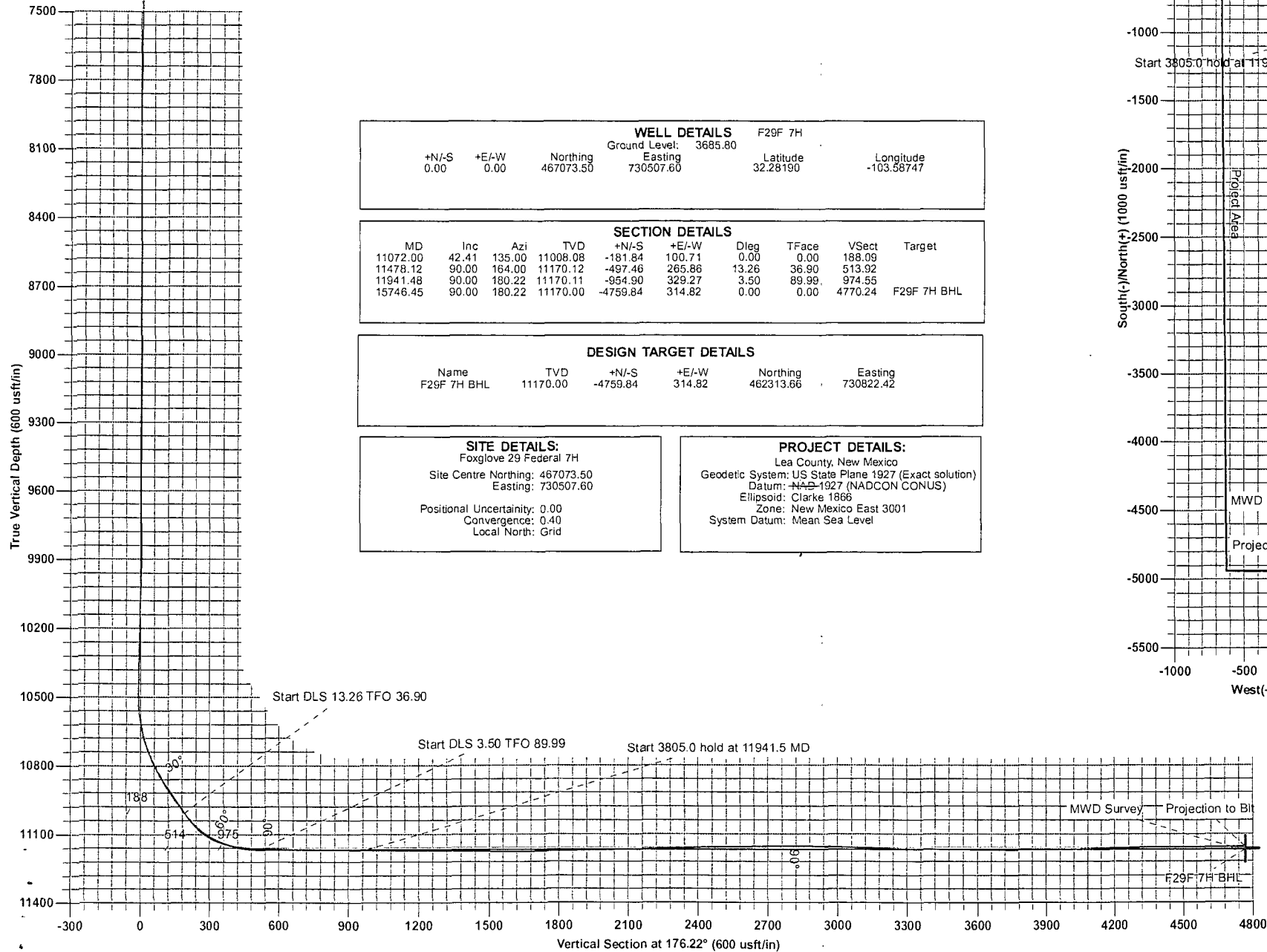


To convert Magnetic North to Grid, Add 8.80°
To convert True North to Grid, Subtract 0.40°

Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.80°

Magnetic Field
Strength: 48321.25nT
Dip Angle: 60.16°
Date: 09/18/2014
Model: IGRF2010

KB @ 3710.80usft
Gr @ 3685.80



WELL DETAILS							F29F 7H
Ground Level: 3685.80							
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
0.00	0.00	467073.50	730507.60	32.28190	-103.58747		

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
11072.00	42.41	135.00	11008.08	-181.84	100.71	0.00	0.00	188.09	
11478.12	90.00	164.00	11170.12	-497.46	265.86	13.26	36.90	513.92	
11941.48	90.00	180.22	11170.11	-954.90	329.27	3.50	89.99	974.55	
15746.45	90.00	180.22	11170.00	-4759.84	314.82	0.00	0.00	4770.24	F29F 7H BHL

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	
F29F 7H BHL	11170.00	-4759.84	314.82	462313.66	730822.42	

SITE DETAILS:	
Foxglove 29 Federal 7H	
Site Centre Northing: 467073.50	Easting: 730507.60
Positional Uncertainty: 0.00	Convergence: 0.40
Local North: Grid	

PROJECT DETAILS:	
Lea County, New Mexico	
Geodetic System: US State Plane 1927 (Exact solution)	
Datum: NAD 1927 (NADCON CONUS)	
Ellipsoid: Clarke 1866	
Zone: New Mexico East 3001	
System Datum: Mean Sea Level	

