



Scientific Drilling

Oxy USA Inc.

Haskell County Kansas

Section 3 - 30S - 32W

Longbotham #7

Original Wellpath

Survey: Survey #1 MWD

EOW Completion Report

26 September, 2011



Company:	Oxy USA Inc.	Local Co-ordinate Reference:	Well Longbotham #7
Project:	Haskell County Kansas	TVD Reference:	WELL #7 @ 2897.8usft
Site:	Section 3 - 30S - 32W	MD Reference:	WELL #7 @ 2897.8usft
Well:	Longbotham #7	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	Original Wellpath	Database:	EDMOKC

Project	Haskell County Kansas, Haskell County Kansas, South Kansas		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Kansas South 1502		

Site	Section 3 - 30S - 32W, SHL of Longbotham #6				
Site Position:		Northing:	297,622.28 usft	Latitude:	37° 27' 41.140 N
From:	Map	Easting:	1,332,291.71 usft	Longitude:	100° 48' 2.322 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	-1.41 °

Well	Longbotham #7					
Well Position	+N/-S	0.0 usft	Northing:	297,634.49 usft	Latitude:	37° 27' 41.264 N
	+E/-W	0.0 usft	Easting:	1,332,307.48 usft	Longitude:	100° 48' 2.130 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	2,897.8 usft	Ground Level:	2,886.8 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2011	06/28/11	6.54	65.29	51,923

Design	Original Wellpath				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	321.51	

Survey Program	Date 09/26/11				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
188.0	6,033.0	Survey #1 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1	

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
188.0	0.19	224.76	188.0	-0.2	-0.2	0.0	0.10	0.10	
340.0	0.05	328.03	340.0	-0.3	-0.4	0.0	0.14	0.14	
433.0	0.14	65.19	433.0	-0.3	-0.4	0.0	0.17	0.17	
526.0	0.12	107.00	526.0	-0.2	-0.2	-0.1	0.10	0.10	
622.0	0.57	78.29	622.0	-0.2	0.4	-0.4	0.49	0.49	
718.0	0.44	50.88	718.0	0.2	1.2	-0.6	0.28	0.28	
814.0	1.01	357.07	814.0	1.2	1.4	0.1	0.86	0.86	
910.0	1.91	4.07	910.0	3.7	1.5	2.0	0.95	0.95	
1,006.0	2.16	357.47	1,005.9	7.1	1.5	4.6	0.36	0.36	
1,102.0	2.02	355.39	1,101.8	10.6	1.3	7.5	0.17	0.17	
1,198.0	1.59	351.17	1,197.8	13.6	1.0	10.0	0.47	0.47	

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Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	Original Wellpath	Database:	EDMOKC

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
1,294.0	1.70	349.07	1,293.7	16.3	0.5	12.4	0.13	
1,389.0	1.90	348.69	1,388.7	19.2	-0.1	15.1	0.21	
1,486.0	2.04	354.82	1,485.6	22.5	-0.6	18.0	0.26	
1,582.0	1.43	356.87	1,581.6	25.4	-0.8	20.4	0.64	
1,678.0	1.44	1.94	1,677.6	27.8	-0.8	22.3	0.13	
1,756.0	1.26	349.50	1,755.5	29.6	-0.9	23.8	0.44	
1,878.0	1.28	13.59	1,877.5	32.3	-0.9	25.8	0.43	
1,974.0	1.97	11.38	1,973.5	34.9	-0.3	27.5	0.72	
2,070.0	5.05	344.03	2,069.3	40.6	-1.1	32.5	3.56	
2,165.0	8.10	329.68	2,163.7	50.4	-5.6	43.0	3.62	
2,262.0	9.21	306.41	2,259.6	60.9	-15.4	57.2	3.76	
2,358.0	7.86	302.81	2,354.5	69.0	-27.1	70.9	1.51	
2,454.0	9.03	306.91	2,449.5	77.1	-38.6	84.4	1.37	
2,550.0	11.15	319.63	2,544.0	88.7	-50.6	101.0	3.19	
2,646.0	14.08	320.98	2,637.7	104.9	-64.0	121.9	3.07	
2,742.0	17.74	321.68	2,730.0	125.4	-80.4	148.2	3.82	
2,838.0	20.07	320.92	2,820.8	149.7	-99.9	179.3	2.44	
2,934.0	22.87	319.05	2,910.1	176.6	-122.5	214.4	3.00	
3,030.0	26.27	317.74	2,997.4	206.4	-149.0	254.3	3.59	
3,126.0	27.50	319.40	3,083.0	238.9	-177.7	297.6	1.50	
3,222.0	27.08	319.55	3,168.4	272.4	-206.3	341.6	0.44	
3,318.0	25.95	318.31	3,254.3	304.7	-234.5	384.4	1.31	
3,414.0	26.49	321.71	3,340.4	337.2	-261.7	426.8	1.66	
3,510.0	24.91	321.35	3,426.9	369.8	-287.6	468.5	1.65	
3,606.0	25.31	324.10	3,513.8	402.2	-312.3	509.2	1.28	
3,702.0	26.31	324.71	3,600.2	436.2	-336.6	550.9	1.08	
3,798.0	26.97	323.40	3,686.0	471.1	-361.9	593.9	0.92	
3,894.0	27.87	322.95	3,771.3	506.4	-388.4	638.1	0.96	
3,989.0	27.80	321.57	3,855.3	541.5	-415.5	682.5	0.68	
4,086.0	27.72	321.42	3,941.1	576.9	-443.6	727.6	0.11	
4,181.0	27.39	320.70	4,025.3	611.1	-471.3	771.6	0.49	
4,278.0	26.36	319.98	4,111.9	644.8	-499.2	815.4	1.11	
4,374.0	27.01	321.89	4,197.6	678.3	-526.4	858.5	1.12	
4,469.0	27.58	321.28	4,282.1	712.4	-553.5	902.1	0.67	
4,565.0	26.76	321.45	4,367.5	746.7	-580.8	945.9	0.86	
4,661.0	28.10	320.97	4,452.7	781.1	-608.5	990.1	1.41	
4,756.0	26.34	318.85	4,537.1	814.4	-636.5	1,033.6	2.11	
4,852.0	26.67	320.53	4,623.1	847.0	-664.2	1,076.4	0.85	
4,948.0	27.63	321.19	4,708.5	881.0	-691.9	1,120.2	1.05	
5,044.0	26.30	320.95	4,794.0	914.9	-719.2	1,163.7	1.39	
5,140.0	26.88	323.94	4,879.9	949.0	-745.4	1,206.7	1.52	
5,235.0	27.31	323.75	4,964.5	983.9	-770.9	1,249.9	0.46	
5,331.0	27.94	322.57	5,049.5	1,019.5	-797.6	1,294.4	0.87	
5,427.0	25.94	323.84	5,135.1	1,054.3	-823.7	1,337.9	2.17	

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5,523.0	26.05	321.80	5,221.4	1,087.8	-849.1	1,379.9	0.94	
5,619.0	25.94	322.64	5,307.7	1,121.1	-874.9	1,422.0	0.40	
5,715.0	25.03	322.46	5,394.3	1,153.9	-900.0	1,463.3	0.95	
5,811.0	25.50	319.47	5,481.1	1,185.7	-925.8	1,504.3	1.42	
5,907.0	26.23	319.77	5,567.5	1,217.6	-952.9	1,546.1	0.77	
5,985.0	25.16	319.11	5,637.8	1,243.3	-974.9	1,579.9	1.42	
6,033.0	25.16	319.11	5,681.3	1,258.7	-988.3	1,600.3	0.00	

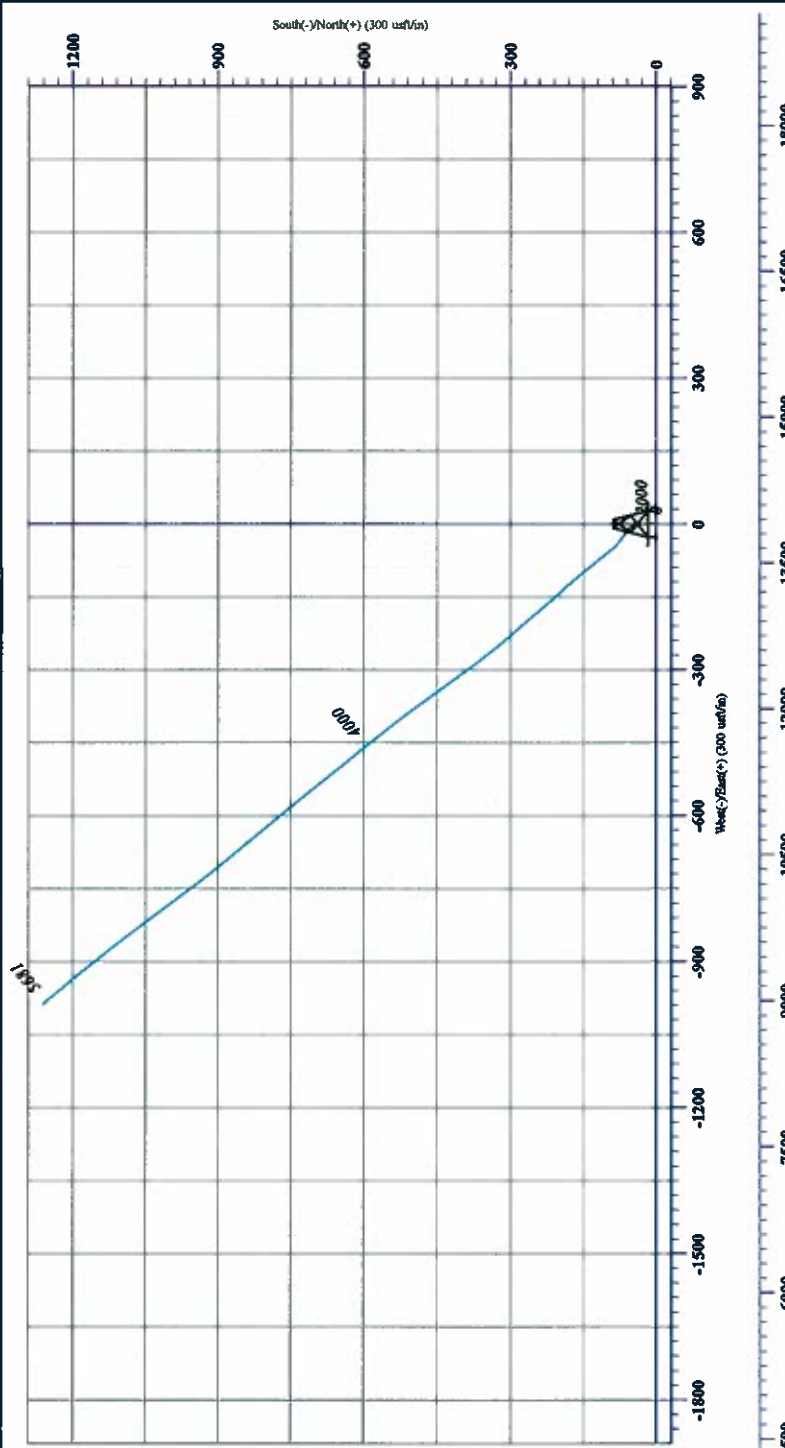
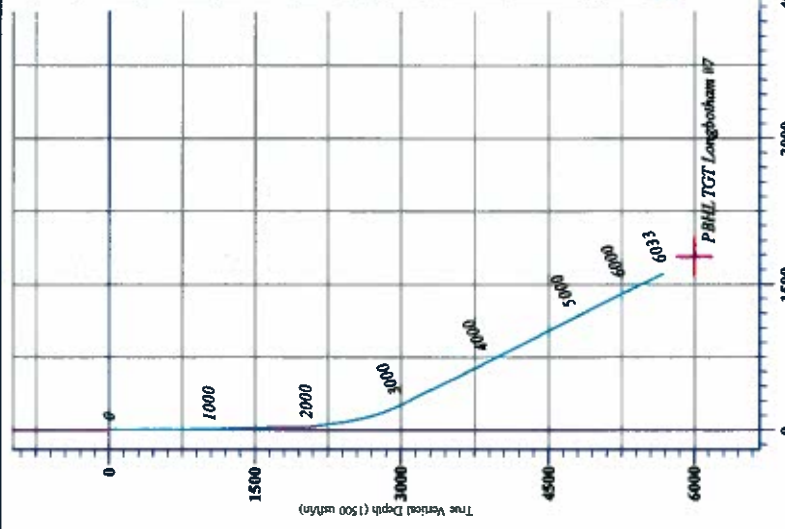
Checked By: _____ Approved By: _____ Date: _____



Oxy USA Inc.

Field: Haskell County Kansas
 Site: Section 3 - 30S - 32W
 Well: Longhough #7
 Wellpath: Original Wellpath
 Plans: Original Wellpath

Amplitude to Grid North
 True North: 1.41°
 Magnetic North: 7.9°
 Magnetic Field
 Strength: 5193.0 nT
 Dip Angle: 65.2°
 Date: 06/28/2011
 Model: BCGM2011



Vertical Section Azimuth
 321.51

Bottom Hole from Surface:
 5681.3' TVD 1268.7' N & 988.3' W
 6033' MD 1600.3' VS @ 321.51 Azimuth

WELL ID	WELL NAME	WELL TYPE	WELL STATUS	WELL DATE	WELL DEPTH	WELL DIAMETER	WELL LOCATION
1122507-06	Longhough #7	Oil	Active	07-17-11	1600.3'	100"	1122507-06



Survey: Survey #1 MWD (Longhough #7) Original Wellpath
 Created By: Gene Lightfoot Date: 11-18, September 16 2011