

EQT PRODUCTION

Doddridge County, WV OXF160 Well #514101 - Slot 514101

Main Wellbore

API # 47-017-06770

Design: 514101 As Drilled Surveys

Standard Survey Report

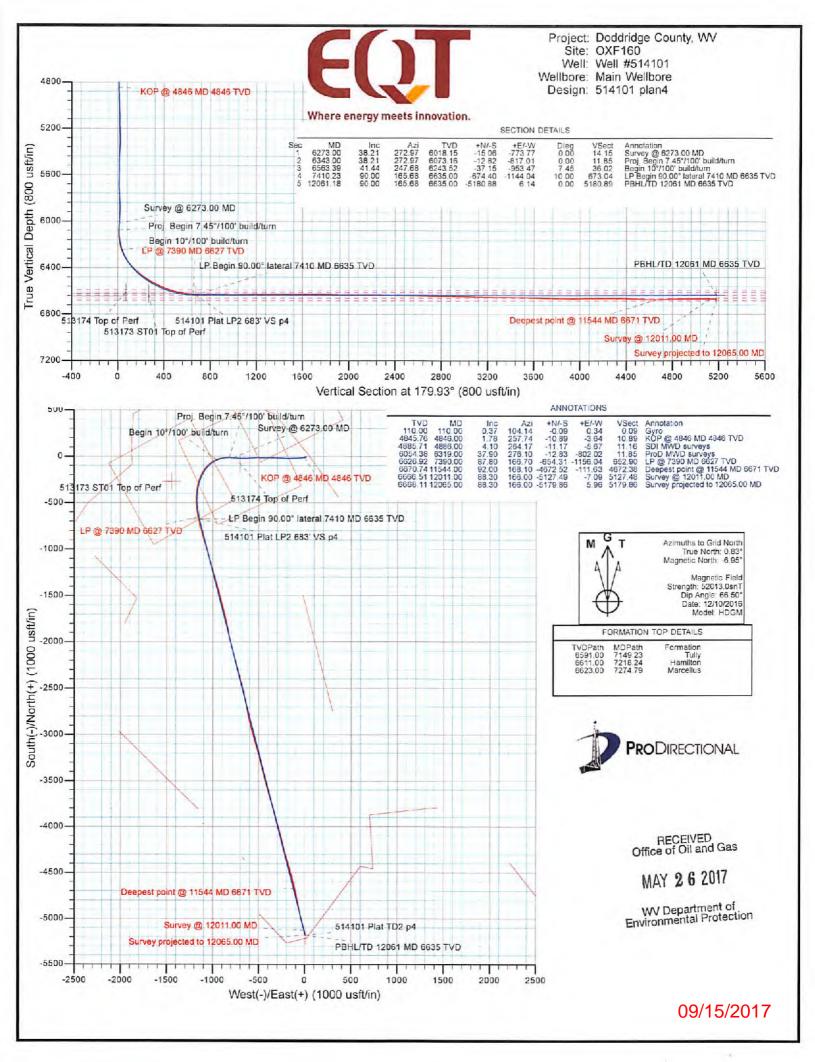
15 December, 2016

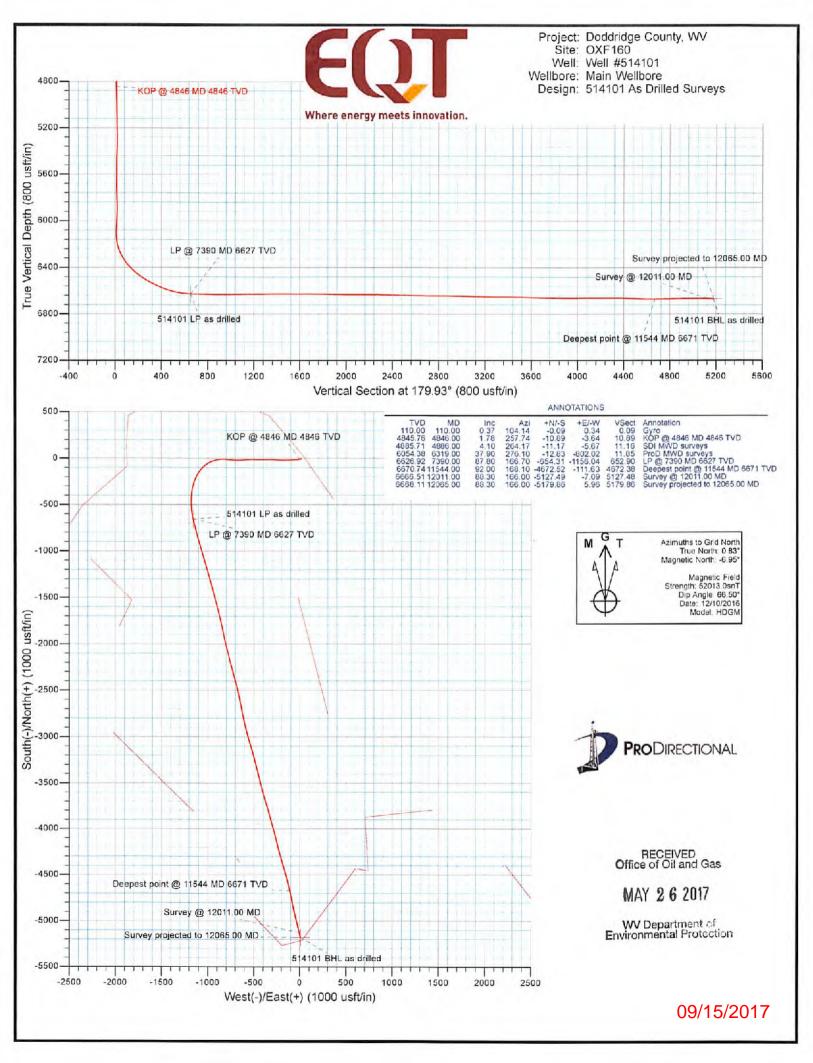
RECEIVED Office of Oil and Gas

MAY 2 6 2017

WV Department of Environmental Protection











Company: Project:

EQT PRODUCTION

Site: Well: Doddridge County, WV **OXF160** Well #514101

Wellbore:

Main Wellbore

Design:

514101 As Drilled Surveys

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

Well Well #514101 - Slot 514101

RKB=1220+23 @ 1243.00usft RKB=1220+23 @ 1243.00usft

Grid

Minimum Curvature DB Jul2216dt

Office of Oil and Gas

Project

Doddridge County, WV

Map System:

US State Plane 1927 (Exact solution) NAD 1927 (NADCON CONUS)

Geo Datum: Map Zone: West Virginia North 4701 System Datum:

Mean Sea Level

Site **OXF160**

Site Position: From:

Мар

Northing: Easting:

250,835.87 usft

Latitude: 1,631,720.38 usft

Longitude:

39° 10' 52,9707 N 80° 47' 57.0806 W

Position Uncertainty:

0.00 usft Slot Radius: 13-3/16 "

Grid Convergence:

-0.83 °

Well

Well #514101 - Slot 514101

Well Position

+N/-S +E/-W 0.00 usft 0.00 usft Northing:

Easting:

250.870.75 usft 1.631.717.48 usft Latitude: Longitude:

39° 10' 53.3151 N 80° 47' 57,1237 W

Position Uncertainty

0.00 usft

Wellhead Elevation:

12/10/2016

0.00

0.00 usft

Ground Level:

66.50

1,220.00 usft

Wellbore

Main Wellbore

Magnetics

Model Name

Sample Date

Declination (°)

Dip Angle (°)

Field Strength (nT)

52,013

Design

514101 As Drilled Surveys

HDGM

Audit Notes:

Version:

1.0

Phase:

ACTUAL

0.00

Tie On Depth:

0.00

0.00

Vertical Section:

Depth From (TVD) (usft)

+N/-S (usft) +E/-W

(usft)

-7.78

Direction

(°)

179.93

Survey Program From

(usft)

12/15/2016 Date

To (usft)

Survey (Wellbore)

12,065.00 MWD ProD (Main Wellbore)

Tool Name

Description

110.00 4.886.00 6,319.00

4,846.00 514101 Gyrodata Gyros (Main Wellbore) 6,273.00 514101 SDI MWD Air Curve (Main Wellbo GYD_DP_MS MWD

Gyrodata gyro-compassing and drop

MWD - Standard MWD - OWSG MWD - OWSG

Survey

Measure Depth (usft)		Inclination (°)	Azimuth	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0	.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.	.00	0.37	104.14	110.00	-0.09	0.34	0.09	0.34	0.34	0.00
Gyro										
210	.00	0.43	111.29	210.00	-0.30	1.01	0.30	0.08	0.06	7.15
310	.00	0.06	172.89	310.00	-0.49	1.36	0.49	0.40	-0.37	61.60
410.	.00	0.07	179.90	410.00	-0.60	1.37	0.60	0.01	0.01	7.01
510	.00	0.04	225.04	510.00	-0.69	1.35	0.69	0.05	-0.03	45.14
610	.00	0.04	168.09	610.00	-0.75	1.33	0.75	0.04	0.00	-56.95
710.	.00	0.07	145.48	710.00	-0.83	1.37	0.83	0.04	0.03	-22.61





Company: Project:

EQT PRODUCTION

Site:

Doddridge County, WV OXF160

Well #514101 Well: Wellbore: Main Wellbore

Design: 514101 As Drilled Surveys Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

Well Well #514101 - Slot 514101 RKB=1220+23 @ 1243.00usft RKB=1220+23 @ 1243.00usft

Grid

Minimum Curvature DB Jul2216dt

Office of Oil and Gas

WV Department of Environmental Protection

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (usft)	Inclination	Azimuth	Depth (woft)	+N/-S	+E/-W	Section	Rate	Rate	Rate
(dait)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
810.00	0.20	119.44	810.00	-0.97	1,56	0.97	0.14	0.13	-26.04
910.00	0.23	107.69	909.99	-1.12	1.90	1.12	0.05	0.03	-11.75
1,010.00	0.29	99.19	1,009.99	-1.22	2.34	1.22	0.07	0.06	-8.50
1,110.00	0.32	101.43	1,109.99	-1.31	2.86	1.32	0.03	0.03	2.24
1,210.00	0.45	113.99	1,209.99	-1.53	3.50	1.53	0.15	0.13	12.56
1,310.00	0.55	118.20	1,309.99	-1.91	4.28	1.92	0_11	0.10	4.21
1,410.00	0.58	113.79	1,409.98	-2.34	5.16	2 35	0.05	0.03	-4.41
1,510.00	0.59	114.70	1,509.98	-2.76	6.10	2.77	0.01	0.01	0.91
1,610.00	0.61	112.41	1,609.97	-3.18	7.06	3.19	0.03	0.02	-2.29
1,710.00	0.65	111.26	1,709.96	-3.59	8.08	3.60	0.04	0.04	-1.15
1,810.00	0.62	109.51	1,809.96	-3.98	9 11	3.99	0.04	-0.03	-1.75
1,910.00	0.52	110.15	1,909.95	-4.31	10.05	4.33	0.10	-0.10	0.64
2,010.00	0.46	110.31	2,009.95	-4.61	10.85	4.62	0.06	-0.06	0.16
2,110.00	0.31	106.03	2,109.95	-4.82	11.49	4.84	0.15	-0.15	-4.28
2,210.00	0.31	99.09	2,209.95	-4.94	12.02	4.96	0.04	0.00	-6.94
2,310.00	0.30	102.65	2,309.94	-5.04	12.54	5.06	0.02	-0.01	3.56
2,410.00	0.24	96.90	2,409.94	-5.12	13.00	5,14	0.07	-0.06	-5.75
2,510.00	0.19	100.97	2,509.94	-5.18	13.37	5.20	0.05	-0.05	4.07
2,610.00	0.19	90.07	2,609.94	-5.21	13.70	5.23	0.04	0.00	-10.90
2,710.00	0.08	41.80	2,709.94	-5.16	13.91	5.18	0.15	-0.11	-48.27
2,810.00	0.12	74.91	2,809.94	-5.08	14.06	5.10	0.07	0.04	33.11
2,910.00	0.10	62.49	2,909,94	-5,01	14.24	5.03	0.03	-0.02	-12.42
3,010.00	0.09	29.36	3,009.94	-4.90	14.36	4.92	0.06	-0.01	-33.13
3,110.00	0.06	260.69	3,109.94	-4.84	14.34	4.86	0.14	-0.03	-128.67
3,210.00	0.18	235.96	3,209.94	-4.94	14.16	4.96	0.13	0.12	-24.73
3,310.00	0.18	242.09	3,309.94	-5.10	13.89	5.12	0.02	0.00	6.13
3,410.00	0.15	227.55	3,409.94	-5.26	13.66	5.28	0.05	-0.03	-14.54
3,510.00	0.19	230.55	3,509.94	-5.46	13.43	5.47	0.04	0.04	3.00
3,610.00	0.18	205.53	3,609.94	-5.71	13.24	5.72	0.08	-0.01	-25.02
3,710.00	0.15	182.86	3,709.94	-5.98	13.16	5.99	0.07	-0.03	-22.67
3,810.00	0.21	212.99	3,809.94	-6.26	13.06	6.28	0.11	0.06	30.13
3,910.00	0.33	240.75	3,909.94	-6.56	12.70	6.57	0.17	0.12	27.76
4,010.00	0.61	255.37	4,009.93	-6.83	11.94	6.85	0.30	0.28	14.62
4,110.00	0.69	257.83	4,109.93	-7.09	10.83	7.11	0.08	0.08	2.46
4,210.00	0.78	256.07	4,209.92	-7.38	9.59	7.40	0.09	0.09	-1.76
4,310.00	0.90	254.60	4,309.91	-7.76	8.17	7.77	0.12	0.12	-1.47
4,410.00	0.90	251.26	4,409.90	-8.22	6.67	8.23	0.05	0.00	-3.34
4,510.00	1.19	252.14	4,509.88	-8.79	4.93	8.79	0.29	0.29	0.88
4,610.00	1.32	254.18	4,609.86	-9.42	2.84	9.42	0.14	0.13	2.04
4,710.00	1.65	257.78	4,709.82	-10.04	0.32	10.04	0.34	0.33	3.60
4,810.00	1.73	257.88	4,809.78	-10.66	-2.56	10.66	0.08	0.08	0.10
4,846.00	1.78	257.74	4,845.76	-10.89	-3.64	10.89	0.14	0.14	-0.39





EQT PRODUCTION Company:

Project: Doddridge County, WV

Site: OXF160 Well: Well #514101 Wellbore: Main Wellbore

514101 As Drilled Surveys

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

Well Well #514101 - Slot 514101 RKB=1220+23 @ 1243.00usft RKB=1220+23 @ 1243.00usft

Grid

Minimum Curvature DB Jul2216dt

Design:
Survey

Carro Cor									6
Measured Depth (usft)	Inclination (°)	Azimuth	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,886.00	4.10	264.17	4,885.71	-11.17	-5.67	11.16	5.85	5.80	16.08
SDI MWD s	urveys								
4,929.00	8.52	263.59	4,928.44	-11.68	-10.36	11.67	10.28	10.28	-1,35
4,971.00	13.45	262.59	4,969.65	-12.66	-18.30	12.64	11.75	11.74	-2.38
5,014.00	17.81	263.31	5,011.05	-14.07	-29.80	14.04	10.15	10.14	1.67
5,055.00	21,33	265.70	5,049.68	-15.36	-43.47	15.31	8.80	8.59	5.83
5,097.00	24.94	268.63	5,088.30	-16.15	-59.94	16.07	9.02	8.60	6.98
5,139.00	26.78	270.16	5,126.09	-16.33	-78.26	16.24	4.66	4.38	3.64
5,184.00	28.81	269.20	5,165.90	-16.46	-99.24	16.33	4.62	4.51	-2.13
5,227.00	29.94	266.99	5,203.37	-17.16	-120.32	17.02	3.64	2.63	-5.14
5,268.00	31.46	267.08	5,238.62	-18.25	-141,22	18.07	3.71	3.71	0.22
5,311.00	33.21	267.73	5,274.95	-19.28	-164.20	19.08	4.15	4.07	1.51
5,354.00	35.06	270.28	5,310.54	-19.69	-188.32	19.46	5.44	4.30	5.93
5,395.00	36.57	271.91	5,343.79	-19.23	-212.30	18.97	4.36	3.68	3.98
5,437.00	37.35	274.41	5,377.35	-17.83	-237.51	17.54	4.03	1.86	5.95
5,482.00	39.08	274.42	5,412.71	-15.69	-265.27	15.36	3.84	3.84	0.02
5,524.00	40.81	272.41	5,444.91	-14.09	-292.18	13.73	5.14	4.12	-4.79
5,586.00	41.24	270,89	5,476.59	-13.30	-319.74	12.91	2.59	1.02	-3.62
5,609.00	40.51	269.64	5,509.11	-13.16	-347.87	12.74	2.55	-1.70	-2.91
5,653.00	39.92	268.65	5,542.71	-13.59	-376.28	13.13	1.98	-1.34	-2.25
5,694.00	40.22	269.30	5,574.08	-14.06	-402.67	13.57	1.26	0.73	1.59
5,737.00	39.38	269.43	5,607.12	-14.36	-430.19	13.84	1.96	-1.95	0.30
5,780.00	39.14	271.66	5,640.42	-14.11	-457.40	13.55	3.33	-0.56	5.19
5,823.00	39.63	271.94	5,673.65	-13.25	-484.67	12.66	1.21	1.14	0.65
5,865.00	40.60	270.51	5,705.77	-12.67	-511.72	12.05	3.19	2.31	-3.40
5,905.00	41.46	268.33	5,735.95	-12.94	-537.97	12.29	4.17	2.15	-5.45
5,947.00	40.18	265.99	5,767.73	-14.30	-565.39	13.61	4.75	-3.05	-5.57
5,990.00	38.43	265.36	5,801.00	-16.35	-592.55	15.62	4.17	-4.07	-1.47
6,031.00	38.72	266.64	5,833.06	-18.13	-618.05	17.37	2.07	0.71	3.12
6,074.00	39.93	268.10	5,866.32	-19.38	-645.27	18.59	3.54	2.81	3.40
6,117.00	40.67	271.20	5,899.12	-19.54	-673.08	18.72	4.97	1.72	7.21
6,159.00	41.46	272.47	5,930.78	-18.65	-700.65	17.80	2.74	1.88	3.02
6,201.00	40.51	272.49	5,962.49	-17.46	-728.17	16.57	2.26	-2.26	0.05
6,243.00	39.17	273.34	5,994.74	-16.10	-755,04	15.17	3,44	-3.19	2.02
6,273.00	38.21	272.97	6,018.15	-15.06	-773.77	14.12	3.29	-3.20	-1.23
6,319.00	37.90	276.10	6,054.38	-12.83	-802.02	11.85	4.25	-0.67	6.80
ProD MWD	surveys								
6,351.00	38.80	273.70	6,079.48	-11.13	-821.80	10.13	5.44	2.81	-7.50
6,382.00	39.40	269.50	6,103.54	-10.59	-841.34	9.56	8.76	1.94	-13.55
6,414.00	40.00	266.50	6,128.16	-11.31	-861.76	10.26	6.27	1.88	-9.38
6,445.00	40.30	263.00	6,151.86	-13.14	-881,66	12.06	7.34	0.97	-11.29
6,477.00	40.80	258.90	6,176.18	-16.41	-902.19	15.31	8.47	1.56	-12,81
6,508.00	40.70	254.40	6,199.67	-21.08	-921.87	19.96	9.48	-0.32	-14.52
6,540.00	41.00	250.50	6,223.88	-27.39	-941.82	26.24	8.03	0.94	-12.19





Company: EQT PRODUCTION

Project: Doddridge County, WV

514101 As Drilled Surveys

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

Well Well #514101 - Slot 514101 RKB=1220+23 @ 1243,00usft RKB=1220+23 @ 1243,00usft Grid

Minimum Curvature DB Jul2216dt RECEIVED Office of Oil and Gas

WV Department of

Design: Survey

Measured Depth (usft)	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usit)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
6,571.00	42.20	246,40	6,247.06	-34.96	-960.95	33.78	9.59	3.87	-13.23
6,603.00	43.40	242.70	6,270.54	-44.31	-980.57	43.11	8.70	3.75	-11.56
6,634.00	44.00	238.40	6,292.96	-54.83	-999.21	53.61	9.78	1.94	-13.87
6,666.00	44.70	233.40	6,315.85	-67.37	-1.017.72	66.13	11.14	2.19	-15.63
6,697.00	46.00	229.70	6,337.64	-81 09	-1,034.98	79.82	9.47	4.19	-11.94
6,729.00	47.30	225.10	6,359.61	-95.84	-1,052.09	95,55	11,21	4.06	-14,38
6,760.00	49.00	221.10	6,380.30	-113.70	-1,067.85	112.39	11.06	5.48	-12.90
6,792.00	50.40	217.00	6,401.00	-132.65	-1,083.21	131.32	10.70	4.38	-12.81
6,823.00	51.80	213.50	6,420.47	-152.35	-1,097.13	151.01	9.88	4.52	-11.29
6,855.00	53.50	209.40	6,439.89	-174.05	-1,110.39	172.69	11.49	5.31	-12.81
6,886.00	55.00	206.40	6,458.00	-196.28	-1,122.15	194.91	9.22	4.84	-9.68
6,917.00	56.80	202,30	6,475.39	-219.66	-1,132.72	218.28	12.39	5.81	-13.23
6,949.00	58,50	199.00	6,492.51	-244.95	-1,142.25	243.56	10.20	5.31	-10.31
6,980.00	60,30	196.00	6,508.30	-270.40	-1,150.26	268.99	10.15	5.81	-9.68
7,012.00	62.20	193.40	6,523.69	-297.53	-1,157.38	296.12	9.27	5.94	-8.13
7,043.00	64.10	191.80	6,537.69	-324.52	-1,163.40	323.10	7.67	6.13	-5.16
7,075.00	65.80	189.60	6,551.24	-353.00	-1,168.78	351.58	8.19	5.31	-6.88
7,106.00	67.30	187.40	6,563.58	-381.13	-1,172.98	379.70	B.11	4.84	-7.10
7,138.00	69.20	184.40	6,575.44	-410.69	-1,176.03	409.25	10.54	5 94	-9.38
7,169.00	70.10	182.30	6,586.22	-439.70	-1,177.73	438.28	6.98	2.90	-6.77
7,201.00	72.50	179.00	6,596.48	-470.00	-1,178.07	468.56	12,31	7.50	-10.31
7,232.00	75.20	177.00	6,605.10	-499.76	-1,177.02	498.32	10.69	8.71	-6.45
7,264.00	78.20	175.00	6,612.46	-530 82	-1,174.85	529.38	11.17	9.38	-6.25
7,296.00	81.20	173.30	6,618.19	-562.13	-1,171.64	560.70	10.73	9.38	-5.31
7,327.00	83.50	171.70	6,622.31	-592.59	-1,167.63	591.16	9.01	7.42	-5.16
7,359.00	86.00	169.50	6,625.24	-624.02	-1,162.42	622.60	10.39	7.81	-6.88
7,390:00	87.80	166.70	6,626.92	-654.31	-1,156.04	652.90	10.73	5.81	-9.03
LP @ 7390 N	ND 6627 TVD								
7,485.00	88.70	165.90	6,629.82	-746.56	-1,133.55	745.18	1.27	0.95	-0.84
7,579.00	88.90	165.30	6,631.79	-837.59	-1,110.18	836.23	0.67	0.21	-0.64
7,674.00	90.30	163.80	6,632.45	-929.15	-1,084.87	927.82	2.16	1.47	-1.58
7,768.00	90.50	163.90	6,631.79	-1,019.44	-1,058.73	1,018.14	0.24	0.21	0.11
7,863.00	90.60	162.80	6,630.88	-1,110.45	-1,031.51	1,109.19	1.16	0.11	-1.16
7,957.00	90.50	164.80	6,629.98	-1,200.71	-1,005.29	1,199.48	2.13	-0.11	2.13
8,052.00	90.80	164.30	6,628.90	-1,292.27	-979.98	1,291.07	0.61	0.32	-0.53
8,146.00	91.30	163.60	6,627.18	-1,382.59	-954.00	1,381.42	0.92	0.53	-0.74
8,240.00	89.40	165.50	6,626.61	-1,473.18	-928.96	1,472.04	2.86	-2.02	2.02
8,335.00	89.80	165.60	6,627.27	-1,565,17	-905.25	1,564.06	0.43	0.42	0.11
8,429.00	90.40	165.50	6,627.10	-1,656.20	-881.80	1,655.12	0.65	0.64	-0.11
8,524.00	88.80	167.70	6,627.77	-1,748.60	-859.78	1,747.55	2.86	-1.68	2.32
8,618.00	B8.40	167.00	6,630.06	-1,840.29	-839.20	1,839.26	0.86	-0.43	-0.74
8,712.00	90.10	170.10	6,631.29	-1,932.40	-820.55	1,931.39	3.76	1.81	3.30
8,807.00	88.90	165.30	6,632.12	-2,025.18	-800.32	2,024.21	5.21	-1.26	-5.05





Company: EQ

EQT PRODUCTION

Project: Doddridge County, WV Site: OXF160

OXF160 Well #514101

Wellbore: Design:

Well:

Main Wellbore 514101 As Drilled Surveys Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

Well Well #514101 - Slot 514101 RKB=1220+23 @ 1243.00usft RKB=1220+23 @ 1243.00usft

Grid

Minimum Curvature DB Jul2216dt

Measured Depth (ush) Inclination (r) Azimuth (ush) Vertical (ush) +EJ-W (ush) Vertical (ush) Dogleg Rate (r/100ush) Bulld Rate (r/100ush) Turn Rate (r/100ush) 8,995.00 90.70 164.40 6,632.62 -2.206.62 -761.11 2,205.70 0.95 0.85 -0.43 9,990.00 90.70 164.40 6,632.62 -2.298.31 -762.28 2,267.42 2.50 -2.32 0.95 9,104.00 86.50 165.20 6,835.74 -2.386.18 -702.38 2,389.32 0.11 0.00 -0.11 9,778.00 86.80 166.50 6,837.65 -2.479.99 -578.19 2,479.16 0.35 0.63 -0.11 9,467.00 88.60 168.20 6,841.00 -2.864.42 -537.13 2,663.84 0.86 -0.85 -0.11 9,467.00 88.60 168.20 6,841.00 -2.264.42 -537.13 2,663.84 0.86 -0.85 -0.11 9,565.00 90.30 170.10 6,642.25 2.946.22	jn:	514101 As Drilled S			Database			DB Jul2216dt		
Depth (usft) Inclination (r) Azimuth (usft) Cusft) Cusft	ey									
			Azimuth		+N/-S	+E/-W		And the second second		
9,000 00 88 50 165 30 6,633 28 -2,298 31 -728 28 2,297 42 2 5.0 -2.32 0.65 9,184 00 88 50 165 20 6,635 74 -2,386 18 -702,38 2,388 32 0,11 0.00 -0.11 9,776 00 88 80 165 00 6,637 65 -2476 96 -778,10 2,479 16 0.38 0.32 0.21 9,373 00 80 40 168 30 6,639 45 -2,572 40 -656,27 2,571,60 3.53 0.63 3.47 3,477 00 88 8.60 168 20 6,841,09 -2,664,42 -637,13 2,663,64 0.86 -0.65 0.11 9,562.00 90.30 170,10 6,642,25 -2,696 62 -600,59 2,694,90 3.43 0.99 -3.03 9,750 0.0 86 20 165,10 6,642,25 -2,946 62 -600,59 2,949,90 3.43 0.99 -3.03 9,750 0.0 86 20 165,10 6,642,12 -2,941 03 -577,93 2,940 32 2.39 -1.28 -2.02 9,845 00 68 30 163,80 6,647,12 -3,032,50 -552,48 3,031,83 1.37 0.11 -1.37 9,935 00 68 60 164,40 6,649,49 -3,122,68 -526,74 3,122,23 0.83 0.53 0.54 10,034 00 89 50 164,60 6,659,49 -3,214,41 -501,55 3,213,80 0.77 0.74 0.21 10,122 00 89 10 164,40 6,651,80 -3,386 68 -431,80 3,488 15 1.33 0.42 1.26 10,317,00 89 50 167,60 6,653,05 -3,486 68 -431,80 3,488 15 1.33 0.42 1.26 11,411 0.0 87,70 184,50 6,653,05 -3,486 68 -431,80 3,488 15 1.33 0.42 1.26 11,640 0.88 80 163,40 6,658,87 -3,579,86 -409,15 3,579,36 3.81 1.91 0.32 0.0 90.00 165,90 6,681,68 -3,760,99 -3,355,89 3,760,55 0.89 0.63 0.63 10,864 00 90.00 165,90 6,681,69 -4,760,59 3,545,80 3,885,10 3.52 1.49 3.30 10,880 0.90 0.00 165,90 6,682,84 -3,851,48 -330,23 3,851,08 3.52 1.49 3.30 10,880 0.90 0.00 165,90 6,682,84 -3,851,48 -330,23 3,851,08 3.52 1.49 3.30 10,880 0.90 0.00 165,90 6,682,84 -3,851,48 -330,23 3,851,08 3.52 1.49 3.30 11,080 0.90 0.90 0.65,90 6,682,84 -3,851,48 -330,23 3,851,08 3.52 1.49 3.30 11,080 0.90 0.00 165,90 6,681,69 -4,764,59 -4,764,59 -5,769 5.99 0.63 0.63 0.63 11,080 0.90 0.00 165,90 6,681,69 -4,764,59 -4,764,59 -5,769 5.99 0.60 0.00 0.32 0.99 0.00 165,90 6,681,69 -4,764,59 -4	(usft)	(°)	(°)				(usft)	(°/100usft)	(°/100usft)	(°/100usft)
9,080,00 88 50 165 30 6,833 28 -2 298 31 -726 28 2,297 42 2 50 2.32 0.88 9,184 00 88 50 165 20 6,835 74 -2,386 18 702.38 2,388 32 0.11 0.00 -0.11 9,776 00 88 80 165 00 6,837 95 -2 476 99 -678 19 2,479 16 0.38 0.32 -0.21 9,373 00 88 40 168 30 6,839 45 -2,572 40 -856 27 2,571,60 3.53 0.63 3.47 9,467 00 88 50 168 20 6,841.09 -2,964 42 -837,13 2,683 64 0.86 -0.85 -0.11 9,562.00 90.30 170,10 6,642.00 -2,757,71 -519,25 2,755,95 2.86 1.79 2.00 9,555 0.86 40 167,00 6,642.00 -2,757,71 -519,25 2,755,95 2.86 1.79 2.00 9,750 0.86 20 165 10 6,644.21 -2,941.00 -577,90 2,940,90 3.43 -0.96 -3.03 9,750 0.86 20 165 10 6,644.21 -2,941.00 -577,90 2,940,90 3.43 -0.96 -3.03 9,750 0.86 20 165 10 6,644.21 -2,941.00 -577,90 2,940,32 2.39 -1.20 -2.02 9,845 00 88 30 163.80 6,847.12 -3,032.50 -552.48 3,031,83 1.37 0.11 -1.37 10,120 0.90 1.01 14.80 6,651.23 -3,305.00 -3,214.41 -501.55 3,213.80 0.77 0.74 0.21 10,120 0.00 90.10 164.80 6,651.23 -3,305.00 -3,476.55 3,213.80 0.77 0.74 0.21 10,120 0.00 90.10 164.80 6,651.23 -3,305.00 -476.55 3,213.80 0.77 0.74 0.21 10,210 0.88 50 165.00 6,653.05 -3,488.68 -431.80 3,488.15 1.33 0.42 1.26 11,031 0.00 88 50 163.40 6,658.87 -3,579.86 409.15 3,579.36 3.81 -1.91 -3.03 10,306.00 88 50 163.40 6,658.87 -3,579.86 409.15 3,579.36 3.81 -1.91 -3.03 10,306.00 88 50 163.40 6,658.87 -3,670.13 -338.18 3,669.66 1.21 0.32 -1.17 10,300.00 88 50 165.00 6,861.69 4.384.10 -335.58 3,760.55 0.89 0.63 0.63 0.63 10,804.00 90.00 165.90 6,862.84 -3.851.48 -330.23 3,851.08 3.82 1.49 3.30 10,800.00 90.00 165.90 6,862.84 -3.851.48 -330.23 3,851.08 3.82 1.49 3.30 10,800.00 90.00 165.90 6,862.84 -3.851.48 -330.23 3,851.08 3.82 1.49 3.30 10,800.00 90.00 165.90 6,862.84 -3.851.48 -330.23 3,851.08 3.82 1.49 3.30 10,800.00 90.00 165.90 6,862.84 -3.851.48 -330.23 3,851.08 3.82 1.49 3.30 10,800.00 90.00 165.90 6,862.84 -3.851.48 -330.23 3,851.08 3.82 1.49 3.30 10,800.00 90.00 165.90 6,862.84 -3.851.48 -330.23 3,851.08 3.82 1.49 3.30 10,800.00 90.00 165.90 6,862.84 -3.851.48 -330.23 3,851.08 3.82 1.49 3.30 1.30 10,800.00 90.00 165.90 6	8,995	5.00 90.70	164.40	6,632.62	-2,206.62	-751.11	2,205.70	0.95	0.85	-0.43
9,278 0.0 88 80 165.00 6,837.95 -2,479.99 4-78.19 2,479.16 0.38 0.32 -0.21 8,373.00 89.40 168.30 6,839.45 -2,572.40 -856.27 2,577.60 3.53 0.63 3.47 8,479.00 88.80 168.20 6,839.45 -2,572.40 -856.27 2,577.60 3.53 0.63 3.47 8,582.00 90.30 170.10 6,842.00 -2,757.71 -319.25 2,759.95 2.66 1.79 2.00 90.50 167.00 6,842.25 -2,849.82 -600.59 2,949.09 3.43 -0.95 -3.30 9,750.00 88.20 165.10 6,644.21 -2,941.00 5.77,93 2,940.32 2.39 -1.28 -2.02 9,845.00 88.30 163.90 6,647.12 -3,932.50 -552.40 3,033.83 1.37 0.11 -1.37 9,939.00 88.00 164.40 6,649.49 -3,122.88 -526.74 3,122.23 0.83 0.53 0.64 10,034.00 89.50 164.60 6,651.23 -3,305.00 -476.55 3,304.50 0.67 0.74 0.21 10,222.00 89.10 168.60 6,651.23 -3,305.00 -476.55 3,304.50 0.67 0.64 0.21 10,222.00 89.10 168.60 6,651.23 -3,305.00 -476.55 3,304.50 0.67 0.64 0.21 10,317.00 89.50 167.80 6,655.35 -3,486.68 -431.80 3,488.15 1.33 0.42 1.26 10,319.00 88.00 163.40 6,655.87 -3,870.13 -383.18 3,669.86 1.21 0.32 -1.10 10,300.00 88.60 163.40 6,655.87 -3,870.13 -383.18 3,669.86 1.21 0.32 -1.17 10,300.00 88.00 165.00 6,681.69 -3,760.95 -3,348.63 -3,345.10 0.00 0.00 0.00 165.00 6,681.69 -3,760.95 -3,345.00 0.00 0.00 0.00 165.00 6,685.40 -4,384.40 -306.28 3,760.55 0.89 0.63 -0.36 10,864.00 90.00 165.00 6,865.69 -3,365.44 -3,365.14 -330.23 3,855.08 1.20 0.32 -1.17 10,800.00 88.00 163.40 6,655.87 -3,870.13 -383.18 3,669.86 1.21 0.32 -1.17 10,800.00 88.00 165.00 6,862.64 -3,861.48 -330.23 3,851.08 3.02 1.49 3.30 10,864.00 90.00 165.00 6,862.69 -3,344.40 -306.28 3,760.55 0.89 0.63 -0.36 10,864.00 90.00 165.00 6,863.69 -3,360.49 -3,365.69 4,217.14 0.47 0.42 0.21 1.166.00 89.00 165.00 6,862.69 -3,344.40 -306.28 3,760.55 0.89 0.63 -0.36 10,864.00 90.00 165.00 6,862.69 -3,344.40 -306.28 3,760.55 0.89 0.63 -0.36 10,864.00 90.00 165.00 6,862.69 -3,344.40 -306.28 3,760.55 0.89 0.63 -0.36 10,864.00 90.00 165.00 6,865.16 -4,366.29 -3,366.80 4,217.14 0.47 0.42 0.21 11,660.00 89.00 165.00 6,865.16 -4,366.80 -3,366.80 4,217.14 0.47 0.42 0.21 11,660.00 89.00 166.50 6,866.50 -3,486.80 -3,486.80 -3,486.80 -3,486.8	9,090	0.00 88.50	165.30	6,633.28	-2,298.31			2.50	-2.32	0.95
9,373 00 89.40 168.30 6,839.45 -2,572.40 -856.27 2,571.60 3.53 0.63 3.47 9,467 00 88.80 168.20 6,841.09 -2,864.42 -537.13 2,663.64 0.86 -0.85 -0.11 9,562 00 90.30 170.10 6,642.00 -2,757.71 -519.25 2,759.55 2.66 1.79 2.00 9,556 00 89.40 167.00 6,642.25 -2,849.82 -600.59 2,949.09 3.43 -0.96 3.30 9,750 00 68.20 165.10 6,644.21 -2,941.00 5-77.93 2,949.32 2.39 -1.28 -2.02 9,845 00 68.30 163.90 6,647.12 -3,032.50 -552.48 3,031.83 1.37 0.11 -1.37 9,393 00 68.80 164.40 6,649.49 -3,122.88 -526.74 3,122.23 0.83 0.53 0.64 10,034.00 69.50 164.60 6,650.90 -3,214.41 -501.35 3,213.80 0.77 0.74 0.21 10,128 00 90.10 164.80 6,651.89 -3,396.12 -455.17 3,395.56 2.01 -1.06 1.70 10,317 00 69.50 167.60 6,655.05 -3,488.68 -431.80 3,488.15 1.33 0.42 1.26 10,411 00 87.70 164.50 6,655.55 -3,579.86 -400.15 3,579.36 3.81 -1.19 -3.30 10,505 00 88.60 163.40 6,655.87 -3,870.99 -3,355.58 3,760.55 0.89 0.63 0.63 10,969 00 90.00 165.90 6,655.85 -3,579.86 -300.55 0.89 0.63 0.63 10,969 00 90.00 165.90 6,655.85 -3,579.86 -300.55 0.89 0.63 10,969 00 90.00 165.90 6,655.85 -3,579.86 -300.55 0.89 0.63 10,977 00 89.50 165.60 6,655.87 -3,870.99 -3,555.58 3,760.55 0.89 0.63 10,977 00 89.90 165.40 6,651.69 -3,943.44 -3,96.33 3,943.06 1.00 0.32 -498 10,977 00 89.90 165.40 6,651.69 -4,034.10 -281.55 4,033.75 0.83 0.53 0.53 10,978 00 90.30 165.00 6,662.29 -3,943.44 -3,96.33 3,943.06 1.00 0.32 -998 11,355 00 67.20 165.00 6,663.16 -4,396.28 -134.52 4,398.05 0.96 0.00 0.02 0.00 11,355 00 67.20 165.00 6,663.16 -4,396.28 -134.52 4,398.05 0.96 0.00 0.02 168.70 6,665.57 -4,476.42 2.92 2.99 -1.89 2.33 11,460 00 90.90 168.40 6,661.11 -4,125.08 -257.87 4,124.74 2.33 -0.96 2.13 11,1050 00 90.90 168.60 6,665.16 -4,498.89 -116.50 4,499.90 5.94 1.99 2.33 11,460 00 90.90 168.60 6,665.16 -4,498.89 -116.50 4,499.90 5.94 1.99 2.33 11,460 00 90.90 168.60 6,665.60 7.3 4,499.49 -156.19 4,499.29 2.99 1.89 2.33 11,460 00 90.90 168.60 6,665.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.23 12,011 00 90.40 165.50 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.23	9,184	1.00 88.50	165.20	6,635.74	-2,389.18	-702.36	2,388.32	0.11	0.00	-0.11
9,467.00 88.80 168.20 6,641.09 -2,964.42 -637.13 2,663.64 0,86 -0.65 -0.11 9,562.00 90.30 170.10 6,642.00 -2,757.71 -619.25 2,756.95 2.86 17.9 2.00 9,565.00 88.40 167.00 6,642.25 -2,849.62 -000.59 2,649.09 3,43 -0.96 3.30 9,750.00 88.20 165.10 6,644.21 -2,941.03 -577.93 2,940.32 2.99 -1.20 -2.02 9,845.00 88.30 163.80 6,647.12 -3,032.50 -552.48 3,031.83 1.37 0,11 -1.37 9,939.00 86.80 164.40 6,649.49 -3,122.89 -526.74 3,122.23 0.83 0.53 0.64 10,034.00 98.50 164.60 6,650.90 -2,214.41 -501.35 3,213.80 0.77 0.74 0.21 10,128.00 90.10 164.80 6,650.90 -2,214.41 -501.35 3,213.80 0.77 0.74 0.21 10,128.00 90.10 164.80 6,651.23 -3,005.08 -476.55 3,004.50 0.87 0.64 0.21 10,222.00 99.10 164.80 6,651.23 -3,005.08 -476.55 3,004.50 0.87 0.64 0.21 10,2317.00 89.50 167.60 6,653.06 -3,488.68 -431.80 3,488.15 1.33 0.42 1.26 10,317.00 89.50 167.60 6,653.06 -3,488.68 -431.80 3,488.15 1.33 0.42 1.26 10,317.00 88.60 163.40 6,658.87 -3,670.13 -383.18 3,669.66 1.21 0.52 -1.17 10,600.00 88.60 163.40 6,658.87 -3,670.13 -383.18 3,669.66 1.21 0.52 -1.17 10,600.00 88.60 162.80 6,851.69 -3,760.99 -355.58 3,760.55 0.89 0.63 0.63 0.63 0.64 0.90 0.90 0.165.90 6,682.84 -3,851.48 -330.23 3,861.08 3.62 1.49 3.30 10,789.00 90.30 165.00 6,682.84 -3,851.48 -330.23 3,861.08 3.62 1.49 3.30 10,789.00 90.30 165.00 6,682.84 -3,851.48 -330.23 3,861.08 3.62 1.49 3.30 10,789.00 90.30 165.00 6,680.69 -4.034.10 -281.56 4.033.75 0.83 0.53 -0.64 0.97 0.00 0.90 0.165.90 6,680.10 -4.034.10 -281.56 4.033.75 0.83 0.53 -0.64 0.97 0.00 0.90 0.165.90 6,680.16 -4.034.10 -281.56 4.033.75 0.83 0.53 -0.64 0.97 0.00 0.90 0.165.90 6,680.16 -4.034.10 -281.56 4.033.75 0.83 0.53 -0.64 0.97 0.00 0.90 0.165.80 6,680.95 -4.476.45 -2.477.44 -2.30 -2.477.44 0.47 0.42 0.21 11,166.00 89.00 162.80 6,680.16 -4.034.10 -2.81.56 4.038.00 0.33 0.53 -0.84 0.90 0.162.80 6,680.16 -4.034.10 -2.81.56 4.038.00 0.33 0.53 -0.84 0.90 0.162.80 6,680.16 -4.034.10 -2.81.56 4.038.00 0.33 0.90 0.162.80 6,680.16 -4.034.10 -2.81.59 0.40 0.55 0.99 0.00 0.00 0.00 0.00 0.00 0.0	9,278	08.88 00.8	165.00	6,637.95	-2.479.99	-678.19	2,479.16	0.38	0.32	-0.21
9.562.00 90.30 170.10 6.642.00 -2.757.71 -619.25 2,756.95 2.66 1.79 2.00 9.556.00 86.40 167.00 6.642.25 -2.649.62 -600.59 2,049.09 3.43 -0.99 3.20 9.750.00 86.20 165.10 6.644.21 -2.941.03 -577.93 2,940.32 2.39 -1.28 -2.02 9.845.00 86.30 163.80 6.647.12 -3.032.50 -552.48 3,031.83 1.37 0.11 -1.37 9.939.00 86.80 164.40 6.649.49 -3.122.88 -526.74 3,122.23 0.83 0.53 0.64 10.034.00 89.50 164.60 6.650.90 -3.214.41 -501.35 3,213.80 0.77 0.74 0.21 10.128.00 90.10 164.80 6.650.90 -3.214.41 -501.35 3,213.80 0.77 0.74 0.21 10.128.00 90.10 164.80 6.651.89 -3.305.08 -476.55 3,304.50 0.67 0.64 0.21 10.222.00 88.10 166.40 6.651.89 -3.396.12 -455.17 3,395.56 2.01 -1.06 1.70 10.317.00 89.50 167.60 6.653.05 -3.488.68 -431.80 3,488.15 1.33 0.42 1.26 10.411.00 87.70 164.50 6.6553.05 -3.488.68 -431.80 3,488.15 1.33 0.42 1.26 10.411.00 87.70 164.50 6.658.87 -3.670.13 -383.18 3,669.66 1.21 0.32 -1.17 1.0,505.00 88.00 163.40 6.658.87 -3.670.19 -3.835.18 3,669.66 1.21 0.32 -1.17 1.0,506.00 88.00 163.40 6.658.87 -3.670.99 -3.55.83 3,760.55 0.89 0.63 0.63 10.694.00 90.00 165.90 6.652.59 -3.943.44 -306.35 3,943.06 1.00 0.32 0.95 10.769.00 165.90 6.652.59 -3.943.44 -306.35 3,943.06 1.00 0.32 0.95 11.66.00 89.00 165.90 6.662.59 -3.943.44 -306.35 3,943.06 1.00 0.32 0.95 11.66.00 89.00 165.90 6.652.59 -3.943.44 -306.35 3,943.06 1.00 0.32 0.95 11.66.00 89.00 165.90 6.661.11 -4.126.06 -257.87 4,124.74 2.33 0.95 2.11 1.166.00 89.00 163.70 6.661.51 -4.126.06 -257.87 4,124.74 2.33 0.95 2.11 1.166.00 89.00 163.70 6.661.51 -4.126.06 -257.87 4,124.74 0.47 0.42 0.21 11.166.00 89.00 163.70 6.661.51 -4.726.06 -257.87 4,124.74 2.33 0.95 2.11 1.154.00 92.00 168.10 6.670.74 -4.672.52 -111.60 4,308.02 3.38 -1.38 3.00 11.260.00 88.00 163.70 6.661.51 -4.726.06 -257.87 4,124.74 2.33 0.95 2.11 1.154.00 92.00 168.10 6.670.74 -4.672.52 -111.60 4,308.02 3.38 -1.38 3.00 11.260.00 88.00 163.70 6.661.51 -4.766.50 -4.766.50 4.276.50 4.277.14 0.77 0.71 0.64 0.32 11.449.00 6.770 164.90 6.670.50 4.580.18 -1.386.00 9.90 0.686.51 -4.986.60 -73.66 4.866.50 0.44 0.43 0.11 11.	9,373	89.40	168,30	6,639.45	-2,572.40	-656.27	2,571.60	3.53	0.63	3.47
9.656.00 89.40 167.00 6.642.25 -2.849.82 -600.59 2,849.09 3.43 -0.96 -3.30 9.750.00 88.20 1651.0 6.644.21 -2.941.03 -577.93 2,940.32 2.39 -1.28 -2.02 9.845.00 88.30 163.80 6.947.12 -3.032.50 -552.49 3,031.83 1.37 -0.11 -1.37 9.393.00 88.80 164.40 6.649.49 -3.122.88 -526.74 3,122.23 0.83 0.53 0.64 10,034.00 69.50 164.60 6.650.90 -3.214.41 -501.35 3,213.80 0.77 0.74 0.21 10,128.00 90.10 164.80 6.651.23 -3.305.08 -476.55 3,304.50 0.67 0.64 0.21 10,222.00 89.10 166.40 6.651.89 -3.396.12 -453.17 3,395.56 2.01 -1.06 1.70 10,317.00 89.50 167.80 6.651.89 -3.396.84 -438.81 3,488.15 1.33 0.42 1.22 10,411.00 87.70 164.50 6.655.35 -3.579.86 -409.15 3,579.36 3.81 -1.91 -3.30 10,505.00 88.00 163.40 6.658.87 -3.670.13 -383.18 3,689.66 1.21 0.32 -1.17 10,800.00 88.80 162.80 6.651.68 -3.3760.99 -3.355.88 3,760.55 0.89 0.63 0.63 10,789.00 90.30 165.00 6.682.59 -3.943.44 -306.36 3,943.06 1.00 0.32 -0.95 10,883.00 90.80 164.40 6.661.69 -4.034.10 -231.59 4,033.75 0.83 0.53 0.53 -0.64 10,977.00 89.90 165.40 6.661.69 -4.034.10 -231.59 4,033.75 0.83 0.53 0.53 11,072.00 90.30 165.00 6.682.59 -3.943.44 -306.36 3,943.06 1.00 0.32 -0.95 10,883.00 90.80 164.40 6.661.61 -4.125.00 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.00 6.660.55 -4.217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6.661.52 -4.308.28 -211.60 4,308.02 3.36 -1.38 -3.09 11,280.00 89.00 163.70 6.661.52 -4.308.28 -211.60 4,308.02 3.36 -1.38 -3.09 11,280.00 89.00 162.80 6.663.11 -4.489.49 -158.19 4,489.29 2.99 -1.89 2.32 11,490.00 89.00 162.80 6.663.15 -4.308.28 -211.60 4,308.02 3.36 -1.33 -3.00 11,280.00 162.80 6.663.51 -4.398.28 -114.52 4,398.05 0.96 0.00 0.00 0.00 11,1355.00 87.20 165.60 6.660.55 -4.308.60 -73.88 4,865.50 0.44 0.43 0.11 11,532.00 91.30 165.60 6.666.51 -4.308.69 -73.68 4,865.50 0.44 0.43 0.11 11,532.00 91.30 165.60 6.666.51 -4.308.69 -73.68 4,865.50 0.44 0.43 0.11 11,532.00 91.30 165.60 6.666.51 -5.500.21 -2.90.5 5,040.17 0.71 0.64 0.32 11,732.00 91.30 165.60 6.666.51 -5.500.21 -2.90.5 5,040.17 0.71 0.64 0.32 11,732.00 91.30 165.60 6.6	9,467	7.00 88.60	168.20	6,641.09	-2,664.42	-637.13	2,663.64	0.86	-0.85	-0.11
9,750.00 88.20 165.10 6,644.21 -2,941.03 -577.93 2,940.32 2.39 -1.28 -2.02 9,845.00 88.30 163.80 6,647.12 -3,032.55 -552.48 3,031.83 1.37 0.11 -1.37 9,339.00 88.80 164.40 6,669.94 -3,122.88 -526.74 3,122.23 0.83 0.53 0.64 10,034.00 99.10 164.80 6,659.99 -3,214.41 -501.35 3,213.80 0.77 0.74 0.21 10,128.00 99.10 166.40 6,651.23 -3,305.09 -476.55 3,304.50 0.67 0.64 0.21 10,222.00 89.10 166.40 6,651.89 -3,396.12 -453.17 3,395.56 2.01 -1.06 1.70 10,317.00 89.50 167.60 6,653.05 -3,488.68 -431.80 3,488.15 1.33 0.42 1.26 10,411.00 87.70 164.50 6,655.35 -3,579.86 40.61.5 3,579.36 3.81 -1.91 -3.30 10,505.00 88.60 163.40 6,658.87 -3,670.13 -383.18 3,669.66 1.21 0.32 -1.17 10,600.00 88.60 162.80 6,661.60 -3,760.99 -355.58 3,760.55 0.89 0.63 -0.66 10,640 90.00 165.00 6,662.59 -3,943.44 -306.35 3,943.06 1.00 0.32 -0.95 10,770.00 90.30 165.00 6,662.59 -3,943.44 -306.35 3,943.06 1.00 0.32 -0.95 11,060.00 89.00 163.40 6,661.61 -4,306.28 -4,034.10 -281.56 4,033.75 0.83 0.53 -0.64 11,060.00 89.00 165.40 6,661.11 -4,125.05 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.00 6,661.11 -4,125.05 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.00 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.05 11,260.00 89.00 163.70 6,661.51 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.05 11,260.00 89.00 163.70 6,661.51 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.05 11,260.00 89.00 163.70 6,661.51 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.05 11,260.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.05 11,260.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.05 11,260.00 89.00 163.70 6,661.55 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.05 11,260.00 89.00 163.70 6,661.55 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.05 11,260.00 89.00 163.70 6,661.51 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.05 11,260.00 89.00 163.70 6,661.55 -4,308.66 -7,368 4,865.50 0.44 0.43 0.11 11,544.00 87.70 164.90 6,670.50 -4,500.18 -133.80 4,500.01 0.95 0.96 0.00 -0.06 0.00 163.70 91.30 168.50 6,666.51 -4,308.66 0 7,368 4,865.50 0.44 0.43 0.11 11,544	9,562	2.00 90.30	170.10	6,642.00	-2,757.71	-619.25	2,756.95	2.68	1.79	2.00
9,845.00	9,656	89.40	167.00	6,642.25	-2,849.82	-600.59	2,849.09	3.43	-0.96	-3.30
9,939.00	9,750	0.00 88.20	165.10	6,644.21	-2,941.03	-577.93	2,940.32	2.39	-1.28	-2.02
10,034.00 69.50 164.60 6,650.90 -3,214.41 -501.35 3,213.80 0.77 0.74 0.21 10,128.00 90.10 164.80 6,651.23 -3,305.08 -476.55 3,304.50 0.67 0.64 0.21 10,222.00 89.10 166.40 6,651.89 -3,396.12 -453.17 3,395.56 2.01 -1.05 1.70 10,317.00 89.50 167.60 6,653.05 -3,488.68 -431.80 3,488.15 1.33 0.42 1.26 10,411.00 87.70 164.50 6,655.35 -3,579.86 -409.15 3,579.36 3.81 -1.91 -3.30 10,505.00 88.00 163.40 6,658.87 -3,670.13 -383.18 3,669.66 1.21 0.32 -1.17 10,800.00 88.60 162.80 6,861.69 -3,760.99 -355.58 3,760.55 0.89 0.63 -0.63 10,694.00 90.00 165.90 6,662.84 -3,851.48 -330.23 3,851.08 3.62 1.49 3.30 10,789.00 90.30 165.00 6,662.59 -3,943.44 -306.35 3,943.06 1.00 0.32 -0.95 10,883.00 90.80 164.40 6,661.69 -4.034.10 -281.56 4,033.75 0.83 0.53 -0.64 10,977.00 89.90 166.40 6,661.11 -4.125.06 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.50 6,660.95 -4.217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6,661.52 -4.308.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 88.00 162.80 6,663.16 -4.398.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 88.00 162.80 6,663.16 -4.398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 67.70 164.90 6,670.50 -4.560.18 -1.38 -1.38 0.53 -0.41 11,544.00 92.00 168.10 6,670.50 -4.560.18 -1.38 -1.38 0.53 -0.41 11,544.00 92.00 168.10 6,670.50 -4.560.18 -1.38 -1.38 0.53 -0.41 11,544.00 92.00 168.10 6,670.50 -4.560.18 -1.38 -1.38 0.53 -0.41 11,544.00 92.00 168.10 6,670.50 -4.560.18 -1.38 0.50 0.44 0.43 0.11 11,544.00 92.00 168.10 6,670.50 -4.560.18 -1.38 0.50 0.44 0.43 0.11 11,544.00 92.00 168.10 6,670.50 -4.560.18 -1.38 0.50 0.44 0.43 0.11 11,532.00 99.30 168.50 6,666.51 -5.127.49 -7.09 5,127.48 2.34 -2.33 0.22 0.20 0.00 0.00 0.00 0.00 0.00	9,845	5.00 88.30	163.80	6,647.12	-3,032.50	-552.48	3,031.83	1.37	0.11	-1.37
10,128.00 90.10 164.80 6,651.23 -3,305.08 -476.55 3,304.50 0.67 0.64 0.21 10,222.00 89.10 166.40 6,651.89 -3,366.12 -453.17 3,395.56 2.01 -1.06 1.70 10,317.00 89.50 167.60 6,653.05 -3,488.68 -431.80 3,488.15 1.33 0.42 1.26 10,411.00 87.70 164.50 6,653.05 -3,488.68 -431.80 3,488.15 1.33 0.42 1.26 10,411.00 87.70 164.50 6,655.35 -3,579.86 -409.15 3,579.36 3.81 -1.91 -3.30 10,505.00 88.00 163.40 6,658.87 -3,670.13 -383.18 3,669.66 1.21 0.32 -1.17 10,800.00 88.60 162.80 6,861.69 -3,760.99 -355.58 3,760.55 0.89 0.63 -0.63 10,694.00 90.00 165.90 6,662.84 -3,851.48 -330.23 3,851.08 3.62 11.49 3.30 10,789.00 90.30 165.00 6,862.59 -3,943.44 -306.33 3,943.06 1.00 0.32 -0.96 10,883.00 90.80 164.40 6,661.69 -4,034.10 -281.55 4,033.75 0.83 0.53 -0.64 10,977.00 89.90 166.40 6,661.11 -4.125.06 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.60 6,660.95 -4,217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6,661.52 -4.308.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 89.00 162.80 6,663.16 -4,398.28 -1164.52 4,398.05 0.96 0.00 -0.96 11,355.00 67.20 165.00 6,663.16 -4,398.28 -1164.52 4,398.05 0.96 0.00 -0.96 11,355.00 67.20 165.00 6,663.11 -4,409.49 -156.19 4,409.29 2.99 -1.69 2.32 11,449.00 67.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 1,544.00 92.00 166.10 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 1,544.00 92.00 166.10 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 1,544.00 90.00 168.10 6,666.51 -4,409.49 -156.19 4,409.06 3.53 -1.17 0.03 11,544.00 90.00 168.10 6,666.56 -4,866.60 -73.68 4,856.50 0.44 0.43 0.11 11,921.00 90.40 168.80 6,866.56 -4,866.60 -73.68 4,856.50 0.44 0.43 0.11 11,921.00 90.40 168.80 6,866.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 12,001.00 88.30 168.00 6,866.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 12,001.00 88.30 168.00 6,866.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 12,001.00 88.30 168.00 6,866.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 12,001.00 88.30 168.00 6,866.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 12,001.00 88.30 168.00 6,866.51 -5,127	9,939	08.88 00.6	164.40	6,649.49	-3,122.88	-526.74	3,122.23	0.83	0.53	0.64
10,222.00	10,034	1.00 89.50	164.60	6,650.90	-3,214.41	-501.35	3,213.80	0.77	0.74	0.21
10,317.00	10,128	3,00 90.10	164.80	6,651.23	-3,305.08	-476.55	3,304.50	0.67	0.64	0.21
10,411.00 87.70 164.50 6,855.35 -3,579.86 -409.15 3,579.36 3.81 -1.91 -3.30 10,505.00 88.00 163.40 6,858.87 -3,670.13 -383.18 3,669.66 1.21 0.32 -1.17 10,600.00 88.60 162.80 6,681.69 -3,760.99 -355.58 3,760.55 0.89 0.63 -0.63 10,694.00 90.00 165.90 6,662.84 -3,851.48 -330.23 3,851.08 3.62 1.49 3.30 10,789.00 90.30 165.00 6,662.59 -3,943.44 -306.36 3,943.06 1.00 0.32 -0.95 10,883.00 90.80 164.40 6,661.69 -4,034.10 -281.56 4,033.75 0.83 0.53 -0.64 10,977.00 89.90 166.40 6,661.11 -4,125.06 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.50 6,660.95 -4,217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 89.00 162.80 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 67.20 165.00 6,666.31 -4,489.49 -158.19 4,489.29 2.99 -1.89 2.32 11,449.00 67.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.57 -4,560.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.57 -4,560.18 -133.80 4,580.01 0.54 0.53 -0.11 11,538.00 99.90 168.40 6,686.87 -4,764.52 -111.63 4,672.36 5.64 4,53 3.37 Deepest point @ 11544.MD 5671.TVD 11,638.00 99.90 168.40 6,686.55 -4,856.60 -73.68 4,856.50 0,44 0.43 0.11 11,921.00 99.40 165.80 6,666.55 -4,856.60 -73.68 4,856.50 0,44 0.43 0.11 11,921.00 99.40 165.80 6,666.55 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 99.40 165.80 6,666.55 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 99.40 165.80 6,666.55 -5,940.21 -29.02 5,040.17 0.71 0.64 0.32 Survey@ 12011.00 MD 12,066.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey@ 12011.00 MD	10,222	2.00 89.10	166.40	6,651.89	-3,396.12	-453.17	3,395.56	2.01	-1.06	1.70
10,505 00 88 00 163 40 6,658.87 -3,670.13 -383.18 3,669.66 1.21 0.32 -1.17 10,600.00 88.80 162.80 6,661.69 -3,760.99 -355.58 3,760.55 0.89 0.63 -0.63 10,694 00 90.00 165.90 6,662.84 -3,851.48 -330.23 3,851.08 3.62 1.49 3.30 10,789.00 90.30 165.00 6,662.59 -3,943.44 -306.36 3,943.06 1.00 0.32 -0.95 10,883.00 90.80 164.40 6,661.69 -4,034.10 -281.56 4,033.75 0.83 0.53 -0.64 10,977.00 89.90 166.40 6,661.11 -4,125.06 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.60 6,660.95 -4,217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 89.00 162.80 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 67.20 165.00 6,666.31 -4,469.49 -158.19 4,489.29 2.99 -1.89 2.32 11,449.00 87.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 1,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.36 5.64 4.53 3.37 Deepest point @ 11544 MD 6671 TVD 11,638.00 90.90 168.50 6,666.55 -4,846.60 -73.68 4,856.50 0.44 0.43 0.11 1,921.00 90.40 165.50 6,666.55 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD	10,317	7.00 89.50	167.60	6,653.05	-3,488.68	-431.80	3,488.15	1,33	0.42	1.26
10,800.00 88.60 162.80 6,661.69 -3,760.99 -355.58 3,760.55 0.89 0.63 -0.63 10,694.00 90.00 165.90 6,662.84 -3,851.48 -330.23 3,851.08 3.62 1.49 3.30 10,789.00 90.30 165.00 6,662.59 -3,943.44 -306.36 3,943.06 1.00 0.32 -0.95 10,883.00 90.80 164.40 6,661.69 -4,034.10 -281.56 4,033.75 0.83 0.53 -0.64 10,977.00 89.90 165.40 6,661.11 -4,125.06 -257.67 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.60 6,660.95 -4,217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3,38 -1.38 -3.09 11,260.00 89.00 162.80 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 67.20 165.00 6,666.31 -4,489.49 -158.19 4,489.29 2.99 -1.89 2.32 11,449.00 87.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.80 6,663.70 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.80 6,665.31 -4,469.49 -158.19 4,489.29 2.99 -1.89 2.32 11,732.00 91.30 168.50 6,666.51 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,665.65 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.33 0.22 8urvey @ 12011.00 MD	10,411	1.00 87.70	164.50	6,655.35	-3,579.86	-409.15	3,579.36	3.81	-1.91	-3.30
10,694.00 90.00 165.90 6,662.84 -3,851.48 -330.23 3,851.08 3.62 1.49 3.30 10,789.00 90.30 165.00 6,662.59 -3,943.44 -306.36 3,943.06 1.00 0.32 -0.95 10,883.00 90.80 164.40 6,661.69 -4,034.10 -281.56 4,033.75 0.83 0.53 -0.64 10,977.00 89.90 166.40 6,661.11 -4,125.06 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.60 6,660.95 -4,217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 89.00 162.80 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 67.20 165.00 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,449.00 67.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.38 5.64 4.53 3.37 Deepest point @ 11544 MD 6671 TVD 11,638.00 90.90 168.40 6,666.56 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 185.50 6,866.56 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 185.50 6,866.56 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,921.00 90.40 185.80 6,866.56 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 185.80 6,866.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00 0.00	10,505	5.00 88.00	163.40	6,658.87	-3,670.13	-383.18	3,669.66	1.21		-1.17
10,789.00 90.30 165.00 6,662.59 -3,943.44 -306.36 3,943.06 1.00 0.32 -0.95 10,883.00 90.80 164.40 6,661.69 -4,034.10 -281.56 4,033.75 0.83 0.53 -0.64 10,977.00 89.90 166.40 6,661.11 -4,125.06 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 166.60 6,660.95 -4,217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 89.00 162.80 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 67.20 165.00 6,666.31 -4,489.49 -158.19 4,489.29 2.99 -1.89 2.32 11,449.00 87.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.38 5.64 4.53 3.37 Deepest point @ 11544 MD 5671 TVD 11,638.00 90.90 168.40 6,868.37 -4,764.52 -92.50 4,764.40 1.21 -1.17 0.32 11,732.00 91.30 168.50 6,866.56 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,865.65 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,865.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,866.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00 0.00	10,600	0.00 88.60	162.80		-3,760.99	-355.58	3,760.55	0.89	0.63	-0.63
10,883.00 90.80 164.40 6,661.69 -4,034.10 -281,56 4,033.75 0.83 0.53 -0.84 10,977.00 89.90 166.40 6,661.11 -4,125.06 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.60 6,660.95 -4,217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 89.00 162.80 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 67.20 165.00 6,666.31 -4,499.49 -158.19 4,489.29 2.99 -1.89 2.32 11,449.00 87.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.38 5.64 4.53 3.37 Deepest point @ 11544 MD 6671 TVD 11,638.00 90.90 188.40 6,666.51 -4,764.52 -92.50 4,764.40 1.21 -1.17 0.32 11,732.00 91.30 168.50 6,666.56 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00 0.00	10,694	90.00	165.90	6,662.84	-3,851.48	-330.23	3,851.08	3.62	1.49	3.30
10,977.00 89.90 166.40 6,661.11 -4,125.06 -257.87 4,124.74 2.33 -0.96 2.13 11,072.00 90.30 165.60 6,660.95 -4,217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 89.00 162.80 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 87.20 165.00 6,666.31 -4,489.49 -158.19 4,489.29 2.99 -1.89 2.32 11,449.00 87.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.38 5.64 4.53 3.37 Deepest point @ 11544 MD 6671 TVD 11,638.00 90.90 168.40 6,668.37 -4,764.52 -92.50 4,764.40 1.21 -1.17 0.32 11,732.00 91.30 168.50 6,666.56 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,665.65 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00	10,789	90.30	165.00	6,662.59	-3,943.44	-306.36	3,943.06	1.00	0.32	-0.95
11,072.00 90.30 166.60 6,660.95 -4,217.43 -235.69 4,217.14 0.47 0.42 0.21 11,166.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 89.00 162.80 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 87.20 165.00 6,666.31 -4,489.49 -158.19 4,489.29 2.99 -1.89 2.32 11,449.00 87.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.38 5.64 4.53 3.37 Deepest point @ 11544 MD 6671 TVD 11,638.00 90.90 168.40 6,666.55 -4,846.50 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,666.56 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.46 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00 0.00	10,883	3.00 90.80	164.40	6,661.69	-4,034.10	-281.56	4,033.75	0.83	0.53	-0.64
11,166.00 89.00 163.70 6,661.52 -4,308.28 -211.60 4,308.02 3.38 -1.38 -3.09 11,260.00 89.00 162.80 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 87.20 165.00 6,666.31 -4,489.49 -158.19 4,489.29 2.99 -1.89 2.32 11,449.00 87.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.38 5.64 4.53 3.37 Deepest point @ 11544 MD 6671 TVD 11,638.00 90.90 168.40 6,686.37 -4,764.52 -92.50 4,764.40 1.21 -1.17 0.32 11,732.00 91.30 168.50 6,666.58 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,665.65 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00	10,977	7.00 89.90	166.40	6,661.11	-4,125.06	-257.87	4,124.74	2.33	-0.96	2.13
11,260.00 89.00 162.80 6,663.16 -4,398.28 -184.52 4,398.05 0.96 0.00 -0.96 11,355.00 87.20 165.00 6,666.31 -4,489.49 -158.19 4,489.29 2.99 -1.89 2.32 11,449.00 87.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.38 5.64 4.53 3.37 Deepest point @ 11544 MD 6671 TVD 11,638.00 90.90 168.40 6,686.37 -4,764.52 -92.50 4,764.40 1.21 -1.17 0.32 11,732.00 91.30 168.50 6,666.58 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,665.65 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00	11,072	2.00 90.30	165.60	6,660.95	-4,217,43	-235.69	4,217.14	0.47	0.42	0.21
11,355.00 87.20 165.00 6,666.31 -4,489.49 -158.19 4,489.29 2.99 -1.89 2.32 11,449.00 87.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.38 5.64 4.53 3.37 Deepest point @ 11544 MD 6671 TVD 11,638.00 90.90 168.40 6,686.37 -4,764.52 -92.50 4,764.40 1.21 -1.17 0.32 11,732.00 91.30 168.50 6,666.58 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,665.65 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00	11,166	3.00 89.00	163.70	6,661.52	-4,308.28	-211.60	4,308.02	3.38	-1.38	-3.09
11,449.00 87.70 164.90 6,670.50 -4,580.18 -133.80 4,580.01 0.54 0.53 -0.11 11,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.38 5.64 4.53 3.37 Deepest point @ 11544 MD 6671 TVD	11,260	00.08	162,80	6,663,16	-4,398,28	-184.52	4,398.05	0.96	0.00	-0.96
11,544.00 92.00 168.10 6,670.74 -4,672.52 -111.63 4,672.38 5.64 4.53 3.37 Deepest point @ 11544 MD 6671 TVD 11,638.00 90.90 168.40 6,668.37 -4,764.52 -92.50 4,764.40 1.21 -1.17 0.32 11,732.00 91.30 168.50 6,666.58 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,665.65 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00										2.32
Deepest point @ 11544 MD 6671 TVD 11,638.00 90.90 168.40 6,668.37 -4,764.52 -92.50 4,764.40 1.21 -1.17 0.32 11,732.00 91.30 168.50 6,666.58 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,665.65 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5,96 5,179.86 0.00 0.00 0.00				2,444,644	100000					-0.11
11,638.00 90.90 168.40 6,668.37 -4,764.52 -92.50 4,764.40 1.21 -1.17 0.32 11,732.00 91.30 168.50 6,666.58 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,665.65 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00	11,544	1.00 92.00	168.10	6,670.74	-4,672.52	-111.63	4,672.38	5.64	4.53	3.37
11,732.00 91.30 168.50 6,666.58 -4,856.60 -73.68 4,856.50 0.44 0.43 0.11 11,827.00 89.80 165.50 6,665.65 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00										
11,827.00 89.80 165.50 6,665.65 -4,949.14 -52.31 4,949.08 3.53 -1.58 -3.16 11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00	11,638	3.00 90.90	168.40	6,668.37	-4,764.52	-92.50	4,764.40	1.21		0.32
11,921.00 90.40 165.80 6,665.49 -5,040.21 -29.02 5,040.17 0.71 0.64 0.32 12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00	11,732	2.00 91.30	168.50	6,666,56	-4,856.60	-73.68	4,856.50	0.44	0.43	0.11
12,011.00 88.30 166.00 6,666.51 -5,127.49 -7.09 5,127.48 2.34 -2.33 0.22 Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00	200					-52.31	4,949.08			-3.16
Survey @ 12011.00 MD 12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00							11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1			0.32
12,065.00 88.30 166.00 6,668.11 -5,179.86 5.96 5,179.86 0.00 0.00 0.00	12,011	1.00 88.30	166.00	6,666.51	-5,127.49	-7.09	5,127.48	2.34	-2.33	0.22
		A STATE OF THE PARTY OF THE PAR								
Survey projected to 12065.00 MD	12,065	5.00 88.30	166.00	6,668.11	-5,179.86	5.96	5,179.86	0.00	0.00	0.00
	Survey	projected to 12065.0	00 MD							

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WV Department of Environmental Protection



Design:

Survey Report



Company: EQT PRODUCTION

Project: Doddridge County, WV

 Site:
 OXF160

 Well:
 Well #514101

 Wellbore:
 Main Wellbore

514101 As Drilled Surveys

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

Well Well #514101 - Slot 514101 RKB=1220+23 @ 1243.00usft RKB=1220+23 @ 1243.00usft

Grid

Minimum Curvature DB Jul2216dt

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle	Dip Dir.	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
514101 LP as drilled - actual wellpath hi - Point	0.00 ts target center	0.00	6,626.92	-654.31	-1,156.04	250,216.44	1,630,561.44	39° 10' 46.6829 N	80° 48′ 11,6826 W
514101 BHL as drilled - actual wellpath hi - Point	0.00 ts target center	360.00	6,668.11	-5,179.86	5.96	245,690.89	1,631,723.44	39° 10′ 2.1224 N	80° 47' 56.0970 W

Measu	ired	Vertical	Local Coo	rdinates		
Dept (usf		Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
11	10.00	110.00	-0.09	0.34	Gyro	
4,84	46.00	4,845.76	-10,89	-3.64	KOP @ 4846 MD 4846 TVD	
4,88	86.00	4,885.71	-11.17	-5.67	SDI MWD surveys	
6,3	19.00	6,054.38	-12.83	-802.02	ProD MWD surveys	
7,39	90.00	6,626.92	-654.31	-1,156.04	LP @ 7390 MD 6627 TVD	
11,54	44.00	6,670.74	-4,672.52	-111.63	Deepest point @ 11544 MD 6671 TVD	
12,0	11.00	6,666.51	-5,127.49	-7.09	Survey @ 12011.00 MD	
12,06	65.00	6,668.11	-5,179.86	5.96	Survey projected to 12065.00 MD	

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