

APPROVED

NAME: *Chel A. Flue*

DATE: *2/10/2016*

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 513154

API: 47 - 170 - 6502

Submission: Initial Amended

Notes: Add'l Inj test 1.02, 1.03

Correction to Production Cement Top
(MD)

Includes Flowback information

Received
Office of Oil & Gas

JAN 07 2016

04/01/2016
AX 04/01/16

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47 - 017 - 06502 County DODDRIDGE District Southwest
Quad OXFORD 7.5' Pad Name OXFORD 159 Field/Pool Name _____
Farm name JUSTIN L. HENDERSON ET AL Well Number 513154
Operator (as registered with the OOG) EQT Production Company
Address 625 Liberty Ave. EQT Plaza, Suite 1700 City Pittsburgh State PA Zip 15222

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,339,878 Easting 520,537
Landing Point of Curve Northing 4,339,291 Easting 519,818
Bottom Hole Northing 4,340,406 Easting 519,276

Elevation (ft) 1,252 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)

Water base Mud 12.5 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 7/30/2014 Date drilling commenced 11/21/2014 Date drilling ceased 5/3/2015
Date completion activities began 6/19/2015 Date completion activities ceased 6/27/2015
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Received
Office of Oil & Gas
JAN 07 2016

Freshwater depth(s) ft 264, 325, 401 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1312, 1379 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 246, 313, 474, 616, 732, 735 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

04/01/2016

API 47-017 - 06502 Farm name JUSTIN L. HENDERSON ET AL Well number 513154

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	40'	NEW	A-500 40LB/FT	NONE	Y
Surface	17.5"	13.375"	1,110'	NEW	J-55 54.5LB/FT	None	Y
Coal							
Intermediate 1	12.375"	9.625"	5,253'	NEW	P-110 40LB/FT	1,564', 3,190'	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	13304	NEW	P-110 20LB/FT	NONE	N
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	38	15.6	1.18	44.84	0	8
Surface	CLASS A	835	15.6	1.20	1,002	0	8
Coal							
Intermediate 1	CLASS A / A / A	447 / 380 / 1,205	14.2 / 15.6 / 15.6	1.24 / 1.18 / 1.18	2,424.58	0	8
Intermediate 2							
Intermediate 3							
Production	Class A 50/50 POZ / H	970/560	14.2 / 15.2	1.26 / 1.97	2,325.40	3,467'	8
Tubing							

Drillers TD (ft) 13310' Loggers TD (ft) 13310'
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5317'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____
 CONDUCTOR- NONE
 SURFACE- JOINTS: 1,12,23
 INTERMEDIATE- RAN AT LEAST EVERY 500' FEET JOINTS: 1, 12, 23, 35, 48, 59, 71, 83, 95, 107, 119
 PRODUCTION- 190 centralizers ran every joint from 13302' to 5158'

Received
Office of Oil & Gas
JAN 07 2016

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 017 - 06502 Farm name JUSTIN L. HENDERSON ET AL Well number 513154

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6,668'</u>	<u>TVD</u>	<u>9,141'</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,049 psi Bottom Hole N/A psi DURATION OF TEST 81.50 hrs

OPEN FLOW Gas 10,141 mcfpd Oil N/A bpd NGL 63.8 bpd Water 665.3 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	<u>0</u>		<u>0</u>		

Please insert additional pages as applicable.

Drilling Contractor ALPHA HUNTER DRILLING (RIG 5)
Address P.O. BOX 430 City RENO State OH Zip 45773

Logging Company Vaughn Energy Services
Address P.O. Box 261021 City Corpus Christi State TX Zip 78246-1021

Cementing Company Allied Services
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company FTSI
Address 301 E 18th Street City Cisco State TX Zip 76437

Please insert additional pages as applicable.

Completed by Jim Helmick Telephone 412-395-5518
Signature  Title VP Completions Date 12/22/2015

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

Received
Office of Oil & Gas
JAN 07 2016

04/01/2016

API 47- 017 - 6502 Farm name JUSTIN L. HENDERSON ET AL Well number 513154

Drilling Contractor Patterson UTI
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company Phoenix Technology Services
Address 1805 Brittmoore Road City Houston State TX Zip 77043

Logging Company Gyro Data Inc.
Address 601 Mayer St. City Bridgeville State PA Zip 15017

Cementing Company C & J Energy Services (Nabors)
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Received
Office of Oil & Gas
JAN 07 2016

Well #513154 Final Formations

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
FRESH WATER ZONE	1	1	411	411
SAND/SHALE	1	1	256	256
WASHINGTON COAL	256	256	258	258
SAND/SHALE	258	258	323	323
WAYNESBURG A COAL	323	323	325	325
SAND/SHALE	325	325	484	484
UNIONTOWN COAL	484	484	486	486
SAND/SHALE	486	486	626	626
SEWICKLEY	626	626	628	628
SAND/SHALE	628	628	742	742
REDSTONE COAL	742	742	743	743
SAND/SHALE	743	743	745	745
PITTSBURGH COAL	745	745	749	749
SAND/SHALE	749	749	2,030.00	2,029.70
BIG LIME	2,030.00	2,029.70	2,174.00	2,173.60
SAND/SHALE	2,174.00	2,173.60	2,323.00	2,322.60
WEIR	2,323.00	2,322.60	2,437.00	2,436.50
SAND/SHALE	2,437.00	2,436.50	2,531.00	2,530.50
GANTZ	2,531.00	2,530.50	2,608.00	2,607.40
50F	2,608.00	2,607.40	2,684.00	2,683.40
SAND/SHALE	2,684.00	2,683.40	2,730.00	2,729.30
30F	2,730.00	2,729.30	2,765.00	2,764.30
SAND/SHALE	2,765.00	2,764.30	2,779.00	2,778.30
GORDON	2,779.00	2,778.30	2,870.00	2,869.20
4TH SAND	2,870.00	2,869.20	3,051.00	3,050.00
BAYARD	3,051.00	3,050.00	3,151.00	3,149.90
SAND/SHALE	3,151.00	3,149.90	3,388.00	3,386.70
WARREN	3,388.00	3,386.70	3,447.00	3,445.60
SAND/SHALE	3,447.00	3,445.60	3,459.00	3,457.60
SPEECHLEY	3,459.00	3,457.60	3,703.00	3,701.20
SAND/SHALE	3,703.00	3,701.20	4,139.00	4,135.50
BALLTOWN A	4,139.00	4,135.50	4,253.00	4,248.70
SAND/SHALE	4,253.00	4,248.70	4,338.00	4,333.10
RILEY	4,338.00	4,333.10	4,484.00	4,478.00
SAND/SHALE	4,484.00	4,478.00	4,998.80	4,998.80
BENSON	5,009.00	4,998.80	5,049.00	5,038.50
SAND/SHALE	5,049.00	5,038.50	5,180.00	5,168.50
ALEXANDER	5,180.00	5,168.50	6,211.00	5,916.40
RHINESTREET UPPER	6,211.00	5,916.40	6,362.00	5,954.70
RHINESTREET	6,362.00	5,954.70	7,920.00	6,352.10
SONYEA	7,920.00	6,352.10	8,378.00	6,472.90
MIDDLESEX	8,378.00	6,472.90	8,550.00	6,525.30
GENESSEE	8,550.00	6,525.30	8,766.00	6,585.70
GENESE0	8,766.00	6,585.70	8,930.00	6,627.80
TULLY	8,930.00	6,627.80	9,015.00	6,645.80
HAMILTON	9,015.00	6,645.80	9,141.00	6,667.70
MARCELLUS	9,141.00	6,667.70		

Received
 Office of Oil and Gas
 JAN 07 2016



EQT Production - Marcellus

Doddridge County, WV Grid

Doddridge County 513154

Well #513154

Main Wellbore

Design: 513154 AS Drilled Surveys

Standard Survey Report

11 May, 2015

Received
Office of Oil & Gas
JAN 07 2016

EQT

Where energy meets innovation.

04/01/2016



PHX
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513154
Company:	EQT Production - Marcellus	TVD Reference:	KB@23 @ 1275.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB@23 @ 1275.0usft
Site:	Doddridge County 513154	North Reference:	Grid
Well:	Well #513154	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513154 AS Drilled Surveys		

Project **Doddridge County, WV Grid**

Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia North 4701		Using geodetic scale factor

Site **Doddridge County 513154**

Site Position:		Northing:	260 322 60 usft	Latitude:	39.21
From:	Map	Easting:	1 642,311.70 usft	Longitude:	-80.76
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.81

Well **Well #513154**

Well Position	+N/-S	0 0 usft	Northing:	260 322 60 usft	Latitude:	39° 12' 28.222 N
	+E/-W	0.0 usft	Easting:	1 642 311 70 usft	Longitude:	80° 45' 44.284 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	1 252 0 usft

Wellbore **Main Wellbore**

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/20/2015	-7.78	66.68	52,236

Design **513154 AS Drilled Surveys**

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	293.68

Survey Program Date 5/11/2015

From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0 00	5,262 0	513154 Gyrodata Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0 00	13 310 0	513154 PHX MWD (Main Wellbore)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM

Survey

Measure d	Inclination	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0 0	0 00	0 00	0 0	-1,275.0	0.0	0.0	0.0	0.00	0.00	0.00
23 0	0 00	0 00	23 0	-1,252.0	0.0	0.0	0.0	0.00	0.00	0.00
123 0	0 51	282.49	123 0	-1 152.0	0.1	-0.4	0.4	0.51	0.51	0.00
223 0	0 40	304.11	223 0	-1 052.0	0.4	-1.2	1.2	0.20	-0.11	21.62
323 0	0 34	292.64	323 0	-952.0	0.7	-1.7	1.9	0.10	-0.06	-11.47
423 0	0 17	301.03	423 0	-852.0	0.9	-2.1	2.3	0.17	-0.17	8.39
523 0	0 23	293.93	523 0	-752.0	1.0	-2.4	2.6	0.06	0.06	-7.10

Received
Oil & Gas
07/2015

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513154
Company:	EQT Production - Marcellus	TVD Reference:	KB@23 @ 1275.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB@23 @ 1275.0usft
Site:	Doddridge County 513154	North Reference:	Grid
Well:	Well #513154	Survey Calculation Method:	Minimura Curvature
Wellbore:	Main Wellbore		
Design:	513154 AS Drilled Surveys		

Measure d Depth	Inclination	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
623.0	0.24	288.60	623.0	-652.0	1.2	-2.8	3.1	0.02	0.01	-5.33
723.0	0.25	272.87	723.0	-552.0	1.3	-3.2	3.5	0.07	0.01	-15.73
823.0	0.36	293.41	823.0	-452.0	1.4	-3.7	4.0	0.15	0.11	20.54
923.0	0.50	290.42	923.0	-352.0	1.7	-4.4	4.7	0.14	0.14	-2.99
1,023.0	0.79	272.50	1,023.0	-252.0	1.9	-5.5	5.8	0.35	0.29	-17.92
1,123.0	0.74	276.07	1,123.0	-152.0	2.0	-6.9	7.1	0.07	-0.05	3.57
1,223.0	0.91	282.23	1,223.0	-52.0	2.2	-8.3	8.5	0.19	0.17	6.16
1,323.0	1.41	282.83	1,322.9	47.9	2.6	-10.3	10.5	0.50	0.50	0.60
1,423.0	1.58	285.66	1,422.9	147.9	3.3	-12.8	13.0	0.19	0.17	2.83
1,523.0	1.57	283.08	1,522.9	247.9	4.0	-15.4	15.7	0.07	-0.01	-2.58
1,623.0	1.52	280.26	1,622.8	347.8	4.5	-18.1	18.4	0.09	-0.05	-2.82
1,723.0	1.43	272.63	1,722.8	447.8	4.8	-20.6	20.8	0.22	-0.09	-7.63
1,823.0	1.58	275.72	1,822.8	547.8	5.0	-23.3	23.3	0.17	0.15	3.09
1,923.0	1.47	273.70	1,922.7	647.7	5.2	-25.9	25.8	0.12	-0.11	-2.02
2,023.0	1.49	276.86	2,022.7	747.7	5.5	-28.5	28.3	0.08	0.02	3.16
2,123.0	1.64	279.70	2,122.7	847.7	5.9	-31.2	30.9	0.17	0.15	2.84
2,223.0	1.72	282.05	2,222.6	947.6	6.4	-34.1	33.8	0.11	0.08	2.35
2,323.0	1.80	283.75	2,322.6	1,047.6	7.1	-37.1	36.8	0.10	0.08	1.70
2,423.0	1.80	286.34	2,422.5	1,147.5	7.9	-40.1	39.9	0.08	0.00	2.59
2,523.0	2.02	285.52	2,522.5	1,247.5	8.8	-43.3	43.2	0.22	0.22	-0.82
2,623.0	2.10	284.24	2,622.4	1,347.4	9.8	-46.8	46.7	0.09	0.08	-1.28
2,723.0	2.33	283.30	2,722.3	1,447.3	10.7	-50.5	50.5	0.23	0.23	-0.94
2,823.0	2.31	286.09	2,822.2	1,547.2	11.7	-54.4	54.5	0.11	-0.02	2.79
2,923.0	2.39	288.16	2,922.2	1,647.2	12.9	-58.3	58.6	0.12	0.08	2.07
3,023.0	2.50	288.08	3,022.1	1,747.1	14.2	-62.4	62.9	0.11	0.11	-0.08
3,123.0	2.65	285.08	3,122.0	1,847.0	15.5	-66.7	67.3	0.20	0.15	-3.00
3,223.0	2.67	283.98	3,221.9	1,946.9	16.7	-71.2	71.9	0.05	0.02	-1.10
3,323.0	2.84	285.47	3,321.7	2,046.7	17.9	-75.8	76.7	0.18	0.17	1.49
3,423.0	2.86	285.80	3,421.6	2,146.6	19.2	-80.6	81.6	0.03	0.02	0.33
3,523.0	2.97	284.36	3,521.5	2,246.5	20.6	-85.5	86.6	0.13	0.11	-1.44
3,623.0	3.06	287.22	3,621.4	2,346.4	22.0	-90.6	91.8	0.18	0.09	2.86
3,723.0	3.16	288.55	3,721.2	2,446.2	23.7	-95.8	97.2	0.12	0.10	1.05
3,823.0	3.57	289.60	3,821.0	2,546.0	25.6	-101.3	103.1	0.41	0.41	1.05
3,923.0	5.20	293.51	3,920.7	2,645.7	28.4	-108.4	110.7	1.66	1.63	3.91
4,023.0	6.13	297.59	4,020.2	2,745.2	32.7	-117.3	120.6	1.01	0.93	4.08
4,123.0	6.62	298.47	4,119.6	2,844.6	37.9	-127.1	131.6	0.50	0.49	0.88
4,223.0	6.80	300.54	4,218.9	2,943.9	43.7	-137.3	143.2	0.30	0.18	2.07
4,323.0	7.06	303.58	4,318.2	3,043.2	50.1	-147.5	155.2	0.45	0.26	3.04
4,423.0	7.14	304.51	4,417.4	3,142.4	57.0	-157.7	167.3	0.14	0.08	0.93
4,523.0	7.21	309.08	4,516.7	3,241.7	64.5	-167.7	179.5	0.57	0.07	4.57

Received
Office of Oil & Gas
JAN 07 2016

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513154
Company:	EQT Production - Marcellus	TVD Reference:	KB@23 @ 1275.0usft
Project:	Doddridge County, WV Grd	MD Reference:	KB@23 @ 1275.0usft
Site:	Doddridge County 513154	North Reference:	Grid
Well:	Well #513154	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513154 AS Drilled Surveys		

Measure d Depth	Inclination	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,623.0	7.36	315.06	4,615.9	3,340.9	73.0	-177.1	191.5	0.77	0.15	5.98
4,723.0	7.33	318.51	4,715.0	3,440.0	82.3	-185.9	203.3	0.44	-0.03	3.45
4,823.0	7.15	322.34	4,814.2	3,539.2	92.0	-193.9	214.5	0.52	-0.18	3.83
4,923.0	7.20	323.76	4,913.5	3,638.5	102.0	-201.4	225.4	0.18	0.05	1.42
5,023.0	7.03	327.79	5,012.7	3,737.7	112.2	-208.4	235.9	0.53	-0.17	4.03
5,123.0	6.92	331.70	5,111.9	3,836.9	122.7	-214.5	245.7	0.49	-0.11	3.91
5,223.0	6.73	335.69	5,211.2	3,936.2	133.3	-219.7	254.8	0.51	-0.19	3.99
Gyro Tie In=6262 MD										
5,262.0	6.97	336.32	5,250.0	3,975.0	137.6	-221.6	258.2	0.64	0.62	1.62
5,319.0	6.00	323.80	5,306.6	4,031.6	143.2	-224.8	263.4	3.00	-1.70	-21.96
5,350.0	6.60	290.30	5,337.4	4,062.4	145.1	-227.4	266.5	11.84	1.94	-108.06
5,382.0	8.30	266.60	5,369.2	4,094.2	145.6	-231.4	270.4	10.86	5.31	-74.06
5,413.0	10.90	251.30	5,399.7	4,124.7	144.5	-236.5	274.6	11.68	8.39	-49.35
5,445.0	13.70	241.90	5,431.0	4,156.0	141.8	-242.7	279.2	10.73	8.75	-29.38
5,477.0	16.00	234.90	5,461.9	4,186.9	137.4	-249.6	283.8	9.10	7.19	-21.88
5,508.0	17.60	228.40	5,491.6	4,216.6	131.9	-256.6	288.0	7.95	5.16	-20.97
5,540.0	19.30	222.30	5,522.0	4,247.0	124.7	-263.8	291.7	8.03	5.31	-19.06
5,571.0	21.50	219.10	5,551.0	4,276.0	116.5	-270.8	294.8	7.95	7.10	-10.32
5,602.0	24.70	216.50	5,579.5	4,304.5	106.9	-278.3	297.8	10.83	10.32	-8.39
5,634.0	28.00	214.40	5,608.2	4,333.2	95.4	-286.5	300.7	10.71	10.31	-6.56
5,666.0	30.80	213.30	5,636.1	4,361.1	82.3	-295.2	303.4	8.91	8.75	-3.44
5,697.0	34.10	213.70	5,662.2	4,387.2	68.4	-304.4	306.3	10.67	10.65	1.29
5,728.0	37.40	214.20	5,687.4	4,412.4	53.4	-314.5	309.5	10.69	10.65	1.61
5,760.0	40.70	214.80	5,712.2	4,437.2	36.8	-326.0	313.3	10.38	10.31	1.88
5,791.0	44.10	215.10	5,735.1	4,460.1	19.7	-337.9	317.4	10.99	10.97	0.97
5,823.0	47.70	215.30	5,757.4	4,482.4	0.9	-351.2	322.0	11.26	11.25	0.63
5,854.0	51.10	214.50	5,777.6	4,502.6	-18.4	-364.6	326.5	11.14	10.97	-2.58
5,886.0	54.50	213.10	5,796.9	4,521.9	-39.6	-378.8	331.0	11.18	10.63	-4.38
5,917.0	57.60	212.10	5,814.2	4,539.2	-61.2	-392.7	335.0	10.35	10.00	-3.23
5,949.0	60.60	211.40	5,830.6	4,555.6	-84.6	-407.1	338.9	9.56	9.38	-2.19
5,980.0	64.00	210.70	5,845.1	4,570.1	-108.1	-421.2	342.4	11.15	10.97	-2.26
6,012.0	67.40	210.30	5,858.2	4,583.2	-133.2	-436.0	345.8	10.69	10.63	-1.25
6,043.0	70.00	209.90	5,869.5	4,594.5	-158.2	-450.5	349.1	8.47	8.39	-1.29
6,075.0	73.30	210.40	5,879.6	4,604.6	-184.5	-465.8	352.5	10.42	10.31	1.56
6,138.0	74.40	210.50	5,897.1	4,622.1	-236.6	-496.5	359.6	1.75	1.75	0.16
6,232.0	75.00	209.90	5,921.9	4,646.9	-315.0	-542.1	369.9	0.89	0.64	-0.64
6,326.0	75.70	209.50	5,945.7	4,670.7	-394.0	-587.1	379.5	0.85	0.74	-0.43
6,420.0	74.30	209.40	5,970.0	4,695.0	-473.1	-631.8	388.6	1.49	-1.49	-0.11
6,514.0	74.90	208.70	5,994.9	4,719.9	-552.3	-675.8	397.1	0.96	0.64	-0.74
6,609.0	75.90	208.10	6,018.9	4,743.9	-633.2	-719.5	404.7	1.22	1.05	-0.63



PHX
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513154
Company:	EQT Production - Marcellus	TVD Reference:	KB@23 @ 1275.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB@23 @ 1275.0usft
Site:	Doddridge County 513154	North Reference:	Grid
Well:	Well #513154	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513154 AS Drilled Surveys		

Measure d Depth	Inclination	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,703.0	75.20	211.80	6,042.4	4,767.4	-712.0	-764.9	414.6	3.88	-0.74	3.94
6,798.0	76.10	211.50	6,065.9	4,790.9	-790.4	-813.2	427.4	1.00	0.95	-0.32
6,892.0	74.20	211.40	6,090.0	4,815.0	-867.9	-860.6	439.7	2.02	-2.02	-0.11
6,987.0	75.10	211.20	6,115.1	4,840.1	-946.1	-908.2	451.8	0.97	0.95	-0.21
7,081.0	75.60	210.80	6,138.9	4,863.9	-1,024.1	-955.0	463.4	0.67	0.53	-0.43
7,176.0	74.20	210.70	6,163.7	4,888.7	-1,102.9	-1,001.9	474.7	1.48	-1.47	-0.11
7,270.0	74.60	210.30	6,188.9	4,913.9	-1,180.9	-1,047.9	485.4	0.59	0.43	-0.43
7,364.0	74.80	210.50	6,213.7	4,938.7	-1,259.1	-1,093.8	496.1	0.30	0.21	0.21
7,458.0	75.20	210.90	6,238.1	4,963.1	-1,337.2	-1,140.1	507.2	0.59	0.43	0.43
7,553.0	74.80	208.60	6,262.7	4,987.7	-1,416.9	-1,185.7	516.9	2.38	-0.42	-2.42
7,647.0	75.50	208.60	6,286.8	5,011.8	-1,496.6	-1,229.2	524.7	0.74	0.74	0.00
7,741.0	76.50	208.30	6,309.5	5,034.5	-1,576.8	-1,272.6	532.3	1.11	1.06	-0.32
7,836.0	76.00	210.60	6,332.1	5,057.1	-1,657.2	-1,318.0	541.5	2.41	-0.53	2.42
7,930.0	76.40	210.00	6,354.5	5,079.5	-1,736.0	-1,364.0	552.1	0.75	0.43	-0.64
8,025.0	74.60	210.30	6,376.3	5,103.3	-1,815.5	-1,410.2	562.4	1.92	-1.89	0.32
8,057.0	74.90	210.30	6,386.7	5,111.7	-1,842.2	-1,425.8	566.0	0.94	0.94	0.00
8,088.0	75.30	210.30	6,394.7	5,119.7	-1,868.0	-1,440.9	569.4	1.29	1.29	0.00
8,119.0	75.70	212.10	6,402.4	5,127.4	-1,893.7	-1,456.5	573.4	5.77	1.29	5.81
8,151.0	75.40	215.20	6,410.4	5,135.4	-1,919.5	-1,473.6	578.7	9.43	-0.94	9.69
8,182.0	75.10	218.70	6,418.3	5,143.3	-1,943.5	-1,491.6	585.6	10.96	-0.97	11.29
8,214.0	74.40	221.60	6,426.7	5,151.7	-1,967.1	-1,511.5	594.4	9.01	-2.19	9.06
8,246.0	73.70	224.70	6,435.5	5,160.5	-1,989.5	-1,532.6	604.6	9.57	-2.19	9.69
8,277.0	73.30	228.30	6,444.3	5,169.3	-2,010.0	-1,554.1	616.2	11.21	-1.29	11.61
8,309.0	73.50	231.70	6,453.5	5,178.5	-2,029.7	-1,577.6	629.8	10.20	0.63	10.63
8,341.0	73.80	234.50	6,462.5	5,187.5	-2,048.1	-1,602.2	644.8	8.45	0.94	8.75
8,372.0	73.50	237.50	6,471.2	5,196.2	-2,064.7	-1,626.8	660.7	9.34	-0.97	9.68
8,403.0	73.50	240.10	6,480.0	5,205.0	-2,080.1	-1,652.3	677.8	8.04	0.00	8.39
8,435.0	73.50	243.10	6,489.1	5,214.1	-2,094.7	-1,679.2	696.7	8.99	0.00	9.38
8,466.0	72.70	246.00	6,498.1	5,223.1	-2,107.5	-1,706.0	716.1	9.32	-2.58	9.35
8,498.0	71.20	248.50	6,508.0	5,233.0	-2,119.2	-1,734.1	737.1	8.78	-4.69	7.81
8,529.0	70.30	252.10	6,518.3	5,243.3	-2,129.1	-1,761.6	758.3	11.34	-2.90	11.61
8,560.0	70.40	255.80	6,528.7	5,253.7	-2,137.2	-1,789.7	780.8	11.24	0.32	11.94
8,592.0	71.30	258.30	6,539.2	5,264.2	-2,143.9	-1,819.1	805.0	7.90	2.81	7.81
8,623.0	72.90	260.70	6,548.7	5,273.7	-2,149.3	-1,848.1	829.4	8.99	5.16	7.74
8,654.0	75.00	263.20	6,557.3	5,282.3	-2,153.5	-1,877.6	854.8	10.29	6.77	8.06
8,686.0	75.90	265.90	6,565.3	5,290.3	-2,156.4	-1,908.5	881.8	8.64	2.81	8.44
8,717.0	75.70	269.50	6,572.9	5,297.9	-2,157.6	-1,938.5	908.8	11.28	-0.65	11.61
8,748.0	74.60	272.90	6,580.9	5,305.9	-2,157.0	-1,968.4	936.5	11.18	-3.55	10.97
8,780.0	74.10	276.00	6,589.5	5,314.5	-2,154.6	-1,999.1	965.6	9.46	-1.56	9.69
8,811.0	74.20	280.60	6,598.0	5,323.0	-2,150.3	-2,028.6	994.4	14.28	0.32	14.84

Received
Office of Oil & Gas
JAN 07 2016

Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513154
Company:	EQT Production - Marcellus	TVD Reference:	KB@23 @ 1275.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB@23 @ 1275.0usft
Site:	Doddridge County 513154	North Reference:	Grid
Well:	Well #513154	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513154 AS Drilled Surveys		

Survey

Measure d Depth	Inclination	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,842.0	75.50	284.40	6,606.1	5,331.1	-2,143.8	-2,057.9	1,023.7	12.55	4.19	12.26
8,874.0	75.30	287.90	6,614.2	5,339.2	-2,135.2	-2,087.6	1,054.4	10.60	-0.63	10.94
8,905.0	76.00	291.70	6,621.9	5,346.9	-2,125.0	-2,115.8	1,084.4	12.09	2.26	12.26
8,936.0	76.80	295.10	6,629.1	5,354.1	-2,113.1	-2,143.5	1,114.5	10.97	2.58	10.97
8,968.0	77.80	297.80	6,636.2	5,361.2	-2,099.2	-2,171.4	1,145.7	8.80	3.13	8.44
9,000.0	78.30	301.00	6,642.8	5,367.8	-2,083.8	-2,198.7	1,176.8	9.91	1.56	10.00
9,031.0	78.90	304.80	6,648.9	5,373.9	-2,067.3	-2,224.2	1,206.8	12.17	1.94	12.26
9,063.0	79.70	308.60	6,654.9	5,379.9	-2,048.5	-2,249.4	1,237.4	11.93	2.50	11.88
9,094.0	80.00	312.10	6,660.3	5,385.3	-2,028.8	-2,272.7	1,266.7	11.16	0.97	11.29
9,125.0	81.40	314.90	6,665.4	5,390.4	-2,007.7	-2,294.9	1,295.4	9.99	4.52	9.03
9,157.0	82.60	317.70	6,669.8	5,394.8	-1,984.8	-2,316.8	1,324.7	9.44	3.75	8.75
9,188.0	83.40	319.80	6,673.6	5,398.6	-1,961.7	-2,337.0	1,352.5	7.20	2.58	6.77
9,220.0	85.20	322.40	6,676.8	5,401.8	-1,936.9	-2,357.0	1,380.8	9.85	5.63	8.13
9,252.0	86.70	325.10	6,679.0	5,404.0	-1,911.1	-2,375.9	1,408.4	9.63	4.69	8.44
9,283.0	88.60	328.80	6,680.3	5,405.3	-1,885.2	-2,392.8	1,434.3	13.41	6.13	11.94
9,315.0	89.80	330.70	6,680.7	5,405.7	-1,857.6	-2,408.9	1,460.2	7.02	3.75	5.94
LP=9346 MD/6681 TVD										
9,346.0	90.60	333.90	6,680.6	5,405.6	-1,830.1	-2,423.3	1,484.4	10.64	2.58	10.32
9,441.0	91.70	334.70	6,678.7	5,403.7	-1,744.5	-2,464.5	1,556.5	1.43	1.16	0.84
9,535.0	92.00	333.60	6,675.7	5,400.7	-1,660.0	-2,505.5	1,628.0	1.21	0.32	-1.17
9,630.0	89.90	334.70	6,674.1	5,399.1	-1,574.5	-2,546.9	1,700.2	2.50	-2.21	1.16
9,724.0	90.90	333.60	6,673.5	5,398.5	-1,489.9	-2,587.9	1,771.7	1.58	1.06	-1.17
9,818.0	88.30	335.50	6,674.1	5,399.1	-1,405.0	-2,628.3	1,842.8	3.43	-2.77	2.02
9,912.0	89.10	335.20	6,676.3	5,401.3	-1,319.6	-2,667.4	1,913.0	0.91	0.85	-0.32
10,006.0	89.80	334.00	6,677.2	5,402.2	-1,234.7	-2,707.8	1,984.0	1.48	0.74	-1.28
10,101.0	90.80	333.20	6,676.7	5,401.7	-1,149.6	-2,750.0	2,056.8	1.35	1.05	-0.84
10,196.0	90.40	336.40	6,675.7	5,400.7	-1,063.7	-2,790.4	2,128.4	3.39	-0.42	3.37
10,290.0	91.10	334.80	6,674.4	5,399.4	-978.1	-2,829.3	2,198.3	1.86	0.74	-1.70
10,384.0	91.80	333.60	6,672.1	5,397.1	-893.5	-2,870.2	2,269.8	1.48	0.74	-1.28
10,479.0	91.50	333.90	6,669.3	5,394.3	-808.3	-2,912.2	2,342.4	0.45	-0.32	0.32
10,574.0	89.80	336.70	6,668.2	5,393.2	-722.0	-2,951.9	2,413.4	3.45	-1.79	2.95
10,669.0	89.40	334.80	6,668.9	5,393.9	-635.4	-2,990.9	2,483.9	2.04	-0.42	-2.00
10,764.0	90.40	333.60	6,669.1	5,394.1	-549.9	-3,032.2	2,556.1	1.64	1.05	-1.26
10,858.0	90.30	333.20	6,668.5	5,393.5	-465.9	-3,074.3	2,628.4	0.44	-0.11	-0.43
10,952.0	91.30	332.40	6,667.2	5,392.2	-382.3	-3,117.3	2,701.4	1.36	1.06	-0.85
11,046.0	90.80	334.80	6,665.5	5,390.5	-298.1	-3,159.1	2,773.4	2.61	-0.53	2.55
11,141.0	91.10	333.30	6,663.9	5,388.9	-212.7	-3,200.6	2,845.8	1.61	0.32	-1.58
11,235.0	91.20	334.90	6,662.0	5,387.0	-128.1	-3,241.7	2,917.3	1.71	0.11	1.70
11,330.0	91.00	338.30	6,660.2	5,385.2	-41.0	-3,279.4	2,986.9	3.58	-0.21	3.58
11,424.0	91.50	337.50	6,658.1	5,383.1	46.1	-3,314.7	3,054.2	1.00	0.53	-0.85

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513154
Company:	EQT Production - Marcellus	TVD Reference:	KB@23 @ 1275.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB@23 @ 1275.0usft
Site:	Doddridge County 513154	North Reference:	Grid
Well:	Well #513154	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513154 AS Drilled Surveys		

Survey

Measure d Depth	Inclination	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11 519 0	92.70	336 00	6,654.6	5,379.6	133.3	-3,352.2	3,123.6	2.02	1.26	-1.58
11,613.0	89.80	338.20	6,652.6	5,377.6	219.9	-3,388.8	3,191.8	3.87	-3.09	2.34
11,708.0	90.40	337.40	6,652.4	5,377.4	307.8	-3,424.7	3,260.0	1.05	0.63	-0.84
11 802 0	89.60	337 80	6,652.4	5,377.4	394.7	-3,460.5	3,327.7	0.95	-0.85	0.43
11 897 0	90.10	337 20	6 652 7	5 377 7	482.5	-3 496 8	3,396.3	0.82	0.53	-0.63
11,991.0	90.40	334.70	6,652.3	5,377.3	568.3	-3,535.1	3,465.8	2.68	0.32	-2.66
12,086.0	91.00	332.20	6,651.1	5,376.1	653.3	-3,577.6	3,538.8	2.71	0.63	-2.63
12.180.0	90.60	336.10	6,649.8	5,374.8	737.9	-3,618.6	3,610.3	4.17	-0.43	4.15
12,275.0	91.60	335.30	6,647.8	5,372.8	824.4	-3,657.7	3,680.8	1.52	1.26	-0.84
12,369.0	90.00	337.90	6,646.3	5,371.3	910.7	-3,695.0	3,749.7	3.36	-1.91	2.77
12,464.0	89.10	339.10	6,647.1	5,372.1	999.1	-3,729.8	3,817.0	1.58	-0.95	1.26
12,558.0	90.40	339.10	6,647.5	5,372.5	1,086.9	-3,763.3	3,883.0	1.38	1.38	0.00
12,653.0	91.10	338.60	6,646.2	5,371.2	1,175.5	-3,797.6	3,950.0	0.91	0.74	-0.53
12,747.0	88.00	338.60	6,647.0	5,372.0	1,263.0	-3,831.9	4,016.5	3.30	-3.30	0.00
12 841 0	89 00	338 90	6 649 4	5 374 4	1,350.6	-3,866.0	4,082.9	1.11	1.06	0.32
12 936 0	88 80	333 60	6 651 3	5 376 3	1,437.5	-3,904.2	4,152.8	5.58	-0.21	-5.58
13,030.0	89.10	333.30	6,653.0	5,378.0	1,521.5	-3,946.2	4,225.0	0.45	0.32	-0.32
13 125 0	89 10	332 60	6 654 5	5 379 5	1,606.1	-3,989.4	4,298.6	0.74	0.00	-0.74
13 178 0	89 10	332 20	6 655 3	5 380 3	1,653.1	-4,014.0	4,339.9	0.75	0.00	-0.75
13,219.0	88.90	332.30	6,656.0	5,381.0	1,689.4	-4,033.0	4,372.0	0.55	-0.49	0.24
Final Survey=13257' MD/ 6657' TVD										
13,257.0	88.80	332.20	6,656.8	5,381.8	1,723.0	-4,050.7	4,401.7	0.37	-0.26	-0.26
Projection to TD=13310' MD/ 6658' TVD										
13 310 0	88 80	332 20	6 657 9	5 382 9	1,769.9	-4,075.4	4,443.1	0.00	0.00	0.00

Design Annotations

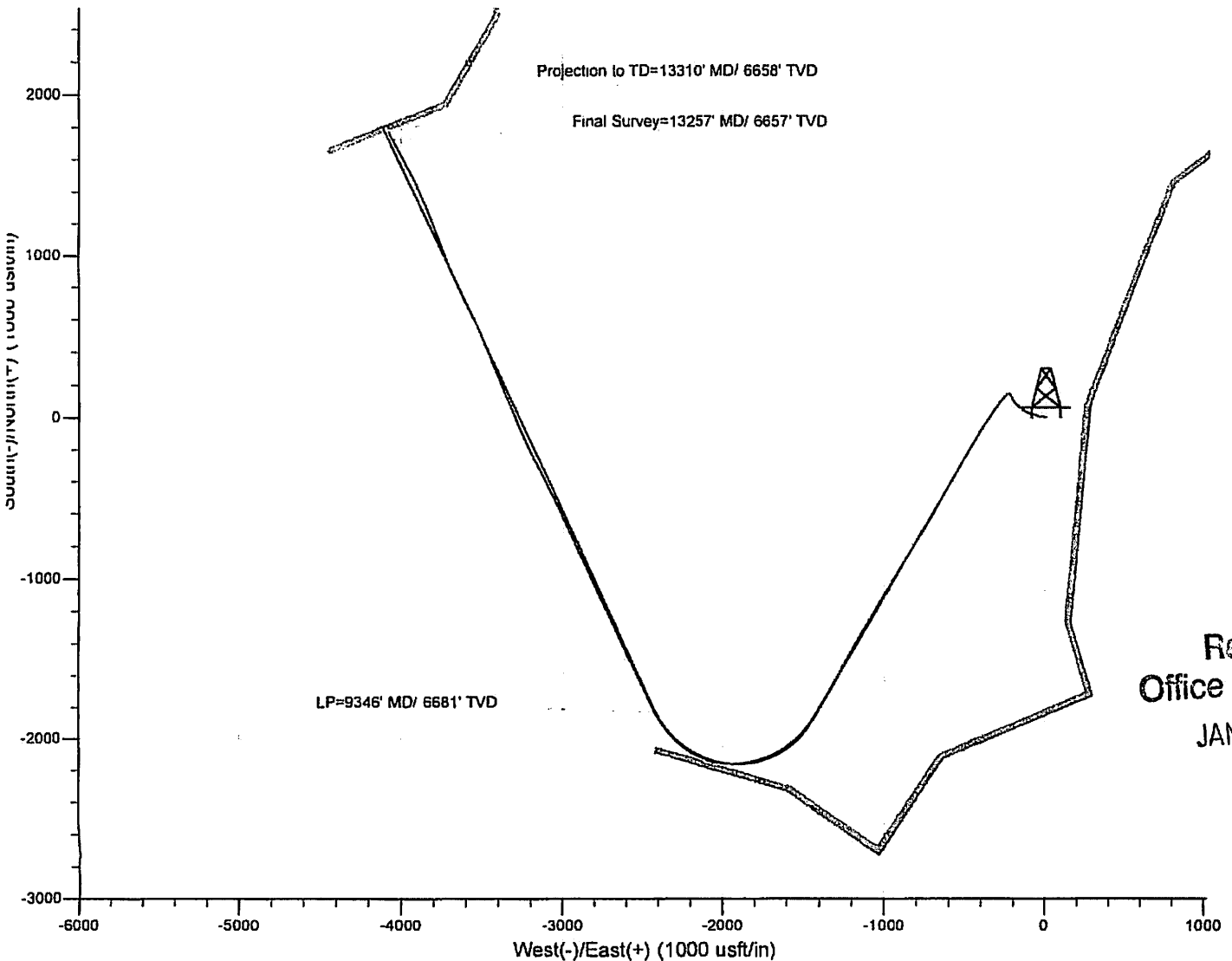
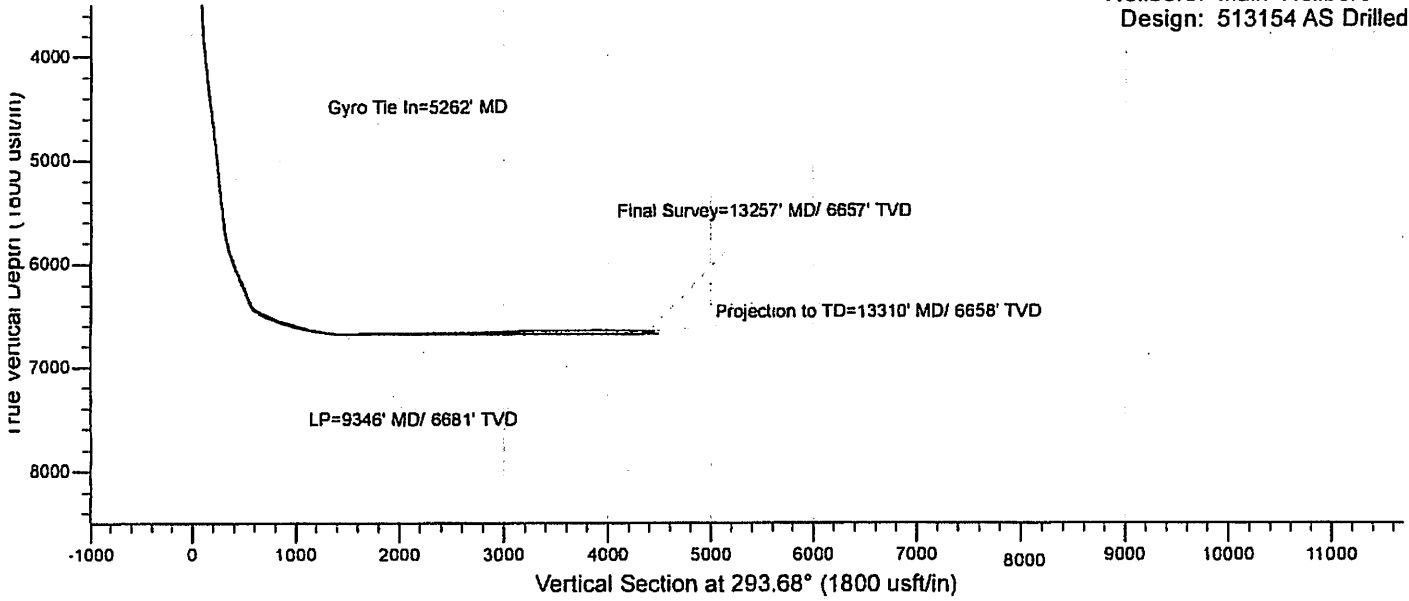
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,262.0	5,250.0	137.6	-221.6	Gyro Tie In=5262' MD
9,346.0	6,680.6	-1,830.1	-2,423.3	LP=9346' MD/ 6681' TVD
13,257.0	6,656.8	1,723.0	-4,050.7	Final Survey=13257' MD/ 6657' TVD
13,310.0	6,657.9	1,769.9	-4,075.4	Projection to TD=13310' MD/ 6658' TVD

Checked By: _____ Approved By: _____ Date: _____



EQT Production - Marcellus

Project: Doddridge County, WV Grid
Site: Doddridge County 513154
Well: Well #513154
Wellbore: Main Wellbore
Design: 513154 AS Drilled Surveys



Received
Office of Oil & G
JAN 07 2016

04/01/2016

513154 - 47-017-06502-0000- Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	6/20/2015	13,302.00	13,304.00	10	MARCELLUS
1	6/20/2015	13,151.00	13,277.00	42	MARCELLUS
2	6/22/2015	12,971.00	13,093.00	42	MARCELLUS
3	6/23/2015	12,791.00	12,913.00	42	MARCELLUS
4	6/23/2015	12,611.00	12,733.00	42	MARCELLUS
5	6/23/2015	12,431.00	12,553.00	42	MARCELLUS
6	6/23/2015	12,251.00	12,373.00	42	MARCELLUS
7	6/23/2015	12,071.00	12,193.00	42	MARCELLUS
8	6/24/2015	11,891.00	12,011.00	42	MARCELLUS
9	6/24/2015	11,711.00	11,833.00	42	MARCELLUS
10	6/24/2015	11,530.00	11,653.00	42	MARCELLUS
11	6/24/2015	11,351.00	11,473.00	42	MARCELLUS
12	6/24/2015	11,171.00	11,293.00	42	MARCELLUS
13	6/25/2015	10,991.00	11,113.00	42	MARCELLUS
14	6/25/2015	10,811.00	10,930.00	42	MARCELLUS
15	6/25/2015	10,633.00	10,753.00	42	MARCELLUS
16	6/25/2015	10,451.00	10,573.00	42	MARCELLUS
17	6/25/2015	10,271.00	10,378.00	42	MARCELLUS
18	6/26/2015	10,091.00	10,211.00	42	MARCELLUS
19	6/26/2015	9,911.00	10,033.00	42	MARCELLUS
20	6/26/2015	9,731.00	9,853.00	42	MARCELLUS
21	6/26/2015	9,551.00	9,668.00	42	MARCELLUS
22	6/27/2015	9,371.00	9,493.00	42	MARCELLUS
23	6/27/2015	9,193.00	9,313.00	42	MARCELLUS
24	6/27/2015	9,011.00	9,133.00	42	MARCELLUS
25	6/27/2015	8,831.00	8,953.00	42	MARCELLUS

513154 - 47-017-06502-0000- Stimulated Stages

Stage Number	Stimulation Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	6/19/2015	15.5	7,491.00	8,605.00	4,852.00	0	609	0
1	6/20/2015	86.9	7,939.00	9,941.00	5,024.00	299,634	7254	0
1.02	6/20/2015	1.9	4,768.00	8,619.00	5,257.00	0	935	0
1.03	6/21/2015	10	5,893.00	8,871.00	4,533.00	0	14310	0
2	6/22/2015	90	7,566.00	7,905.00	3,685.00	301,879	7763	0
3	6/23/2015	85.8	7,668.00	8,544.00	4,936.00	294,053	7583	0
4	6/23/2015	98.9	7,768.00	8,042.00	5,102.00	299,986	7717	0
5	6/23/2015	97.2	7,828.00	8,147.00	5,002.00	298,695	7480	0
6	6/23/2015	97	7,875.00	9,332.00	5,228.00	329,001	7704	0
7	6/23/2015	99.7	7,946.00	8,353.00	4,513.00	365,897	8979	0
8	6/24/2015	96.1	7,792.00	8,596.00	5,037.00	364,254	8015	0
9	6/24/2015	94.1	7,798.00	8,354.00	5,138.00	356,630	8768	0
10	6/24/2015	95.9	7,721.00	8,395.00	4,765.00	356,241	8326	0
11	6/24/2015	94.3	7,695.00	8,097.00	5,030.00	365,861	8049	0
12	6/25/2015	96.1	7,847.00	8,672.00	5,316.00	363,448	8000	0
13	6/25/2015	90.7	7,525.00	8,779.00	5,330.00	342,001	8716	0
14	6/25/2015	99.5	7,797.00	8,643.00	4,936.00	356,186	8329	0
15	6/25/2015	91.8	7,684.00	9,088.00	5,164.00	357,896	8614	0
16	6/25/2015	98.3	7,453.00	8,176.00	5,271.00	356,232	7751	0
17	6/26/2015	100.1	7,566.00	8,004.00	5,351.00	364,144	7771	0
18	6/26/2015	100.5	7,620.00	8,103.00	4,985.00	357,043	8326	0
19	6/26/2015	97.1	7,736.00	8,941.00	5,349.00	359,140	9,354	0
20	6/26/2015	97.20	7,493.00	8,340.00	5,523	362,812	7,751	0
21	6/26/2015	100.70	7,325.00	7,654.00	5,277	365,290	7,481	0
22	6/27/2015	99.40	7,329.00	7,697.00	5,269	363,230	7,623	0
23	6/27/2015	100.80	7,523.00	8,436.00	4,948	358,374	7831	0
24	6/27/2015	98.50	7,415.00	7,711.00	5,033	358,245	7934	0
25	6/27/2015	100.2	6,807.00	7,881.00	3,580.00	357,860	7827	0

Received
 Office of Oil & Gas
 JAN 07 2016

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	6/19/2015
Job End Date	6/27/2015
State	West Virginia
County	Doddridge
API Number	47-017-06502 00-00
Operator Name	EQT Production
Well Name and Number	513154
Longitude	-80.76230100
Latitude	39.20783900
Datum	NAD83
Federal/Tribal Well	NO
True Vertical Depth	6,668
Total Base Water Volume (gal)	9,105,600
Total Base Non Water Volume	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	FTS International	Carrier/Base Fluid	Water	7732-18-5	100.00000	89.42805	None
Sand (Proppant)	FTS International	Proppant	Crystalline Silica	14808-60-7	100.00000	10.18491	None
MC MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60.00000	0.05741	None
FRW-900	FTS International	Friction reducer	Hydrotreated light distillate	64742-47-8	30.00000	0.02516	None
			Alkyl Alcohol	Proprietary	10.00000	0.00839	None
			Oxyalkylated alcohol A	Proprietary	5.00000	0.00419	None
Hydrochloric Acid (15%)	FTS International	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.02680	None
CS-500-SI	FTS International	Scale inhibitor	Ethylene glycol	107-21-1	10.00000	0.00253	None
HVG-1	FTS International	Gelling agent	Petroleum distillate	64742-47-8	55.00000	0.00095	None
			Guar gum	9000-30-0	50.00000	0.00087	None
			Surfactant	68439-51-0	2.00000	0.00003	None

			Clay	14808-60-7	2.00000	0.00003	None
FE-100L	FTS International	Iron control					
			Citric acid	77-92-9	55.00000	0.00060	None
CI-150	FTS International	Acid Corrosion Inhibitor					
			Ethylene glycol	107-21-1	30.00000	0.00010	None
			Organic amine resin salt	Proprietary	30.00000	0.00010	None
			Isopropanol	67-63-0	30.00000	0.00010	None
			Dimethylformamide	68-12-2	10.00000	0.00003	None
			Aromatic aldehyde	Proprietary	10.00000	0.00003	None
			Quaternary ammonium compound	Proprietary	10.00000	0.00003	None
NE-100	FTS International	Non-emulsifier					
			2-Butoxyethanol	111-76-2	10.00000	0.00003	None
			2-Propanol	67-63-0	10.00000	0.00003	None
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00001	None
B-10	FTS International	High pH buffer					
			Potassium carbonate	584-08-7	48.00000	0.00002	None
			Potassium hydroxide	1310-58-3	20.00000	0.00001	None
APB-1	FTS International	Breaker					
			Ammonium persulfate	7727-54-0	95.00000	0.00002	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

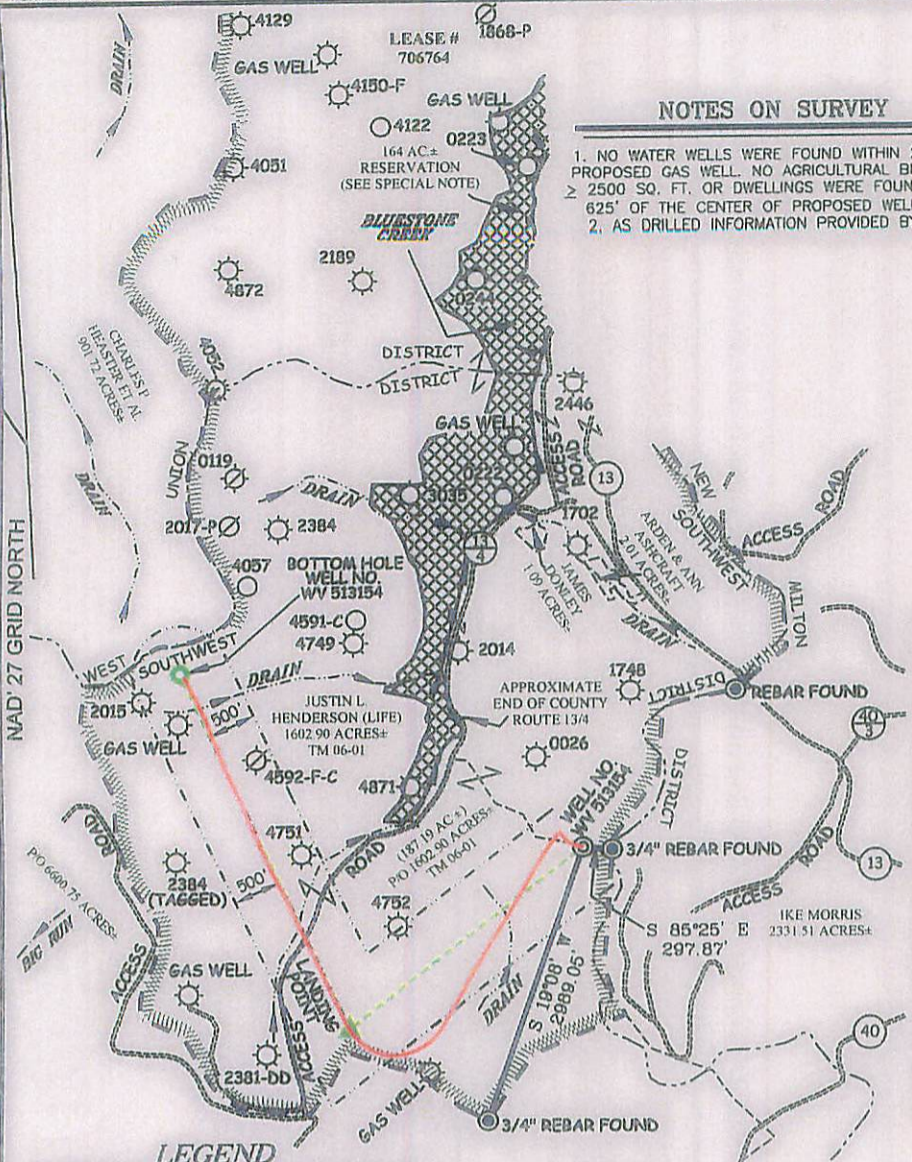
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

SPECIAL NOTE

THERE IS NO SURVEY OR LEGAL DESCRIPTION DEFINING THE ACTUAL LOCATION OF THE 164 ACRE MEADOWLAND RESERVATION. DUE TO THE PASSAGE OF TIME SINCE THE RESERVATION WAS CREATED IT APPEARS THERE IS NO LIVING PERSON(S) WITH KNOWLEDGE OF ITS TRUE LOCATION. LOCATION OF RESERVATION SHOWN HEREON COMPILED FROM: "A" A MAP TITLED "CARNAGIE NATURAL GAS CO. LEEMAN MAXWELL LEASES, DODDRIDGE COUNTY, WEST VA" "B" PERIMETER OF RESERVATION AS SHOWN BY GLENN TRADER "CARETAKER OF HENDERSONS' PORTION OF MAXWELL LANDS" WHICH WAS LOCATED USING A MAPPING GRADE GPS RECEIVER "C" DETAILS SHOWN ON 1939 USDA AERIAL PHOTOGRAPHY OBTAINED FROM THE WV GEOLOGICAL SURVEY. SLS RECOMMENDS THAT PROPER LEGAL STEPS BE TAKEN TO CONFIRM CONCURRENCE OF ALL APPROPRIATE PARTIES RELATIVE TO THE RESERVATION AS SHOWN HEREON. THIS PLAN IS SUBJECT TO ANY ADDITIONAL INFORMATION (UNDISCOVERED TO DATE) WHICH MAY CHANGE THE LOCATION AND/OR CONFIGURATION OF THE RESERVATION AS SHOWN HEREON.

NOTES ON SURVEY

- 1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
2. AS DRILLED INFORMATION PROVIDED BY EQT.



EQT PRODUCTION COMPANY
LEEMAN MAXWELL LEASE
2,164 ACRES ±
WELL NO. WV 513154

Table with 3 columns: NAD'27 S.P.C.(FT), NAD'27 GEO., NAD'83 UTM (M). Rows include coordinates for the well location and landing point.

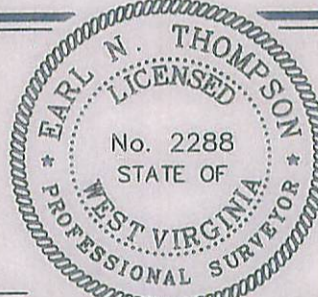
LEGEND

Legend table defining symbols for LEASE LINE, SURFACE LINE, PROPOSED PATH, AS DRILLED PATH, OFFSET LINE, TIE LINE, CREEK, ROAD, COUNTY ROUTE, PROPOSED WELL, EXISTING WELL, PERMITTED WELL, PLUGGED WELL, TAX MAP-PARCEL.

Professional Energy Consultants logo and contact information for SLS.

AS DRILLED COORDINATES FOR WELL NO. WV 513154

Table with 3 columns: NAD'27 S.P.C.(FT), NAD'27 GEO., NAD'83 UTM (M). Rows include coordinates for the well location and bottom hole.



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 2288 Earl N. Thompson

Form fields for DATE (JANUARY 06, 20 14), REVISED (3/24/14, 07/25/14 & 05/26/15), OPERATORS WELL NO. (WV 513154), API WELL NO. (47-017-06502H), STATE (STATE), COUNTY (COUNTY), PERMIT (PERMIT).

Form fields for MINIMUM DEGREE OF ACCURACY (1/200), FILE NO. (7889AD513154), HORIZONTAL & VERTICAL CONTROL DETERMINED BY (DGPS (SURVEY GRADE TIE TO CORS NETWORK)), SCALE (1" = 2000').

STATE OF WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS logo and name.

Main well information form including WELL TYPE (OIL, GAS, LIQUID INJECTION, WASTE DISPOSAL, IF "GAS" PRODUCTION, STORAGE, DEEP, SHALLOW), LOCATION (ELEVATION, WATERSHED, DISTRICT, COUNTY, QUADRANGLE), SURFACE OWNER (JUSTIN L. HENDERSON (LIFE)), ROYALTY OWNER (LEEMAN MAXWELL HRS), PROPOSED WORK (DRILL, CONVERT, DRILL DEEPER, REDRILL, FRACTURE OR STIMULATE, PLUG OFF OLD), FORMATION (PERFORATE NEW FORMATION, PLUG AND ABANDON, CLEAN OUT AND REPLUG, OTHER), PHYSICAL CHANGE IN WELL (SPECIFY), TARGET FORMATION (MARCELLUS), ESTIMATED DEPTH (TVD 6,663').

Form fields for WELL OPERATOR (EQT PRODUCTION COMPANY), DESIGNATED AGENT (REX C. RAY), ADDRESS (115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330).