

APPROVED

NAME: *Julia A. [Signature]*

DATE: *2/10/2016*

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 514394

API: 47 - 017 - 06447

Submission: Initial Amended *2/10/2016*

Notes: Add'l Inj Tests- 4.01, 19.01, 25.01,
43.01, 43.02, 49.01, 53.01

Reperf - 27.1

Correction to Production Cement Top
(MD)

RECEIVED
Office of Oil and Gas

DEC 21 2015

WV Department of
Environmental Protection

AX WS 03/24/16
03/25/2016

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

API 47 - 017 - 06447 County DODDRIDGE District WEST UNION
Quad WEST UNION 7.5' Pad Name WEU49 Field/Pool Name _____
Farm name MARY FARR SECRIST Well Number 514394
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 4,345,094 Easting 518,425
Landing Point of Curve Northing 4,344,637 Easting 517,961
Bottom Hole Northing 4,341,968 Easting 519,260

Elevation (ft) 1130 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)
SBM 12.0 ppg - powdered hydrocarbon resin, calcium carbonate, ground almond hulls, barium sulfate, calcium chloride, lecithin liquid, organophilic clay,
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 03/13/2014 Date drilling commenced 06/24/2014 Date drilling ceased 3/9/2015
Date completion activities began 5/27/2015 Date completion activities ceased 6/11/2015
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

Freshwater depth(s) ft 487 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1542 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 340, 483 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

03/25/2016

API 47-017 - 06447 Farm name MARY FARR SECRIST Well number 514394

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"	1,067'	NEW	J-55 54.5LB/FT	276'	Y
Coal							
Intermediate 1	12.375"	9.625"	5,247'	NEW	P-110 40LB/FT	1451',2282',2946',4214'	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	18,136'	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	900	15.6	1.19	1071	0	8
Coal							
Intermediate 1	CLASS A / CLASS A	370 / 340	14.2 / 15.6	1.28 / 1.18	874.8	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/ Class H	405/1,305	14.2/15.2	1.26/1.97	3081	4,687'	8
Tubing							

Drillers TD (ft) 18,146 Loggers TD (ft) N/A
 Deepest formation penetrated Onondaga Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5,509'

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, 11, 24

INTERMEDIATE- JOINTS: 1,12,24,36,48,60,72,84,96,108,121

PRODUCTION- JOINTS: 1-285 (5796'-18125')

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 - 6447 Farm name MARY FARR SECRIST Well number 514394

Drilling Contractor Orion 17
Address 674 Flato Road City Corpus Christi State TX Zip 78405

Logging Company ProDirectional
Address 103 Suds Run Rado City Mount Clare State WV Zip 26408

Logging Company GYRODATA
Address 601 MAYER ST City BRIDGEVILLE State PA Zip 15017

Cementing Company Nabors Cementing Services
Address 2504 Smith Creek Road City Waynesburg State PA Zip 15370

Well 514394

API :47-170-6447

Farm Name: Mary Farr Secrist

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	497	497
SAND/SHALE	1	1	350	350
COAL	350	350	353	353
SAND/SHALE	353	353	493	493
PITTSBURGH COAL	493	493	495	495
SAND/SHALE	495	495	1,428.00	1,428.00
MAXTON	1,428.00	1,428.00	1,861.00	1,861.00
BIG LIME	1,861.00	1,861.00	2,156.00	2,156.00
WEIR	2,156.00	2,156.00	2,358.00	2,358.00
BEREA	2,358.00	2,358.00	2,363.00	2,363.00
GANTZ	2,363.00	2,363.00	2,484.00	2,484.00
50F	2,484.00	2,484.00	2,567.00	2,567.00
30F	2,567.00	2,567.00	2,610.00	2,610.00
GORDON	2,610.00	2,610.00	2,721.00	2,721.00
4TH	2,721.00	2,721.00	2,905.00	2,905.00
BAYARD	2,905.00	2,905.00	3,229.00	3,229.00
WARREN	3,229.00	3,229.00	3,293.00	3,293.00
SPEECHLEY	3,293.00	3,293.00	3,930.00	3,930.00
BALLTOWN A	3,930.00	3,930.00	4,227.00	4,227.00
BRADFORD	4,227.00	4,227.00	4,426.00	4,426.00
RILEY	4,426.00	4,426.00	4,867.00	4,867.00
BENSON	4,867.00	4,867.00	5,121.00	5,121.00
ALEXANDER	5,121.00	5,121.00	6,334.00	6,100.30
SONYEA	6,334.00	6,100.30	7,222.00	6,422.40
MIDDLESEX	7,222.00	6,422.40	7,361.00	6,473.20
GENESSEE	7,361.00	6,473.20	7,576.00	6,555.20
GENESEO	7,576.00	6,555.20	7,670.00	6,586.20
TULLY	7,670.00	6,586.20	7,746.00	6,607.20
HAMILTON	7,746.00	6,607.20	7,818.00	6,625.50
MARCELLUS	7,818.00	6,625.50		

03/25/2016



EQT Production
Orion WEU49 Pad
Doddridge County, WV
Well No. 514394
Plan 6-APV Final (True)
Orion Rig
GL 1130' + 22.5' KB @ 1152.50ustf (Orion Rig)



Adjusts to True North:
 Magnetic North: 8.44°
 Magnetic Field
 Strength: 47.14 uT
 Dip Angle: 65.72°
 Core: 5/15/2015
 Model: IGRF2010

Azimuth Corrections
 Total Magnetic Corr. (M to G): Subtract 7.67°
 Declination (M to T): 8.44°



Geoid: US State Plane 1827 (East solution)
 Datum: NAD 1983 (NAD83 CONUS)
 Ellipsoid: Clarke 1886
 Zone: West Virginia North 4701
 System Datum: Mean Sea Level

RKB Elevation: GL 1130' + 22.5' KB @ 1152.50ustf (Orion Rig)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Spot
0.00	0.00	27754.70	1635683.70	39.254889	-80.786620	

FORMATION TOP DETAILS

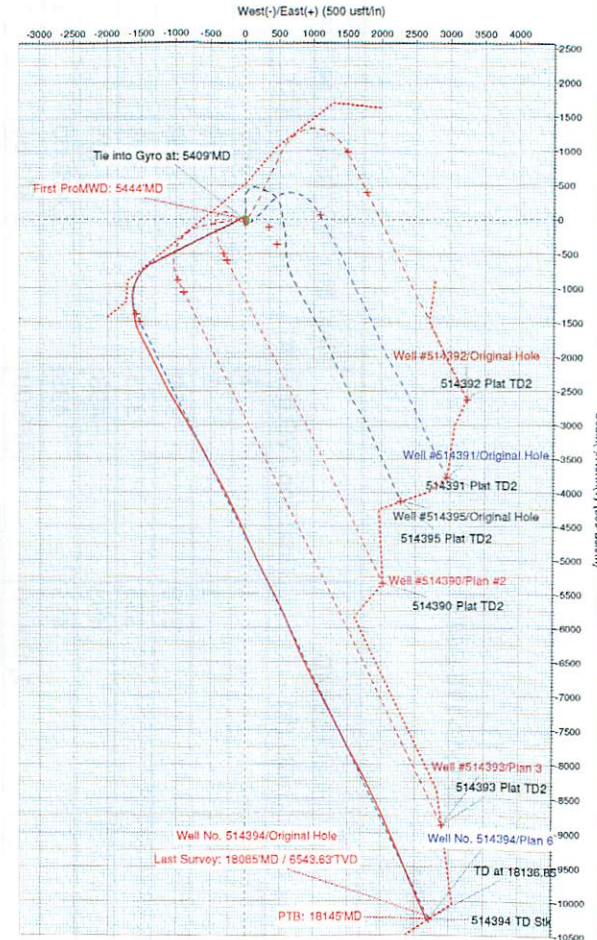
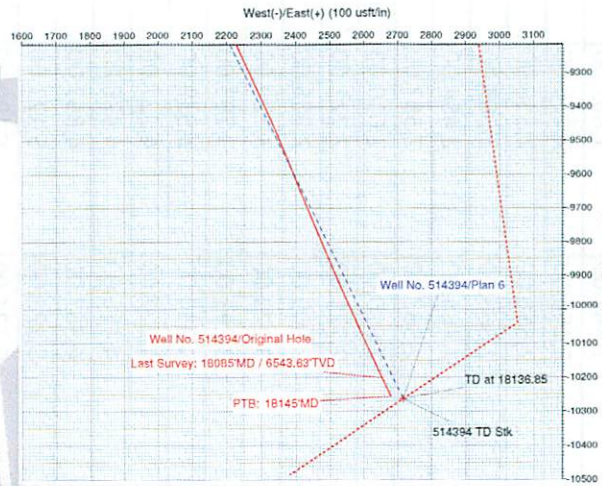
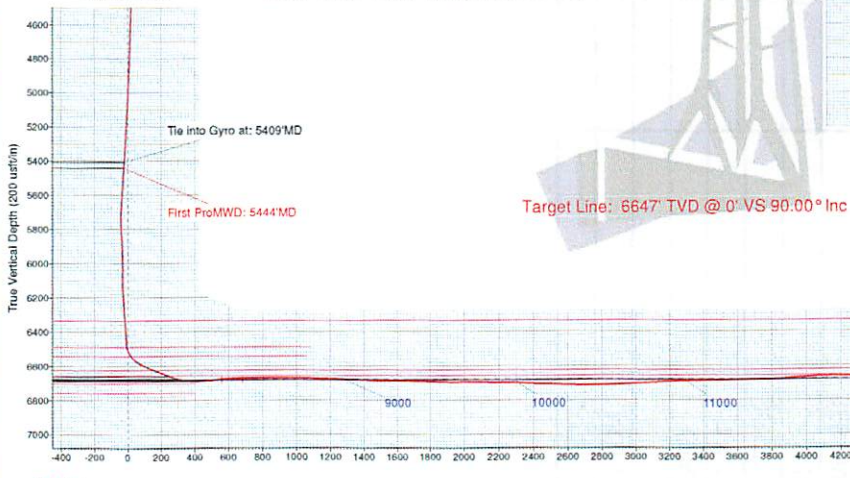
TVDPath	MDPath	Formation
6335.00	6984.66	Soryeah
6499.00	7404.87	MidSussex
6543.00	7543.09	Garrison
6624.00	7811.66	Getsego
6657.00	7929.62	Tully
6683.00	8039.48	Hamilton

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	7945.00	73.31	187.39	6661.45	-1067.24	-1627.01	0.00	0.00	252.04	
2	8005.00	77.30	181.08	6676.68	-1125.08	-1631.27	12.15	-57.66	302.25	
3	8150.17	95.43	168.94	6656.88	-1258.52	-1618.59	15.00	-34.35	436.89	
4	8273.77	80.00	154.18	6680.00	-1385.26	-1579.62	12.71	-109.75	558.95	514394 LP 945' VS
5	18136.85	90.00	154.18	6680.00	-10263.64	2716.29	0.00	10422.03	514394 TD SIK	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
514394 TD SIK	6647.00	-10263.65	2716.27	267253.60	1638232.60	Point
514394 LP	6580.00	-1495.77	-1526.19	276081.00	1634116.30	Point
514394 LP 945' VS	6580.00	-1385.26	-1579.62	276192.25	1634064.46	Point



60° X 30°

Vertical Section at 154.18° (200' usft/in)

© 2015 PRODIRECTIONAL, Inc. All rights reserved. 10/15



EQT Production

**Doddridge County, WV
Orion WEU49 Pad
Well No. 514394
North Reference: Grid**

Original Hole

Survey: ProDirectional

API-47-170-6447

Standard Survey Report

06 March, 2015



03/25/2016



Professional Directional Survey Report



Company: EQT Production	Local Co-ordinate Reference: Well Well #514394
Project: Doddridge County, WV	TVD Reference: GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Site: Orion WEU49 Pad	MD Reference: GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Well: Well #514394	North Reference: Grid
Wellbore: Original Hole	Survey Calculation Method: Minimum Curvature
Design: Original Hole	Database: Well_Planner1

Project Doddridge County, WV		
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 Orion WEU49 Pad					
Site Position:		Northing: 277,569.80 usft	Latitude: 39.254930		
From: Map		Easting: 1,635,662.00 usft	Longitude: -80.786637		
Position Uncertainty: 0.00 usft		Slot Radius: 13-3/16 "	Grid Convergence: -0.82 "		

Well Well #514394					
Well Position	+N/-S 0.00 usft	Northing: 277,554.70 usft	Latitude: 39.254889		
	+E/-W 0.00 usft	Easting: 1,635,663.70 usft	Longitude: -80.786630		
Position Uncertainty	0.00 usft	Wellhead Elevation: 1,152.50 usft	Ground Level: 1,130.00 usft		

Wellbore Original Hole					
-------------------------------	--	--	--	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/16/2015	-8.49	66.72	52,195

Design Original Hole					
Audit Notes:					
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.00			

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	155.00

Survey Program		Date			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
109.50	5,409.50	#1 Gyrodala Gyro (Original Hole)	Gyrodala_DP_MS	Gyrodala gyro-compassing and drop	
5,444.00	18,145.00	ProDirectional (Original Hole)	ProMWD	MWD - Standard	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
5,409.50	4.00	350.21	5,408.06	8.19	-32.93	-21.34	0.00	0.00	0.00
Tie Into Gyro at: 5409'MD									
5,444.00	4.20	353.43	5,442.48	10.63	-33.27	-23.70	0.88	0.58	9.33
First ProMWD: 5444'MD									
5,476.00	4.02	355.24	5,474.39	12.91	-33.50	-25.86	0.69	-0.56	5.66
5,508.00	4.51	313.71	5,506.31	14.90	-34.50	-28.09	9.55	1.53	-129.78
5,539.00	6.50	275.73	5,537.18	15.92	-37.13	-30.12	13.04	6.42	-122.52
5,571.00	9.19	267.13	5,568.88	15.97	-41.49	-32.01	9.15	8.41	-26.88
5,602.00	11.89	269.43	5,599.35	15.82	-47.15	-34.26	8.81	8.71	7.42



Professional Directional Survey Report



Company:	EQT Production	Local Co-ordinate Reference:	Well Well #514394
Project:	Doddridge County, WV	TVD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Site:	Orion WEU49 Pad	MD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Well:	Well #514394	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Well_Planner1

Survey

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)
5,634.00	13.52	264.23	5,630.57	15.41	-54.17	-36.86	6.22	5.09	-16.25
5,666.00	16.08	259.64	5,661.50	14.23	-62.26	-39.21	8.79	8.00	-14.34
5,697.00	18.69	253.83	5,691.09	12.08	-71.25	-41.06	10.10	8.42	-18.74
5,729.00	21.21	249.42	5,721.17	8.62	-81.60	-42.29	9.17	7.88	-13.78
5,761.00	25.10	243.65	5,750.59	3.57	-93.10	-42.58	14.06	12.16	-18.03
5,792.00	28.02	240.21	5,778.31	-2.97	-105.32	-41.82	10.64	9.42	-11.10
5,824.00	31.99	240.43	5,806.02	-10.89	-119.22	-40.51	12.41	12.41	0.69
5,856.00	33.58	239.15	5,832.92	-19.61	-134.19	-38.93	5.42	4.97	-4.00
5,887.00	35.31	239.94	5,858.49	-28.50	-149.31	-37.27	5.76	5.58	2.55
5,919.00	37.12	240.12	5,884.30	-37.94	-165.68	-35.83	5.67	5.66	0.56
5,951.00	40.21	241.05	5,909.29	-47.76	-183.10	-34.10	9.83	9.66	2.91
5,982.00	43.88	242.41	5,932.30	-57.58	-201.38	-32.92	12.20	11.84	4.39
6,014.00	47.90	243.91	5,954.57	-67.94	-221.88	-32.20	13.00	12.56	4.69
6,046.00	51.39	243.73	5,975.29	-78.70	-243.76	-31.69	10.91	10.91	-0.56
6,077.00	54.22	243.34	5,994.03	-89.70	-265.87	-31.06	9.18	9.13	-1.26
6,109.00	58.68	244.13	6,011.71	-101.50	-289.78	-30.48	14.09	13.94	2.47
6,141.00	62.22	245.01	6,027.49	-113.45	-314.92	-30.27	11.32	11.06	2.75
6,172.00	66.11	246.42	6,041.00	-124.91	-340.35	-30.63	13.20	12.55	4.55
6,204.00	67.61	246.33	6,053.57	-136.71	-367.30	-31.33	4.69	4.69	-0.28
6,235.00	67.92	246.95	6,065.30	-148.08	-393.65	-32.15	2.10	1.00	2.00
6,267.00	68.89	245.72	6,077.08	-160.03	-420.90	-32.85	4.69	3.03	-3.84
6,299.00	70.00	244.62	6,088.32	-172.61	-448.09	-32.93	4.73	3.47	-3.44
6,330.00	70.08	244.35	6,098.90	-185.16	-474.39	-32.67	0.86	0.26	-0.87
6,362.00	70.39	244.84	6,109.72	-198.08	-501.59	-32.46	1.74	0.97	1.53
6,394.00	68.98	244.92	6,120.83	-210.82	-528.76	-32.40	4.41	-4.41	0.25
6,425.00	68.10	244.62	6,132.17	-223.12	-554.86	-32.28	2.98	-2.84	-0.97
6,457.00	68.41	244.92	6,144.02	-235.79	-581.74	-32.16	1.30	0.97	0.94
6,489.00	67.61	243.34	6,156.01	-248.73	-608.44	-31.71	5.22	-2.50	-4.94
6,520.00	67.21	242.24	6,167.92	-261.82	-633.90	-30.61	3.52	-1.29	-3.55
6,552.00	67.61	242.81	6,180.21	-275.45	-660.11	-29.33	2.07	1.25	1.78
6,583.00	67.70	242.94	6,191.99	-288.52	-685.63	-28.27	0.48	0.29	0.42
6,615.00	68.18	243.34	6,204.01	-301.92	-712.08	-27.31	1.90	1.50	1.25
6,647.00	68.41	242.94	6,215.85	-315.35	-738.61	-26.34	1.37	0.72	-1.25
6,678.00	68.98	243.51	6,227.11	-328.36	-764.39	-25.45	2.51	1.84	1.84
6,710.00	68.89	242.81	6,238.61	-341.85	-791.04	-24.49	2.06	-0.28	-2.19
6,742.00	69.51	244.04	6,249.98	-355.23	-817.79	-23.67	4.08	1.94	3.84
6,773.00	69.60	243.73	6,260.80	-368.01	-843.87	-23.10	0.98	0.29	-1.00
6,805.00	69.91	243.82	6,271.88	-381.28	-870.81	-22.46	1.00	0.97	0.28
6,837.00	70.70	244.35	6,282.66	-394.45	-897.90	-21.98	2.92	2.47	1.66
6,868.00	68.98	243.03	6,293.35	-407.34	-923.99	-21.32	6.84	-5.55	-4.26
6,900.00	68.58	243.73	6,304.93	-420.71	-950.66	-20.47	2.39	-1.25	2.19
6,932.00	69.11	243.65	6,316.48	-433.94	-977.41	-19.79	1.67	1.66	-0.25
6,963.00	69.51	243.73	6,327.43	-446.79	-1,003.41	-19.13	1.31	1.29	0.26



Professional Directional
Survey Report



Company:	EQT Production	Local Co-ordinate Reference:	Well Well #514394
Project:	Doddridge County, WV	TVD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Site:	Orion WEU49 Pad	MD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Well:	Well #514394	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Well_Planner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
5,634.00	13.52	264.23	5,630.57	15.41	-54.17	-36.86	6.22	5.09	-16.25
5,666.00	16.08	259.64	5,661.50	14.23	-62.26	-39.21	8.79	8.00	-14.34
5,697.00	18.69	253.83	5,691.09	12.08	-71.25	-41.06	10.10	8.42	-18.74
5,729.00	21.21	249.42	5,721.17	8.62	-81.60	-42.29	9.17	7.88	-13.78
5,761.00	25.10	243.65	5,750.59	3.57	-93.10	-42.58	14.06	12.16	-18.03
5,792.00	28.02	240.21	5,778.31	-2.97	-105.32	-41.82	10.64	9.42	-11.10
5,824.00	31.99	240.43	5,806.02	-10.89	-119.22	-40.51	12.41	12.41	0.69
5,856.00	33.58	239.15	5,832.92	-19.61	-134.19	-38.93	5.42	4.97	-4.00
5,887.00	35.31	239.94	5,858.49	-28.50	-149.31	-37.27	5.76	5.58	2.55
5,919.00	37.12	240.12	5,884.30	-37.94	-165.68	-35.63	5.67	5.66	0.56
5,951.00	40.21	241.05	5,909.29	-47.76	-183.10	-34.10	9.83	9.66	2.91
5,982.00	43.88	242.41	5,932.30	-57.58	-201.38	-32.92	12.20	11.84	4.39
6,014.00	47.90	243.91	5,954.57	-67.94	-221.88	-32.20	13.00	12.56	4.69
6,046.00	51.39	243.73	5,975.29	-78.70	-243.76	-31.69	10.91	10.91	-0.56
6,077.00	54.22	243.34	5,994.03	-89.70	-265.87	-31.06	9.18	9.13	-1.26
6,109.00	58.68	244.13	6,011.71	-101.50	-289.78	-30.48	14.09	13.94	2.47
6,141.00	62.22	245.01	6,027.49	-113.45	-314.92	-30.27	11.32	11.06	2.75
6,172.00	66.11	246.42	6,041.00	-124.91	-340.35	-30.63	13.20	12.55	4.55
6,204.00	67.61	246.33	6,053.57	-136.71	-367.30	-31.33	4.69	4.69	-0.28
6,235.00	67.92	246.95	6,065.30	-148.08	-393.65	-32.15	2.10	1.00	2.00
6,267.00	68.89	245.72	6,077.08	-160.03	-420.90	-32.85	4.69	3.03	-3.84
6,299.00	70.00	244.62	6,088.32	-172.61	-448.09	-32.93	4.73	3.47	-3.44
6,330.00	70.08	244.35	6,098.90	-185.16	-474.39	-32.67	0.86	0.26	-0.87
6,362.00	70.39	244.84	6,109.72	-198.08	-501.59	-32.46	1.74	0.97	1.53
6,394.00	68.98	244.92	6,120.83	-210.82	-528.76	-32.40	4.41	-4.41	0.25
6,425.00	68.10	244.62	6,132.17	-223.12	-554.86	-32.28	2.98	-2.84	-0.97
6,457.00	68.41	244.92	6,144.02	-235.79	-581.74	-32.16	1.30	0.97	0.94
6,489.00	67.61	243.34	6,156.01	-248.73	-608.44	-31.71	5.22	-2.50	-4.94
6,520.00	67.21	242.24	6,167.92	-261.82	-633.90	-30.61	3.52	-1.29	-3.55
6,552.00	67.61	242.81	6,180.21	-275.45	-660.11	-29.33	2.07	1.25	1.78
6,583.00	67.70	242.94	6,191.99	-288.52	-685.63	-28.27	0.48	0.29	0.42
6,615.00	68.18	243.34	6,204.01	-301.92	-712.08	-27.31	1.90	1.50	1.25
6,647.00	68.41	242.94	6,215.85	-315.35	-738.61	-26.34	1.37	0.72	-1.25
6,678.00	68.98	243.51	6,227.11	-328.36	-764.39	-25.45	2.51	1.84	1.84
6,710.00	68.89	242.81	6,238.61	-341.85	-791.04	-24.49	2.06	-0.28	-2.19
6,742.00	69.51	244.04	6,249.98	-355.23	-817.79	-23.67	4.08	1.94	3.84
6,773.00	69.60	243.73	6,260.80	-368.01	-843.87	-23.10	0.98	0.29	-1.00
6,805.00	69.91	243.82	6,271.88	-381.28	-870.81	-22.46	1.00	0.97	0.28
6,837.00	70.70	244.35	6,282.66	-394.45	-897.90	-21.98	2.92	2.47	1.66
6,868.00	68.98	243.03	6,293.35	-407.34	-923.99	-21.32	6.84	-5.55	-4.26
6,900.00	68.58	243.73	6,304.93	-420.71	-950.66	-20.47	2.39	-1.25	2.19
6,932.00	69.11	243.65	6,316.48	-433.94	-977.41	-19.79	1.67	1.66	-0.25
6,963.00	69.51	243.73	6,327.43	-446.79	-1,003.41	-19.13	1.31	1.29	0.26



Professional Directional Survey Report



Company:	EQT Production	Local Co-ordinate Reference:	Well Well #514394
Project:	Doddridge County, WV	TVD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Site:	Orion WEU49 Pad	MD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Well:	Well #514394	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Well_Planner1

Survey									
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)
6,995.00	70.22	244.44	6,338.45	-459.92	-1,030.43	-18.65	3.04	2.22	2.22
7,026.00	68.41	243.73	6,349.39	-472.59	-1,056.51	-18.19	6.22	-5.84	-2.29
7,058.00	67.92	242.63	6,361.30	-486.00	-1,083.02	-17.24	3.54	-1.53	-3.44
7,090.00	68.49	243.34	6,373.18	-499.49	-1,109.49	-16.20	2.72	1.78	2.22
7,121.00	69.20	242.81	6,384.37	-512.58	-1,135.27	-15.23	2.79	2.29	-1.71
7,153.00	67.92	243.25	6,396.06	-526.09	-1,161.81	-14.20	4.20	-4.00	1.38
7,185.00	67.30	243.12	6,408.25	-539.44	-1,188.22	-13.27	1.97	-1.94	-0.41
7,217.00	67.79	243.34	6,420.47	-552.76	-1,214.62	-12.35	1.66	1.53	0.69
7,248.00	68.18	243.65	6,432.09	-565.58	-1,240.34	-11.60	1.56	1.26	1.00
7,280.00	68.49	243.65	6,443.91	-578.78	-1,266.99	-10.90	0.97	0.97	0.00
7,311.00	68.80	243.34	6,455.20	-591.67	-1,292.83	-10.14	1.37	1.00	-1.00
7,343.00	68.89	243.12	6,466.75	-605.11	-1,319.47	-9.22	0.70	0.28	-0.69
7,375.00	69.20	244.13	6,478.19	-618.39	-1,346.25	-8.50	3.10	0.97	3.16
7,407.00	68.32	241.13	6,489.79	-632.09	-1,372.73	-7.27	9.16	-2.75	-9.38
7,438.00	67.30	237.43	6,501.50	-646.75	-1,397.40	-4.41	11.53	-3.29	-11.94
7,470.00	66.81	234.04	6,513.97	-663.34	-1,421.75	0.33	9.87	-1.53	-10.59
7,502.00	66.68	230.73	6,526.61	-681.28	-1,445.04	6.75	9.51	-0.41	-10.34
7,533.00	66.90	227.03	6,538.83	-700.01	-1,466.49	14.66	10.99	0.71	-11.94
7,565.00	67.92	223.64	6,551.13	-720.78	-1,487.50	24.60	10.29	3.19	-10.59
7,596.00	69.69	221.13	6,562.34	-742.13	-1,506.98	35.72	9.46	5.71	-8.10
7,628.00	71.10	216.41	6,573.08	-765.62	-1,525.85	49.04	14.58	4.41	-14.75
7,660.00	72.12	213.72	6,583.18	-790.48	-1,543.29	64.19	8.59	3.19	-8.41
7,691.00	73.80	210.55	6,592.26	-815.57	-1,559.05	80.28	11.18	5.42	-10.23
7,723.00	74.42	208.13	6,601.02	-842.40	-1,574.12	98.22	7.53	1.94	-7.56
7,755.00	74.59	205.44	6,609.57	-869.93	-1,588.02	117.29	8.12	0.53	-8.41
7,787.00	75.61	202.53	6,617.80	-898.18	-1,600.59	137.59	9.35	3.19	-9.09
7,818.00	75.52	199.71	6,625.53	-926.18	-1,611.40	158.39	8.81	-0.29	-9.10
7,850.00	74.19	197.64	6,633.89	-955.44	-1,621.29	180.73	7.50	-4.16	-6.47
7,881.00	72.91	194.82	6,642.67	-983.98	-1,629.60	203.09	9.65	-4.13	-9.10
7,913.00	72.78	192.13	6,652.12	-1,013.71	-1,636.73	227.02	8.04	-0.41	-8.41
7,945.00	73.31	188.21	6,661.45	-1,043.83	-1,642.13	252.04	11.83	1.66	-12.25
7,976.00	73.88	184.11	6,670.21	-1,073.39	-1,645.32	277.48	12.82	1.84	-13.23
8,008.00	76.49	181.64	6,678.39	-1,104.28	-1,646.87	304.82	11.05	8.16	-7.72
8,039.00	79.89	180.01	6,684.74	-1,134.62	-1,647.30	332.13	12.11	10.97	-5.26
8,071.00	84.49	178.12	6,689.08	-1,166.31	-1,646.78	361.07	15.52	14.38	-5.91
8,103.00	89.70	176.44	6,690.70	-1,198.22	-1,645.26	390.63	17.10	16.28	-5.25
8,134.00	92.62	174.81	6,690.08	-1,229.12	-1,642.90	419.64	10.79	9.42	-5.26
8,166.00	93.50	174.42	6,688.37	-1,260.93	-1,639.90	449.74	3.01	2.75	-1.22
8,197.00	94.61	173.71	6,686.18	-1,291.68	-1,636.70	478.96	4.25	3.58	-2.29
8,229.00	95.80	174.15	6,683.27	-1,323.37	-1,633.33	509.11	3.96	3.72	1.38
8,261.00	96.69	174.24	6,679.79	-1,355.02	-1,630.12	539.15	2.80	2.78	0.28
8,285.00	95.80	173.93	6,677.18	-1,378.75	-1,627.66	561.69	3.92	-3.71	-1.29
8,317.00	93.99	173.45	6,674.45	-1,410.44	-1,624.15	591.89	5.85	-5.66	-1.50
8,348.00	93.20	171.24	6,672.51	-1,441.10	-1,620.03	621.42	7.56	-2.55	-7.13



Professional Directional Survey Report



Company: EQT Production	Local Co-ordinate Reference: Well Well #514394
Project: Doddridge County, WV	TVD Reference: GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Site: Orion WEU49 Pad	MD Reference: GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Well: Well #514394	North Reference: Grid
Wellbore: Original Hole	Survey Calculation Method: Minimum Curvature
Deslgn: Original Hole	Database: Well_Planner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
8,380.00	91.52	168.03	6,671.19	-1,472.55	-1,614.28	652.36	11.31	-5.25	-10.03
8,411.00	90.28	166.13	6,670.70	-1,502.76	-1,607.35	682.66	7.32	-4.00	-6.13
8,443.00	89.79	163.93	6,670.68	-1,533.67	-1,599.09	714.17	7.04	-1.53	-6.88
8,538.00	90.10	156.04	6,670.77	-1,622.86	-1,566.60	808.74	8.31	0.33	-8.31
8,633.00	90.72	153.44	6,670.09	-1,708.77	-1,526.06	903.73	2.81	0.65	-2.74
8,728.00	89.88	151.94	6,669.60	-1,793.17	-1,482.48	998.64	1.81	-0.88	-1.58
8,823.00	88.38	153.93	6,671.04	-1,877.75	-1,439.26	1,093.56	2.62	-1.58	2.09
8,918.00	87.98	155.82	6,674.06	-1,963.72	-1,398.95	1,188.51	2.03	-0.42	1.99
9,012.00	87.10	154.15	6,678.09	-2,048.82	-1,359.24	1,282.42	2.01	-0.94	-1.78
9,107.00	87.01	153.93	6,682.97	-2,134.12	-1,317.71	1,377.28	0.25	-0.09	-0.23
9,202.00	88.51	153.93	6,686.69	-2,219.38	-1,275.99	1,472.19	1.58	1.58	0.00
9,297.00	89.22	155.42	6,688.57	-2,305.24	-1,235.36	1,567.17	1.74	0.75	1.57
9,393.00	89.70	156.35	6,689.47	-2,392.85	-1,196.14	1,663.15	1.09	0.50	0.97
9,488.00	88.29	150.71	6,691.14	-2,477.84	-1,153.82	1,758.06	6.12	-1.48	-5.94
9,583.00	87.89	149.52	6,694.31	-2,560.16	-1,106.52	1,852.66	1.32	-0.42	-1.25
9,677.00	90.28	151.55	6,695.81	-2,641.99	-1,060.29	1,946.35	3.34	2.54	2.16
9,772.00	89.88	149.91	6,695.68	-2,724.85	-1,013.84	2,041.09	1.78	-0.42	-1.73
9,867.00	89.62	150.05	6,696.09	-2,807.11	-966.32	2,135.72	0.31	-0.27	0.15
9,962.00	89.00	148.95	6,697.23	-2,888.96	-918.10	2,230.28	1.33	-0.65	-1.16
10,057.00	88.20	151.15	6,699.56	-2,971.24	-870.69	2,324.89	2.46	-0.84	2.32
10,152.00	87.41	151.02	6,703.19	-3,054.33	-824.79	2,419.59	0.84	-0.83	-0.14
10,247.00	88.20	153.04	6,706.83	-3,138.17	-780.27	2,514.39	2.28	0.83	2.13
10,342.00	87.50	152.34	6,710.40	-3,222.52	-736.72	2,609.25	1.04	-0.74	-0.74
10,436.00	89.70	152.82	6,712.69	-3,305.93	-693.45	2,703.13	2.40	2.34	0.51
10,531.00	91.38	153.93	6,711.80	-3,390.85	-650.88	2,798.08	2.12	1.77	1.17
10,626.00	92.62	154.41	6,708.48	-3,476.30	-609.51	2,893.01	1.40	1.31	0.51
10,721.00	92.62	153.22	6,704.14	-3,561.46	-567.63	2,987.89	1.25	0.00	-1.25
10,816.00	92.71	153.31	6,699.72	-3,646.22	-524.94	3,082.74	0.13	0.09	0.09
10,911.00	92.89	154.32	6,695.08	-3,731.36	-483.07	3,177.61	1.08	0.19	1.06
11,006.00	92.31	153.13	6,690.77	-3,816.46	-441.06	3,272.48	1.39	-0.61	-1.25
11,101.00	90.50	151.81	6,688.44	-3,900.67	-397.17	3,367.36	2.36	-1.91	-1.39
11,196.00	90.81	154.41	6,687.36	-3,985.39	-354.21	3,462.29	2.76	0.33	2.74
11,291.00	90.99	155.11	6,685.86	-4,071.30	-313.70	3,557.28	0.76	0.19	0.74
11,386.00	90.59	154.01	6,684.55	-4,157.08	-272.90	3,652.26	1.23	-0.42	-1.16
11,481.00	90.99	153.13	6,683.24	-4,242.14	-230.62	3,747.22	1.02	0.42	-0.93
11,576.00	93.68	156.22	6,679.37	-4,327.92	-190.02	3,842.12	4.31	2.83	3.25
11,671.00	94.30	158.33	6,672.76	-4,415.33	-153.41	3,936.81	2.31	0.65	2.22
11,766.00	92.89	157.85	6,666.81	-4,503.29	-118.04	4,031.49	1.57	-1.48	-0.51
11,861.00	91.60	159.43	6,663.08	-4,591.70	-83.46	4,126.22	2.15	-1.36	1.66
11,956.00	90.01	156.75	6,661.75	-4,679.81	-48.02	4,221.06	3.28	-1.67	-2.82
12,052.00	89.09	156.13	6,662.50	-4,767.81	-9.65	4,317.02	1.16	-0.96	-0.65
12,147.00	91.60	155.34	6,661.93	-4,854.41	29.39	4,412.00	2.77	2.64	-0.83
12,242.00	97.08	154.72	6,654.74	-4,940.25	69.36	4,506.70	5.80	5.77	-0.65



Professional Directional Survey Report



Company:	EQT Production	Local Co-ordinate Reference:	Well Well #514394
Project:	Doddridge County, WV	TVD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Site:	Orion WEU49 Pad	MD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Well:	Well #514394	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Well_Planner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
12,337.00	97.00	155.25	6,643.10	-5,025.69	109.23	4,600.98	0.56	-0.08	0.56
12,432.00	95.80	154.23	6,632.51	-5,111.06	149.51	4,695.38	1.65	-1.26	-1.07
12,527.00	95.10	154.41	6,623.49	-5,196.29	190.49	4,789.95	0.76	-0.74	0.19
12,621.00	95.89	154.32	6,614.49	-5,280.65	230.97	4,883.51	0.85	0.84	-0.10
12,716.00	94.30	154.62	6,606.05	-5,366.03	271.75	4,978.13	1.70	-1.67	0.32
12,811.00	93.81	151.72	6,599.33	-5,450.58	314.52	5,072.83	3.09	-0.52	-3.05
12,906.00	94.08	153.75	6,592.80	-5,534.82	357.93	5,167.52	2.15	0.28	2.14
13,001.00	94.08	156.04	6,586.04	-5,620.63	398.14	5,262.28	2.40	0.00	2.41
13,095.00	91.91	156.53	6,581.12	-5,706.57	435.89	5,356.12	2.37	-2.31	0.52
13,190.00	93.50	156.04	6,576.64	-5,793.44	474.05	5,450.99	1.75	1.67	-0.52
13,285.00	90.50	158.82	6,573.33	-5,881.10	510.48	5,545.82	4.30	-3.16	2.93
13,380.00	91.69	157.94	6,571.51	-5,969.40	545.48	5,640.64	1.56	1.25	-0.93
13,475.00	87.58	157.94	6,572.11	-6,057.42	581.15	5,735.49	4.33	-4.33	0.00
13,569.00	88.29	157.01	6,575.50	-6,144.19	617.13	5,829.34	1.24	0.76	-0.99
13,664.00	89.48	157.85	6,577.35	-6,231.90	653.59	5,924.23	1.53	1.25	0.88
13,759.00	90.19	156.83	6,577.62	-6,319.56	690.19	6,019.15	1.31	0.75	-1.07
13,853.00	90.72	157.01	6,576.88	-6,406.03	727.04	6,113.10	0.60	0.56	0.19
13,948.00	91.21	156.61	6,575.28	-6,493.34	764.44	6,208.04	0.67	0.52	-0.42
14,043.00	90.41	154.41	6,573.93	-6,579.78	803.81	6,303.02	2.46	-0.84	-2.32
14,138.00	90.10	153.13	6,573.51	-6,665.00	845.80	6,397.99	1.39	-0.33	-1.35
14,233.00	89.70	153.13	6,573.68	-6,749.74	888.74	6,492.94	0.42	-0.42	0.00
14,328.00	90.72	153.75	6,573.33	-6,834.71	931.21	6,587.90	1.26	1.07	0.65
14,423.00	91.78	153.04	6,571.26	-6,919.63	973.75	6,682.84	1.34	1.12	-0.75
14,517.00	90.72	153.93	6,569.21	-7,003.72	1,015.70	6,776.78	1.47	-1.13	0.95
14,612.00	90.72	153.04	6,568.01	-7,088.72	1,058.11	6,871.74	0.94	0.00	-0.94
14,707.00	89.62	152.34	6,567.73	-7,173.13	1,101.69	6,966.66	1.37	-1.16	-0.74
14,802.00	89.40	155.11	6,568.54	-7,258.31	1,143.74	7,061.62	2.92	-0.23	2.92
14,896.00	90.41	155.25	6,568.70	-7,343.62	1,183.20	7,155.62	1.08	1.07	0.15
14,991.00	87.50	153.84	6,570.43	-7,429.37	1,224.02	7,250.59	3.40	-3.06	-1.48
15,086.00	88.11	153.04	6,574.07	-7,514.28	1,266.46	7,345.49	1.06	0.64	-0.84
15,181.00	89.09	154.01	6,576.39	-7,599.29	1,308.80	7,440.42	1.45	1.03	1.02
15,275.00	91.21	154.15	6,576.15	-7,683.83	1,349.89	7,534.41	2.26	2.26	0.15
15,370.00	89.31	152.34	6,575.71	-7,768.65	1,392.65	7,629.35	2.76	-2.00	-1.91
15,465.00	89.70	152.51	6,576.53	-7,852.86	1,436.63	7,724.25	0.45	0.41	0.18
15,560.00	91.21	152.34	6,575.78	-7,937.06	1,480.60	7,819.15	1.60	1.59	-0.18
15,654.00	91.12	151.63	6,573.87	-8,020.03	1,524.74	7,913.00	0.76	-0.10	-0.76
15,750.00	91.60	151.33	6,571.59	-8,104.36	1,570.57	8,008.79	0.59	0.50	-0.31
15,844.00	91.91	150.71	6,568.71	-8,186.55	1,616.09	8,102.52	0.74	0.33	-0.66
15,939.00	91.30	153.62	6,566.05	-8,270.51	1,660.42	8,197.36	3.13	-0.64	3.06
16,034.00	90.90	155.03	6,564.23	-8,356.12	1,701.57	8,292.33	1.54	-0.42	1.48
16,129.00	89.88	155.64	6,563.58	-8,442.45	1,741.22	8,387.32	1.25	-1.07	0.64
16,224.00	89.88	152.74	6,563.78	-8,527.96	1,782.57	8,482.30	3.05	0.00	-3.05
16,319.00	88.91	154.54	6,564.78	-8,613.07	1,824.75	8,577.27	2.15	-1.02	1.89



Professional Directional Survey Report



Company:	EQT Production	Local Co-ordinate Reference:	Well Well #514394
Project:	Doddridge County, WV	TVD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Site:	Orion WEU49 Pad	MD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Well:	Well #514394	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Well_Planner1

Survey

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)
16,414.00	89.09	156.22	6,566.44	-8,699.42	1,864.32	8,672.25	1.78	0.19	1.77
16,508.00	88.11	158.24	6,568.74	-8,786.06	1,900.69	8,766.14	2.39	-1.04	2.15
16,603.00	88.69	157.01	6,571.39	-8,873.87	1,936.84	8,861.00	1.43	0.61	-1.29
16,698.00	89.00	156.61	6,573.30	-8,961.18	1,974.24	8,955.94	0.53	0.33	-0.42
16,792.00	89.62	157.23	6,574.44	-9,047.65	2,011.09	9,049.88	0.93	0.66	0.66
16,886.00	86.61	157.32	6,577.53	-9,134.29	2,047.37	9,143.74	3.20	-3.20	0.10
16,980.00	87.32	156.92	6,582.51	-9,220.78	2,083.87	9,237.54	0.87	0.76	-0.43
17,076.00	87.58	156.22	6,586.78	-9,308.77	2,122.00	9,333.41	0.78	0.27	-0.73
17,170.00	87.72	156.92	6,590.63	-9,394.95	2,159.35	9,427.30	0.76	0.15	0.74
17,265.00	90.41	157.23	6,592.18	-9,482.43	2,196.35	9,522.21	2.85	2.83	0.33
17,360.00	93.28	159.43	6,589.12	-9,570.65	2,231.40	9,616.99	3.81	3.02	2.32
17,454.00	93.90	158.51	6,583.24	-9,658.22	2,265.07	9,710.58	1.18	0.66	-0.98
17,549.00	93.99	158.95	6,576.70	-9,746.54	2,299.45	9,805.15	0.47	0.09	0.46
17,644.00	93.42	157.63	6,570.56	-9,834.61	2,334.52	9,899.79	1.51	-0.60	-1.39
17,739.00	93.50	158.24	6,564.83	-9,922.49	2,370.14	9,994.49	0.65	0.08	0.64
17,833.00	92.89	156.83	6,559.59	-10,009.22	2,406.00	10,088.25	1.63	-0.65	-1.50
17,928.00	92.00	155.91	6,555.54	-10,096.17	2,444.05	10,183.14	1.35	-0.94	-0.97
18,022.00	93.42	156.44	6,551.09	-10,182.06	2,481.97	10,277.01	1.61	1.51	0.56
18,085.00	93.50	155.25	6,547.29	-10,239.44	2,507.71	10,339.89	1.89	0.13	-1.89
Last Survey: 18085'MD / 6543.63'TVD									
18,145.00	93.50	155.25	6,543.63	-10,293.83	2,532.78	10,399.78	0.00	0.00	0.00
PTB: 18145'MD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,409.50	5,408.06	8.19	-32.93	Tie into Gyro at: 5409'MD
5,444.00	5,442.48	10.63	-33.27	First ProMWD: 5444'MD
18,085.00	6,547.29	-10,239.44	2,507.71	Last Survey: 18085'MD / 6543.63'TVD
18,145.00	6,543.63	-10,293.83	2,532.78	PTB: 18145'MD

514394 - 47-017-6447-0000-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 (unlts)
Initiation Sleeve	5/27/2015	23.2	6,681.00	8,485.00	5,149.00	0	975	0
1	5/27/2015	95.3	8,238.00	8,901.00	3,634.00	299,597	8,367	0
2	5/27/2015	90.2	8,159.00	8,960.00	3,833.00	300,103	7,890	0
3	5/28/2015	92.5	8,426.00	8,961.00	4,028.00	301,666	8,008	0
4	5/28/2015	35.4	7,545.00	9,467.00	4,659.00	0	3,660	0
4.01	5/29/2015	37.1	7,904.00	9,154.00	4,996.00	0	2,642	0
5	5/29/2015	94	8,111.00	8,478.00	4,408.00	504,237	12,194	0
6	5/30/2015	89.8	8,138.00	8,721.00	4,901.00	300,663	8,536	0
7	5/30/2015	94	8,176.00	8,752.00	4,498.00	297,494	7,735	0
8	5/30/2015	87.1	8,054.00	8,561.00	4,183.00	298,207	7,993	0
9	5/30/2015	90.8	8,047.00	8,452.00	3,741.00	298,537	7,690	0
10	5/30/2015	90.9	7,844.00	8,582.00	3,583.00	299,955	7,745	0
11	5/31/2015	95.5	8,017.00	8,384.00	3,488.00	299,025	7,710	0
12	5/31/2015	96.3	8,047.00	8,443.00	3,937.00	297,549	7,739	0
13	5/31/2015	98.9	8,136.00	8,845.00	3,607.00	299,379	7,788	0
14	5/31/2015	93.1	8,203.00	9,401.00	4,115.00	298,930	7,788	0
15	5/31/2015	93.8	8,046.00	9,010.00	4,664.00	299,623	7,653	0
16	6/1/2015	93.6	8,047.00	8,673.00	4,840.00	290,280	7,587	0
17	6/1/2015	97.6	7,999.00	9,033.00	4,293.00	299,723	7,839	0
18	6/1/2015	96.70	8,244.00	10,496.00	7,225	300,641	7,756	0
19	6/2/2015	90.90	8,095.00	8,607.00	4,846	301,498	8,265	0
19.01	6/2/2015	9.50	5,102.00	6,758.00	4,898	0	4,364	0
20	6/2/2015	93.50	8,269.00	8,680.00	4,350	300,975	7,735	0
21	6/2/2015	95.00	8,383.00	9,093.00	4,019	301,147	7,686	0
22	6/2/2015	95.70	8,192.00	9,494.00	4,671	300,083	8,442	0
23	6/3/2015	89.60	7,906.00	9,140.00	4,476	301,480	9,637	0
24	6/3/2015	94.6	8,397.00	8,858.00	4,409.00	300,429	8,127	0
25	6/3/2015	60.3	8,397.00	9,560.00	5,032.00	5,733	3,973	0
25.01	6/3/2015	50.4	8,244.00	8,508.00	5,665.00	515	2,769	0
26	6/3/2015	93	7,890.00	8,651.00	3,352.00	500,652	12,308	0
27	6/4/2015	52.4	8,637.00	9,067.00	5,767.00	11,415	5,509	0
27.1	6/4/2015	82.8	8,397.00	8,843.00	4,144.00	300,816	9,580	0
28	6/5/2015	94.8	8,211.00	9,450.00	4,813.00	301,058	7,609	0
29	6/5/2015	95.9	8,144.00	8,733.00	5,033.00	300,381	7,675	0
30	6/5/2015	98.8	8,174.00	8,726.00	5,269.00	302,046	7,714	0
31	6/5/2015	97.20	8,378.00	8,721.00	4,893	299,375	7,499	0
32	6/5/2015	99.60	7,966.00	8,578.00	4,872	300,971	7,582	0
33	6/6/2015	99.50	7,950.00	8,695.00	5,816	300,783	7,463	0
34	6/6/2015	100.40	7,733.00	8,546.00	4,817	300,107	7,465	0
35	6/6/2015	101.70	7,892.00	8,696.00	5,080	300,214	7,745	0
36	6/6/2015	99.60	7,574.00	8,407.00	5,240	299,722	7,373	0
37	6/6/2015	99.90	7,637.00	8,376.00	4,935	300,488	7,439	0
38	6/7/2015	100.60	7,567.00	8,680.00	5,298	300,477	7,431	0
39	6/7/2015	100.90	7,336.00	8,537.00	7,424	301,742	7,421	0
40	6/7/2015	100.60	7,551.00	8,225.00	4,762	301,721	7,363	0
41	6/7/2015	100.50	7,828.00	8,454.00	4,533	300,436	7,332	0
42	6/7/2015	100.40	7,626.00	8,212.00	5,153	300,770	7,355	0
43	6/8/2015	96.40	8,002.00	9,818.00	7,662	128,977	4,387	0
43.01	6/8/2015	76.20	12.90	8,640.00	4,776	0	4,075	0
43.02	6/8/2015	101.70	95.60	8,640.00	4,776	170,196	3,512	0
44	6/8/2015	100.20	7,805.00	8,289.00	4,762	300,440	7,278	0
45	6/8/2015	100.00	7,833.00	9,037.00	4,889	240,914	6,801	0
46	6/9/2015	99.90	7,819.00	8,990.00	5,424	299,466	7,247	0
47	6/9/2015	97.70	7,678.00	8,802.00	5,320	299,276	7,277	0
48	6/9/2015	100.60	7,774.00	10,056.00	7,623	300,077	6,924	0
49	6/10/2015	100.70	7,692.00	8,426.00	5,088	300,131	7,292	0
49.01	6/10/2015	11.10	5,266.00	6,418.00	4,918	0	2,725	0
50	6/10/2015	100.80	7,795.00	8,590.00	4,883	300,480	7,279	0
51	6/10/2015	98.40	8,117.00	9,122.00	3,784	299,293	7,253	0
52	6/10/2015	97.40	7,934.00	10,001.00	9,078	300,585	7,127	0
53	6/11/2015	101.60	7,346.00	8,194.00	4,783	299,819	7,116	0
53.01	6/11/2015	14.30	5,637.00	6,214.00	5,043	0	2,447	0
54	6/11/2015	100.40	7,273.00	8,585.00	5,057	300,102	7,137	0
55	6/11/2015	96.90	7,309.00	8,760.00	4,759	300,144	7,705	0

514394 - 47-017-6447-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	4/25/2015	18,134.00	18,136.00	10	MARCELLUS
1	5/27/2015	17,990.00	18,111.00	28	MARCELLUS
2	5/27/2015	17,810.00	17,932.00	42	MARCELLUS
3	5/28/2015	17,630.00	17,750.00	42	MARCELLUS
4	5/28/2015	17,441.00	17,572.00	42	MARCELLUS
4.01	5/28/2015	17,440.00	17,462.00	42	MARCELLUS
5	5/28/2015	17,268.00	17,390.00	42	MARCELLUS
6	5/29/2015	17,090.00	17,212.00	42	MARCELLUS
7	5/30/2015	16,910.00	17,032.00	42	MARCELLUS
8	5/30/2015	16,730.00	16,852.00	42	MARCELLUS
9	5/30/2015	16,550.00	16,672.00	42	MARCELLUS
10	5/30/2015	16,370.00	16,492.00	42	MARCELLUS
11	5/31/2015	16,190.00	16,308.00	42	MARCELLUS
12	5/31/2015	16,010.00	16,132.00	42	MARCELLUS
13	5/31/2015	15,833.00	15,952.00	42	MARCELLUS
14	5/31/2015	15,650.00	15,772.00	42	MARCELLUS
15	5/31/2015	15,470.00	15,592.00	42	MARCELLUS
16	6/1/2015	15,290.00	15,412.00	42	MARCELLUS
17	6/1/2015	15,101.00	15,232.00	42	MARCELLUS
18	6/1/2015	14,930.00	15,054.00	42	MARCELLUS
19	6/2/2015	14,750.00	14,872.00	42	MARCELLUS
19.01	6/2/2015	14,930.00	15,054.00	42	MARCELLUS
20	6/2/2015	14,572.00	14,690.00	42	MARCELLUS
21	6/2/2015	14,390.00	14,512.00	42	MARCELLUS
22	6/2/2015	14,210.00	14,332.00	42	MARCELLUS
23	6/3/2015	14,030.00	14,150.00	42	MARCELLUS
24	6/3/2015	13,850.00	13,970.00	42	MARCELLUS
25	6/3/2015	13,670.00	13,790.00	42	MARCELLUS
25.01	6/3/2015	13,670.00	13,790.00	28	MARCELLUS
26	6/3/2015	13,490.00	13,610.00	42	MARCELLUS
27	6/4/2015	13,310.00	13,434.00	28	MARCELLUS
27.1	6/4/2015	13,336.00	13,434.00	42	MARCELLUS
28	6/5/2015	13,130.00	13,250.00	42	MARCELLUS
29	6/5/2015	12,950.00	13,070.00	42	MARCELLUS
30	6/5/2015	12,770.00	12,890.00	42	MARCELLUS
31	6/5/2015	12,590.00	12,714.00	42	MARCELLUS
32	6/5/2015	12,410.00	12,532.00	42	MARCELLUS
33	6/6/2015	12,280.00	12,352.00	42	MARCELLUS
34	6/6/2015	12,042.00	12,102.00	42	MARCELLUS
35	6/6/2015	11,870.00	11,990.00	42	MARCELLUS
36	6/6/2015	11,690.00	11,810.00	42	MARCELLUS
37	6/6/2015	11,510.00	11,630.00	42	MARCELLUS
38	6/7/2015	11,330.00	11,452.00	42	MARCELLUS
39	6/7/2015	11,150.00	11,274.00	42	MARCELLUS
40	6/7/2015	10,970.00	11,088.00	28	MARCELLUS
41	6/7/2015	10,790.00	10,910.00	42	MARCELLUS
42	6/7/2015	10,610.00	10,730.00	42	MARCELLUS
43	6/8/2015	10,430.00	10,550.00	42	MARCELLUS
44	6/8/2015	10,250.00	10,370.00	42	MARCELLUS
45	6/8/2015	10,070.00	10,190.00	42	MARCELLUS
46	6/9/2015	0.00	0.00	42	MARCELLUS
47	6/9/2015	9,710.00	9,830.00	42	MARCELLUS
48	6/9/2015	9,528.00	9,652.00	42	MARCELLUS
49	6/10/2015	9,350.00	9,470.00	42	MARCELLUS
50	6/10/2015	9,170.00	9,291.00	42	MARCELLUS
51	6/10/2015	8,990.00	9,110.00	42	MARCELLUS
52	6/10/2015	8,810.00	8,932.00	42	MARCELLUS

03/25/2016

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	5/27/2015
Job End Date	6/11/2015
State	West Virginia
County	Doddridge
API Number	47-017-06447-00-00
Operator Name	EQT Production
Well Name and Number	514394
Longitude	-80.78663000
Latitude	39.25493000
Datum	NAD83
Federal/Tribal Well	NO
True Vertical Depth	6,626
Total Base Water Volume (gal)	18,888,996
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	90.29209	None
Sand (Proppant)	FTS International	Proppant	Crystalline Silica	14808-60-7	100.00000	9.31429	None
MC-MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60.00000	0.05815	None
FRW-900	FTS International	Friction reducer	Hydrotreated light distillate	64742-47-8	30.00000	0.02487	None
			Alkyl Alcohol	Proprietary	10.00000	0.00829	None
			Oxyalkylated alcohol A	Proprietary	5.00000	0.00415	None
Hydrochloric Acid (15%)	FTS International	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.02762	None
HVG-1	FTS International	Gelling agent	Petroleum distillate	64742-47-8	55.00000	0.00143	None
			Guar gum	9000-30-0	50.00000	0.00130	None
			Clay	14808-60-7	2.00000	0.00005	None
			Surfactant	68439-51-0	2.00000	0.00005	None
CS-500-SI	FTS International	Scale inhibitor					

			Ethylene glycol	107-21-1	10.00000	0.00252	None
FE-100L	FTS International	Iron control					
			Citric acid	77-92-9	55.00000	0.00062	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
			Aromatic aldehyde	Proprietary	10.00000	0.00003	None
			Quaternary ammonium compound	Proprietary	10.00000	0.00003	None
			Dimethylformamide	68-12-2	10.00000	0.00003	None
NE-100	FTS International	Non-emulsifier					
			2-Propanol	67-63-0	10.00000	0.00003	None
			2-Butoxyethanol	111-76-2	10.00000	0.00003	None
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00001	None
APB-1	FTS International	Breaker					
			Ammonium persulfate	7727-54-0	95.00000	0.00005	None
B-10	FTS International	High pH buffer					
			Potassium carbonate	584-08-7	48.00000	0.00001	None
			Potassium hydroxide	1310-58-3	20.00000	0.00001	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)

Welcome Michelle N., Operator - OpNo. E1210363 [Log Out]



Please use the FracFocus XML submission process or create disclosures online.

FIND A WELL BY STATE

ABOUT PROJECT PARTNERS

(Note: Clicking the FracFocus, FIND A WELL links will open a new window.)

Prepare Disclosure for FracFocus Submission

[Disclosure Lists](#) | [Dashboard](#)

Disclosure has been submitted.

Note: This window expires with 10 minutes of inactivity. After that you will be taken back to the dashboard.

Hydraulic Fracturing Data

Job Start Date 5/27/2015	Job End Date 6/11/2015	API Number 47-017-06447-00-00	State & County West Virginia --- Doddridge
Well Name 514394			
Longitude -80.78663	Latitude 39.25493	Datum NAD83	Federal/Tribal Well?
True Vertical Depth (ft) 6625.5	Total Water Vol (gal) 18888996	Total Non Water Vol 0	Total Mass (lbs) 174576383



MSDS Chemical Ingredients

	Trade Name	Supplier	Purpose	Ingredients	CAS #	% High Additive	% HF Job	Comments	Ingredient Mass
<input type="button" value="Edit"/>	Water	FTS International	Carrier/Base Fluid	Water	7732-18-5	100%	90.2920939803%	None	157628671.62
<input type="button" value="Edit"/>	Sand (Proppant)	FTS International	Proppant	Crystalline Silica	14808-60-7	100%	9.3142856667%	None	16260543
<input type="button" value="Edit"/>	MC MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60%	.0581529191%	None	101521.263
<input type="button" value="Edit"/>	FRW-900	FTS International	Friction reducer	Hydrotreated light distillate	64742-47-8	30%	.0248705895%	None	43418.175
				Alkyl Alcohol	Proprietary	10%	.0082901965%	None	14472.725
				Oxyalkylated alcohol A	Proprietary	5%	.0041450982%	None	7236.363
<input type="button" value="Edit"/>	Hydrochloric Acid (15%)	FTS International	Acidizing	Hydrochloric Acid	7647-01-0	15%	.0276196638%	None	48217.41
<input type="button" value="Edit"/>	HVG-1	FTS International	Gelling agent	Petroleum distillate	64742-47-8	55%	.0014272609%	None	2491.661
				Guar gum	9000-30-0	50%	.00129751%	None	2265.146
				Clay	14808-60-7	2%	.0000519004%	None	90.606
				Surfactant	68439-51-0	2%	.0000519004%	None	90.606
<input type="button" value="Edit"/>	CS-500-SI								

		FTS International	Scale inhibitor	Ethylene glycol	107-21-1	10%	.0025236122%	None	4405.631
<input type="button" value="Edit"/>	FE-100L	FTS International	Iron control						
				Citric acid	77-92-9	55%	.0006189113%	None	1080.473
<input type="button" value="Edit"/>	CI-150	FTS International	Acid Corrosion Inhibitor						
				Ethylene glycol	107-21-1	30%	.0001007989%	None	175.971
				Organic amine resin salt	Proprietary	30%	.0001007989%	None	175.971
				Isopropanol	67-63-0	30%	.0001007989%	None	175.971
				Aromatic aldehyde	Proprietary	10%	.0000335996%	None	58.657
				Quaternary ammonium compound	Proprietary	10%	.0000335996%	None	58.657
				Dimethylformamide	68-12-2	10%	.0000335996%	None	58.657
<input type="button" value="Edit"/>	NE-100	FTS International	Non-emulsifier						
				2-Propanol	67-63-0	10%	.0000293405%	None	51.222
				2-Butoxyethanol	111-76-2	10%	.0000293405%	None	51.222
				Dodecylbenzenesulfonic acid	27176-87-0	5%	.0000146703%	None	25.611
<input type="button" value="Edit"/>	APB-1	FTS International	Breaker						
				Ammonium persulfate	7727-54-0	95%	.0000495199%	None	86.45
<input type="button" value="Edit"/>	B-10	FTS International	High pH buffer						
				Potassium carbonate	584-08-7	48%	.0000133446%	None	23.297
				Potassium hydroxide	1310-58-3	20%	.0000055603%	None	9.707

Non-MSDS Chemical Ingredients

Trade Name	Supplier	Purpose	Ingredients	CAS #	% High Additive	% HF Job	Comments	Ingredient Mass
------------	----------	---------	-------------	-------	-----------------	----------	----------	-----------------

WELL NO. WV 514394
STATE PLANE COORDINATES
(NORTH ZONE) NAD 27

N. 277,554.7
E. 1,635,663.7

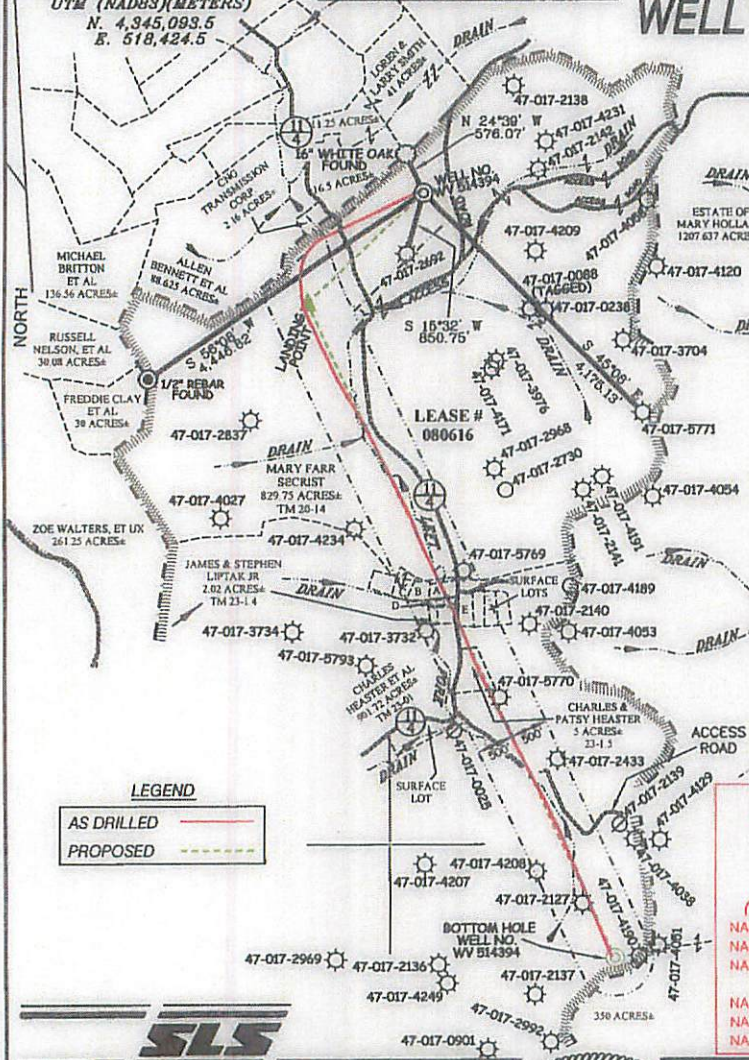
LAT=(N) 39.254889
LONG=(W) 80.786690

UTM (NAD83)(METERS)

N. 4,345,093.5
E. 518,424.5

EQT PRODUCTION COMPANY LEWIS MAXWELL LEASE 2,654 ACRES± WELL NO. WV 514394

LEWIS & BOYD (CONVEYOR)	11 ACRES±	TM 20-15
EDWARD & FRON WENZEL	110 ACRES±	TM 20-15
TIMBERLAND TRUST	9 ACRES±	TM 20-15
HENRY FULHARTY ET AL	170 ACRES±	TM 20-17
WILLIAM & WANNA B. WYNS	10 ACRES±	TM 20-18



LANDING POINT
WELL NO. WV 514394
STATE PLANE COORDINATES
(NORTH ZONE) NAD 27

N. 276,081.0
E. 1,634,116.3

LAT=(N) 39.250782
LONG=(W) 80.792019

UTM (NAD83)(METERS)
N. 4,344,636.7
E. 517,960.6

BOTTOM HOLE
WELL NO. WV 514394
STATE PLANE COORDINATES
(NORTH ZONE) NAD 27

N. 267,269.6
E. 1,638,232.6

LAT=(N) 39.226709
LONG=(W) 80.777042

UTM (NAD83)(METERS)
N. 4,341,968.4
E. 519,259.5

NOTES ON SURVEY

1. TIES TO WELLS, CORNERS AND REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD 27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DB 28 PG 177.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF DODDRIDGE COUNTY IN JULY, 2013.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS(SURVEY GRADE TIE TO CORNS NETWORK).
5. PLAT DATED 09/19/13 REVERSED 12/02/13 TO CONCUR WITH DEP REGULATIONS.
6. NO WATER WELLS WERE FOUND WITHIN 250 FEET OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS (GREATER THAN 2500 SQUARE FEET) OR DWELLINGS WERE FOUND WITHIN 625 FEET OF CENTER OF PROPOSED WELL PAD.
7. AS DRILLED INFORMATION PROVIDED BY EQT.

LEGEND

AS DRILLED ——— (solid red line)

PROPOSED - - - - - (dashed green line)

**AS DRILLED COORDINATES
FOR WELL NO. WV 514394
(WEU49 H5)**

(S P C NORTH ZONE) (UTM(M) ZONE 17 NORTH)

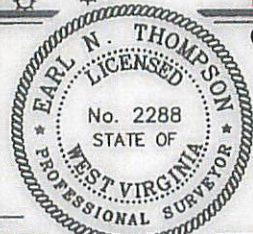
NAD27 S.P.C. (FT)	N. 277,562.9	E. 1,635,630.8
NAD27 GEO	LAT=(N) 39.254910	LONG=(W) 80.786747
NAD83 UTM (M)	N. 4,345,095.8	E. 518,414.5

BOTTOM HOLE

NAD27 S.P.C. (FT)	N. 267,261.3	E. 1,638,196.4
NAD27 GEO	LAT=(N) 39.226729	LONG=(W) 80.777170
NAD83 UTM (M)	N. 4,341,970.5	E. 519,248.4

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT 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. *Earl N. Thompson*
2288



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE DECEMBER 03, 20 13

REVISED SEPTEMBER 10, 20 15

OPERATORS WELL NO. WV 514394


API WELL NO. 47-017-06447H

STATE 47 COUNTY 017 PERMIT 06447H

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7871AD514394

PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORNS NETWORK) SCALE 1" = 2000'

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS



WELL TYPE: OIL GAS INJECTION LIQUID WASTE IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1,160'(GROUND) 1,130'(PROPOSED) WATERSHED LEFT FORK OF ARNOLD CREEK

DISTRICT WEST UNION COUNTY DODDRIDGE QUADRANGLE WEST UNION 7.5'

SURFACE OWNER MARY FARR SECRIST ACREAGE 829.75±

ROYALTY OWNER LEWIS MAXWELL HRS ACREAGE 2654±

PROPOSED WORK: LEASE NO. 080616

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 _____

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY

ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

LONGITUDE 80°45'00" 13,395'

COUNTY NAME PERMIT