

APPROVED

NAME: *Carl G. Fox*

DATE: *2/10/2016*

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 514395

API: 47 - 017 - 06448

Submission: Initial Amended

Notes: Correction to Production Cement Top
(MD)

RECEIVED
Office of Oil and Gas

DEC 21 2015

WV Department of
Environmental Protection

AX WS 03/28/16

04/01/2016

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

API 47 - 017 - 06448 County DODDRIDGE District WEST UNION
Quad WEST UNION 7.5' Pad Name WEU49 Field/Pool Name _____
Farm name MARY FARR SECRIST Well Number 514395
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 4,345,098 Easting 518,424
Landing Point of Curve Northing 4,344,983 Easting 518,565
Bottom Hole Northing 4,343,838 Easting 519,122

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 13.1 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 1/27/2015
Date completion activities began 6/13/2015 Date completion activities ceased 6/23/2015
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:

04/01/2016

API 47- 017 - 06448 Farm name MARY FARR SECRIST Well number 514395

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"	1,055'	NEW	J-55 54.5LB/FT	306'	Y
Coal							
Intermediate 1	12.375"	9.625"	5,245'	NEW	P-110 40LB/FT	1433',2263',2929',4169'	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	11,940	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	890	15.6	1.19	1,059.1	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 H/Class H	274/645	14.2/15.2	1.26/1.97	1,612	4,887'	8
Tubing							

Drillers TD (ft) 11,940 Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5,325

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- Bow Spring Centralizers JOINTS: 1, 13, 23
 INTERMEDIATE- Bow Spring Centralizers on joints: 1,11,23,35,47,59,71,83,95,107,191
 PRODUCTION- Composite Body Matrix centralizers Used Joints: 4-166 (5013'-11917')

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 - 6448

Farm name MARY FARR SECRIST

Well number 514395

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
					Please See Attached

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations 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)
						Please	See	Attached

Please insert additional pages as applicable.

API 47- 017 - 06448 Farm name MARY FARR SECRIST Well number 514395

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6,705'</u>	<u>TVD</u>	<u>7,008'</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 1,723 psi Bottom Hole N/A psi DURATION OF TEST 69.5 hrs

OPEN FLOW Gas 9,708 mcfpd Oil N/A bpd NGL 107.5 bpd Water 693.1 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.

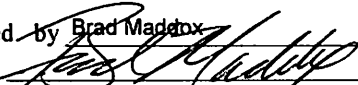
Drilling Contractor ALPHA HUNTER DRILLING (RIG 4)
Address P.O. BOX 430 City RENO State OH Zip 45773

Logging Company HOSSCO SERVICES, LLC
Address 614 TROTTERS LANE City CHARLESTON State WV Zip 25312

Cementing Company NABORS CEMENTING SERVICES
Address 2504 SMITH CREEK ROAD City WAYNESBURG State PA Zip 15370

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

Please insert additional pages as applicable.

Completed by Brad Maddox Telephone 412-395-7053
Signature  Title Director of Drilling Date 12/9/2015

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

API 47- 017 - 6448 Farm name MARY FARR SECRIST Well number 514395

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

Logging Company ProDirectional
Address 103 Suds Run Road 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

Farm Name: Mary

API 47-1706448

Farr Secrist

Well Number: 514395

Wellbores

Formations

Formation Name	Final Top MD (ftGL)	Final Top TVD (ft)	Final Btm MD (ftGL)	Final Btm TVD (ft)
FRESH WATER ZONE	1		497	
SAND/SHALE	1		350	
COAL	350		353	
SAND/SHALE	353		493	
PITTSBURGH COAL	493		495	
SAND/SHALE	495		1,428.00	
MAXTON	1,428.00		1,861.00	
BIG LIME	1,861.00		2,156.00	
WEIR	2,156.00		2,358.00	
BEREA	2,358.00		2,363.00	
GANTZ	2,363.00		2,484.00	
50F	2,484.00		2,567.00	
30F	2,567.00		2,610.00	
GORDON	2,610.00		2,721.00	
4TH	2,721.00		2,905.00	
BAYARD	2,905.00		3,229.00	
WARREN	3,229.00		3,293.00	
SPEECHLEY	3,293.00		3,930.00	
BALLTOWN A	3,930.00		4,227.00	
BRADFORD	4,227.00		4,426.00	
RILEY	4,426.00		4,867.00	
BENSON	4,867.00		5,121.00	
ALEXANDER	5,121.00		6,334.00	6,198.70
SONYEA	6,334.00	6,198.70	6,667.00	6,491.50
MIDDLESEX	6,667.00	6,491.50	6,725.00	6,541.20
GENESSEE	6,725.00	6,541.20	6,837.00	6,624.10
GENESEO	6,837.00	6,624.10	6,899.00	6,660.30
TULLY	6,899.00	6,660.30	6,941.00	6,680.60
HAMILTON	6,941.00	6,680.60	7,008.00	6,705.20
MARCELLUS	7,008.00	6,705.20		

04/01/2016



EQT Production

**Doddridge County, WV
Orion WEU49 Pad
Well #514395**

Original Hole

API # 47-1706448

Survey: ProDirectional

Survey Report

26 January, 2015



04/01/2016



Professional Directional Survey Report



Company:	EQT Production	Local Co-ordinate Reference:	Well Well #514395 - Slot 514395
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 #514395	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° 15' 17.748 N
From:	Map	Easting:	1,635,662.00 usft	Longitude:	80° 47' 11.892 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.82 °

Well	Well #514395 - Slot 514395					
Well Position	+N/-S	0.00 usft	Northing:	277,569.80 usft	Latitude:	39° 15' 17.748 N
	+E/-W	0.00 usft	Easting:	1,635,662.00 usft	Longitude:	80° 47' 11.892 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	1,152.50 usft	Ground Level:	1,130.00 usft

Wellbore	Original Hole				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/5/2015	-8.49	66.73	52,209

Design	Original Hole				
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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	1/26/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
109.50	5,255.50	#1 GyroData Gyro (Original Hole)	Gyrodata_DP_MS	Gyrodata gyro-compassing and drop	
5,384.00	11,940.00	#2 Pro Directional MWD (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)	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
109.50	0.29	88.28	109.50	0.01	0.28	0.11	0.26	0.26	0.00
209.50	0.24	110.88	209.50	-0.06	0.73	0.36	0.11	-0.05	22.60
309.50	0.15	151.79	309.50	-0.25	0.98	0.64	0.16	-0.09	40.91
409.50	0.16	146.69	409.50	-0.48	1.12	0.91	0.02	0.01	-5.10
509.50	0.15	143.03	509.50	-0.70	1.28	1.18	0.01	-0.01	-3.66
609.50	0.18	146.92	609.50	-0.94	1.44	1.46	0.03	0.03	3.89
709.50	0.26	163.80	709.50	-1.29	1.59	1.84	0.10	0.08	16.88
809.50	0.26	175.21	809.50	-1.73	1.67	2.28	0.05	0.00	11.41
909.50	0.21	200.61	909.49	-2.13	1.63	2.62	0.11	-0.05	25.40



Professional Directional Survey Report



Company:	EQT Production	Local Co-ordinate Reference:	Well Well #514395 - Slot 514395
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 #514395	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)
1,009.50	0.21	198.84	1,009.49	-2.47	1.50	2.88	0.01	0.00	-1.77
1,109.50	0.61	130.28	1,109.49	-2.99	1.85	3.49	0.57	0.40	-68.56
1,209.50	0.78	132.01	1,209.48	-3.79	2.76	4.60	0.17	0.17	1.73
1,309.50	0.79	133.22	1,309.47	-4.72	3.77	5.87	0.02	0.01	1.21
1,409.50	0.83	133.93	1,409.46	-5.69	4.79	7.19	0.04	0.04	0.71
1,509.50	0.81	135.30	1,509.45	-6.70	5.81	8.53	0.03	-0.02	1.37
1,609.50	0.79	134.12	1,609.44	-7.68	6.81	9.84	0.03	-0.02	-1.18
1,709.50	0.76	147.36	1,709.44	-8.72	7.66	11.14	0.18	-0.03	13.24
1,809.50	0.77	148.17	1,809.43	-9.85	8.37	12.46	0.01	0.01	0.81
1,909.50	0.77	150.50	1,909.42	-11.00	9.06	13.80	0.03	0.00	2.33
2,009.50	0.80	149.95	2,009.41	-12.19	9.74	15.17	0.03	0.03	-0.55
2,109.50	0.78	147.92	2,109.40	-13.37	10.45	16.54	0.03	-0.02	-2.03
2,209.50	0.76	154.47	2,209.39	-14.55	11.09	17.88	0.09	-0.02	6.55
2,309.50	0.72	163.19	2,309.38	-15.75	11.56	19.16	0.12	-0.04	8.72
2,409.50	0.76	169.83	2,409.37	-17.00	11.86	20.42	0.09	0.04	6.64
2,509.50	0.64	169.08	2,509.37	-18.21	12.08	21.61	0.12	-0.12	-0.75
2,609.50	0.64	174.01	2,609.36	-19.31	12.25	22.68	0.06	0.00	4.93
2,709.50	0.50	177.69	2,709.35	-20.30	12.32	23.61	0.14	-0.14	3.68
2,809.50	0.50	189.41	2,809.35	-21.17	12.27	24.37	0.10	0.00	11.72
2,909.50	0.49	190.36	2,909.35	-22.02	12.12	25.08	0.01	-0.01	0.95
3,009.50	0.45	204.55	3,009.34	-22.80	11.88	25.68	0.12	-0.04	14.19
3,109.50	0.39	209.58	3,109.34	-23.45	11.55	26.13	0.07	-0.06	5.03
3,209.50	0.39	208.01	3,209.34	-24.05	11.22	26.54	0.01	0.00	-1.57
3,309.50	0.34	205.61	3,309.34	-24.61	10.93	26.93	0.05	-0.05	-2.40
3,409.50	0.35	210.87	3,409.33	-25.14	10.65	27.29	0.03	0.01	5.26
3,509.50	0.38	210.58	3,509.33	-25.69	10.32	27.65	0.03	0.03	-0.29
3,609.50	0.36	207.81	3,609.33	-26.25	10.01	28.02	0.03	-0.02	-2.77
3,709.50	0.40	227.15	3,709.33	-26.77	9.61	28.32	0.13	0.04	19.34
3,809.50	0.39	232.87	3,809.33	-27.21	9.08	28.50	0.04	-0.01	5.72
3,909.50	0.56	255.91	3,909.32	-27.54	8.33	28.48	0.25	0.17	23.04
4,009.50	0.66	264.65	4,009.32	-27.71	7.29	28.19	0.14	0.10	8.74
4,109.50	0.81	273.68	4,109.31	-27.72	6.01	27.66	0.19	0.15	9.03
4,209.50	0.88	272.85	4,209.30	-27.63	4.54	26.96	0.07	0.07	-0.83
4,309.50	0.98	282.74	4,309.28	-27.41	2.93	26.08	0.19	0.10	9.89
4,409.50	1.03	287.64	4,409.27	-26.95	1.24	24.95	0.10	0.05	4.90
4,509.50	1.18	293.31	4,509.25	-26.27	-0.56	23.57	0.19	0.15	5.67
4,609.50	1.17	294.19	4,609.23	-25.44	-2.44	22.03	0.02	-0.01	0.88
4,709.50	1.21	299.90	4,709.21	-24.50	-4.28	20.39	0.13	0.04	5.71
4,809.50	1.21	300.11	4,809.19	-23.44	-6.11	18.66	0.00	0.00	0.21
4,909.50	1.19	308.16	4,909.16	-22.27	-7.84	16.87	0.17	-0.02	8.05
5,009.50	1.18	311.28	5,009.14	-20.95	-9.43	15.00	0.07	-0.01	3.12
5,109.50	1.29	316.51	5,109.12	-19.45	-10.98	12.99	0.16	0.11	5.23
5,209.50	1.53	318.01	5,209.09	-17.64	-12.65	10.64	0.24	0.24	1.50



Professional Directional Survey Report



Company:	EQT Production	Local Co-ordinate Reference:	Well Well #514395 - Slot 514395
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Site:	Orion WEU49 Pad	MD Reference:	GL 1130' + 22.5' KB @ 1152.50usft (Orion Rig)
Well:	Well #514395	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)
5,255.50	1.66	318.19	5,255.07	-16.69	-13.50	9.42	0.28	0.28	0.39
5,264.50	1.71	321.31	5,264.07	-16.49	-13.67	9.16	1.17	0.56	34.71
Tied Into Gyro: 5255'MD									
5,384.00	2.70	347.73	5,383.48	-12.34	-15.39	4.69	1.17	0.83	22.11
5,479.00	8.22	5.11	5,478.02	-3.39	-15.26	-3.38	6.00	5.81	18.29
5,574.00	13.52	8.63	5,571.28	14.37	-12.98	-18.51	5.62	5.58	3.71
5,669.00	17.50	11.72	5,662.80	39.34	-8.41	-39.21	4.28	4.19	3.25
5,764.00	20.28	14.94	5,752.68	69.24	-1.27	-63.29	3.12	2.93	3.39
5,859.00	25.10	2.64	5,840.35	105.32	3.91	-93.80	7.09	5.07	-12.95
5,954.00	34.69	359.82	5,922.62	152.60	4.76	-136.29	10.20	10.09	-2.97
6,049.00	46.80	357.22	5,994.47	214.45	2.99	-193.10	12.87	12.75	-2.74
6,144.00	47.19	0.92	6,059.27	283.89	1.87	-256.50	2.88	0.41	3.89
6,238.00	41.80	17.45	6,126.53	348.52	11.85	-310.85	13.56	-5.73	17.59
6,334.00	39.51	38.25	6,199.69	403.28	40.49	-348.39	14.27	-2.39	21.67
6,428.00	32.70	58.12	6,275.86	440.35	80.75	-364.96	14.33	-7.24	21.14
6,523.00	22.32	81.21	6,360.23	456.75	120.59	-362.99	15.49	-10.93	24.31
6,618.00	22.71	104.92	6,448.17	454.78	156.21	-346.15	9.51	0.41	24.96
6,713.00	32.70	113.12	6,532.21	439.94	197.65	-315.19	11.23	10.52	8.63
6,808.00	45.78	111.22	6,605.63	417.44	253.23	-271.31	13.83	13.77	-2.00
6,840.00	50.42	111.05	6,626.99	408.86	275.44	-254.14	14.51	14.50	-0.53
6,872.00	54.88	111.71	6,646.40	399.58	299.12	-235.73	14.03	13.94	2.06
6,904.00	58.99	112.63	6,663.86	389.46	323.94	-216.06	13.07	12.84	2.88
6,935.00	63.28	116.73	6,678.82	378.11	348.59	-195.36	18.04	13.84	13.23
6,967.00	67.79	121.62	6,692.08	363.90	373.99	-171.75	19.80	14.09	15.28
6,998.00	71.00	126.00	6,702.99	347.75	398.09	-146.93	16.79	10.35	14.13
7,030.00	73.80	132.11	6,712.67	328.54	421.75	-119.52	20.19	8.75	19.09
7,061.00	76.71	137.62	6,720.57	307.39	442.98	-91.38	19.58	9.39	17.77
7,093.00	77.99	142.91	6,727.58	283.39	462.93	-61.20	16.62	4.00	16.53
7,124.00	79.81	149.65	6,733.56	258.10	479.80	-31.15	22.13	5.87	21.74
7,156.00	81.09	155.64	6,738.87	230.09	494.29	0.37	18.89	4.00	18.72
7,188.00	82.68	160.84	6,743.39	200.67	506.03	31.98	16.84	4.97	16.25
7,220.00	84.09	167.32	6,747.08	170.12	514.74	63.35	20.59	4.41	20.25
7,251.00	87.58	170.23	6,749.33	139.80	520.75	93.37	14.64	11.26	9.39
7,283.00	92.18	171.64	6,749.40	108.21	525.79	124.14	15.03	14.38	4.41
7,315.00	94.61	172.04	6,747.50	76.60	530.33	154.71	7.70	7.59	1.25
7,346.00	94.08	172.12	6,745.15	45.98	534.59	184.25	1.73	-1.71	0.26
7,378.00	93.99	171.73	6,742.90	14.38	539.07	214.79	1.25	-0.28	-1.22
7,441.00	93.40	171.50	6,738.84	-47.82	548.24	275.04	1.00	-0.94	-0.37
7,473.00	93.50	170.32	6,736.92	-79.36	553.28	305.75	3.69	0.31	-3.69
7,504.00	92.31	170.54	6,735.35	-109.89	558.43	335.60	3.90	-3.84	0.71
7,568.00	92.00	170.32	6,732.94	-172.95	569.06	397.25	0.59	-0.48	-0.34
7,663.00	92.00	176.05	6,729.62	-267.19	580.33	487.41	6.03	0.00	6.03
7,758.00	90.72	180.01	6,727.37	-362.08	583.59	574.79	4.38	-1.35	4.17



Professional Directional Survey Report



Company: EQT Production	Local Co-ordinate Reference: Well Well #514395 - Slot 514395
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 #514395	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)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,821.00	89.70	180.32	6,727.13	-425.08	583.41	631.81	1.69	-1.62	0.49
7,853.00	89.22	180.54	6,727.44	-457.08	583.17	660.71	1.65	-1.50	0.69
7,948.00	92.80	174.02	6,725.76	-551.89	587.67	748.54	7.83	3.77	-6.86
8,010.00	95.89	172.04	6,721.06	-613.25	595.17	807.32	5.91	4.98	-3.19
8,043.00	96.69	171.11	6,717.45	-645.69	599.97	838.76	3.70	2.42	-2.82
8,137.00	95.71	163.05	6,707.28	-736.70	620.86	930.06	8.59	-1.04	-8.57
8,232.00	96.42	156.75	6,697.23	-825.37	653.30	1,024.13	6.64	0.75	-6.63
8,327.00	98.01	156.53	6,685.30	-911.89	690.67	1,118.34	1.69	1.67	-0.23
8,422.00	98.19	153.31	6,671.91	-997.06	730.53	1,212.38	3.36	0.19	-3.39
8,517.00	97.22	152.34	6,659.17	-1,080.81	773.53	1,306.45	1.44	-1.02	-1.02
8,612.00	97.22	152.43	6,647.24	-1,164.32	817.21	1,400.60	0.09	0.00	0.09
8,707.00	96.20	153.22	6,636.13	-1,248.25	860.30	1,494.88	1.35	-1.07	0.83
8,801.00	94.61	150.44	6,627.28	-1,330.74	904.48	1,588.30	3.40	-1.69	-2.96
8,896.00	92.71	151.55	6,621.21	-1,413.65	950.44	1,682.87	2.32	-2.00	1.17
8,991.00	93.02	152.74	6,616.47	-1,497.53	994.77	1,777.64	1.29	0.33	1.25
9,086.00	90.01	152.91	6,613.95	-1,582.01	1,038.14	1,872.52	3.17	-3.17	0.18
9,181.00	90.10	153.04	6,613.86	-1,666.63	1,081.31	1,967.46	0.17	0.09	0.14
9,276.00	89.31	152.12	6,614.35	-1,750.96	1,125.05	2,062.38	1.28	-0.83	-0.97
9,371.00	88.11	156.35	6,616.49	-1,836.47	1,166.33	2,157.32	4.63	-1.26	4.45
9,466.00	88.51	157.54	6,619.29	-1,923.84	1,203.52	2,252.22	1.32	0.42	1.25
9,561.00	88.91	157.63	6,621.43	-2,011.64	1,239.73	2,347.10	0.43	0.42	0.09
9,656.00	88.20	158.11	6,623.83	-2,099.62	1,275.51	2,441.95	0.90	-0.75	0.51
9,751.00	88.51	155.42	6,626.56	-2,186.87	1,312.97	2,536.86	2.85	0.33	-2.83
9,846.00	89.09	155.82	6,628.55	-2,273.38	1,352.17	2,631.83	0.74	0.61	0.42
9,941.00	88.82	156.04	6,630.28	-2,360.10	1,390.91	2,726.80	0.37	-0.28	0.23
10,036.00	88.29	157.01	6,632.67	-2,447.21	1,428.74	2,821.74	1.16	-0.56	1.02
10,155.00	88.69	156.22	6,635.81	-2,556.40	1,475.96	2,940.65	0.74	0.34	-0.66
10,249.00	90.90	153.13	6,636.15	-2,641.35	1,516.16	3,034.63	4.04	2.35	-3.29
10,344.00	90.90	149.91	6,634.65	-2,724.83	1,561.45	3,129.43	3.39	0.00	-3.39
10,439.00	91.12	146.13	6,632.98	-2,805.38	1,611.74	3,223.69	3.99	0.23	-3.98
10,531.00	92.71	147.23	6,629.90	-2,882.21	1,662.25	3,314.67	2.10	1.73	1.20
10,629.00	94.21	155.51	6,623.98	-2,967.99	1,709.08	3,412.21	8.57	1.53	8.45
10,724.00	94.30	156.53	6,616.93	-3,054.55	1,747.59	3,506.93	1.07	0.09	1.07
10,819.00	93.20	156.13	6,610.72	-3,141.37	1,785.64	3,601.70	1.23	-1.16	-0.42
10,914.00	92.71	156.35	6,605.82	-3,228.20	1,823.87	3,696.55	0.57	-0.52	0.23
11,009.00	92.00	155.64	6,601.92	-3,314.91	1,862.48	3,791.45	1.06	-0.75	-0.75
11,104.00	90.50	156.75	6,599.84	-3,401.81	1,900.82	3,886.40	1.96	-1.58	1.17
11,199.00	90.28	157.14	6,599.20	-3,489.22	1,938.02	3,981.35	0.47	-0.23	0.41
11,294.00	89.88	158.24	6,599.07	-3,577.10	1,974.08	4,076.24	1.23	-0.42	1.16
11,389.00	90.19	157.63	6,599.01	-3,665.15	2,009.77	4,171.12	0.72	0.33	-0.64
11,484.00	90.72	157.01	6,598.25	-3,752.80	2,046.40	4,266.03	0.86	0.56	-0.65
11,579.00	90.01	159.04	6,597.65	-3,840.89	2,081.95	4,360.89	2.26	-0.75	2.14
11,674.00	90.01	156.75	6,597.63	-3,928.90	2,117.69	4,455.77	2.41	0.00	-2.41
11,769.00	90.81	155.34	6,596.95	-4,015.71	2,156.26	4,550.75	1.71	0.84	-1.48



Professional Directional Survey Report



Company: EQT Production	Local Co-ordinate Reference: Well Well #514395 - Slot 514395
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 #514395	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)
11,864.00	89.00	155.11	6,597.11	-4,101.96	2,196.07	4,645.74	1.92	-1.91	-0.24
11,882.00	89.31	154.85	6,597.37	-4,118.27	2,203.68	4,663.74	2.25	1.72	-1.44
Last Survey: 11882'MD / 6597.37'TVD									
11,940.00	89.31	154.85	6,598.07	-4,170.77	2,228.33	4,721.73	0.00	0.00	0.00
PTB 11940'MD / 6598.07'TVD									

Design Annotations

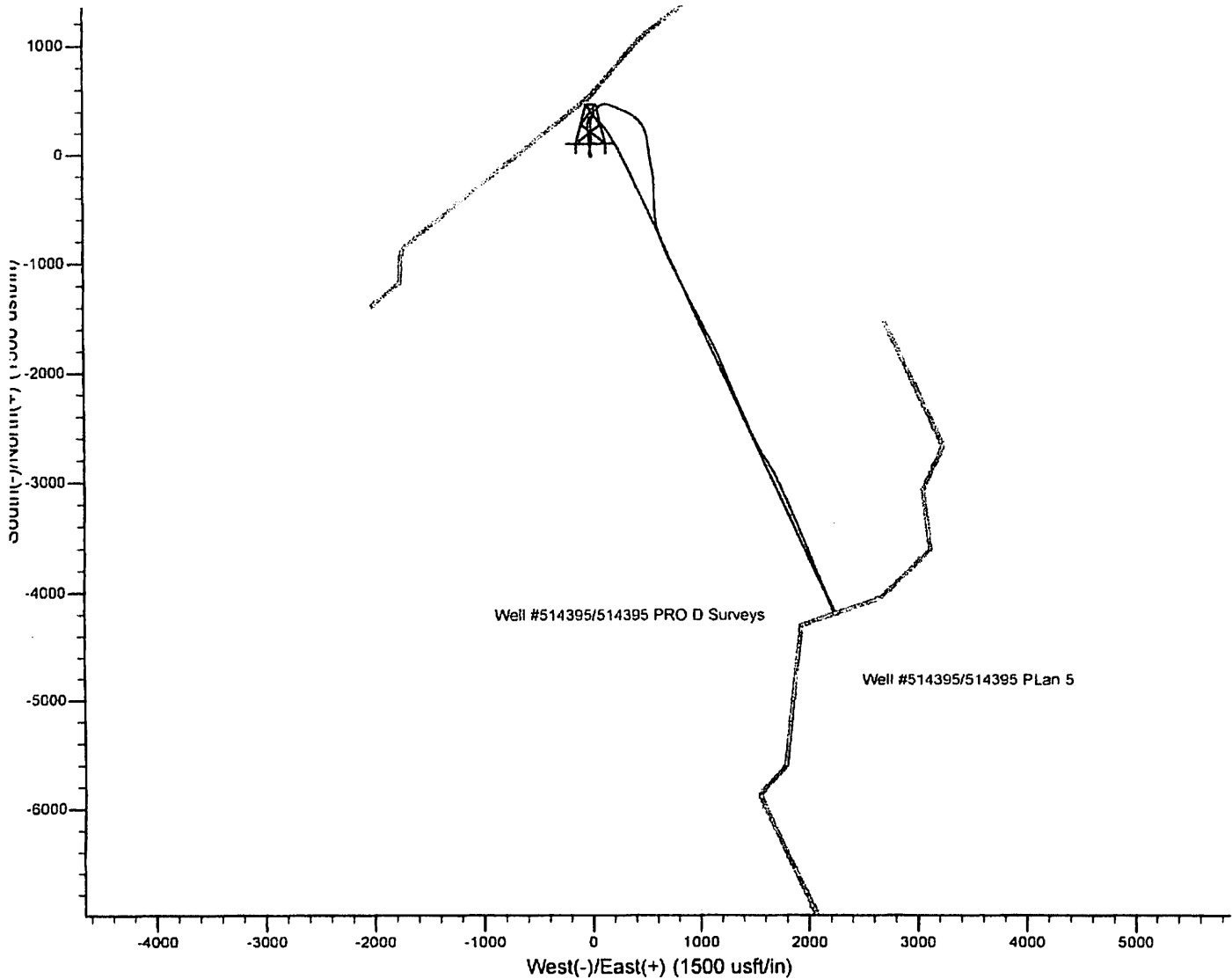
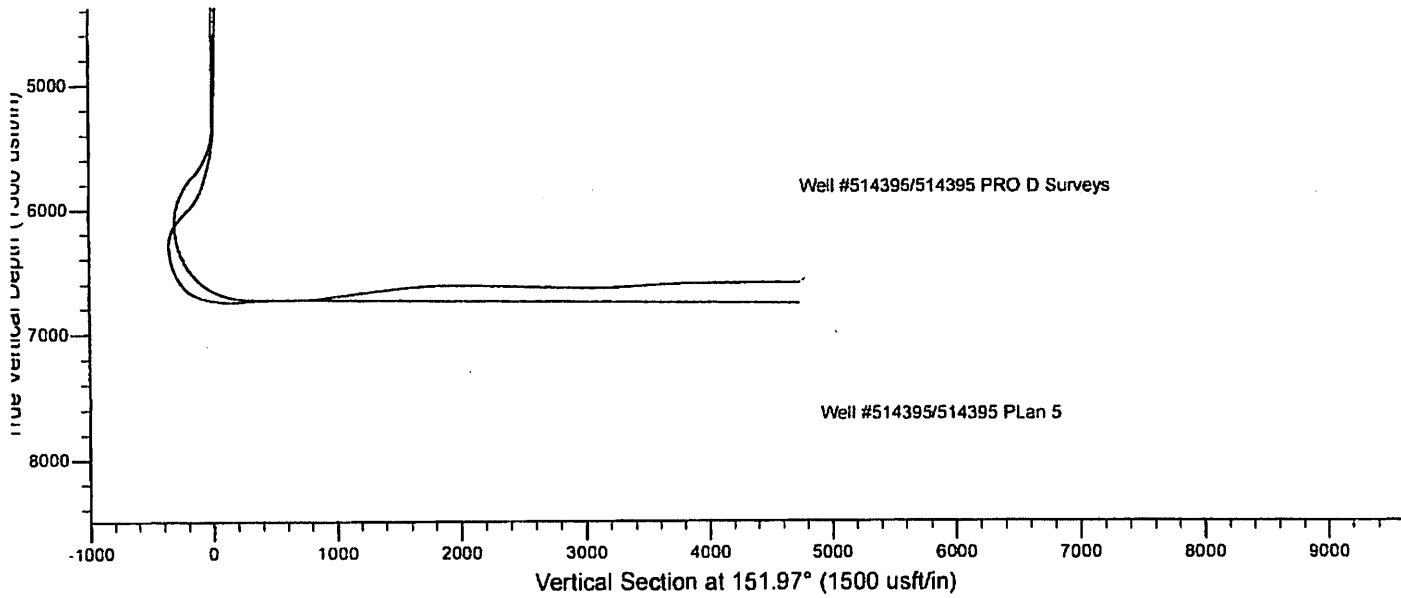
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,264.50	5,264.07	-16.49	-13.67	Tied into Gyro: 5255'MD
11,882.00	6,597.37	-4,118.27	2,203.68	Last Survey: 11882'MD / 6597.37'TVD
11,940.00	6,598.07	-4,170.77	2,228.33	PTB 11940'MD / 6598.07'TVD

Checked By: _____	Approved By: _____	Date: _____
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EQT Production - Marcellus

Project: Doddridge County, WV Grid
Site: Doddridge County 514395
Well: Well #514395
Wellbore: Main Wellbore
Design: As Drilled Surveys



514395 - 47-017-06448-0000 - 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	6/12/2015	73.4	8,916	9,400	6,278	18,208	3948	0
1	6/12/2015	57.3	8,737	9,576	5,359	23,090	4539	0
2	6/13/2015	97.4	7,807	8,588	3,210	502,328	11978	0
3	6/13/2015	62.6	6,891	9,135	5,863	1,267	3320	0
3:01	6/13/2015	72.6	7,830	9,203	3,607	298,848	12362	0
4	6/14/2015	69.7	7,835	8,796	8,945	164,571	5253	0
4:01	6/14/2015	2.2	4,493	9,396	8,601	0	1340	0
4:02	6/15/2015	2.5	4,143	9,203	6,710	0	657	0
5	6/17/2015	12.2	5,141	6,340	4,898	0	1532	0
5:01	6/17/2015	67.4	8,130	9,324	3,816	300,761	9163	0
6	6/18/2015	87.5	7,625	8,234	3,622	300,710	7439	0
7	6/18/2015	11.4	7,661	9,295	4,393	301,988	10078	0
8	6/18/2015	99	7,982	8,386	4,908	300,068	7240	0
9	6/18/2015	99.1	7,954	8,291	3,932	301,507	7279	0
10	6/19/2015	100.5	7,720	8,189	4,508	300,875	7274	0
11	6/19/2015	100.4	7,748	8,629	4,148	299,631	7062	0
12	6/19/2015	101.5	7,567	8,497	4,490	300,224	7137	0
13	6/19/2015	99.6	8,051	9,224	3,285	298,894	7039	0
14	6/19/2015	100.3	7,698	8,255	3,623	301,327	7200	0
15	6/19/2015	100	7,540	8,855	3,155	300,123	7229	0
16	6/20/2015	98	7,766	8,920	4,445	300,686	7144	0
17	6/20/2015	60	8,875	9,244	4,483	0	3466	0
17:01	6/20/2015	100.7	8,202	10,169	4,621	301,259	7018	0
17:02	6/20/2015	8.9	9	6,640	5,082	0	3294	0
18	6/21/2015	100.3	8,000	9,819	3,606	281,353	6923	0
18:01	6/21/2015	10.4	5,684	6,752	5,274	0	2756	0
19	6/21/2015	99.5	7,851	9,173	4,049	282,435	6906	0
20	6/21/2015	91.1	7,894	8,808	3,860	298,558	7145	0
21	6/22/2015	99.1	7,808	8,685	5,567	271,412	6938	0
22	6/22/2015	99.9	7,352	8,114	5,436	299,395	7291	0
23	6/22/2015	100.1	7,420	8,984	5,615	299,291	7190	0
24	6/22/2015	100.8	7,134	8,257	5,146	299,903	7199	0
25	6/23/2015	101.8	6,974	7,964	4,959	301,432	7307	0
26	6/23/2015	100.8	7,902	9,086	4,612	107,471	4313	0
26:01	6/23/2015	101.4	7,080	8,162	4,455	193,264	4680	0
27	6/23/2015	101.1	6,556	8,884	2,621	301,427	6993	0

514395 - 47-017-06448-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation/Sleeve	4/29/2015	11,939	11,940	10	MARCELLUS
1	6/12/2015	11,682	11,821	28	MARCELLUS
2	6/13/2015	11,532	11,652	42	MARCELLUS
3	6/13/2015	11,352	11,472	42	MARCELLUS
3:01	6/13/2015	11,324	11,472	28	MARCELLUS
4	6/13/2015	11,174	11,292	42	MARCELLUS
5	6/17/2015	10,992	11,114	42	MARCELLUS
6	6/18/2015	10,812	10,932	42	MARCELLUS
7	6/18/2015	10,632	10,752	42	MARCELLUS
7:01	6/18/2015	10,632	10,752	28	MARCELLUS
8	6/18/2015	10,403	10,520	42	MARCELLUS
9	6/18/2015	10,220	10,340	42	MARCELLUS
10	6/18/2015	10,042	10,160	42	MARCELLUS
11	6/19/2015	9,860	9,980	42	MARCELLUS
12	6/19/2015	9,680	9,802	42	MARCELLUS
13	6/19/2015	9,502	9,620	42	MARCELLUS
14	6/19/2015	9,320	9,440	42	MARCELLUS
15	6/19/2015	9,140	9,260	42	MARCELLUS
16	6/20/2015	8,960	9,080	42	MARCELLUS
17	6/20/2015	8,780	8,900	42	MARCELLUS
17:01	6/20/2015	8,747	8,900	42	MARCELLUS
18	6/21/2015	8,567	8,688	42	MARCELLUS
19	6/21/2015	8,387	8,507	42	MARCELLUS
20	6/21/2015	8,206	8,329	42	MARCELLUS
21	6/22/2015	8,047	8,149	42	MARCELLUS
22	6/22/2015	7,855	7,978	42	MARCELLUS
23	6/22/2015	7,677	7,797	42	MARCELLUS
24	6/22/2015	7,497	7,617	42	MARCELLUS
25	6/22/2015	7,317	7,437	42	MARCELLUS
26	6/23/2015	7,137	7,257	42	MARCELLUS
26:01	6/23/2015	7,137	7,169	42	MARCELLUS
27	6/23/2015	6,942	7,061	42	MARCELLUS

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/13/2015
Job End Date:	6/23/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06448-00-00
Operator Name:	EQT Production
Well Name and Number:	514395
Longitude:	-80.78663700
Latitude:	39.25493000
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,705
Total Base Water Volume (gal):	5,354,202
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	84.42310	None
Sand (Proppant)	FTS International	Proppant	Crystalline Silica	14808-60-7	100.00000	14.83670	None
MC MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60.00000	0.09245	None
FRW-900	FTS International	Friction reducer	Hydrotreated light distillate	64742-47-8	30.00000	0.03980	None
			Alkyl Alcohol	Proprietary	10.00000	0.01327	None
			Oxyalkylated alcohol A	Proprietary	5.00000	0.00663	None
Hydrochloric Acid (15%)	FTS International	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.05884	None
HVG-1	FTS International	Gelling agent	Petroleum distillate	64742-47-8	55.00000	0.00858	None
			Guar gum	9000-30-0	50.00000	0.00780	None
			Surfactant	68439-51-0	2.00000	0.00031	None
			Clay	14808-60-7	2.00000	0.00031	None
CS-500-SI	FTS International	Scale inhibitor					

			Ethylene glycol	107-21-1	10.00000	0.00418	None
FE-100L	FTS International	Iron control					
			Citric acid	77-92-9	55.00000	0.00124	None
CI-150	FTS International	Acid Corrosion Inhibitor					
			Ethylene glycol	107-21-1	30.00000	0.00022	None
			Isopropanol	67-63-0	30.00000	0.00022	None
			Organic amine resin salt	Proprietary	30.00000	0.00022	None
			Aromatic aldehyde	Proprietary	10.00000	0.00007	None
			Dimethylformamide	68-12-2	10.00000	0.00007	None
			Quaternary ammonium compound	Proprietary	10.00000	0.00007	None
APB-1	FTS International	Breaker					
			Ammonium persulfate	7727-54-0	95.00000	0.00022	None
NE-100	FTS International	Non-emulsifier					
			2-Butoxyethanol	111-76-2	10.00000	0.00005	None
			2-Propanol	67-63-0	10.00000	0.00005	None
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00003	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)

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Hydraulic Fracturing Data

Job Start Date 6/13/2015	Job End Date 6/23/2015	API Number 47-017-06448-00-00	State & County West Virginia --- Doddridge
Well Name 514395			
Longitude -80.786637	Latitude 39.25493	Datum NAD83	Federal/Tribal Well?
True Vertical Depth (ft) 6705	Total Water Vol (gal) 5354202	Total Non Water Vol 0	Total Mass (lbs) 52924869



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%	84.423100946%	None	44680815.69
<input type="button" value="Edit"/>	Sand (Proppant)	FTS International	Proppant	Crystalline Silica	14808-60-7	100%	14.8367036693%	None	7852306
<input type="button" value="Edit"/>	MC MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60%	.0924508945%	None	48929.515
<input type="button" value="Edit"/>	FRW-900	FTS International	Friction reducer	Hydrotreated light distillate	64742-47-8	30%	.0397992916%	None	21063.723
				Alkyl Alcohol	Proprietary	10%	.0132664305%	None	7021.241
				Oxyalkylated alcohol A	Proprietary	5%	.0066332153%	None	3510.62
<input type="button" value="Edit"/>	Hydrochloric Acid (15%)	FTS International	Acidizing	Hydrochloric Acid	7647-01-0	15%	.0588388996%	None	31140.411
<input type="button" value="Edit"/>	HVG-1	FTS International	Gelling agent	Petroleum distillate	64742-47-8	55%	.0085768049%	None	4539.263
				Guar gum	9000-30-0	50%	.0077970953%	None	4126.603
				Surfactant	68439-51-0	2%	.0003118838%	None	165.064
				Clay	14808-60-7	2%	.0003118838%	None	165.064
<input type="button" value="Edit"/>	CS-500-SI								

Trade Name	Supplier	Purpose	Ingredients	CAS #	% High Additive	% HF Job	Comments	Ingredient Mass
<input type="button" value="Edit"/> FE-100L	FTS International	Scale inhibitor	Ethylene glycol	107-21-1	10%	.0041849037%	None	2214.855
			Citric acid	77-92-9	55%	.0012433332%	None	658.032
<input type="button" value="Edit"/> CI-150	FTS International	Acid Corrosion Inhibitor	Ethylene glycol	107-21-1	30%	.0002201004%	None	116.488
			Isopropanol	67-63-0	30%	.0002201004%	None	116.488
			Organic amine resin salt	Proprietary	30%	.0002201004%	None	116.488
			Aromatic aldehyde	Proprietary	10%	.0000733668%	None	38.829
			Dimethylformamide	68-12-2	10%	.0000733668%	None	38.829
			Quaternary ammonium compound	Proprietary	10%	.0000733668%	None	38.829
			Ammonium persulfate	7727-54-0	95%	.0002225797%	None	117.8
<input type="button" value="Edit"/> NE-100	FTS International	Non-emulsifier	2-Butoxyethanol	111-76-2	10%	.0000515129%	None	27.263
			2-Propanol	67-63-0	10%	.0000515129%	None	27.263
			Dodecylbenzenesulfonic acid	27176-87-0	5%	.0000257564%	None	13.632

Non-MSDS Chemical Ingredients

Trade Name	Supplier	Purpose	Ingredients	CAS #	% High Additive	% HF Job	Comments	Ingredient Mass
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NOTES ON SURVEY

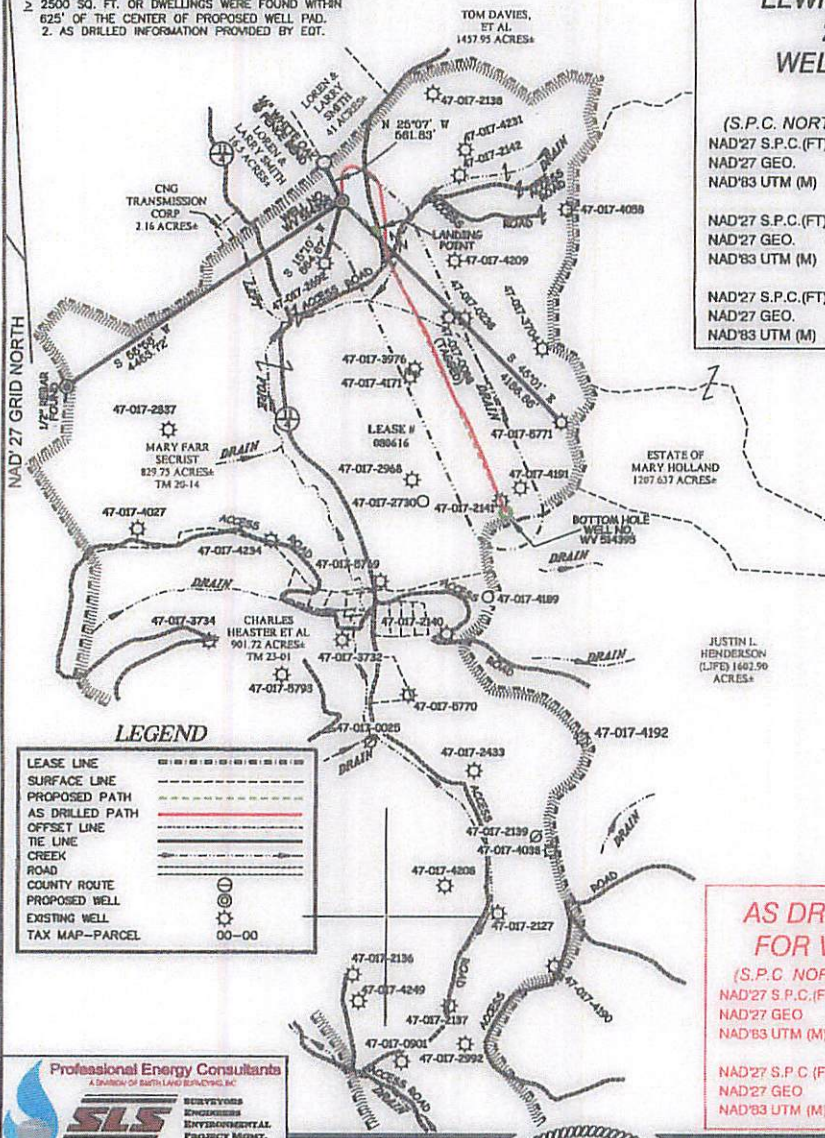
1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS 2 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
2. AS DRILLED INFORMATION PROVIDED BY EDT.

**EQT PRODUCTION COMPANY
LEWIS MAXWELL LEASE
2,654 ACRES±
WELL NO. WV 514395
(WEU49 H6)**

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)
 NAD'27 S.P.C.(FT) N. 277,569.6 E. 1,635,662.0
 NAD'27 GEO. LAT-(N) 39.254930 LONG-(W) 80.786636
 NAD'83 UTM (M) N. 4,345,098.0 E. 518,423.9

LANDING POINT
 NAD'27 S.P.C.(FT) N. 277,183.8 E. 1,636,117.8
 NAD'27 GEO. LAT-(N) 39.253888 LONG-(W) 80.785008
 NAD'83 UTM (M) N. 4,344,982.8 E. 518,564.7

BOTTOM HOLE
 NAD'27 S.P.C.(FT) N. 273,395.4 E. 1,637,884.3
 NAD'27 GEO. LAT-(N) 39.243557 LONG-(W) 80.778550
 NAD'83 UTM (M) N. 4,343,837.7 E. 519,122.2



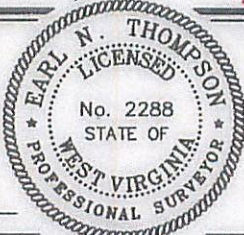
LEGEND

- LEASE LINE
- SURFACE LINE
- PROPOSED PATH
- AS DRILLED PATH
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- TAX MAP--PARCEL

**AS DRILLED COORDINATES
FOR WELL NO. WV 514395**
 (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)
 NAD'27 S.P.C.(FT) N. 277,569.6 E. 1,635,662.0
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Professional Energy Consultants
 A DIVISION OF BATH LAND SURVEYING, INC.
SLS
 SURVEYORS
 ENVIRONMENTAL
 PROJECT MGMT.
 (304) 482-4834 WWW.BATHLANDSURVEYING.COM

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.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE DECEMBER 02, 20 13
 REVISED 07/01/14, 07/31/14 & 09/11/15
 OPERATORS WELL NO. WV 514395
 API WELL NO. **47 - 017 - 06448H**
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7871AD514395
 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

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

LOCATION:
 ELEVATION 1,158'(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 TVD 6,622'

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°46'00" COUNTY NAME PERMIT

04/01/2016