

APPROVED

NAME: *Paul Fluke*
DATE: *1/27/16*

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 515939

API: 47 - 017 - 06706

Submission: Initial Amended

Notes: Reperf 2.1

Correction to Production Cement Top
(MD)

RECEIVED
Office of Oil and Gas

DEC 21 2015

WV Department of
Environmental Protection

W
02/05/2016

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

API 47 - 017 - 06706 County DODDRIDGE District SOUTHWEST
Quad OXFORD 7.5' Pad Name OXF44 Field/Pool Name _____
Farm name ARDEN & CAROL COGAR Well Number 515939
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 4,332,922 Easting 516,075
Landing Point of Curve Northing 4,332,846 Easting 515,788
Bottom Hole Northing 4,333,635 Easting 515,404

Elevation (ft) 1170 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 03/1/2015 Date drilling commenced 03/20/2015 Date drilling ceased 5/25/2015
Date completion activities began 6/14/2015 Date completion activities ceased 6/19/2015
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 4,93,130,244,285,596,919,1139 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1821 Void(s) encountered (Y/N) depths N
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
WS 02/05/16 Axd

02/05/2016

API 47-017 - 06706 Farm name ARDEN & CAROL COGAR Well number 515939

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"	1,153'	NEW	J-55 54.5LB/FT	201'	Y
Coal							
Intermediate 1	12.375"	9.625"	3,039'	NEW	A-500 40LB/FT	NONE	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	10,107'	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	970	15.6	1.20	1164	0	8
Coal							
Intermediate 1	CLASS A / CLASS A	894 / 208	15.6 / 15.6	1.18 / 1.20	1304.52	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS A / CLASS H	545 / 400	14.2 / 15.2	1.26 / 1.97	1,474.7	3,948'	8
Tubing							

Drillers TD (ft) 10,109 Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5,097'

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, 21
 INTERMEDIATE- RAN AT LEAST EVERY 500' FEET
 PRODUCTION- Solid composite body centralizers ran every joint from TD to 4,500'

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 - 6706 Farm name ARDEN & CAROL COGAR Well number 515939

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 (bbbls)	Amount of Nitrogen/other (units)
						Please	See	Attached

Please insert additional pages as applicable.

API 47- 017 - 06706 Farm name ARDEN & CAROL COGAR Well number 515939

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6,547'</u>	<u>TVD</u>	<u>7,077'</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 1,872 psi Bottom Hole N/A psi DURATION OF TEST 36.0 hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
 2,352 mcfpd N/A bpd 2.5 bpd 201 bpd Estimated Orifice Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP</u>		<u>BOTTOM</u>		<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)</u>
	<u>DEPTH IN FT NAME TVD</u>	<u>DEPTH IN FT TVD</u>	<u>DEPTH IN FT MD</u>	<u>DEPTH IN FT MD</u>	
	<u>0</u>		<u>0</u>		

Please insert additional pages as applicable.

Drilling Contractor ALPHA HUNTER DRILLING (RIG 6)
 Address P.O. BOX 430 City RENO State OH Zip 45773

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

Cementing Company ALLIED CEMENTING SERVICES
 Address 333 Technology Drive, Suite 290 City Canonsburg State PA Zip 15317

Stimulating Company Keane
 Address 2121 Sage Road City Houston State TX Zip 77056

Please insert additional pages as applicable.

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

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

02/05/2016

API 47- 017 - 6706 Farm name ARDEN & CAROL COGAR Well number 515939

Drilling Contractor Patterson UTI (Rig 252)
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

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

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company C&J Energy Services
Address 2504 Smith Creek Road City Waynesburg State PA Zip 15370

515939 Final Formations (API 47-1706706)				
Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
FRESH WATER ZONE	1		1,149.00	
SAND/SHALE	1		1,898.00	
BIG LIME	1,898.00		2,166.00	
WEIR	2,166.00		2,361.00	
BEREA	2,361.00		2,374.00	
GANTZ	2,374.00		2,453.00	
50F	2,453.00		2,547.00	
30F	2,547.00		2,589.00	
GORDON	2,589.00		2,693.00	
4TH	2,693.00		2,851.00	
5TH	2,851.00		2,875.00	
BAYARD	2,875.00		3,210.00	
WARREN	3,210.00		3,281.00	
SPEECHLEY	3,281.00		3,770.00	
BALLTOWN A	3,770.00		4,012.00	
BALLTOWN B	4,012.00		4,132.00	
BRADFORD	4,132.00		4,394.00	
RILEY	4,394.00		4,795.00	
BENSON	4,795.00		5,052.00	5,047.50
ALEXANDER	5,052.00	5,047.50	5,800.00	5,695.30
RHINESTREET	5,800.00	5,695.30	6,049.00	5,881.90
RHINESTREET UPPER	6,049.00	5,881.90	6,490.00	6,216.70
SONYEA	6,490.00	6,216.70	6,684.00	6,360.30
MIDDLESEX	6,684.00	6,360.30	6,769.00	6,415.20
GENESSEE	6,769.00	6,415.20	6,890.00	6,482.40
GENESE0	6,890.00	6,482.40	6,994.00	6,525.00
TULLY	6,994.00	6,525.00	7,045.00	6,539.90
HAMILTON	7,045.00	6,539.90	7,077.00	6,547.20
MARCELLUS	7,077.00	6,547.20		



EQT Production - Marcellus

Doddridge County, WV Grid

Doddridge County 515939

Well #515939

API 47-1706706

Main Wellbore

Design: 515939 As Drilled Surveys

Standard Survey Report

01 June, 2015



Where energy meets innovation.



PHX
Survey Report



Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 515939
Company:	EQT Production - Marcellus	TVD Reference:	KB@23 @ 1193.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB@23 @ 1193.0usft
Site:	Doddridge County 515939	North Reference:	Grid
Well:	Well #515939	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515939 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 515939				
Site Position:		Northing:	237 742 10 usft	Latitude:	39.15
From:	Map	Easting:	1,627,287.00 usft	Longitude:	-80.81
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.84 "

Well	Well #515939					
Well Position	+N/-S	0.0 usft	Northing:	237 742 10 usft	Latitude:	39° 8' 42.925 N
	+E/-W	0.0 usft	Easting:	1 627 287 00 usft	Longitude:	80 48' 50.943 W
Position Uncertainty	0 0 usft	Wellhead Elevation:	usft	Ground Level:	1,170.0 usft	

Wellbore	Main Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/11/2015	-7.73	66.60	52,117

Design	515939 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	317.65	

Survey Program	Date 6/1/2015				
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	5,006.0	515939 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
0.00	10,109.0	515939 PHX MWD Curve and Lateral (Ma	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM	

Measured Depth (usft)	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	-1.930	0.0	0.0	0.0	0.00	0.00	0.00
110.0	0.27	217.11	110.0	-1.083	-0.2	-0.2	0.0	0.25	0.25	0.00
210.0	0.20	197.38	210.0	-0.983	-0.6	-0.4	-0.2	0.11	-0.07	-19.73
310.0	0.17	149.21	310.0	-0.883	-0.9	-0.3	-0.4	0.15	-0.03	-48.17
410.0	0.14	146.95	410.0	-0.783	-1.1	-0.2	-0.7	0.03	-0.03	-2.26
510.0	0.14	140.50	510.0	-0.683	-1.3	0.0	-0.9	0.02	0.00	-6.45
610.0	0.13	120.04	610.0	-0.583	-1.4	0.1	-1.2	0.05	-0.01	-20.46
710.0	0.11	117.94	710.0	-0.483	-1.5	0.3	-1.3	0.02	-0.02	-2.10



PHX
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	
Company:	EQT Production - Marcellus	TVD Reference:	
Project:	Doddridge County, WV Grid	MD Reference:	
Site:	Doddridge County 515839	North Reference:	
Well:	Well #515939	Survey Calculation Method:	
Wellbore:			
Design:	D		

Survey											
Measured Depth (usft)	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)	
810.0	0.13	128.75	810.0	-383.0	-1.7	0.5	-1.6	0.03	0.02	10.81	
910.0	0.29	140.66	910.0	-283.0	-1.9	0.7	-1.9	0.16	0.16	11.91	
1,010.0	0.26	144.52	1,010.0	-183.0	-2.3	1.0	-2.4	0.04	-0.03	3.86	
1,110.0	0.13	99.30	1,110.0	-83.0	-2.5	1.3	-2.7	0.19	-0.13	-45.22	
1,210.0	0.43	41.81	1,210.0	17.0	-2.2	1.6	-2.8	0.38	0.30	-57.49	
1,310.0	0.53	48.69	1,310.0	117.0	-1.7	2.2	-2.7	0.12	0.10	6.88	
1,410.0	0.51	44.88	1,410.0	217.0	-1.0	2.9	-2.7	0.04	-0.02	-3.81	
1,510.0	0.55	46.21	1,510.0	317.0	-0.4	3.6	-2.7	0.04	0.04	1.33	
1,610.0	0.56	47.31	1,610.0	417.0	0.3	4.3	-2.7	0.01	0.01	1.10	
1,710.0	0.34	26.72	1,710.0	517.0	0.9	4.8	-2.6	0.27	-0.22	-20.59	
1,810.0	0.31	296.82	1,810.0	617.0	1.3	4.6	-2.2	0.46	-0.03	-89.90	
1,910.0	0.39	295.59	1,910.0	717.0	1.5	4.1	-1.6	0.08	0.08	-1.23	
2,010.0	0.31	304.19	2,010.0	817.0	1.8	3.6	-1.1	0.10	-0.08	8.60	
2,110.0	0.16	250.01	2,110.0	917.0	1.9	3.2	-0.7	0.25	-0.15	-54.18	
2,210.0	3.76	156.07	2,209.9	1,016.9	-1.1	4.4	-3.8	3.77	3.60	-93.94	
2,310.0	7.20	158.28	2,309.4	1,116.4	-9.9	8.1	-12.8	3.45	3.44	2.21	
2,410.0	8.22	170.73	2,408.5	1,215.5	-22.8	11.5	-24.6	1.95	1.02	12.45	
2,510.0	8.56	178.40	2,507.5	1,314.5	-37.3	12.9	-36.3	1.17	0.34	7.67	
2,610.0	6.30	184.91	2,606.6	1,413.6	-50.2	12.6	-45.6	2.41	-2.26	6.51	
2,710.0	4.30	182.42	2,706.2	1,513.2	-59.4	12.0	-52.0	2.01	-2.00	-2.49	
2,810.0	3.47	179.95	2,806.0	1,613.0	-66.2	11.8	-56.9	0.85	-0.83	-2.47	
2,910.0	1.82	170.61	2,905.8	1,712.8	-70.8	12.1	-60.5	1.70	-1.65	-9.34	
3,010.0	0.26	169.78	3,005.8	1,812.8	-72.6	12.4	-62.0	1.56	-1.56	-0.83	
3,110.0	0.13	20.38	3,105.8	1,912.8	-72.7	12.5	-62.1	0.38	-0.13	-149.40	
3,210.0	0.12	354.33	3,205.8	2,012.8	-72.5	12.5	-62.0	0.06	-0.01	-26.05	
3,310.0	0.22	6.54	3,305.8	2,112.8	-72.2	12.5	-61.8	0.11	0.10	12.21	
3,410.0	0.11	337.33	3,405.8	2,212.8	-71.9	12.5	-61.6	0.14	-0.11	-29.21	
3,510.0	0.12	327.45	3,505.8	2,312.8	-71.7	12.4	-61.4	0.02	0.01	-9.88	
3,610.0	0.18	333.00	3,605.8	2,412.8	-71.5	12.3	-61.1	0.06	0.06	5.55	
3,710.0	0.19	322.43	3,705.8	2,512.8	-71.2	12.1	-60.8	0.04	0.01	-10.57	
3,810.0	0.18	295.00	3,805.8	2,612.8	-71.0	11.9	-60.5	0.09	-0.01	-27.43	
3,910.0	0.36	284.43	3,905.8	2,712.8	-70.9	11.4	-60.1	0.19	0.18	-10.57	
4,010.0	0.51	286.86	4,005.8	2,812.8	-70.7	10.7	-59.5	0.15	0.15	2.43	
4,110.0	0.69	291.40	4,105.8	2,912.8	-70.3	9.7	-58.5	0.19	0.18	4.54	
4,210.0	0.86	293.24	4,205.8	3,012.8	-69.8	8.5	-57.3	0.17	0.17	1.84	
4,310.0	0.90	289.40	4,305.8	3,112.8	-69.3	7.0	-55.9	0.07	0.04	-3.84	
4,410.0	1.08	291.55	4,405.8	3,212.8	-68.7	5.4	-54.4	0.18	0.18	2.15	
4,510.0	1.20	291.76	4,505.8	3,312.8	-67.9	3.6	-52.6	0.12	0.12	0.21	
4,610.0	1.50	295.93	4,605.7	3,412.7	-67.0	1.4	-50.5	0.32	0.30	4.17	
4,710.0	1.71	294.10	4,705.7	3,512.7	-65.8	-1.1	-47.9	0.22	0.21	-1.83	
4,810.0	1.85	297.38	4,805.6	3,612.6	-64.4	-3.9	-45.0	0.17	0.14	3.28	
4,910.0	1.76	296.48	4,905.6	3,712.6	-63.0	-6.7	-42.0	0.09	-0.09	-0.90	



PHX
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 515939
Company:	EQT Production - Marcellus	TVD Reference:	KB@23 @ 1193.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB@23 @ 1193.0usft
Site:	Doddridge County 515939	North Reference:	Gnd
Well:	Well #515939	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515939 As Drilled Surveys		

Measured Depth (usft)	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)
Gyro Tie In=5006' MD										
5,006.0	2.09	295.83	5,001.5	3,808.5	-61.6	-9.6	-39.0	0.34	0.34	-0.68
5,026.0	2.20	292.30	5,021.5	3,828.5	-61.3	-10.3	-38.4	0.86	0.55	-17.65
KOP=5089' MD										
5,089.0	2.60	274.90	5,084.5	3,891.5	-60.7	-12.8	-36.2	1.31	0.63	-27.62
5,121.0	5.10	226.60	5,116.4	3,923.4	-61.6	-14.6	-35.7	12.15	7.81	-150.94
5,152.0	10.00	214.40	5,147.1	3,954.1	-64.8	-17.1	-36.3	16.54	15.81	-39.35
5,184.0	13.90	213.50	5,178.4	3,985.4	-70.3	-20.8	-37.9	12.20	12.19	-2.81
5,216.0	17.00	211.50	5,209.3	4,016.3	-77.5	-25.4	-40.2	9.83	9.69	-6.25
5,247.0	19.80	209.60	5,238.7	4,045.7	-85.9	-30.3	-43.1	9.24	9.03	-6.13
5,279.0	22.90	209.10	5,268.5	4,075.5	-96.1	-36.1	-46.7	9.70	9.69	-1.56
5,311.0	25.10	209.10	5,297.7	4,104.7	-107.4	-42.4	-50.9	6.88	6.88	0.00
5,342.0	27.10	209.60	5,325.5	4,132.5	-119.3	-49.1	-55.1	6.49	6.45	1.61
5,372.0	28.90	210.70	5,352.0	4,159.0	-131.5	-56.1	-59.4	6.24	6.00	3.67
5,404.0	30.40	212.00	5,379.8	4,186.8	-145.0	-64.4	-63.8	5.10	4.69	4.06
5,436.0	31.70	212.10	5,407.3	4,214.3	-159.0	-73.1	-68.3	4.07	4.06	0.31
5,468.0	33.60	211.30	5,434.2	4,241.2	-173.7	-82.2	-73.0	6.09	5.94	-2.50
5,499.0	35.50	211.70	5,459.7	4,266.7	-188.7	-91.4	-77.9	6.17	6.13	1.29
512419 Top of Part										
5,531.0	37.00	212.10	5,485.5	4,292.5	-204.7	-101.4	-83.0	4.75	4.69	1.25
515940 LP										
5,579.7	38.00	212.96	5,524.2	4,331.2	-229.8	-117.4	-90.8	2.32	2.06	1.76
5,594.0	38.30	213.20	5,535.4	4,342.4	-237.1	-122.2	-93.0	2.32	2.07	1.71
5,689.0	39.80	212.90	5,609.2	4,416.2	-287.3	-154.8	-108.1	1.59	1.58	-0.32
5,784.0	38.50	211.70	5,682.9	4,489.9	-338.0	-186.9	-123.9	1.58	-1.37	-1.26
5,877.0	41.10	211.10	5,754.3	4,561.3	-388.8	-217.9	-140.6	2.83	2.80	-0.65
5,972.0	42.50	210.90	5,825.1	4,632.1	-443.1	-250.5	-158.8	1.48	1.47	-0.21
6,067.0	42.50	213.60	5,895.2	4,702.2	-497.4	-284.7	-175.8	1.92	0.00	2.84
6,098.0	42.10	213.70	5,918.1	4,725.1	-514.7	-296.3	-180.9	1.31	-1.29	0.32
6,130.0	41.80	217.70	5,941.9	4,748.9	-532.1	-308.7	-185.3	8.41	-0.94	12.50
6,161.0	42.20	221.50	5,964.9	4,771.9	-548.1	-322.0	-188.2	8.30	1.29	12.26
6,193.0	42.20	224.80	5,988.7	4,795.7	-563.7	-336.7	-189.9	6.93	0.00	10.31
6,224.0	41.30	229.40	6,011.8	4,818.8	-577.8	-351.8	-190.1	10.30	-2.90	14.84
6,255.0	40.40	234.30	6,035.2	4,842.2	-590.3	-367.7	-188.6	10.74	-2.90	15.81
6,287.0	40.30	239.60	6,059.6	4,866.6	-601.6	-385.1	-185.3	10.73	-0.31	16.56
6,319.0	40.70	243.90	6,084.0	4,891.0	-611.4	-403.4	-180.2	8.81	1.25	13.44
6,350.0	39.50	248.00	6,107.7	4,914.7	-619.6	-421.6	-173.9	9.36	-3.87	13.23
510841 Top of Part										
6,355.2	39.30	248.95	6,111.7	4,918.7	-620.8	-424.6	-172.8	12.27	-3.84	18.37
6,382.0	38.40	254.00	6,132.6	4,939.6	-626.1	-440.6	-166.0	12.27	-3.36	18.82
6,413.0	38.70	259.00	6,156.8	4,963.8	-630.6	-459.3	-156.7	10.10	0.97	16.13
6,445.0	39.10	262.70	6,181.7	4,988.7	-633.8	-479.2	-145.7	7.37	1.25	11.56
6,476.0	38.80	268.40	6,205.9	5,012.9	-635.3	-498.6	-133.7	11.60	-0.97	18.39
6,507.0	38.90	274.30	6,230.0	5,037.0	-634.9	-518.0	-120.3	11.94	0.32	19.03

Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 515939
Company:	EQT Production - Marcellus	TVD Reference:	KB@23 @ 1193.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB@23 @ 1193.0usft
Site:	Doddridge County 515939	North Reference:	Grid
Well:	Well #515939	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515939 As Drilled Surveys		

Survey

Measured Depth (usft)	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)
6,539.0	39.90	278.60	6,254.7	5,061.7	-632.6	-538.2	-105.0	9.08	3.13	13.44
6,570.0	41.30	282.00	6,278.3	5,085.3	-629.0	-558.0	-89.0	8.45	4.52	10.97
6,602.0	42.90	286.00	6,302.0	5,109.0	-623.8	-578.8	-71.1	9.76	5.00	12.50
6,633.0	44.10	290.00	6,324.5	5,131.5	-617.2	-599.1	-52.6	9.69	3.87	12.90
6,665.0	45.60	294.00	6,347.2	5,154.2	-608.7	-620.0	-32.3	9.98	4.69	12.50
6,696.0	47.50	297.00	6,368.5	5,175.5	-599.0	-640.3	-11.4	9.32	6.13	9.68
6,728.0	49.90	300.00	6,389.7	5,196.7	-587.5	-661.4	11.3	10.29	7.50	9.38
513773 Top of Perf										
6,744.4	51.11	301.98	6,400.1	5,207.1	-581.0	-672.3	23.4	11.90	7.41	12.07
6,760.0	52.30	303.80	6,409.7	5,216.7	-574.4	-682.6	35.3	11.90	7.60	11.67
6,792.0	54.50	307.90	6,428.8	5,235.8	-559.3	-703.4	60.4	12.37	6.88	12.81
6,823.0	55.70	311.10	6,446.6	5,253.6	-543.2	-723.0	85.6	9.31	3.87	10.32
6,855.0	57.10	314.20	6,464.3	5,271.3	-525.1	-742.6	112.1	9.18	4.38	9.69
6,886.0	59.90	317.20	6,480.5	5,287.5	-506.2	-761.0	138.5	12.23	9.03	9.68
6,917.0	63.00	319.70	6,495.3	5,302.3	-485.8	-779.1	165.7	12.25	10.00	8.06
6,949.0	66.90	322.40	6,508.8	5,315.8	-463.3	-797.3	194.7	14.38	12.19	8.44
6,980.0	69.80	324.90	6,520.3	5,327.3	-440.1	-814.4	223.3	11.99	9.35	8.06
7,012.0	72.20	326.00	6,530.7	5,337.7	-415.1	-831.5	253.3	8.17	7.50	3.44
7,043.0	75.10	327.10	6,539.4	5,346.4	-390.3	-847.9	282.7	9.96	9.35	3.55
7,075.0	78.10	327.70	6,546.8	5,353.8	-364.1	-864.7	313.4	9.55	9.38	1.88
7,106.0	80.30	329.00	6,552.7	5,359.7	-338.2	-880.7	343.3	8.21	7.10	4.19
7,137.0	81.80	331.00	6,557.5	5,364.5	-311.7	-896.0	373.2	8.00	4.84	6.45
7,169.0	83.30	332.40	6,561.6	5,368.6	-283.7	-911.0	404.0	6.39	4.69	4.38
7,201.0	84.40	333.50	6,565.1	5,372.1	-255.4	-925.5	434.6	4.85	3.44	3.44
515939 LP										
7,228.7	85.29	334.48	6,567.5	5,374.5	-230.6	-937.6	461.1	4.79	3.23	3.55
7,232.0	85.40	334.60	6,567.8	5,374.8	-227.6	-939.0	464.3	4.79	3.23	3.54
LP=7296 MD/ 6572 TVD										
7,296.0	87.70	334.40	6,571.7	5,378.7	-170.0	-966.5	525.4	3.61	3.59	-0.31
7,390.0	91.10	334.60	6,572.6	5,379.6	-85.1	-1,006.9	615.4	3.62	3.62	0.21
7,485.0	91.40	334.00	6,570.6	5,377.6	0.4	-1,048.1	706.4	0.71	0.32	-0.63
512418 Top of Perf										
7,508.8	90.74	334.03	6,570.1	5,377.1	21.8	-1,058.6	729.2	2.77	-2.77	0.11
7,579.0	88.80	334.10	6,570.4	5,377.4	85.0	-1,089.3	796.5	2.77	-2.77	0.11
Deepest Point of Well=7674 MD/ 6573 TVD										
7,674.0	88.40	333.00	6,572.7	5,379.7	170.0	-1,131.6	887.9	1.23	-0.42	-1.16
7,768.0	91.70	335.50	6,572.6	5,379.6	254.6	-1,172.4	977.9	4.40	3.51	2.66
7,862.0	91.60	334.00	6,569.9	5,376.9	339.6	-1,212.5	1,067.7	1.60	-0.11	-1.60
7,957.0	91.50	334.90	6,567.4	5,374.4	425.3	-1,253.4	1,158.6	0.95	-0.11	0.95
8,052.0	90.70	333.00	6,565.5	5,372.5	510.6	-1,295.1	1,249.8	2.17	-0.84	-2.00
8,147.0	91.20	334.70	6,564.0	5,371.0	595.9	-1,337.0	1,341.0	1.87	0.53	1.79
8,241.0	92.70	336.90	6,560.8	5,367.8	681.6	-1,375.5	1,430.3	2.83	1.60	2.34
8,335.0	92.30	334.60	6,556.7	5,363.7	767.2	-1,414.1	1,519.5	2.48	-0.43	-2.45



PHX
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site: Doddridge County 515939
Company:	EQT Production - Marcellus	TVD Reference:	KB@23 @ 1193.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB@23 @ 1193.0usft
Site:	Doddridge County 515939	North Reference:	Grid
Well:	Well #515939	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515939 As Drilled Surveys		

Measured Depth (usft)	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)
8,430.0	90.20	335.90	6,554.6	5,361.6	853.4	-1,453.8	1,610.1	2.60	-2.21	1.37
8,525.0	89.20	335.20	6,555.1	5,362.1	939.9	-1,493.2	1,700.5	1.28	-1.05	-0.74
8,619.0	90.40	337.70	6,555.4	5,362.4	1,026.1	-1,530.7	1,789.5	2.95	1.28	2.66
8,714.0	90.70	337.30	6,554.5	5,361.5	1,113.8	-1,567.1	1,878.8	0.53	0.32	-0.42
8,809.0	89.30	334.90	6,554.5	5,361.5	1,200.7	-1,605.5	1,968.9	2.92	-1.47	-2.53
8,903.0	90.40	337.20	6,554.8	5,361.8	1,286.6	-1,643.7	2,058.1	2.71	1.17	2.45
8,998.0	90.10	334.60	6,554.3	5,361.3	1,373.3	-1,682.5	2,148.3	2.75	-0.32	-2.74
9,091.0	90.10	334.60	6,554.2	5,361.2	1,457.3	-1,722.4	2,237.3	0.00	0.00	0.00
9,186.0	90.20	333.20	6,553.9	5,360.9	1,542.6	-1,764.2	2,328.5	1.48	0.11	-1.47
9,281.0	90.50	330.50	6,553.4	5,360.4	1,626.4	-1,809.0	2,420.6	2.86	0.32	-2.84
9,376.0	89.70	334.00	6,553.2	5,360.2	1,710.4	-1,853.2	2,512.5	3.78	-0.84	3.68
9,471.0	89.40	331.50	6,553.9	5,360.9	1,794.9	-1,896.7	2,604.2	2.65	-0.32	-2.63
9,565.0	90.50	336.80	6,554.0	5,361.0	1,879.4	-1,937.7	2,694.3	5.76	1.17	5.64
9,659.0	90.40	334.80	6,553.3	5,360.3	1,965.2	-1,976.2	2,783.6	2.13	-0.11	-2.13
9,754.0	90.00	336.60	6,552.9	5,359.9	2,051.7	-2,015.3	2,873.9	1.94	-0.42	1.89
9,848.0	89.90	335.70	6,553.0	5,360.0	2,137.7	-2,053.3	2,963.1	0.96	-0.11	-0.96
9,943.0	89.70	335.40	6,553.4	5,360.4	2,224.2	-2,092.6	3,053.5	0.38	-0.21	-0.32
10,037.0	89.80	334.60	6,553.8	5,360.8	2,309.4	-2,132.3	3,143.2	0.86	0.11	-0.85
Final Survey=10057' MD/ 6554' TVD										
10,057.0	89.90	334.30	6,553.8	5,360.8	2,327.4	-2,141.0	3,162.4	1.58	0.50	-1.50
Projection to TD=10109' MD/ 6554' TVD - 515939 TD										
10,109.0	89.90	334.30	6,553.9	5,360.9	2,374.3	-2,163.5	3,212.2	0.00	0.00	0.00

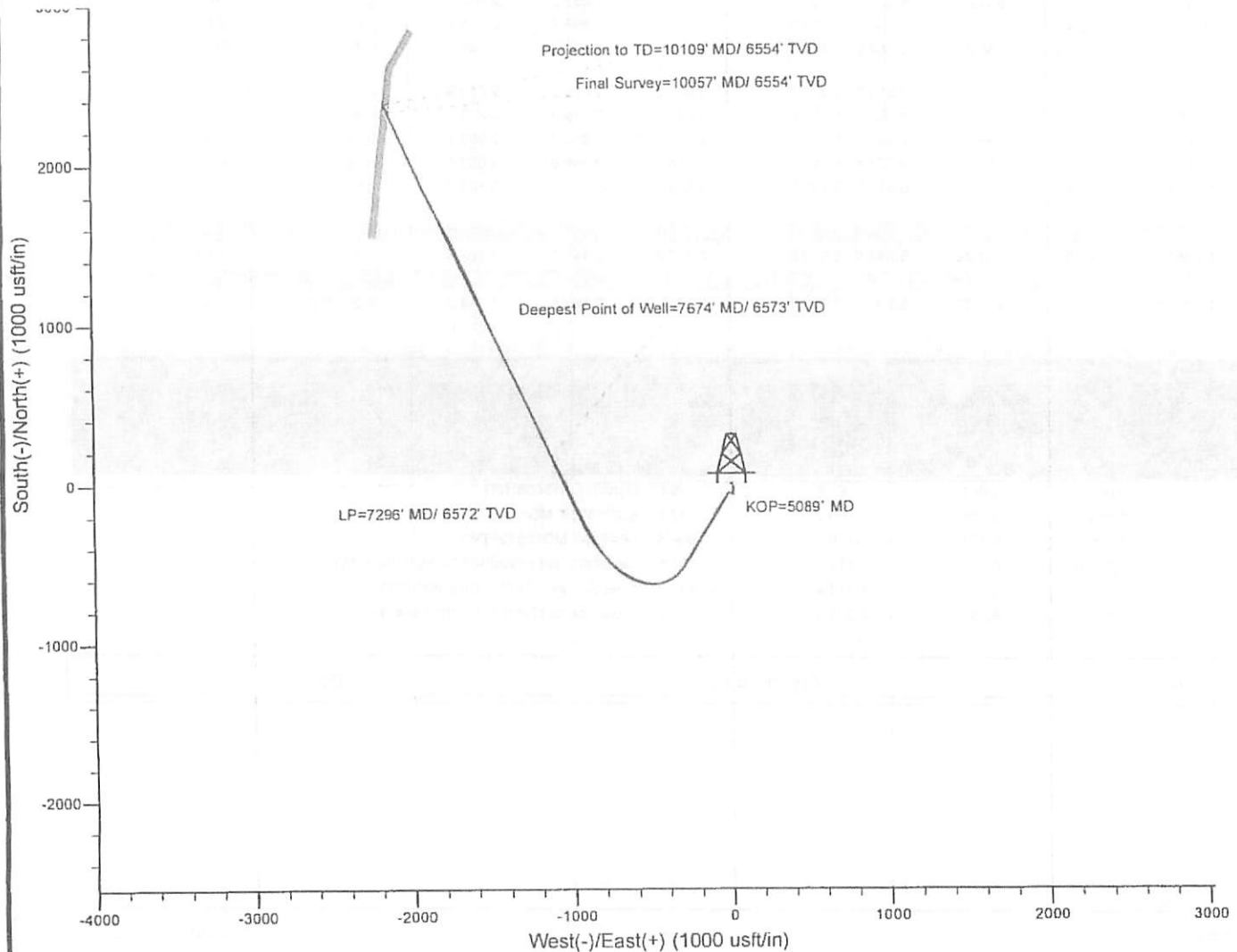
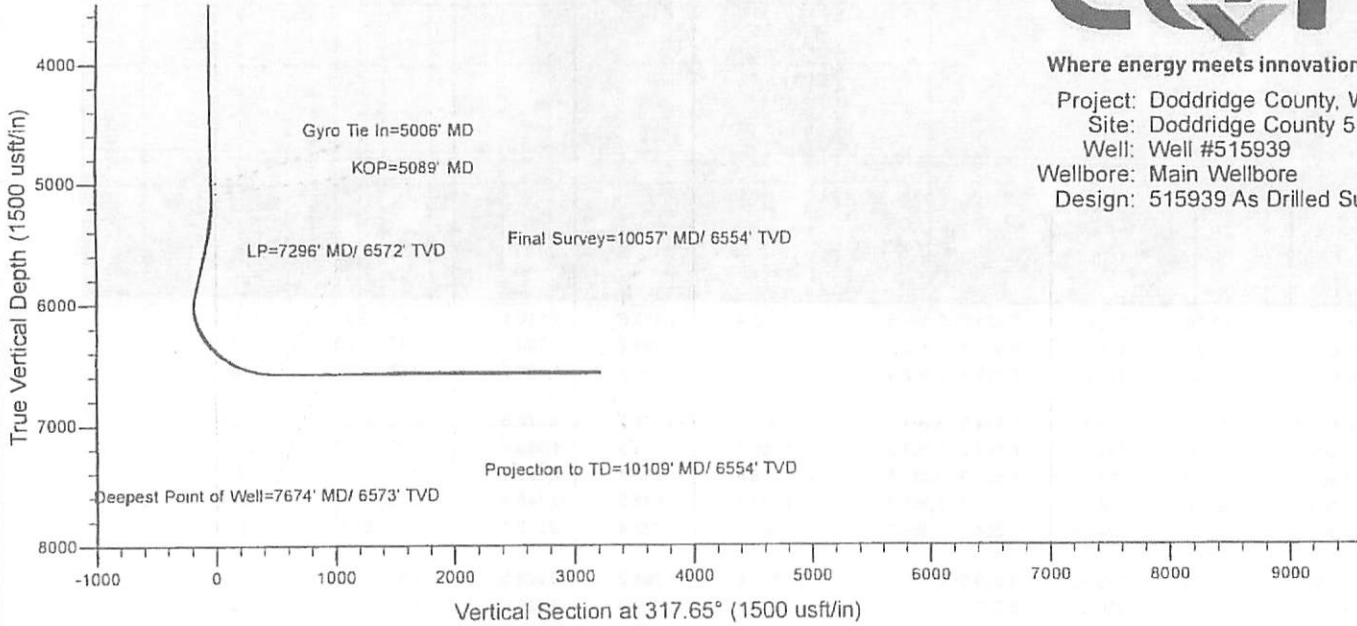
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,006.0	5,001.5	-61.6	-9.6	Gyro Tie In=5006' MD
5,089.0	5,084.5	-60.7	-12.8	KOP=5089' MD
7,296.0	6,571.7	-170.0	-966.5	LP=7296' MD/ 6572' TVD
7,674.0	6,572.7	170.0	-1,131.6	Deepest Point of Well=7674' MD/ 6573' TVD
10,057.0	6,553.8	2,327.4	-2,141.0	Final Survey=10057' MD/ 6554' TVD
10,109.0	6,553.9	2,374.3	-2,163.5	Projection to TD=10109' MD/ 6554' TVD

Checked By: _____ Approved By: _____ Date: _____



Where energy meets innovation.

Project: Doddridge County, WV Grid
 Site: Doddridge County 515939
 Well: Well #515939
 Wellbore: Main Wellbore
 Design: 515939 As Drilled Surveys



515939-47-017-06706-0000- Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation:Sleeve	6/15/2015	10,105.00	10,107.00	10	MARCELLUS
1	6/16/2015	9,952.00	10,074.00	42	MARCELLUS
2	6/16/2015	9,772.00	9,894.00	42	MARCELLUS
2:1	6/16/2015	9,712.00	9,742.00	42	MARCELLUS
3	6/17/2015	9,532.00	9,654.00	42	MARCELLUS
4	6/17/2015	9,352.00	9,476.00	42	MARCELLUS
5	6/17/2015	9,172.00	9,294.00	42	MARCELLUS
6	6/17/2015	8,994.00	9,114.00	42	MARCELLUS
7	6/17/2015	8,816.00	8,934.00	42	MARCELLUS
8	6/18/2015	8,632.00	8,754.00	42	MARCELLUS
9	6/18/2015	8,452.00	8,574.00	42	MARCELLUS
10	6/18/2015	8,272.00	8,392.00	42	MARCELLUS
11	6/18/2015	8,092.00	8,214.00	42	MARCELLUS
12	6/18/2015	7,912.00	8,032.00	42	MARCELLUS
13	6/18/2015	7,732.00	7,850.00	42	MARCELLUS
14	6/19/2015	7,552.00	7,672.00	42	MARCELLUS
15	6/19/2015	7,377.00	7,494.00	42	MARCELLUS
16	6/19/2015	7,190.00	7,314.00	42	MARCELLUS
17	6/19/2015	7,012.00	7,134.00	42	MARCELLUS

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/14/2015
Job End Date:	6/19/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06706-00-00
Operator Name:	EQT Production
Well Name and Number:	515939
Longitude:	-80.81415100
Latitude:	39.14525700
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,547
Total Base Water Volume (gal):	5,436,690
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	Keane Group	Carrier/Base Fluid	Water	7732-18-5	100.00000	89.31753	None
Sand (Proppant)	Keane Group	Proppant	Silica Substrate	14808-60-7	100.00000	10.30381	None
MC MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60.00000	0.05673	None
Hydrochloric Acid (15%)	Keane Group	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.02670	None
FFR730	Keane Group	Friction Reducer	Oxyalkylated alcohol A	Proprietary	5.00000	0.00406	None
EC6330A	Keane Group	Scale Inhibitor	Sodium Phosphate, Tribasic	7601-54-9	5.00000	0.00123	None
			Ethylene Glycol	107-21-1	5.00000	0.00123	None
AI 600	Keane Group	Corrosion Inhibitor	Ethylene Glycol	107-21-1	40.00000	0.00017	None
			Dimethylformamide	68-12-2	20.00000	0.00009	None
			Cinnamaldehyde	104-55-2	15.00000	0.00007	None
			Pyridine, alkyl derives, quaternized with benzyl chloride	68909-18-2	15.00000	0.00007	None

			1-Octanol	111-87-5	5.00000	0.00002	None
			1-Decanol	112-30-1	5.00000	0.00002	None
			Nonyl Phenol Ethoxylate, Branched	127087-87-0	5.00000	0.00002	None
			2-Butoxyethanol	111-76-2	5.00000	0.00002	None
			Triethyl Phosphate	78-40-0	2.50000	0.00001	None
			Methanol	67-56-1	2.50000	0.00001	None
			Alkyl Pyridine	68391-11-7	1.00000	0.00000	None
LEB-10X	Keane Group	Gel Breaker	Ethylene Glycol	107-21-1	30.00000	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)

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



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[ABOUT PROJECT PARTNERS](#)

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

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Disclosure has been submitted.

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Hydraulic Fracturing Data

Job Start Date: 6/14/2015 Job End Date: 6/19/2015 API Number: 47-017-06706-00-00 State & County: West Virginia --- Doddridge

Well Name: 515939

Longitude: -80.814151 Latitude: 39.145257 Datum: NAD83 Federal/Tribal Well?:

True Vertical Depth (ft): 6547.2 Total Water Vol (gal): 5436690 Total Non Water Vol: 0 Total Mass (lbs): 50795381



MSDS Chemical Ingredients

	Trade Name	Supplier	Purpose	Ingredients	CAS #	% High Additive	% HF Job	Comments	Ingredient Mass
<input type="button" value="Edit"/>	Water	Keane Group	Carrier/Base Fluid	Water	7732-18-5	100%	89.3175271249%	None	45369178.05
<input type="button" value="Edit"/>	Sand (Proppant)	Keane Group	Proppant	Silica Substrate	14808-60-7	100%	10.3038109265%	None	5233860
<input type="button" value="Edit"/>	MC MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60%	.056730139%	None	28816.29
<input type="button" value="Edit"/>	Hydrochloric Acid (15%)	Keane Group	Acidizing	Hydrochloric Acid	7647-01-0	15%	.0266965169%	None	13560.597
<input type="button" value="Edit"/>	FFR730	Keane Group	Friction Reducer	Oxyalkylated alcohol A	Proprietary	5%	.0040550654%	None	2059.786
<input type="button" value="Edit"/>	EC6330A	Keane Group	Scale Inhibitor	Sodium Phosphate, Tribasic	7601-54-9	5%	.0012254465%	None	622.47
				Ethylene Glycol	107-21-1	5%	.0012254465%	None	622.47
<input type="button" value="Edit"/>	AI 600	Keane Group	Corrosion Inhibitor	Ethylene Glycol	107-21-1	40%	.0001747089%	None	88.744
				Dimethylformamide	68-12-2	20%	.0000873545%	None	44.372

Cinnamialdehyde	104-55-2	15%	.0000655158%	None	33.279
Pyridine, alkyl derives, quaternized with benzyl chloride	68909-18-2	15%	.0000655158%	None	33.279
1-Octanol	111-87-5	5%	.0000218386%	None	11.093
1-Decanol	112-30-1	5%	.0000218386%	None	11.093
Nonyl Phenol Ethoxylate, Branched	127087- 87-0	5%	.0000218386%	None	11.093
2-Butoxyethanol	111-76-2	5%	.0000218386%	None	11.093
Triethyl Phosphate	78-40-0	2.5%	.0000109193%	None	5.547
Methanol	67-56-1	2.5%	.0000109193%	None	5.547
Alkyl Pyridine	68391-11-7	1%	.0000043677%	None	2.219

LEB-10X Keane Group Gel Breaker

Ethylene Glycol	107-21-1	30%	.0000263779%	None	13.399
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Non-MSDS Chemical Ingredients

Trade Name	Supplier	Purpose	Ingredients	CAS #	% High Additive	% HF Job	Comments	Ingredient Mass
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Use Terms | © Copyright GWPC & IOGCC, 2010

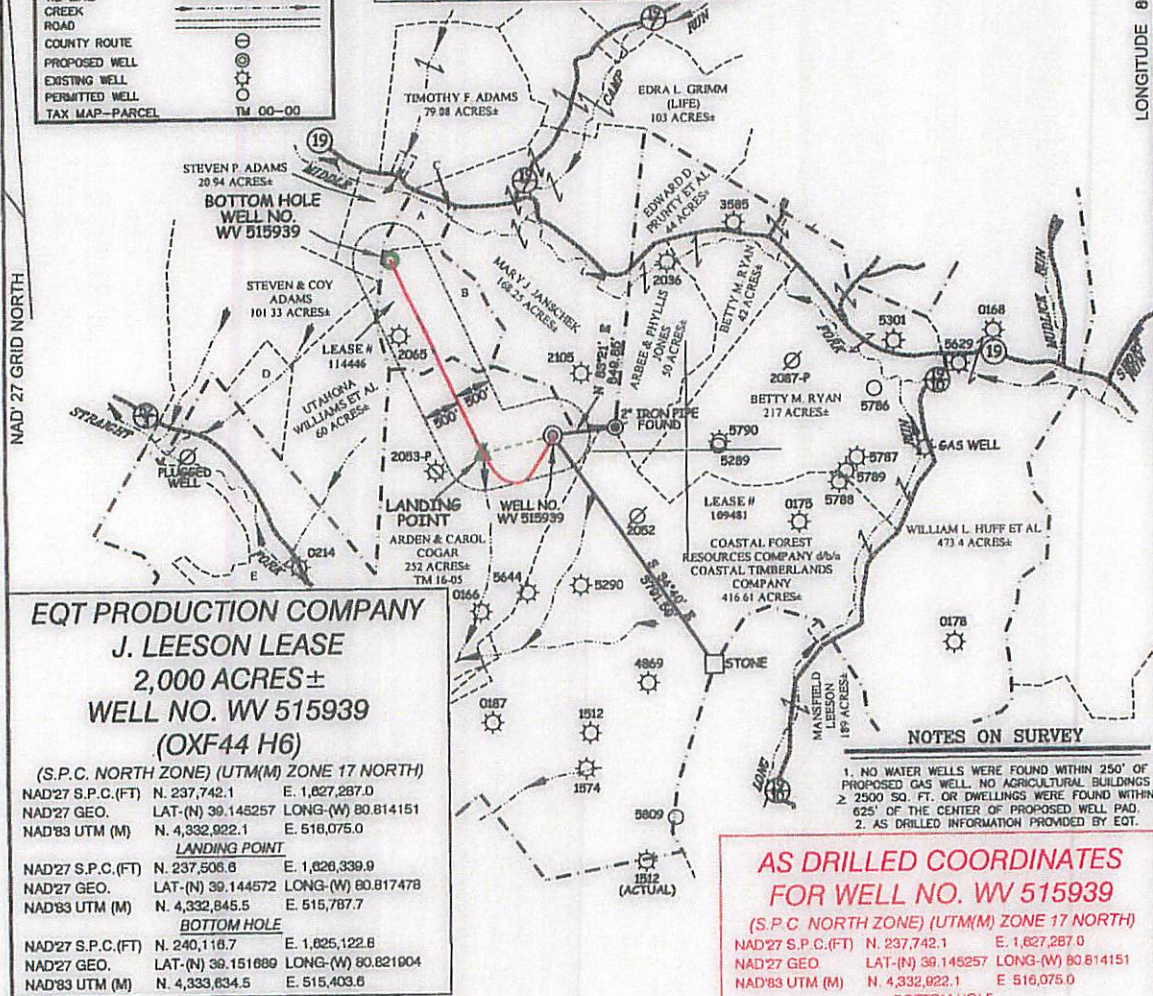
LEGEND

LEASE LINE	---
SURFACE LINE	---
PROPOSED PATH	---
AS DRILLED PATH	---
OFFSET LINE	---
TIE LINE	---
CREEK	---
ROAD	---
COUNTY ROUTE	○
PROPOSED WELL	○
EXISTING WELL	○
PERMITTED WELL	○
TAX MAP--PARCEL	TM 00-00

A	RANDALL & DEBBY FARLEY	10 ACRES±	TM 13-68.1
B	DELBERT & BARBARA OSBORNE	51.50 ACRES±	TM 13-68
C	DELBERT & BARBARA OSBORNE	0.125 ACRES±	
D	UTAHONA WILLIAMS ET AL.	13.25 ACRES±	
E	UTAHONA WILLIAMS ET AL.	72.86 ACRES±	

ROYALTY OWNERS

VICKIE D. MOORE ET AL.	71 AC.±	LEASE NO. 114448
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EQT PRODUCTION COMPANY
J. LEESON LEASE
2,000 ACRES±
WELL NO. WV 515939
(OXF44 H6)

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

NAD27 S.P.C.(FT)	N. 237,742.1	E. 1,827,287.0
NAD27 GEO.	LAT-(N) 39.145257	LONG-(W) 80.814151
NAD83 UTM (M)	N. 4,332,922.1	E. 516,075.0

LANDING POINT

NAD27 S.P.C.(FT)	N. 237,506.6	E. 1,826,339.9
NAD27 GEO.	LAT-(N) 39.144572	LONG-(W) 80.817478
NAD83 UTM (M)	N. 4,332,845.5	E. 515,787.7

BOTTOM HOLE

NAD27 S.P.C.(FT)	N. 240,116.7	E. 1,825,122.6
NAD27 GEO.	LAT-(N) 39.151688	LONG-(W) 80.821904
NAD83 UTM (M)	N. 4,333,634.5	E. 515,403.6

NOTES ON SURVEY

- 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.
- AS DRILLED INFORMATION PROVIDED BY EQT.

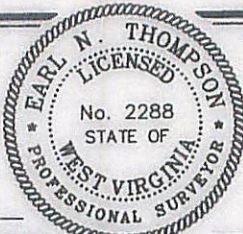
AS DRILLED COORDINATES FOR WELL NO. WV 515939

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

NAD27 S.P.C.(FT)	N. 237,742.1	E. 1,827,287.0
NAD27 GEO.	LAT-(N) 39.145257	LONG-(W) 80.814151
NAD83 UTM (M)	N. 4,332,922.1	E. 516,075.0

BOTTOM HOLE

NAD27 S.P.C.(FT)	N. 240,116.3	E. 1,825,123.5
NAD27 GEO.	LAT-(N) 39.151688	LONG-(W) 80.821901
NAD83 UTM (M)	N. 4,333,634.4	E. 515,403.9



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. 2288 *Earl N. Thompson*

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

DATE NOVEMBER 20, 20 14

REVISED JUNE 26, 20 15

OPERATORS WELL NO. WV 515939

API WELL NO. 47 - 017 - 06706H

STATE STATE COUNTY COUNTY PERMIT PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 6113P515939

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 WASTE IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1170' (EXISTING PAD) WATERSHED TRIBUTARY OF STRAIGHT FORK

DISTRICT SOUTHWEST COUNTY DODDRIDGE QUADRANGLE OXFORD 7.5'

SURFACE OWNER ARDEEN & CAROL COGAR ACREAGE 252±

ROYALTY OWNER ADELE McDOUGAL ET AL ACREAGE 2,000±

PROPOSED WORK: LEASE NO. 109481

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 6,542'

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

02/05/2016