

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 515745

API: 47 - 091 - 01318

Submission: Initial Amended

Notes: -Revised Plat
-Revised "As Drilled" Coordinates

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Office of Oil and Gas
AUG 25 2016
WV Department of
Environmental Protection

APPROVED

NAME: *Jim Reynolds*

DATE: *9-20-16*

10/28/2016

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

API 47-091-01318 County Taylor District FLEMINGTON
Quad ROSEMONT 7.5' Pad Name RSM118 Field/Pool Name _____
Farm name JAMES M. TAYLOR ET AL Well Number 515745
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 4,349,731.98 Easting 569,615.95
Landing Point of Curve Northing 4,349,740.82 Easting 569,083.06
Bottom Hole Northing 4,347,577.16 Easting 569,915.31

Elevation (ft) 1465 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 13.5 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 01/30/2015 Date drilling commenced 06/03/2015 Date drilling ceased 10/17/2015
Date completion activities began 11/24/2015 Date completion activities ceased 12/5/2015
Verbal plugging (Y/N) N Date permission granted N/A Granted by AUG 11 2016

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

WV Department of
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Freshwater depth(s) ft 282,606,827 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1357 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 22,600,646,697,757,797,813,847,889,938,1071 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

10/28/2016

API 47-091 - 01318 Farm name JAMES M. TAYLOR ET AL Well number 515745

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 94LB/FT	NONE	Y
Surface	17.5"	13.375"	928'	NEW	J-55 54.5LB/FT	455'	Y
Coal							
Intermediate 1	12.375"	9.625"	2508'	NEW	A-500 40LB/FT	1527'	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	16,214'	NEW	P-110 20LB/FT	NONE	N
Tubing							
Packer type and depth set							

Comment Details N/A

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	733	15.6	1.20	879.6	0	8
Coal							
Intermediate 1	CLASS A / CLASS H	436 / 472	15.6 / 16.0	1.25 / 1.25	1135	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS H / CLASS H	1,105 / 1,075	15.2 / 15.6	1.07 / 1.84	3160.4	2,664'	24
Tubing							

Drillers TD (ft) 16,219' MD Loggers TD (ft) N/A

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 4,450' MD

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: 1,11,20

INTERMEDIATE- 7 CENTRALIZERS RAN AT LEAST EVERY 500' FEET

PRODUCTION- Composite body spiral centralizers ran every joint from bottom to 3,466 RMD.

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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 47-091 - 01318

Farm name JAMES M. TAYLOR ET AL

Well number 515745

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

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>MARCELLUS</u>	<u>7,401.70</u> TVD	<u>8,156.00</u> MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1,880 psi Bottom Hole N/A psi DURATION OF TEST 97.50 hrs

OPEN FLOW Gas 9,047 mcfpd Oil N/A bpd NGL 0.0 bpd Water 1038.7 bpd GAS MEASURED BY Estimated Orifice Pilot

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

Please insert additional pages as applicable.


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

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

Cementing Company BAKER HUGHES OILFIELD OPERATIONS, INC.
Address 837 Phillippi Pike City CLARKSBURG State WV Zip 26301

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

Please insert additional pages as applicable.

Completed by Jim Helmick Telephone (412) 395-5518
Signature  Title VP Completions Date 8/22/2016

API 47- 091 - 01318 Farm name JAMES M. TAYLOR ET AL Well number 515745

Drilling Contractor Savanna Drilling (Rig 803)
Address 125 Industry Road City Waynesburg State PA Zip 15370

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

Logging Company Hoss Co. Services LLC
Address 614 Trotters Lane City Charleston State WV Zip 25312

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

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515745 Final Formations API 47-91001318

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	837	837
SAND/SHALE	1	1	32	32
PITTSBURGH COAL	32	32	38	38
SAND/SHALE	38	38	610	610
COAL	610	610	615	615
SAND/SHALE	615	615	656	656
COAL	656	656	661	661
SAND/SHALE	661	661	707	707
UPPER FREEPORT	707	707	708	708
SAND/SHALE	708	708	767	767
LOWER FREEPORT	767	767	768	768
SAND/SHALE	768	768	807	807
UPPER KITTANNING	807	807	808	808
SAND/SHALE	808	808	823	823
MIDDLE KITTANNING	823	823	828	828
SAND/SHALE	828	828	857	857
LOWER KITTANNING	857	857	858	858
SAND/SHALE	858	858	899	899
COAL	899	899	905	905
SAND/SHALE	905	905	948	948
COAL	948	948	953	953
SAND/SHALE	953	953	1,081.00	1,081.00
MAXTON	981	981	1,058.00	1,058.00
SAND/SHALE	1,058.00	1,058.00	1,360.00	1,359.90
COAL	1,081.00	1,081.00	1,085.00	1,085.00
BIG LIME	1,360.00	1,359.90	1,542.00	1,541.90
SAND/SHALE	1,542.00	1,541.90	1,643.00	1,642.90
WEIR	1,643.00	1,642.90	1,657.00	1,656.90
SAND/SHALE	1,657.00	1,656.90	1,871.00	1,870.80
GANTZ	1,871.00	1,870.80	1,937.00	1,936.80
SAND/SHALE	1,937.00	1,936.80	1,945.00	1,944.80
50F	1,945.00	1,944.80	1,995.00	1,994.80
SAND/SHALE	1,995.00	1,994.80	2,052.00	2,051.80
30F	2,052.00	2,051.80	2,092.00	2,091.80
SAND/SHALE	2,092.00	2,091.80	2,130.00	2,129.80
GORDON	2,130.00	2,129.80	2,180.00	2,179.80
SAND/SHALE	2,180.00	2,179.80	2,276.00	2,275.80
4TH SAND	2,276.00	2,275.80	2,371.00	2,370.80
SAND/SHALE	2,371.00	2,370.80	2,419.00	2,418.80
BAYARD	2,419.00	2,418.80	2,466.00	2,465.80
SAND/SHALE	2,466.00	2,465.80	2,811.00	2,810.80
WARREN	2,811.00	2,810.80	3,157.00	3,156.80
SPEECHLEY	3,157.00	3,156.80	3,439.00	3,438.80
BRADFORD	3,439.00	3,438.80	3,608.00	3,607.80
BALLTOWN	3,608.00	3,607.80	3,855.00	3,854.80
RILEY	3,855.00	3,854.80	4,467.00	4,466.70
BENSON	4,467.00	4,466.70	5,018.00	4,997.10
ELKS	5,018.00	4,997.10	6,822.00	6,378.70
SONYEA	6,822.00	6,378.70	7,532.00	6,916.80
MIDDLESEX	7,532.00	6,916.80	7,714.00	7,068.60
GENESEE	7,714.00	7,068.60	7,879.00	7,204.40
GENESEO	7,879.00	7,204.40	7,902.00	7,222.80
TULLY	7,902.00	7,222.80	7,967.00	7,273.70
HAMILTON	7,967.00	7,273.70	8,156.00	7,401.70
MARCELLUS	8,156.00	7,401.70		

Office of Oil and Gas
 10/28/2016
 Department of Environmental Protection



EQT PRODUCTION

Taylor County, WV

RSM118

Well #515745 - Marcellus - Slot 515745

API #47-91001318

Main Wellbore

Design: 515745 As Drilled Surveys

Standard Survey Report

19 October, 2015





Phoenix Technology Services

Survey Report



Energy Services Division

Database:	PHX-515745-1-1	Local Co-ordinate Reference:	PHX+MWD+HDGM
Company:	PHX PRODUCTION	TVD Reference:	1629 1448 5000
Project:	PHX 515745 WY	MD Reference:	1629 1448 5000
Site:	PHX	North Reference:	PHX
Well:	PHX515745-1-1 (Main Well)	Survey Calculation Method:	Minimum Curvature
Wellbore:	PHX515745-1-1		
Design:	1544 PHX 515745		

Project:	PHX 515745		
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		

Site:	PHX				
Site Position:		Northing:	289,938.90 usft	Latitude:	39.29
From:	Map	Easting:	1,803,864.30 usft	Longitude:	-80.19
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.44 °

Well:	PHX515745-1-1					
Well Position	+N-S	0.0 usft	Northing:	289,974.63 usft	Latitude:	39° 17' 38.673 N
	+E-W	0.0 usft	Easting:	1,803,899.21 usft	Longitude:	80° 11' 34.401 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,465.0 usft

Wellbore:	PHX515745-1-1				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/28/2015	-9.48	66.47	52,301

Design:	PHX 515745-1-1 (Main Well)				
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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	173.19

Survey Program	Date	From (°)	To (usft)	Survey (Wellbore)	Tool Name	Description
	10/19/2015	0.00	4,430.0	Gyrodata Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
		0.00	16,219.0	515745 PHX MWD (Main Wellbore)	PHX+MWD+HDGM	PHX+QWSG 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	-1,488.0	0.0	0.0	0.0	0.00	0.00	0.00
110.0	0.32	18.55	110.0	-1,378.0	0.3	0.1	-0.3	0.29	0.29	0.09
210.0	0.32	21.17	210.0	-1,278.0	0.8	0.3	-0.8	0.01	0.00	2.62
310.0	0.28	26.44	310.0	-1,178.0	1.3	0.5	-1.2	0.05	-0.04	5.27
410.0	0.26	23.15	410.0	-1,078.0	1.7	0.7	-1.6	0.03	-0.02	-3.29
510.0	0.16	23.02	510.0	-978.0	2.1	0.8	-1.9	0.10	-0.10	-0.13
610.0	0.28	215.65	610.0	-878.0	2.0	0.8	-1.9	0.44	0.12	-167.37
710.0	0.27	66.39	710.0	-778.0	1.9	0.8	-1.8	-0.53	-0.01	-149.26

Original
 AUG 25 2016
 Energy Department of
 Environmental Protection



Phoenix Technology Services

Survey Report



EQT Energy Services

Database: Company: Project: Site: Well: Wellbore: Design:	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	
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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	0.38	63.14	810.0	-678.0	2.1	1.3	-2.0	0.11	0.11	-3.25
910.0	0.27	11.15	910.0	-578.0	2.5	1.7	-2.3	0.30	-0.11	-51.99
1,010.0	0.58	348.18	1,010.0	-478.0	3.2	1.6	-3.0	0.35	0.31	-22.97
1,110.0	0.75	347.23	1,110.0	-378.0	4.4	1.4	-4.2	0.17	0.17	-0.95
1,210.0	1.21	352.16	1,210.0	-278.0	6.1	1.1	-5.9	0.47	0.46	4.93
1,310.0	1.25	355.20	1,309.9	-178.1	8.2	0.8	-8.0	0.08	0.04	3.04
1,410.0	1.24	359.20	1,409.9	-78.1	10.4	0.7	-10.2	0.09	-0.01	4.00
1,510.0	1.20	358.56	1,509.9	21.9	12.5	0.7	-12.3	0.04	-0.04	-0.64
1,610.0	1.15	359.64	1,609.9	121.9	14.5	0.7	-14.4	0.05	-0.05	1.08
1,710.0	1.07	355.93	1,709.9	221.9	16.5	0.6	-16.3	0.11	-0.08	-3.71
1,810.0	1.10	358.28	1,809.8	321.8	18.4	0.5	-18.2	0.05	0.03	2.35
1,910.0	1.08	1.84	1,909.8	421.8	20.3	0.5	-20.1	0.07	-0.02	3.58
2,010.0	0.93	357.70	2,009.8	521.8	22.0	0.5	-21.8	0.17	-0.15	-4.14
2,110.0	0.84	3.63	2,109.8	621.8	23.6	0.5	-23.3	0.13	-0.09	5.93
2,210.0	0.61	10.76	2,209.8	721.8	24.8	0.7	-24.6	0.25	-0.23	7.13
2,310.0	0.36	4.69	2,309.8	821.8	25.6	0.8	-25.4	0.25	-0.25	-6.07
2,410.0	0.28	12.91	2,409.8	921.8	26.2	0.9	-25.9	0.09	-0.08	8.22
2,510.0	0.17	8.69	2,509.8	1,021.8	26.6	0.9	-26.3	0.11	-0.11	-4.22
2,610.0	0.27	342.65	2,609.8	1,121.8	27.0	0.9	-26.7	0.14	0.10	-26.04
2,710.0	0.22	317.15	2,709.8	1,221.8	27.3	0.7	-27.0	0.12	-0.05	-25.50
2,810.0	0.29	329.19	2,809.8	1,321.8	27.7	0.4	-27.4	0.09	0.07	12.04
2,910.0	0.34	325.76	2,909.8	1,421.8	28.1	0.1	-27.9	0.05	0.05	-3.43
3,010.0	0.36	319.43	3,009.8	1,521.8	28.6	-0.2	-28.5	0.04	0.02	-6.33
3,110.0	0.31	322.68	3,109.8	1,621.8	29.1	-0.8	-28.9	0.05	-0.05	3.25
3,210.0	0.31	331.15	3,209.8	1,721.8	29.5	-0.9	-29.4	0.05	0.00	8.47
3,310.0	0.40	329.88	3,309.8	1,821.8	30.1	-1.2	-30.0	0.09	0.09	-1.27
3,410.0	0.38	332.87	3,409.8	1,921.8	30.7	-1.5	-30.6	0.03	-0.02	2.99
3,510.0	0.40	326.03	3,509.8	2,021.8	31.3	-1.9	-31.3	0.05	0.02	-6.84
3,610.0	0.39	328.44	3,609.8	2,121.8	31.8	-2.3	-31.9	0.02	-0.01	2.41
3,710.0	0.46	322.62	3,709.8	2,221.8	32.4	-2.7	-32.5	0.08	0.07	-5.82
3,810.0	0.48	322.14	3,809.8	2,321.8	33.1	-3.2	-33.2	0.02	0.02	-0.48
3,910.0	0.51	320.04	3,909.8	2,421.8	33.8	-3.7	-34.0	0.04	0.03	-2.10
4,010.0	0.55	322.43	4,009.7	2,521.7	34.5	-4.3	-34.8	0.05	0.04	2.39
4,110.0	0.55	323.83	4,109.7	2,621.7	35.3	-4.9	-35.6	0.01	0.00	1.40
4,210.0	0.58	329.88	4,209.7	2,721.7	36.1	-5.4	-36.5	0.07	0.03	6.05
4,310.0	0.40	342.26	4,309.7	2,821.7	36.8	-5.8	-37.3	0.21	0.18	12.38
4,410.0	0.34	354.09	4,409.7	2,921.7	37.5	-5.9	-37.9	0.10	-0.06	13.89
4,430.0	0.36	0.79	4,429.7	2,941.7	37.6	-5.9	-38.0	0.23	0.10	33.50
4,481.0	1.41	300.15	4,480.7	2,992.7	38.1	-6.5	-38.6	2.50	0.06	-118.90
4,524.0	4.02	295.57	4,523.7	3,035.7	39.0	-8.3	-39.7	6.09	6.07	-10.65
4,560.0	6.10	296.40	4,559.5	3,071.5	40.4	-11.1	-41.4	5.78	5.78	2.31
4,603.0	8.60	300.40	4,602.2	3,114.2	43.0	-15.9	-44.6	5.93	5.81	9.30

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 Oklahoma Oil and Gas
 Department of
 Energy Production
 AUG 25 2016



Phoenix Technology Services

Survey Report



EQT Energy needs innovation

Database: Company: Project: Site: Well: Wellbore: Design:	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	
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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)
4,646.0	11.10	297.90	4,644.5	3,156.5	46.6	-22.4	-48.9	5.90	5.81	-5.81
4,689.0	12.00	302.40	4,686.7	3,198.7	50.9	-29.8	-54.1	2.98	2.09	10.47
4,733.0	13.60	301.40	4,729.6	3,241.6	56.1	-38.1	-60.2	3.67	3.64	-2.27
4,776.0	14.60	299.20	4,771.3	3,283.3	61.3	-47.1	-66.5	2.64	2.33	-5.12
4,819.0	17.00	296.90	4,812.7	3,324.7	66.8	-57.5	-73.2	5.77	5.58	-5.35
4,861.0	19.20	296.20	4,852.6	3,364.6	72.7	-69.1	-80.4	5.26	5.24	-1.67
4,904.0	21.90	295.80	4,892.8	3,404.8	79.3	-82.7	-88.5	6.29	6.28	-0.93
4,948.0	23.20	295.60	4,933.5	3,445.5	86.6	-87.9	-97.6	2.96	2.95	-0.45
4,991.0	24.80	296.10	4,972.7	3,484.7	94.2	-113.7	-107.0	3.75	3.72	1.16
5,034.0	26.80	295.40	5,011.5	3,523.5	102.3	-130.5	-117.1	4.70	4.65	-1.63
5,077.0	28.40	295.10	5,049.4	3,561.4	111.0	-148.8	-127.9	6.08	6.05	-0.70
5,120.0	32.30	294.40	5,086.3	3,598.3	120.2	-168.8	-139.4	6.80	6.74	-1.63
5,164.0	35.30	294.10	5,122.9	3,634.9	130.3	-191.2	-152.0	6.83	6.82	-0.68
5,207.0	37.90	293.90	5,157.4	3,669.4	140.7	-214.6	-165.2	6.05	6.05	-0.47
5,249.0	38.20	293.70	5,190.2	3,702.2	151.2	-238.5	-178.5	3.11	3.10	-0.48
5,292.0	39.80	293.20	5,223.4	3,735.4	162.1	-263.6	-192.3	1.58	1.40	-1.16
5,336.0	40.90	292.90	5,256.9	3,768.9	173.3	-289.8	-206.4	2.54	2.50	-0.68
5,378.0	40.80	292.80	5,288.7	3,800.7	184.0	-315.2	-220.0	0.28	-0.24	-0.24
5,421.0	41.60	293.40	5,321.1	3,833.1	195.1	-341.2	-234.2	2.08	1.86	1.40
5,466.0	40.90	292.40	5,354.9	3,866.9	206.6	-368.5	-248.9	2.14	-1.56	-2.22
5,508.0	40.30	292.20	5,386.8	3,898.8	217.0	-393.8	-262.2	1.46	-1.43	-0.48
5,552.0	40.50	291.90	5,420.3	3,932.3	227.7	-420.3	-275.9	0.83	0.45	-0.68
5,595.0	41.20	292.60	5,452.8	3,964.8	238.3	-446.3	-289.6	1.95	1.63	1.63
5,637.0	40.80	292.70	5,484.5	3,996.5	249.0	-471.7	-303.2	0.97	-0.95	0.24
5,680.0	40.60	293.40	5,517.1	4,029.1	259.9	-497.5	-317.1	1.16	-0.47	1.63
5,725.0	39.90	293.90	5,551.5	4,063.5	271.6	-524.2	-331.9	1.71	-1.56	1.11
5,767.0	39.30	295.10	5,583.8	4,095.8	282.7	-548.5	-345.8	2.31	-1.43	2.86
5,810.0	39.30	295.40	5,617.1	4,129.1	294.3	-573.1	-360.2	0.44	0.00	0.70
5,853.0	40.60	295.20	5,650.1	4,162.1	306.1	-598.1	-374.9	3.04	3.02	-0.47
5,897.0	41.30	295.20	5,683.3	4,195.3	318.4	-624.2	-390.2	1.59	1.59	0.00
5,940.0	41.30	295.20	5,715.6	4,227.6	330.5	-649.9	-405.2	0.00	0.00	0.00
5,983.0	41.40	296.20	5,747.9	4,259.9	342.8	-675.5	-420.5	1.55	0.23	2.33
6,026.0	40.80	295.80	5,780.3	4,292.3	355.2	-700.9	-435.8	1.52	-1.40	-0.93
6,069.0	40.10	295.90	5,813.0	4,325.0	367.3	-726.0	-450.9	1.63	-1.63	0.23
6,113.0	40.10	295.70	5,846.7	4,358.7	379.7	-751.5	-466.2	0.29	0.00	-0.45
6,156.0	40.90	295.60	5,879.4	4,391.4	391.8	-776.7	-481.2	1.67	1.66	-0.23
6,199.0	40.30	295.80	5,912.0	4,424.0	403.9	-801.9	-496.2	1.43	-1.40	0.45
6,239.0	40.20	295.10	5,942.5	4,454.5	415.0	-825.2	-510.0	1.16	-0.25	1.75
6,282.0	41.20	294.90	5,975.1	4,487.1	426.9	-850.6	-524.8	2.35	2.33	-0.47
6,325.0	40.30	294.40	6,007.7	4,519.7	438.6	-876.2	-539.4	2.23	-2.09	1.16
6,368.0	40.50	294.40	6,040.5	4,552.5	450.1	-901.5	-553.9	0.47	0.47	0.00
6,411.0	41.60	294.20	6,072.9	4,584.9	461.7	-927.3	-568.5	2.58	2.56	-0.47

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WV Department of Environmental Protection

Database:	Oil Field Survey	Local Co-ordinate Reference:	Oil Field Survey
Company:	Oil Field Survey	TVD Reference:	Oil Field Survey
Project:	Oil Field Survey	MD Reference:	Oil Field Survey
Site:	Oil Field Survey	North Reference:	Oil Field Survey
Well:	Oil Field Survey	Survey Calculation Method:	Oil Field Survey
Wellbore:	Oil Field Survey		
Design:	Oil Field 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)
6,454.0	41.10	294.20	6,105.2	4,617.2	473.3	-953.2	-583.1	1.16	-1.16	0.00
6,497.0	41.90	294.20	6,137.4	4,648.4	485.0	-979.2	-597.8	1.86	1.86	0.00
6,540.0	41.90	293.90	6,169.4	4,681.4	496.7	-1,005.4	-612.5	0.47	0.00	-0.70
6,583.0	42.90	293.90	6,201.1	4,713.1	508.5	-1,031.9	-627.3	2.33	2.33	0.00
6,626.0	42.40	293.90	6,232.7	4,744.7	520.3	-1,058.5	-642.2	1.16	-1.16	0.00
6,669.0	41.70	293.60	6,264.7	4,776.7	531.9	-1,084.9	-656.8	1.69	-1.63	-0.70
6,712.0	41.80	294.20	6,296.8	4,808.8	543.5	-1,111.1	-671.5	0.96	0.23	1.40
6,755.0	42.30	294.10	6,328.7	4,840.7	555.3	-1,137.4	-686.3	1.17	1.16	-0.23
6,798.0	41.50	293.90	6,360.7	4,872.7	566.9	-1,163.6	-701.0	1.89	-1.86	-0.47
6,840.0	40.80	293.10	6,392.3	4,904.3	578.0	-1,188.9	-714.9	2.09	-1.67	-1.90
6,885.0	40.00	293.10	6,426.6	4,938.6	589.4	-1,215.8	-729.5	1.78	-1.78	0.00
6,927.0	39.80	293.90	6,458.8	4,970.8	600.1	-1,240.5	-743.1	1.31	-0.48	1.90
6,971.0	40.20	295.70	6,492.5	5,004.5	612.0	-1,266.1	-757.9	2.78	0.91	4.09
7,014.0	39.30	294.90	6,525.6	5,037.6	623.8	-1,291.0	-772.5	2.41	-2.09	-1.86
7,057.0	38.80	294.10	6,559.0	5,071.0	635.0	-1,315.6	-786.6	1.65	-1.16	-1.86
7,100.0	39.40	294.20	6,592.3	5,104.3	646.1	-1,340.4	-800.6	1.40	1.40	0.23
7,143.0	40.80	294.20	6,625.2	5,137.2	657.4	-1,365.7	-814.8	3.26	3.26	0.00
7,186.0	41.70	294.90	6,657.6	5,169.6	669.2	-1,391.4	-829.6	2.35	2.09	1.63
7,229.0	40.80	294.20	6,689.9	5,201.9	681.0	-1,417.2	-844.3	2.35	-2.09	-1.63
7,317.0	41.80	290.80	6,756.0	5,268.0	703.2	-1,470.9	-872.8	2.79	1.14	-3.86
7,348.0	45.20	291.80	6,778.5	5,290.5	711.0	-1,490.8	-882.8	11.19	10.97	3.23
7,380.0	45.40	289.40	6,801.0	5,313.0	719.0	-1,512.0	-893.3	5.37	0.63	-7.50
7,411.0	44.20	286.20	6,823.0	5,335.0	725.7	-1,532.8	-902.4	8.24	-3.87	-10.32
7,442.0	41.00	283.70	6,845.8	5,357.8	731.1	-1,553.1	-910.2	11.68	-10.32	-8.06
7,474.0	38.60	282.30	6,870.4	5,382.4	735.7	-1,573.0	-917.1	8.01	-7.50	-4.38
7,505.0	36.90	279.20	6,894.9	5,406.9	739.2	-1,591.7	-922.9	8.22	-5.48	-10.00
7,537.0	34.80	274.50	6,920.9	5,432.9	741.5	-1,610.3	-927.3	10.82	-6.56	-14.69
7,568.0	33.50	268.60	6,946.5	5,458.5	742.0	-1,627.7	-929.8	11.47	-4.19	-19.03
7,599.0	33.10	262.20	6,972.4	5,484.4	740.6	-1,644.6	-930.5	11.40	-1.29	-20.65
7,631.0	33.20	256.30	6,999.2	5,511.2	737.4	-1,661.8	-929.3	10.08	0.31	-18.44
7,662.0	33.60	252.20	7,025.1	5,537.1	732.7	-1,678.2	-926.7	7.39	1.29	-13.23
7,694.0	33.20	247.40	7,051.8	5,563.8	726.6	-1,694.7	-922.6	8.35	-1.25	-15.00
7,725.0	33.20	241.10	7,077.8	5,589.8	719.3	-1,710.0	-917.1	11.12	0.00	-20.32
7,757.0	33.50	235.60	7,104.5	5,616.5	710.1	-1,724.9	-909.7	9.49	0.94	-17.19
7,788.0	34.00	230.40	7,130.3	5,642.3	699.7	-1,738.7	-901.0	9.46	1.61	-16.77
7,820.0	35.30	225.00	7,156.6	5,668.6	687.5	-1,752.1	-890.5	10.42	4.06	-16.88
7,851.0	36.00	218.90	7,181.8	5,693.8	674.0	-1,764.2	-878.6	11.68	2.26	-19.68
7,883.0	36.80	212.50	7,207.6	5,719.6	658.6	-1,775.2	-864.6	12.12	2.50	-20.00
7,914.0	37.30	206.50	7,232.3	5,744.3	642.4	-1,784.4	-849.5	11.77	1.61	-19.35
7,945.0	38.90	201.40	7,256.7	5,768.7	624.9	-1,792.2	-833.1	11.38	5.16	-16.45
7,977.0	40.40	197.00	7,281.4	5,793.4	605.6	-1,798.9	-814.8	9.95	4.69	-13.75
8,008.0	42.60	193.40	7,304.6	5,816.6	585.8	-1,804.2	-795.7	10.47	7.10	-11.61
8,040.0	44.90	189.70	7,327.7	5,839.7	564.1	-1,808.6	-774.7	10.75	7.19	-11.56



Phoenix Technology Services

Survey Report



Where energy meets innovation

Database:	COMPASS 5000.1 Build 74	Local Co-ordinate Reference:	WGS 84 - NAD 83 - UTM Zone 18N
Company:	EQE PRODUCTION	TVD Reference:	NA 83 - Mean Sea Level
Project:	WELL 00101001	MD Reference:	NA 83 - Mean Sea Level
Site:	WELL 00101001	North Reference:	NA 83 - Mean Sea Level
Well:	WELL 00101001	Survey Calculation Method:	Minimum Curvature
Wellbore:	WELL 00101001		
Design:	WELL 00101001		

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)
8,071.0	47.50	187.40	7,349.2	5,861.2	542.0	-1,812.0	-753.2	9.95	8.39	-7.42
8,102.0	50.60	186.20	7,369.5	5,881.5	518.8	-1,814.7	-730.4	10.42	10.00	-3.87
8,134.0	54.00	184.80	7,389.1	5,901.1	493.6	-1,817.1	-705.7	11.17	10.63	-4.38
8,165.0	56.70	182.80	7,406.7	5,918.7	468.1	-1,818.8	-680.6	10.20	8.71	-6.45
8,197.0	59.60	181.00	7,423.6	5,935.6	441.0	-1,819.7	-653.7	10.24	9.06	-5.63
8,228.0	63.10	179.50	7,438.4	5,950.4	413.8	-1,819.8	-626.8	12.06	11.29	-4.84
8,259.0	67.00	178.50	7,451.5	5,963.5	385.7	-1,819.3	-598.8	12.92	12.58	-3.23
8,291.0	70.50	177.20	7,463.1	5,975.1	355.9	-1,818.2	-569.1	11.57	10.94	-4.06
8,322.0	72.50	175.30	7,472.9	5,984.9	326.5	-1,816.3	-539.7	8.68	6.45	-6.13
8,354.0	73.30	171.80	7,482.4	5,994.4	296.1	-1,812.9	-509.1	10.75	2.50	-10.94
8,385.0	75.00	169.00	7,490.8	6,002.8	266.8	-1,807.9	-479.4	10.27	5.48	-9.03
8,417.0	76.50	167.80	7,498.7	6,010.7	236.4	-1,801.6	-448.5	5.93	4.69	-3.75
8,448.0	78.60	166.30	7,505.4	6,017.4	206.9	-1,794.9	-418.4	8.26	6.77	-4.84
8,479.0	81.30	164.90	7,510.8	6,022.8	177.3	-1,787.3	-388.1	9.78	8.71	-4.52
8,511.0	83.40	163.30	7,515.1	6,027.1	146.8	-1,778.6	-356.8	8.22	6.56	-5.00
8,542.0	85.50	161.80	7,518.1	6,030.1	117.4	-1,769.3	-326.5	8.31	6.77	-4.84
8,544.1	85.61	161.69	7,518.2	6,030.2	115.4	-1,768.7	-324.5	7.51	5.31	-5.32
8,545.6	85.69	161.61	7,518.3	6,030.3	114.0	-1,768.2	-323.0	7.51	5.31	-5.32
8,546.5	85.74	161.56	7,518.4	6,030.4	113.1	-1,767.9	-322.1	7.51	5.31	-5.32
8,574.0	87.20	160.10	7,520.1	6,032.1	87.2	-1,758.9	-295.3	7.51	5.31	-5.31
8,605.0	89.30	159.20	7,521.0	6,033.0	58.1	-1,746.1	-265.1	7.37	6.77	-2.90
8,668.0	88.70	159.70	7,522.1	6,034.1	-0.8	-1,726.0	-204.0	1.24	-0.95	0.79
8,762.0	86.40	160.10	7,526.2	6,038.2	-89.0	-1,693.7	-112.6	2.48	-2.45	0.43
8,856.0	86.60	159.60	7,531.9	6,043.9	-177.1	-1,661.4	-21.3	0.57	0.21	-0.53
8,950.0	86.70	159.60	7,537.4	6,049.4	-265.1	-1,628.7	69.9	0.11	0.11	0.00
9,045.0	87.30	159.90	7,542.4	6,054.4	-354.1	-1,595.9	162.2	0.71	0.63	0.32
9,139.0	89.40	161.60	7,545.1	6,057.1	-442.8	-1,564.9	254.0	2.87	2.23	1.81
9,233.0	87.70	162.00	7,547.4	6,059.4	-532.0	-1,535.6	346.1	1.86	-1.81	0.43
9,328.0	88.80	162.40	7,550.3	6,062.3	-622.4	-1,506.5	439.3	1.23	1.16	0.42
9,422.0	89.70	162.10	7,551.6	6,063.6	-712.0	-1,477.9	531.6	1.01	0.96	-0.32
9,516.0	88.50	160.90	7,553.0	6,065.0	-801.1	-1,448.1	623.6	1.81	-1.28	-1.28
9,611.0	88.50	160.40	7,555.5	6,067.5	-890.7	-1,416.6	718.3	0.53	0.00	-0.53
9,705.0	88.30	159.20	7,558.2	6,070.2	-978.9	-1,384.1	807.7	1.29	-0.21	-1.28
9,799.0	88.60	158.80	7,560.7	6,072.7	-1,066.6	-1,350.5	898.8	0.53	0.32	-0.43
9,894.0	88.70	157.70	7,562.9	6,074.9	-1,154.8	-1,315.3	990.6	1.16	0.11	-1.16
9,988.0	88.40	156.50	7,565.3	6,077.3	-1,241.4	-1,278.7	1,080.9	1.32	-0.32	-1.28
10,005.9	88.51	156.88	7,565.8	6,077.8	-1,257.8	-1,271.6	1,098.0	2.22	0.64	2.13
10,082.0	89.00	158.50	7,567.5	6,079.5	-1,328.2	-1,242.7	1,171.4	2.22	0.64	2.13

Database:	EQT PRODUCTION	Local Co-ordinate Reference:	WGS 1984 NAD
Company:	Energy Services & Solutions	TVD Reference:	WGS 1984 NAD
Project:	Well 8113.145 - Vessels	MD Reference:	WGS 1984 NAD
Site:	Well 8113.145 - Vessels	North Reference:	WGS 1984 NAD
Well:	Well 8113.145 - Vessels	Survey Calculation Method:	Minimum Curvature
Wellbore:	Well 8113.145 - Vessels		
Design:	Well 8113.145 - Vessels		

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)
10,176.0	88.10	159.70	7,569.8	6,081.8	-1,416.0	-1,209.2	1,262.5	1.60	-0.96	1.28
10,271.0	87.60	161.30	7,573.4	6,085.4	-1,505.5	-1,177.5	1,355.1	1.76	-0.53	1.68
10,347.9	88.25	162.12	7,576.2	6,088.2	-1,578.4	-1,153.4	1,430.4	1.36	0.85	1.06
10,348.2	88.26	162.12	7,576.2	6,088.2	-1,578.7	-1,153.3	1,430.7	1.36	0.85	1.06
10,348.4	88.26	162.12	7,576.2	6,088.2	-1,578.9	-1,153.3	1,430.9	1.36	0.85	1.06
10,365.0	88.40	162.30	7,576.7	6,088.7	-1,594.7	-1,148.2	1,447.2	1.36	0.85	1.06
10,459.0	89.30	162.80	7,578.6	6,090.6	-1,684.3	-1,120.0	1,539.6	1.10	0.96	0.53
10,554.0	87.50	160.50	7,581.2	6,093.2	-1,774.5	-1,090.1	1,632.6	3.07	-1.89	-2.42
10,648.0	87.80	160.30	7,585.1	6,097.1	-1,863.0	-1,058.6	1,724.2	0.38	0.32	-0.21
10,742.0	88.90	161.60	7,587.8	6,099.8	-1,951.8	-1,027.9	1,816.0	1.81	1.17	1.38
10,836.0	89.80	161.30	7,588.8	6,100.8	-2,040.9	-998.0	1,908.0	1.01	0.96	-0.32
10,930.0	88.80	160.60	7,590.0	6,102.0	-2,129.7	-967.4	1,999.9	1.30	-1.06	-0.74
11,025.0	89.30	161.00	7,591.6	6,103.6	-2,219.4	-936.1	2,092.7	0.67	0.53	0.42
11,119.0	88.00	158.70	7,593.8	6,105.8	-2,307.6	-903.8	2,184.1	2.81	-1.38	-2.45
11,213.0	87.80	158.40	7,597.2	6,109.2	-2,395.1	-869.4	2,275.0	0.38	-0.21	-0.32
11,307.0	87.50	157.40	7,601.1	6,113.1	-2,482.1	-834.1	2,365.6	1.11	-0.32	-1.06
11,402.0	88.20	159.80	7,604.6	6,116.6	-2,570.5	-799.4	2,457.5	2.63	0.74	2.53
11,496.0	88.90	160.30	7,607.0	6,119.0	-2,658.8	-767.4	2,549.0	0.92	0.74	0.53
11,590.0	88.40	159.40	7,609.2	6,121.2	-2,747.0	-735.0	2,640.4	1.10	-0.53	-0.96
11,685.0	88.10	158.00	7,612.1	6,124.1	-2,835.5	-700.5	2,732.3	1.51	-0.32	-1.47
11,779.0	88.30	157.10	7,615.1	6,127.1	-2,922.3	-664.6	2,822.8	0.98	0.21	-0.96
11,874.0	87.80	158.70	7,618.3	6,130.3	-3,010.3	-628.9	2,914.4	1.76	-0.53	1.68
11,968.0	88.50	159.30	7,621.4	6,133.4	-3,098.0	-595.2	3,005.5	0.98	0.74	0.64
12,062.0	89.10	159.60	7,623.3	6,135.3	-3,186.0	-562.3	3,096.8	0.71	0.64	0.32
12,157.0	89.20	159.70	7,624.7	6,136.7	-3,275.1	-529.2	3,189.1	0.15	0.11	0.11
12,251.0	88.70	159.30	7,626.5	6,138.5	-3,363.1	-496.3	3,280.4	0.68	-0.53	-0.43
12,346.0	88.50	161.00	7,628.8	6,140.8	-3,452.4	-464.1	3,373.0	1.80	-0.21	1.79
12,440.0	88.80	160.90	7,631.0	6,143.0	-3,541.2	-433.4	3,464.8	0.34	0.32	-0.11
12,534.0	88.60	160.90	7,633.1	6,145.1	-3,630.0	-402.6	3,556.6	0.21	-0.21	0.00
12,628.0	88.60	159.90	7,635.4	6,147.4	-3,718.6	-371.1	3,648.3	1.06	0.00	-1.06
12,723.0	89.10	159.70	7,637.3	6,149.3	-3,807.7	-338.3	3,740.7	0.57	0.53	-0.21
12,817.0	89.00	159.20	7,638.9	6,150.9	-3,895.7	-305.3	3,832.0	0.54	-0.11	-0.53
12,911.0	87.80	159.10	7,641.5	6,153.5	-3,983.5	-271.9	3,923.1	1.28	-1.28	-0.11
13,005.0	87.50	159.00	7,645.4	6,157.4	-4,071.2	-238.3	4,014.2	0.34	-0.32	-0.11
13,100.0	87.80	158.70	7,649.3	6,161.3	-4,159.8	-204.1	4,106.2	0.45	0.32	-0.32
13,194.0	88.90	161.30	7,652.0	6,164.0	-4,248.0	-171.9	4,197.6	3.00	1.17	2.77
13,289.0	89.10	161.40	7,653.6	6,165.6	-4,336.0	-141.6	4,290.6	0.24	0.21	0.11
13,383.0	89.10	161.00	7,655.1	6,167.1	-4,427.0	-111.3	4,382.5	0.43	0.00	-0.43
13,477.0	89.20	161.40	7,656.5	6,168.5	-4,516.0	-81.0	4,474.5	0.44	0.11	0.43
13,572.0	88.20	162.30	7,658.7	6,170.7	-4,606.2	-51.4	4,567.6	1.42	-1.05	0.95

Database:	EQT - Phoenix	Local Co-ordinate Reference:	North Reference:
Company:	EQT Technology Services	TVD Reference:	Survey Calculation Method:
Project:	Phoenix Design 100	MD Reference:	
Site:	Phoenix	North Reference:	
Well:	Well 4113145 - Phoenix	Survey Calculation Method:	
Wellbore:	Well 4113145		
Design:	100 - Phoenix 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)
13,666.0	88.20	161.60	7,661.6	6,173.6	-4,695.6	-22.3	4,659.8	0.74	0.00	-0.74
13,761.0	88.20	161.70	7,664.6	6,176.6	-4,785.7	7.6	4,752.8	0.11	0.00	0.11
13,855.0	88.40	161.70	7,667.4	6,179.4	-4,874.9	37.1	4,844.9	0.21	0.21	0.00
13,949.0	88.30	161.90	7,670.1	6,182.1	-4,964.2	66.5	4,937.0	0.24	-0.11	0.21
14,043.0	88.40	160.90	7,672.8	6,184.8	-5,053.2	96.4	5,029.0	1.07	0.11	-1.06
14,138.0	88.10	160.90	7,675.7	6,187.7	-5,142.9	127.5	5,121.7	0.32	-0.32	0.00
14,232.0	87.40	159.60	7,679.4	6,191.4	-5,231.3	159.2	5,213.3	1.57	-0.74	-1.38
14,326.0	87.20	159.00	7,683.8	6,195.8	-5,319.2	192.4	5,304.4	0.67	-0.21	-0.64
14,420.0	87.30	159.70	7,688.3	6,200.3	-5,407.0	225.5	5,395.6	0.75	0.11	0.74
14,514.0	87.50	158.70	7,692.6	6,204.6	-5,494.8	258.9	5,486.7	1.08	0.21	-1.06
14,609.0	87.80	158.20	7,696.5	6,208.5	-5,583.1	293.8	5,578.5	0.61	0.32	-0.53
14,704.0	88.60	159.30	7,699.5	6,211.5	-5,671.6	328.2	5,670.5	1.43	0.84	1.16
14,798.0	90.90	158.10	7,699.9	6,211.9	-5,759.2	362.3	5,761.5	2.76	2.45	-1.28
14,892.0	91.40	158.00	7,698.0	6,210.0	-5,846.3	397.4	5,852.2	0.54	0.53	-0.11
14,986.0	91.40	159.30	7,695.7	6,207.7	-5,933.8	431.7	5,943.2	1.38	0.00	1.38
15,056.0	90.37	159.89	7,694.6	6,206.6	-5,999.4	456.1	6,011.2	1.70	-1.47	0.84
15,081.0	90.00	160.10	7,694.5	6,206.5	-6,022.9	464.6	6,035.5	1.70	-1.47	0.84
15,175.0	90.50	160.00	7,694.1	6,206.1	-6,111.3	496.7	6,127.1	0.54	0.53	-0.11
15,269.0	87.60	158.60	7,695.7	6,207.7	-6,199.2	529.9	6,218.3	3.43	-3.09	-1.49
15,364.0	89.30	159.40	7,698.3	6,210.3	-6,287.9	563.9	6,310.4	1.98	1.79	0.84
15,458.0	87.40	158.00	7,701.0	6,213.0	-6,375.4	598.1	6,401.3	2.51	-2.02	-1.49
15,553.0	87.60	157.70	7,705.1	6,217.1	-6,463.3	633.8	6,492.9	0.38	0.21	-0.32
15,647.0	89.10	158.90	7,707.8	6,219.8	-6,550.6	668.6	6,583.7	2.04	1.60	1.28
15,741.0	88.20	158.60	7,710.0	6,222.0	-6,638.2	702.6	6,674.7	1.01	-0.96	-0.32
15,835.0	86.50	160.50	7,714.4	6,226.4	-6,726.2	735.4	6,765.9	2.71	-1.81	2.02
15,929.0	86.90	160.40	7,719.8	6,231.8	-6,814.6	766.8	6,857.4	0.44	0.43	-0.11
16,023.0	87.20	160.60	7,724.6	6,236.6	-6,903.1	798.2	6,949.0	0.38	0.32	0.21
16,117.0	87.70	160.60	7,728.8	6,240.8	-6,991.7	829.4	7,040.7	0.53	0.53	0.00
16,163.0	87.10	159.40	7,730.9	6,242.9	-7,034.8	845.1	7,085.4	2.91	-1.30	-2.61
16,202.6	87.10	159.40	7,732.9	6,244.9	-7,071.9	859.0	7,123.9	0.00	0.00	0.00
16,210.7	87.10	159.40	7,733.3	6,245.3	-7,079.4	861.9	7,131.7	0.00	0.00	0.00
16,219.0	87.10	159.40	7,733.7	6,245.7	-7,087.2	864.8	7,139.7	0.00	0.00	0.00



Phoenix Technology Services
Survey Report



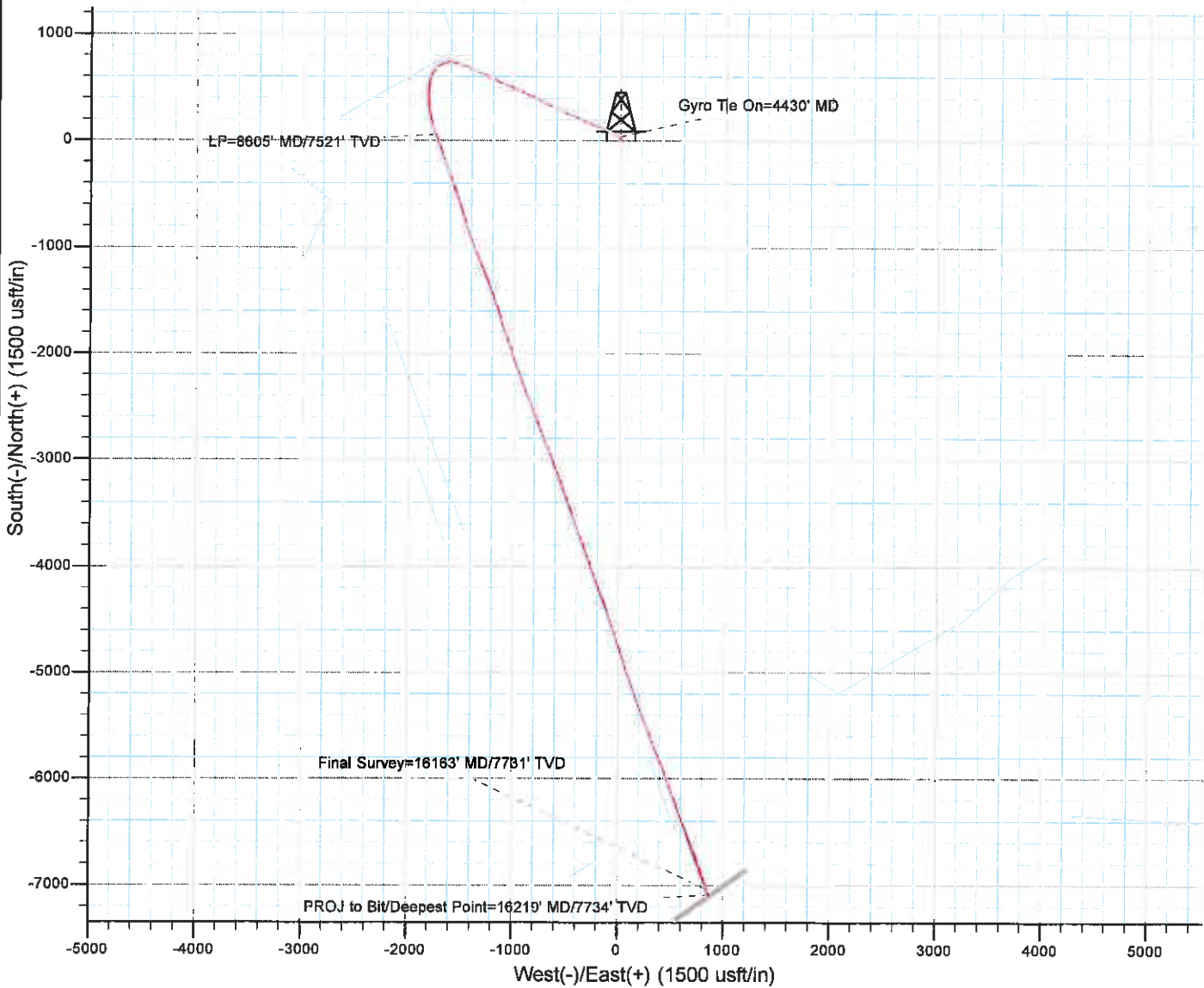
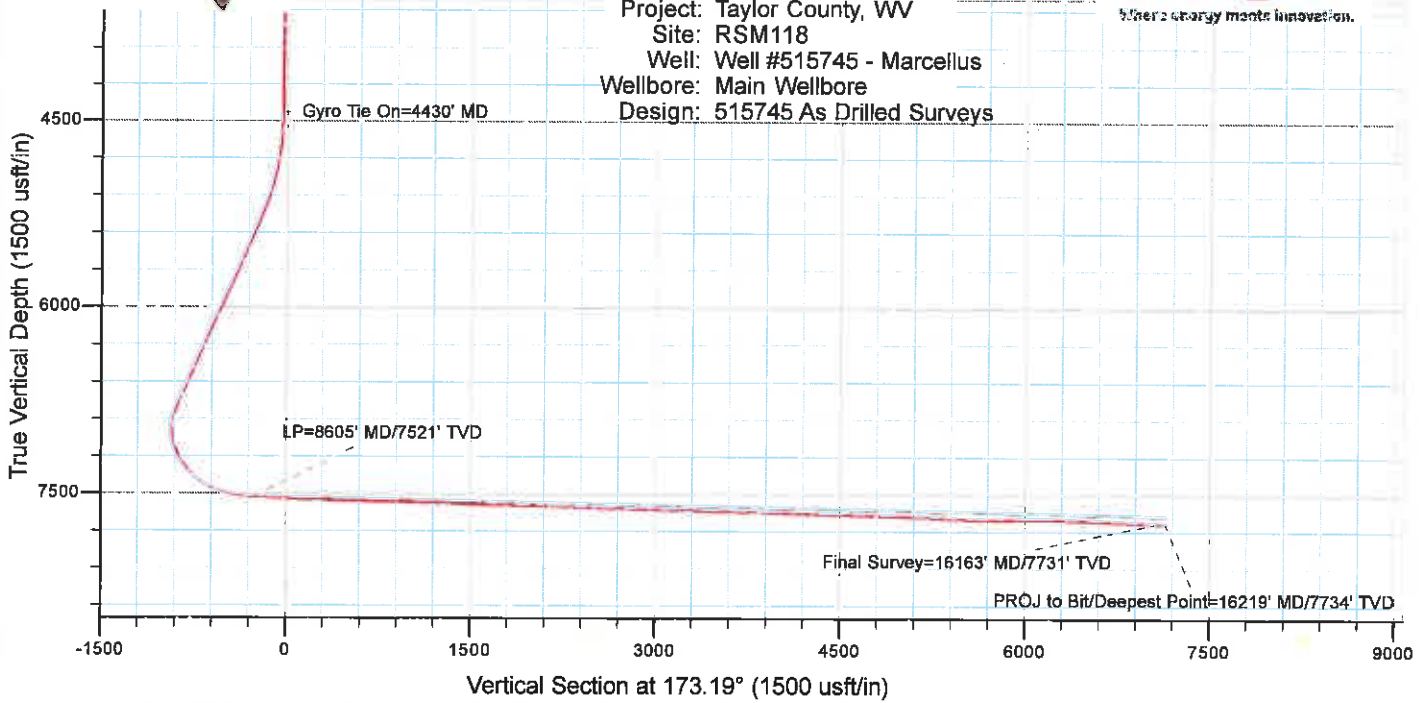
Database:	515745 Plat LP2	Local Co-ordinate Reference:	North American Datum 83 (NAD 83)
Company:	Q&P PRODUCTION	TVD Reference:	NA 83 Mean Sea Level
Project:	515745 Plat LP2	MD Reference:	NA 83 Mean Sea Level
Site:	515745	North Reference:	NA 83
Well:	515745 (ST4) - Alameda	Survey Calculation Method:	Minimum Curvature
Wellbore:	515745		
Design:	515745 Plat LP2		

Target Name	- Hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (-1,582.5)	+E/-W (-1,157.2)	Northing (usft)	Easting (usft)	Latitude	Longitude
515745 Plat LP2	- actual wellpath misses target center by 77.4usft at 10348.3usft MD (7576.2 TVD, -1578.8 N, -1153.3 E)	0.00	360.00	7,499.0	-1,582.5	-1,157.2	288,392.15	1,802,742.05	39° 17' 22.943 N	80° 11' 48.963 W
	- Point									
515744 Plat LP	- actual wellpath misses target center by 407.0usft at 9999.9usft MD (7565.6 TVD, -1252.3 N, -1274.0 E)	0.00	0.00	7,499.0	-1,412.8	-1,642.0	288,561.80	1,802,257.20	39° 17' 24.583 N	80° 11' 55.146 W
	- Rectangle (sides W1,000.0 H1,000.0 D0.0)									
515744 Plat LP (copy) (c	- actual wellpath misses target center by 407.0usft at 9999.9usft MD (7565.6 TVD, -1252.3 N, -1274.0 E)	0.00	0.00	7,499.0	-1,412.8	-1,642.0	288,561.80	1,802,257.20	39° 17' 24.583 N	80° 11' 55.146 W
	- Rectangle (sides W1,000.0 H1,000.0 D0.0)									
515745 LP -323' VS p9	- actual wellpath misses target center by 6.4usft at 8544.1usft MD (7518.2 TVD, 115.4 N, -1768.7 E)	0.00	0.00	7,520.0	113.6	-1,774.5	290,088.27	1,802,124.68	39° 17' 39.660 N	80° 11' 56.983 W
	- Point									
515745 Plat TD3 p9	- actual wellpath misses target center by 65.7usft at 16210.7usft MD (7733.3 TVD, -7079.4 N, 861.9 E)	0.00	0.00	7,670.0	-7,089.1	847.1	282,885.55	1,804,746.28	39° 16' 28.669 N	80° 11' 22.934 W
	- Point									

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,430.0	4,429.7	37.6	-5.9	Gyro Tie On=4430' MD
8,605.0	7,521.0	58.1	-1,748.1	LP=8605' MD/7521' TVD
16,163.0	7,730.9	-7,034.8	845.1	Final Survey=16163' MD/7731' TVD
16,219.0	7,733.7	-7,087.2	864.8	PROJ to Bit/Deepest Point=16219' MD/7734' TVD

Checked By: _____ Approved By: _____ Date: _____

Project: Taylor County, WV
Site: RSM118
Well: Well #515745 - Marcellus
Wellbore: Main Wellbore
Design: 515745 As Drilled Surveys



515745-47-091-01318-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	10/23/2015	16,213.00	16,214.00	10	MARCELLUS
1	11/25/2015	16,067.00	16,159.00	32	MARCELLUS
2	11/25/2015	15,917.00	16,055.00	40	MARCELLUS
3	11/25/2015	15,767.00	15,889.00	40	MARCELLUS
4	11/25/2015	15,617.00	15,739.00	40	MARCELLUS
5	11/26/2015	15,467.00	15,589.00	40	MARCELLUS
6	11/26/2015	15,317.00	15,436.00	40	MARCELLUS
7	11/26/2015	15,167.00	15,287.00	40	MARCELLUS
8	11/26/2015	15,017.00	15,134.00	40	MARCELLUS
9	11/26/2015	14,867.00	14,989.00	40	MARCELLUS
10	11/27/2015	14,717.00	14,839.00	40	MARCELLUS
11	11/27/2015	14,567.00	14,689.00	40	MARCELLUS
12	11/27/2015	14,417.00	14,539.00	40	MARCELLUS
13	11/27/2015	14,267.00	14,389.00	40	MARCELLUS
14	11/27/2015	14,117.00	14,239.00	40	MARCELLUS
15	11/28/2015	13,960.00	14,089.00	40	MARCELLUS
16	11/28/2015	13,817.00	13,936.00	40	MARCELLUS
17	11/28/2015	13,667.00	13,789.00	40	MARCELLUS
18	11/28/2015	13,517.00	13,639.00	40	MARCELLUS
19	11/29/2015	13,367.00	13,489.00	40	MARCELLUS
20	11/29/2015	13,217.00	13,339.00	40	MARCELLUS
21	11/29/2015	13,067.00	13,189.00	40	MARCELLUS
22	11/29/2015	12,917.00	13,039.00	40	MARCELLUS
23	11/29/2015	12,767.00	12,889.00	40	MARCELLUS
24	11/30/2015	12,617.00	12,736.00	40	MARCELLUS
25	11/30/2015	12,467.00	12,589.00	40	MARCELLUS
26	11/30/2015	12,317.00	12,439.00	40	MARCELLUS
27	11/30/2015	12,167.00	12,289.00	40	MARCELLUS
28	11/30/2015	12,017.00	12,139.00	40	MARCELLUS
29	12/1/2015	11,867.00	11,989.00	40	MARCELLUS
30	12/1/2015	11,717.00	11,839.00	40	MARCELLUS
31	12/1/2015	11,567.00	11,689.00	40	MARCELLUS
32	12/1/2015	11,417.00	11,539.00	40	MARCELLUS
33	12/1/2015	11,267.00	11,389.00	40	MARCELLUS
34	12/1/2015	11,114.00	11,239.00	40	MARCELLUS
35	12/2/2015	10,967.00	11,089.00	40	MARCELLUS
36	12/2/2015	10,817.00	10,939.00	40	MARCELLUS
37	12/2/2015	10,667.00	10,789.00	40	MARCELLUS
38	12/2/2015	10,517.00	10,639.00	40	MARCELLUS
39	12/2/2015	10,367.00	10,489.00	40	MARCELLUS
40	12/3/2015	10,217.00	10,339.00	40	MARCELLUS
41	12/3/2015	10,067.00	10,189.00	40	MARCELLUS
42	12/3/2015	9,917.00	10,039.00	40	MARCELLUS
43	12/3/2015	9,767.00	9,887.00	40	MARCELLUS
44	12/3/2015	9,617.00	9,739.00	40	MARCELLUS
45	12/4/2015	9,467.00	9,587.00	40	MARCELLUS
46	12/4/2015	9,317.00	9,439.00	40	MARCELLUS
47	12/4/2015	9,164.00	9,289.00	40	MARCELLUS
48	12/4/2015	9,017.00	9,139.00	40	MARCELLUS
49	12/5/2015	8,867.00	8,989.00	40	MARCELLUS
50	12/5/2015	8,717.00	8,839.00	40	MARCELLUS
51	12/5/2015	8,567.00	8,689.00	40	MARCELLUS
52	12/5/2015	8,417.00	8,539.00	40	MARCELLUS

515745-47-091-01318-0000 - 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 (bbbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	11/24/2015	18.70	7,170.00	883.00	6,529.00	238,760	937	0
1	11/25/2015	82.10	8,789.00	9,085.00	4,707.00	251,760	8399	0
2	11/25/2015	84.00	8,951.00	8,998.00	5,524.00	251,960	7023	0
3	11/25/2015	84.40	8,943.00	8,993.00	5,557.00	250,000	7103	0
4	11/25/2015	84.20	8,860.00	9,157.00	5,349.00	249,540	7008	0
5	11/26/2015	83.90	8,866.00	9,207.00	5,577.00	248,260	7028	0
6	11/26/2015	85.90	8,931.00	8,987.00	5,819.00	251,760	7047	0
7	11/26/2015	84.80	8,908.00	9,044.00	5,342.00	251,920	6453	0
8	11/26/2015	86.60	8,922.00	9,038.00	5,338.00	250,550	6495	0
9	11/27/2015	87.30	8,875.00	9,024.00	5,224.00	251,980	6560	0
10	11/27/2015	91.50	8,904.00	9,038.00	5,471.00	252,120	6496	0
11	11/27/2015	99.30	8,890.00	9,001.00	5,591.00	250,920	6416	0
12	11/27/2015	92.20	8,897.00	8,995.00	5,144.00	251,440	6396	0
13	11/27/2015	91.70	8,963.00	9,038.00	5,394.00	250,100	6468	0
14	11/27/2015	88.60	8,952.00	9,095.00	5,080.00	249,220	6449	0
15	11/28/2015	82.30	8,849.00	9,443.00	5,824.00	253,840	6547	0
16	11/28/2015	84.90	8,936.00	9,034.00	5,930.00	249,320	6704	0
17	11/28/2015	87.00	8,833.00	9,063.00	5,835.00	250,400	8164	0
18	11/28/2015	85.00	8,877.00	9,039.00	5,866.00	250,640	6,913	0
19	11/29/2015	88.90	8,788.00	8,997.00	5,718.00	250,800	6,729	0
20	11/29/2015	89.30	8,848.00	8,968.00	5,911.00	250,120	6,818	0
21	11/29/2015	91.10	8,967.00	9,030.00	5,843.00	248,740	6,323	0
22	11/29/2015	90.60	8,919.00	9,017.00	5,778.00	249,560	6,253	0
23	11/29/2015	94.30	8,960.00	9,039.00	5,767.00	251,760	6,484	0
24	11/30/2015	89.10	8,919.00	9,077.00	5,686.00	248,520	6232	0
25	11/30/2015	88.60	8,937.00	9,013.00	5,730.00	250,720	6648	0
26	11/30/2015	86.30	8,934.00	9,014.00	5,561.00	250,720	6614	0
27	11/30/2015	85.50	8,900.00	9,053.00	5,712.00	254,040	6209	0
28	11/30/2015	88.00	8,827.00	9,107.00	5,957.00	252,500	6954	0
29	12/1/2015	90.00	8,943.00	9,016.00	5,647.00	252,930	6260	0
30	12/1/2015	86.90	8,904.00	9,008.00	5,517.00	250,630	6111	0
31	12/1/2015	88.50	8,935.00	9,016.00	5,822.00	249,580	6084	0
32	12/1/2015	86.00	8,909.00	9,001.00	6,019.00	250,560	6709	0
33	12/1/2015	87.90	8,912.00	9,082.00	6,099.00	252,000	6248	0
34	12/2/2015	91.30	8,912.00	9,025.00	6,050.00	254,140	6162	0
35	12/2/2015	87.50	8,916.00	9,093.00	6,09C.00	253,120	6056	0
36	12/2/2015	91.00	8,931.00	9,053.00	6,065.00	248,940	6395	0
37	12/2/2015	89.80	8,941.00	9,048.00	5,998.00	252,800	6393	0
38	12/2/2015	90.40	8,910.00	9,09C.00	6,015.00	252,920	6077	0
39	12/2/2015	100.20	8,922.00	9,049.00	6,024.00	252,780	6066	0
40	12/3/2015	95.80	8,983.00	9,079.00	5,964.00	249,060	5970	0
41	12/3/2015	91.30	8,935.00	9,076.00	5,978.00	248,920	6267	0
42	12/3/2015	93.10	8,938.00	9,007.00	6,327.00	251,400	6311	0
43	12/3/2015	89.20	8,966.00	9,023.00	5,709.00	251,920	6368	0
44	12/3/2015	88.70	9,033.00	9,333.00	6,146.00	165,640	4697	0
44.01	12/4/2015	8.70	5,863.00	7,668.00	6,419.00	0	3093	0
44.1	12/4/2015	89.50	8,812.00	9,061.00	6,325.00	86,840	3311	0
45	12/4/2015	95.00	8,945.00	9,020.00	5,826.00	254,220	6391	0
46	12/4/2015	98.20	8,930.00	9,001.00	5,637.00	254,600	6328	0
47	12/4/2015	95.70	8,824.00	9,014.00	5,788.00	252,960	5985	0
48	12/4/2015	97.20	8,626.00	8,891.00	5,940.00	253,600	5943	0
49	12/5/2015	100.10	8,537.00	8,844.00	5,885.00	252,860	5851	0
50	12/5/2015	100.90	8,534.00	9,022.00	5,871.00	252,040	6232	0
51	12/5/2015	101.60	8,496.00	8,775.00	5,702.00	250,320	6324	0
52	12/5/2015	83.40	8,876.00	9,047.00	4,902.00	251,220	6286	0

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	11/24/2015
Job End Date	12/5/2015
State	West Virginia
County	Taylor
API Number	47-091-01318-00-00
Operator Name	EQT Production
Well Name and Number	515745
Longitude	-80.19288900
Latitude	39.29407600
Datum	NAD83
Federal/Tribal Well	NO
True Vertical Depth	7,402
Total Base Water Volume (gal)	14,439,096
Total Base Non Water Volume	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical 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	89.83770	None
Sand (Proppant)	Keane Group	Proppant	Silica Substrate	14808-60-7	100.00000	9.92211	None
Hydrochloric Acid (15%)	Keane Group	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.02784	None
FFR760	Keane Group	Friction Reducer	Hydrotreated Light Distillate	84742-47-8	30.00000	0.01615	None
			Alkyl Alcohol	Proprietary	10.00000	0.00538	None
			Oxyalkylated alcohol A	Proprietary	5.00000	0.00000	None
AI 600	Keane Group	Corrosion Inhibitor	Poly (oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)- omega-hydroxy-branched	127087-87-0	5.00000	0.00269	None
			Ethylene Glycol	107-21-1	40.00000	0.00019	None
			N, N-Dimethylformamide	68-12-2	20.00000	0.00009	None
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	15.00000	0.00007	None
			2-Butoxyethanol	111-76-2	15.00000	0.00007	None
			Cinnamialdehyde	104-55-2	15.00000	0.00007	None

			1-Decanol	112-30-1	5.00000	0.00002	None
			Triethyl Phosphate	78-40-0	2.50000	0.00001	None
			Isopropyl alcohol	67-63-0	2.50000	0.00001	None
			1-Octanol	111-87-5	2.50000	0.00001	None
PGS-214	Keane Group		Fast Hydrating Guar Slurry				
LEB-10X	Keane Group		Gel Breaker	NA	100.00000	0.00031	None
			Ethylene Glycol	107-21-1	30.00000	0.00009	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)

RECEIVED
Office of Oil and Gas
AUG 25 2016
WV Department of
Environmental Protection



June 8, 2016

Mr. Gene Smith
West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304

Re: Modification of 47-091-01318

Dear Mr. Smith,

Please accept the attached updates for the above referenced permit. Upon inspection of our as-drilled plat, we noted the curve geometry crossed into 1 additional lease, #124695. Enclosed is an updated WW-6A1, WW-6B, mylar plat and rec plan reflecting corrections to update the permit file to be consistent with the as-drilled well bore.

If you have any questions, please do not hesitate to contact me at (304) 848-0076.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Vicki Roark', is written over the word 'Sincerely,'.

Vicki Roark
Permitting Supervisor-WV

RECEIVED
Office of Oil and Gas

AUG 25 2016

WV Department of
Environmental Protection

Enc.

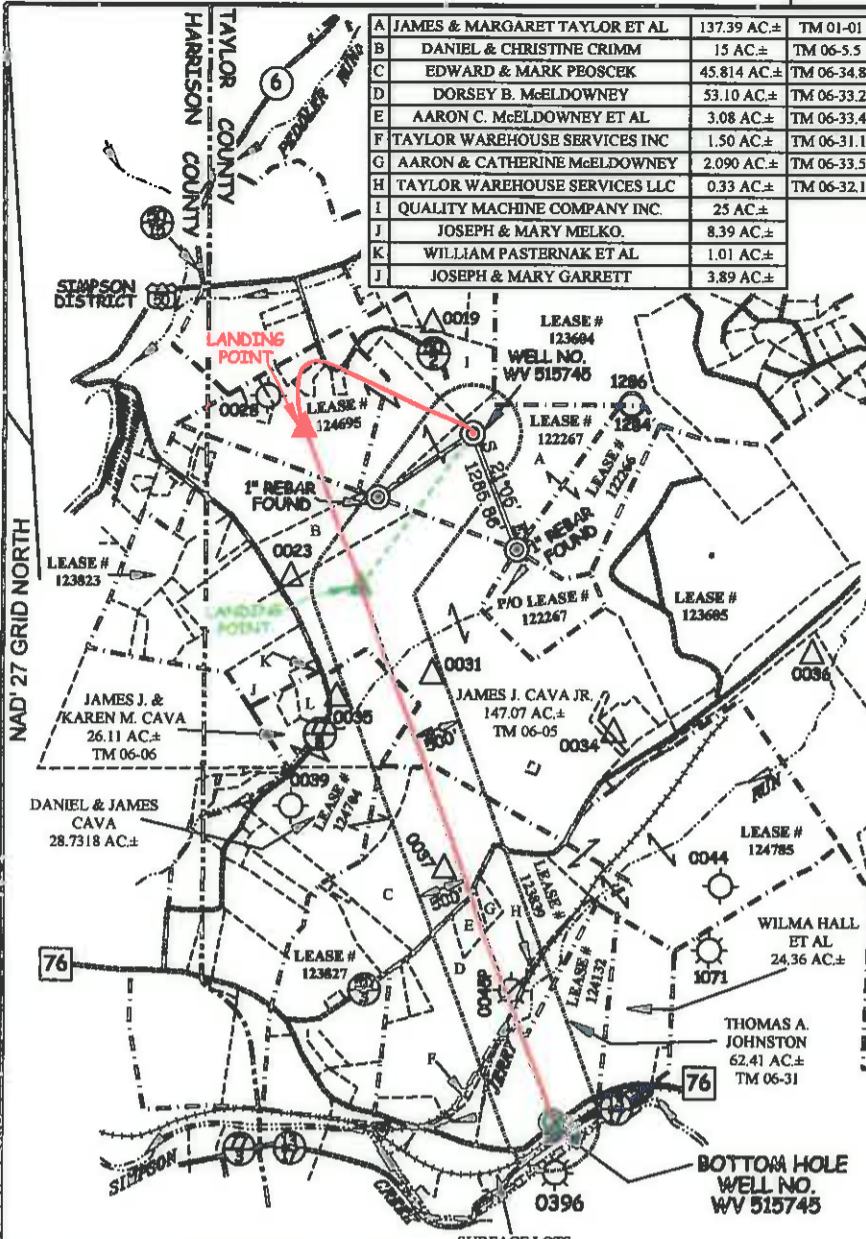
A	JAMES & MARGARET TAYLOR ET AL	137.39 AC±	TM 01-01
B	DANIEL & CHRISTINE CRIMM	15 AC±	TM 06-5.5
C	EDWARD & MARK PEOCEK	45.814 AC±	TM 06-34.8
D	DORSEY B. McELDOWNEY	53.10 AC±	TM 06-33.2
E	AARON C. McELDOWNEY ET AL	3.08 AC±	TM 06-33.4
F	TAYLOR WAREHOUSE SERVICES INC	1.50 AC±	TM 06-31.1
G	AARON & CATHERINE McELDOWNEY	2.090 AC±	TM 06-33.5
H	TAYLOR WAREHOUSE SERVICES LLC	0.33 AC±	TM 06-32.1
I	QUALITY MACHINE COMPANY INC.	25 AC±	
J	JOSEPH & MARY MELKO.	8.39 AC±	
K	WILLIAM PASTERNAK ET AL	1.01 AC±	
L	JOSEPH & MARY GARRETT	3.89 AC±	

**EQT PRODUCTION COMPANY
TAYLOR LEASE
123 ACRES±
WELL NO. WV 515745
(RSM118 H9)**

AS DRILLED COORDINATES

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

NAD'27 S.P.C.(FT)	N. 289,874.63	E. 1,803,899.21
NAD'27 GEO.	LAT-(N) 39.294076	LONG-(W) 80.192889
NAD'83 UTM (M)	N. 4,349,731.98	E. 569,615.95
LANDING POINT		
NAD'27 S.P.C.(FT)	N. 290,032.78	E. 1,802,151.08
NAD'27 GEO.	LAT-(N) 39.294198	LONG-(W) 80.199067
NAD'83 UTM (M)	N. 4,349,740.82	E. 589,083.06
BOTTOM HOLE		
NAD'27 S.P.C.(FT)	N. 282,887.44	E. 1,804,763.98
NAD'27 GEO.	LAT-(N) 39.274636	LONG-(W) 80.189641
NAD'83 UTM (M)	N. 4,347,577.16	E. 569,915.31



NOTES ON SURVEY

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

LEGEND

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

ROYALTY OWNERS

PEGGY KNOTTS ET AL	724.87 AC±	LEASE NO. 128886
WESLEY J. BRADLEY ET AL	146 AC±	LEASE NO. 124704
EUGENE C. MOLINARO ET AL	112 AC±	LEASE NO. 128887
KATHRYN L. GOVERT	85 AC±	LEASE NO. 128890
THOMAS A. JOHNSTON	75 AC±	LEASE NO. 124132

ADDITIONAL ROYALTY OWNER

JAMES TAYLOR (LIFE) ET AL	48 AC±	LEASE NO. 124895
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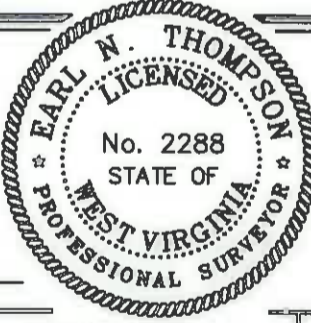
Professional Energy Consultants
A DIVISION OF SOUTH LAND SURVEYING, INC.

SLS
SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.

(204) 462-5854
WWW.SLSURVEYS.COM

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

P.S.
2288 *Earl N. Thompson*



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

DATE SEPTEMBER 22, 20 14

REVISED 06/03/15, 11/03/15, 04/12/16 & 06/06/16

OPERATORS WELL NO. WV 515745

API WELL NO. 47 - 091 - 01318H

STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7265AD515745R2

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: PAD ELEVATION 1,465' WATERSHED PEDDLER RUN

DISTRICT FLEMINGTON COUNTY TAYLOR QUADRANGLE ROSEMONT 7.5'

SURFACE OWNER JAMES M. TAYLOR ET AL ACREAGE 137.39±

ROYALTY OWNER JAMES TAYLOR (LIFE) ET AL ACREAGE 123±

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS

ESTIMATED DEPTH 7,632'

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