

APPROVED

NAME: *John A. Jones*

DATE: *2/10/2016*

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 513144

API: 47 - 017 - 06458

Submission: Initial Amended

Notes: Correction to Production Cement Top (MD)

RECEIVED
Office of Oil and Gas

DEC 21 2015

WV Department of
Environmental Protection

04/01/2016

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

API 47-170-6458 County DODDRIDGE District WEST UNION
Quad OXFORD 7.5' Pad Name OXFORD 157 Field/Pool Name _____
Farm name JUSTIN L. HENDERSON ET AL Well Number 513144
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 4,343,012 Easting 520,179
Landing Point of Curve Northing 4,343,048 Easting 520,023
Bottom Hole Northing 4,344,139 Easting 519,492

Elevation (ft) 968 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 04/18/2014 Date drilling commenced 08/18/2014 Date drilling ceased 12/10/2014
Date completion activities began 4/13/2015 Date completion activities ceased 4/18/2015
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 144 Open mine(s) (Y/N) depths N
Salt water depth(s)-ft - Void(s) encountered (Y/N) depths N
Coal depth(s) 'ft 351 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

04/01/2016

API 47-170 - 6458

Farm name JUSTIN L. HENDERSON ET AL Well number 513144

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"	63'	NEW	A-500 40LB/FT	None	Y
Surface	17.5"	13.375"	943'	NEW	J-55 54.5LB/FT	None	Y
Coal							
Intermediate 1	12.375"	9.625"	5,064'	NEW	P-110 40LB/FT	1,374', 2,128', 2,228'	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	10,725'	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	62	15.6	1.18	73.16	0	8
Surface	CLASS A	790	15.6	1.19	940.1	0	8
Coal							
Intermediate 1	CLASS A / CLASS A	375 / 340	14.2 / 15.6	1.28 / 1.18	881.2	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS A / CLASS H	305 / 530	14.2 / 15.2	1.26 / 1.97	1428.4	4,547	72
Tubing							

Drillers TD (ft) 10,738' Loggers TD (ft) 6486'

Deepest formation penetrated Marcellus Plug back to (ft) 5019'

Plug back procedure Pumped isolation plug # 1 with 2 bbls H2O, 42.3 bbls of 14.2 ppg cmt, 2 bbls H2O, Trip out of hole to @ 5250'. Pump isolation plug # 2 with 2 bbls H2O, 40.5 bbls (sks 210 and 1.28 yield) of 14.2 ppg cmt, 2 bbls H2O, Trip out of hole to @ 4850', pump kickoff plug with 2 bbls H2O, 32.2 bbls cmt (sks 165 and 1.12 yield) @ 16.0 ppg. Plugcem, 2 bbls H2O, Trip out of hole @ 4500' pump 20 bbls H2O.

Kick off depth (ft) 5,147

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- 111', 484', 899'

INTERMEDIATE- 85', 584', 1,085', 1,585', 2,085', 2,585', 3,104', 3,606', 4,104', 4,603', 5,062'

PRODUCTION- Composite body centralizers every JI from 4,545 to bottom'

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 - 6458 Farm name JUSTIN L. HENDERSON ET AL Well number 513144

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- 170 - 6458 Farm name JUSTIN L. HENDERSON ET AL Well number 513144

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6361'</u> TVD	<u>6,681'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,311 psi Bottom Hole N/A psi DURATION OF TEST 102.5 hrs

OPEN FLOW Gas 12,151 mcfpd Oil N/A bpd NGL 66.2 bpd Water 427.2 bpd GAS MEASURED BY Estimated Orifice Pilot

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

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 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

API 47- 017 - 6458 Farm name JUSTIN L. HENDERSON ET AL Well number 513144

Drilling Contractor Patterson UTI
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 WEATHERFORD
Address P.O. BOX 200698 City DALLAS State TX Zip 75320

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

513144 Final Formations API #47-017-6458

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
FRESH WATER ZONE	1		154	
SAND/SHALE	1		347	
PITTSBURGH COAL SEAM	347		351	
SAND/SHALE	351		1,599.00	
BIG LIME	1,599.00		1,884.00	
WEIR	1,884.00		2,089.00	
BEREA	2,089.00		2,093.00	
GANTZ	2,093.00		2,204.00	
50F	2,204.00		2,294.00	
30F	2,294.00		2,349.00	
GORDON	2,349.00		2,438.00	
4TH	2,438.00		2,660.00	
BAYARD	2,660.00		2,933.00	
WARREN	2,933.00		3,010.00	
SPEECHLEY	3,010.00		3,499.00	
BALLTOWN A	3,499.00		4,146.00	
RILEY	4,146.00		4,596.00	
BENSON	4,596.00		4,849.00	
ALEXANDER	4,849.00		6,080.00	6,006.10
SONYEA	6,080.00	6,006.10	6,238.00	6,140.10
MIDDLESEX	6,238.00	6,140.10	6,312.00	6,196.60
GENESEE	6,312.00	6,196.60	6,424.00	6,268.70
GENESEO	6,424.00	6,268.70	6,506.00	6,309.90
TULLY	6,506.00	6,309.90	6,576.00	6,337.30
HAMILTON	6,576.00	6,337.30	6,646.00	6,360.50
MARCELLUS	6,646.00	6,360.50		

EQT Production - Marcellus

Doddridge County, WV Grid

Doddridge County 513144

Well #513144

Main Wellbore

Design: 513144 As Drilled Surveys

Standard Survey Report

13 December, 2014

04/01/2016

Phoenix Technologies

Survey Report

Database: EDM 5000.1 Single User Db Company: EOT Production - Marcellus Project: Doddridge County, WV Grid Site: Doddridge County 513144 Well: Well #513144 Wellbore: Main Wellbore Design: 513144 As Drilled Surveys	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Site Doddridge County 513144 KB 23 ft @ 091.0usft KB 23 ft @ 091.0usft Grid Minimum Curvature
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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 513144

Site Position:	Northing: 270,627.70 usft	Latitude: 39 24
From: Map	Easting: 1 641,308 60 usft	Longitude: -80 77
Position Uncertainty: 0 0 usft	Slot Radius: 13-3/16 "	Grid Convergence: -0 81

Well Well #513144

Well Position	+N/-S 0 0 usft	Northing: 270 627 70 usft	Latitude: 39° 14' 9.931 N
	+E/-W 0 0 usft	Easting: 1 641 308 60 usft	Longitude: 80° 45' 58.871 W
Position Uncertainty	0 0 usft	Wellhead Elevation: usft	Ground Level: 968 0 usft

Wellbore Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	11/24/2014	-8.49	66.73	52,212

Design 513144 As Drilled Surveys

Audit Notes:

Version: 1 0	Phase: ACTUAL	Tie On Depth: 0 0
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Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0 0	0 0	0 0	329 56

Survey Program Date 12/13/2014

From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0 00	5,110 0	513144 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0 00	10 737 0	513144 PHX MWD (Main Wellbore)	MWD+IGRF	MWD+IGRF v3 standard declination

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)
0 0	0 00	0 00	0 0	-991 0	0 0	0 0	0 0	0 00	0 00	0 00
110 0	0 18	2 84	110 0	-881 0	0 2	0 0	0 1	0 16	0 16	0 00
210 0	0 04	43.80	210 0	-781 0	0 4	0 0	0 3	0 15	-0 14	40 96
310 0	0 05	38 03	310 0	-681 0	0 4	0 1	0 3	0 01	0 01	-5 77
410 0	0 05	305 53	410 0	-581 0	0 5	0 1	0 4	0 07	0 00	-92 50
510 0	0 08	253 41	510 0	-481 0	0 5	0 0	0 4	0 06	0 03	-52 12
610 0	0 08	251 79	610 0	-381 0	0 4	-0 2	0 5	0 00	0 00	-1 62
710 0	0 08	259 80	710 0	-281 0	0 4	-0 3	0 5	0 01	0 00	8 01

Phoenix Technologies
Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513144
Company:	BGT Production - Marcellus	TVD Reference:	KB 23 R @ 991.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB 23 R @ 991.0usft
Site:	Doddridge County 513144	North Reference:	Grid
Well:	Well #513144	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513144 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)	
810.0	0.09	237.28	810.0	-181.0	0.3	-0.4	0.5	0.03	0.01	-22.52	
910.0	0.08	242.41	910.0	-81.0	0.3	-0.6	0.5	0.01	-0.01	5.13	
1,010.0	0.54	232.36	1,010.0	19.0	0.0	-1.0	0.5	0.46	0.46	-10.05	
1,110.0	0.96	237.11	1,110.0	119.0	-0.8	-2.1	0.4	0.42	0.42	4.75	
1,210.0	1.00	240.46	1,210.0	219.0	-1.7	-3.5	0.3	0.07	0.04	3.35	
1,310.0	1.06	239.71	1,310.0	319.0	-2.6	-5.1	0.4	0.06	0.06	-0.75	
1,410.0	1.02	248.23	1,409.9	418.9	-3.4	-6.7	0.5	0.16	-0.04	8.52	
1,510.0	0.95	256.80	1,509.9	518.9	-3.9	-8.3	0.9	0.16	-0.07	8.57	
1,610.0	0.90	257.50	1,609.9	618.9	-4.2	-9.9	1.4	0.05	-0.05	0.70	
1,710.0	0.84	258.72	1,709.9	718.9	-4.6	-11.4	1.8	0.06	-0.06	1.22	
1,810.0	0.66	256.90	1,809.9	818.9	-4.8	-12.7	2.3	0.18	-0.18	-1.82	
1,910.0	0.62	254.91	1,909.9	918.9	-5.1	-13.8	2.6	0.05	-0.04	-1.99	
2,010.0	0.57	251.71	2,009.9	1,018.9	-5.4	-14.8	2.8	0.06	-0.05	-3.20	
2,110.0	0.51	250.50	2,109.9	1,118.9	-5.7	-15.7	3.0	0.06	-0.06	-1.21	
2,210.0	0.48	251.73	2,209.9	1,218.9	-6.0	-16.5	3.2	0.03	-0.03	1.23	
2,310.0	0.39	248.60	2,309.9	1,318.9	-6.2	-17.2	3.3	0.09	-0.09	-3.13	
2,410.0	0.41	248.09	2,409.9	1,418.9	-6.5	-17.8	3.4	0.02	0.02	-0.51	
2,510.0	0.37	247.61	2,509.9	1,518.9	-6.8	-18.5	3.5	0.04	-0.04	-0.48	
2,610.0	0.25	232.82	2,609.9	1,618.9	-7.0	-18.9	3.5	0.14	-0.12	-14.79	
2,710.0	0.26	235.66	2,709.9	1,718.9	-7.3	-19.3	3.5	0.02	0.01	2.84	
2,810.0	0.22	223.08	2,809.9	1,818.9	-7.5	-19.6	3.4	0.07	-0.04	-12.58	
2,910.0	0.26	213.19	2,909.9	1,918.9	-7.9	-19.9	3.3	0.06	0.04	-9.89	
3,010.0	0.25	217.10	3,009.9	2,018.9	-8.2	-20.1	3.1	0.02	-0.01	3.91	
3,110.0	0.21	224.47	3,109.9	2,118.9	-8.5	-20.4	3.0	0.05	-0.04	7.37	
3,210.0	0.20	224.11	3,209.9	2,218.9	-8.8	-20.6	2.9	0.01	-0.01	-0.36	
3,310.0	0.19	210.22	3,309.9	2,318.9	-9.1	-20.8	2.7	0.05	-0.01	-13.89	
3,410.0	0.19	205.91	3,409.9	2,418.9	-9.4	-21.0	2.6	0.01	0.00	-4.31	
3,510.0	0.20	201.18	3,509.9	2,518.9	-9.7	-21.1	2.4	0.02	0.01	-4.73	
3,610.0	0.23	208.24	3,609.9	2,618.9	-10.0	-21.3	2.2	0.04	0.03	7.06	
3,710.0	0.32	238.82	3,709.9	2,718.9	-10.3	-21.6	2.0	0.17	0.09	30.58	
3,810.0	0.50	263.11	3,809.9	2,818.9	-10.5	-22.3	2.2	0.25	0.18	24.29	
3,910.0	0.68	274.91	3,909.8	2,918.8	-10.5	-23.3	2.7	0.22	0.18	11.80	
4,010.0	0.86	283.42	4,009.8	3,018.8	-10.3	-24.6	3.6	0.21	0.18	8.51	
4,110.0	1.00	289.02	4,109.8	3,118.8	-9.8	-26.2	4.8	0.17	0.14	5.60	
4,210.0	1.16	291.78	4,209.8	3,218.8	-9.2	-28.0	6.2	0.17	0.16	2.76	
4,310.0	1.39	300.10	4,309.8	3,318.8	-8.2	-30.0	8.1	0.29	0.23	8.32	
4,410.0	1.54	304.23	4,409.8	3,418.8	-6.8	-32.1	10.4	0.18	0.15	4.13	
4,510.0	1.74	309.52	4,509.7	3,518.7	-5.1	-34.4	13.0	0.25	0.20	5.29	
4,610.0	1.87	310.88	4,609.7	3,618.7	-3.1	-36.8	16.0	0.14	0.13	1.36	
4,710.0	2.01	315.59	4,709.6	3,718.6	-0.8	-39.3	19.2	0.21	0.14	4.71	
4,810.0	2.31	316.33	4,809.5	3,818.5	2.0	-41.9	22.9	0.30	0.30	0.74	
4,910.0	2.81	322.92	4,909.4	3,918.4	5.4	-44.7	27.3	0.58	0.50	6.59	

Phoenix Technologies
Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513144
Company:	EQT Production - Marcellus	TVD Reference:	KB 23 ft @ 991.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB 23 ft @ 991.0usft
Site:	Doddridge County 513144	North Reference:	Grid
Well:	Well #513144	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513144 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)
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Top of Elks @ 4950' TVD										
4,950.6	2.87	323.15	4,950.0	3,959.0	7.0	-46.0	29.3	0.14	0.14	0.56
Int. csg pt @ 5000' TVD										
5,000.7	2.94	323.41	5,000.0	4,009.0	9.0	-47.5	31.8	0.14	0.14	0.53
5,010.0	2.95	323.46	5,009.3	4,018.3	9.4	-47.8	32.3	0.14	0.14	0.52
Byro. Data @ 5110' MD										
5,110.0	2.95	328.70	5,109.2	4,118.2	13.7	-50.6	37.4	0.27	0.00	5.24
5,157.0	1.90	0.10	5,156.1	4,165.1	15.5	-51.3	39.3	3.52	-2.23	66.81
5,188.0	2.60	92.10	5,187.1	4,196.1	16.0	-50.5	39.4	10.56	2.26	296.77
5,219.0	6.20	118.20	5,218.0	4,227.0	15.1	-48.4	37.6	13.00	11.61	84.19
5,251.0	9.40	130.00	5,249.7	4,258.7	12.6	-44.8	33.6	11.13	10.00	36.88
5,282.0	11.60	141.10	5,280.2	4,289.2	8.6	-40.9	28.1	9.61	7.10	35.81
5,314.0	13.80	151.20	5,311.4	4,320.4	2.7	-37.1	21.1	9.74	6.88	31.56
5,345.0	15.60	161.70	5,341.4	4,350.4	-4.5	-34.0	13.4	10.35	5.81	33.87
5,377.0	17.20	170.60	5,372.1	4,381.1	-13.2	-31.9	4.8	9.30	5.00	27.81
5,408.0	19.00	177.30	5,401.6	4,410.6	-22.8	-30.9	-4.0	8.87	5.81	21.61
5,439.0	21.00	184.20	5,430.7	4,439.7	-33.4	-31.1	-13.0	9.97	6.45	22.26
5,471.0	23.00	189.10	5,460.4	4,469.4	-45.3	-32.5	-22.6	8.48	6.25	15.31
5,502.0	25.80	192.30	5,488.6	4,497.6	-57.8	-34.9	-32.2	9.99	9.03	10.32
5,534.0	28.80	193.60	5,517.1	4,526.1	-72.1	-38.2	-42.9	9.56	9.38	4.06
5,566.0	31.40	194.50	5,544.7	4,553.7	-87.7	-42.1	-54.3	8.25	8.13	2.81
5,597.0	35.00	195.50	5,570.7	4,579.7	-104.1	-46.5	-66.2	11.75	11.61	3.23
5,628.0	34.00	197.50	5,596.2	4,605.2	-120.9	-51.4	-78.2	4.87	-3.23	6.45
5,660.0	31.50	198.80	5,623.1	4,632.1	-137.4	-56.8	-89.7	8.12	-7.81	4.06
5,691.0	27.80	201.70	5,650.1	4,659.1	-151.8	-62.1	-99.4	12.80	-11.94	9.35
5,722.0	25.00	205.50	5,677.8	4,686.8	-164.4	-67.6	-107.5	10.55	-9.03	12.26
5,753.0	22.90	207.30	5,706.2	4,715.2	-175.7	-73.2	-114.4	7.17	-6.77	5.81
5,785.0	21.90	210.60	5,735.7	4,744.7	-186.3	-79.1	-120.6	5.02	-3.13	10.31
5,816.0	22.10	214.00	5,764.5	4,773.5	-196.1	-85.3	-125.9	4.16	0.65	10.97
5,848.0	22.00	216.70	5,794.2	4,803.2	-205.9	-92.2	-130.8	3.18	-0.31	8.44
5,879.0	22.70	221.50	5,822.8	4,831.8	-215.1	-99.7	-134.9	6.30	2.26	15.48
5,911.0	23.50	228.70	5,852.3	4,861.3	-223.9	-108.6	-138.1	9.17	2.50	22.50
5,942.0	24.00	236.40	5,880.6	4,889.6	-231.5	-118.5	-139.6	10.13	1.61	24.84
5,974.0	24.00	247.90	5,909.9	4,918.9	-237.5	-129.9	-139.0	14.60	0.00	35.94
6,005.0	24.00	257.80	5,938.2	4,947.2	-241.2	-141.9	-135.1	12.98	0.00	31.94
6,037.0	24.70	265.50	5,967.4	4,976.4	-243.1	-154.9	-131.1	10.15	2.19	24.06
6,068.0	26.50	273.10	5,995.4	5,004.4	-243.3	-168.3	-124.5	12.07	5.81	24.52
6,100.0	28.40	278.70	6,023.8	5,032.8	-241.7	-183.0	-115.7	10.01	5.94	17.50
6,131.0	30.10	283.50	6,050.8	5,059.8	-238.8	-197.8	-105.7	9.34	5.48	15.48
613146 LP										
6,162.0	32.00	289.50	6,077.4	5,086.4	-234.3	-213.1	-94.0	11.71	6.13	19.35
6,194.0	33.90	294.60	6,104.2	5,113.2	-227.7	-229.2	-80.2	10.50	5.94	15.94
6,225.0	35.80	298.60	6,129.7	5,138.7	-219.8	-245.1	-65.3	9.59	6.13	12.90
6,257.0	38.50	302.60	6,155.2	5,164.2	-209.9	-261.7	-48.4	11.32	8.44	12.50

Phoenix Technologies

Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513144
Company:	EQT Production - Marcellus	TVD Reference:	KB 23 ft @ 991.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB 23 ft @ 991.0usft
Site:	Doddridge County 513144	North Reference:	Grid
Well:	Well #513144	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513144 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)
6,289.0	41.60	305.60	6,179.7	5,188.7	-198.4	-278.7	-29.8	11.41	9.69	9.38
6,321.0	44.50	308.00	6,203.1	5,212.1	-185.3	-296.2	-9.7	10.41	9.06	7.50
6,352.0	48.30	310.70	6,224.4	5,233.4	-171.0	-313.5	11.4	13.78	12.26	8.71
6,384.0	51.80	313.40	6,245.0	5,254.0	-154.6	-331.7	34.8	12.71	10.94	8.44
6,415.0	54.60	316.30	6,263.5	5,272.5	-137.1	-349.3	58.8	11.73	9.03	9.35
6,447.0	57.90	320.10	6,281.3	5,290.3	-117.2	-367.0	84.8	14.27	10.31	11.88
6,478.0	61.20	323.50	6,297.0	5,306.0	-95.2	-383.5	111.3	14.24	10.65	10.97
6,510.0	64.50	325.40	6,311.6	5,320.6	-73.1	-400.1	139.7	11.59	10.31	5.94
6,541.0	67.00	326.70	6,324.4	5,333.4	-49.6	-415.9	167.9	8.92	8.06	4.19
6,573.0	69.30	328.10	6,336.3	5,345.3	-24.6	-431.9	197.6	8.26	7.19	4.38
6,605.0	70.60	329.70	6,347.3	5,356.3	1.1	-447.4	227.6	6.21	4.06	5.00
6,636.0	71.40	331.50	6,357.3	5,366.3	26.7	-461.8	256.9	6.07	2.58	5.81
6,668.0	72.80	333.20	6,367.2	5,376.2	53.6	-475.9	287.3	6.69	4.38	5.31
Top of Marcellus @ 937' TVD										
6,681.2	73.61	333.54	6,371.0	5,380.0	64.9	-481.6	300.0	6.61	6.13	2.60
6,699.0	74.70	334.00	6,375.9	5,384.9	80.3	-489.1	317.0	6.61	6.13	2.57
513144 LP 341' VS										
6,727.2	76.64	334.35	6,382.8	5,391.8	104.9	-501.0	344.3	6.98	6.87	1.25
6,731.0	76.90	334.40	6,383.7	5,392.7	108.2	-502.6	347.9	6.98	6.88	1.24
513144 P&T LP										
6,755.0	78.84	334.56	6,388.7	5,397.7	129.4	-512.7	371.3	8.09	8.06	0.65
6,762.0	79.40	334.60	6,390.1	5,399.1	135.6	-515.7	378.2	8.09	8.06	0.64
6,794.0	84.00	335.50	6,394.7	5,403.7	164.3	-529.1	409.7	14.64	14.38	2.61
513144 LP 412' VS										
6,796.3	84.16	335.49	6,394.9	5,403.9	166.3	-530.0	411.9	6.90	6.87	-0.63
513144 LP 416' VS										
6,799.9	84.41	335.46	6,395.3	5,404.3	169.7	-531.5	415.5	6.90	6.87	-0.63
6,826.0	86.20	335.30	6,397.4	5,406.4	193.3	-542.3	441.4	6.90	6.88	-0.62
513144 LP 469' VS										
6,843.9	87.81	334.78	6,398.4	5,407.4	209.5	-549.8	459.1	9.49	9.03	-2.91
6,857.0	89.00	334.40	6,398.7	5,407.7	221.3	-555.5	472.2	9.49	9.03	-2.90
6,869.0	89.60	333.90	6,398.9	5,407.9	232.1	-560.7	484.2	6.51	5.00	-4.17
LP=6888' MD/8599' TVD										
6,888.0	89.80	333.40	6,399.0	5,408.0	249.1	-569.1	503.1	2.83	1.05	-2.63
6,983.0	91.10	334.40	6,398.2	5,407.2	334.5	-610.9	597.9	1.73	1.37	1.05
7,077.0	88.70	335.00	6,398.4	5,407.4	419.4	-651.1	691.5	2.63	-2.55	0.64
7,172.0	86.60	335.70	6,402.3	5,411.3	505.7	-690.7	785.9	2.33	-2.21	0.74
7,267.0	86.20	335.10	6,408.2	5,417.2	591.9	-730.2	880.2	0.76	-0.42	-0.63
7,361.0	86.10	336.40	6,414.6	5,423.6	677.4	-768.7	973.5	1.38	-0.11	1.38
7,456.0	88.90	335.00	6,418.7	5,427.7	763.9	-807.7	1,067.8	3.29	2.95	-1.47
7,550.0	90.90	332.40	6,418.9	5,427.9	848.2	-849.4	1,161.6	3.49	2.13	-2.77
7,645.0	91.10	332.10	6,417.2	5,426.2	932.2	-893.6	1,256.4	0.38	0.21	-0.32
7,739.0	91.20	334.30	6,415.3	5,424.3	1,016.1	-936.0	1,350.2	2.34	0.11	2.34

Phoenix Technologies
Survey Report

Database: EDM 5000.1 Single User Do Company: EQT Production - Marcellus Project: Doddridge County, WV Gas Site: Doddridge County 513144 Well: Well #513144 Wellbore: Main Wellbore Design: 513144 As Drilled Surveys	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Site: Doddridge County 513144 KB 23 ft @ 991.0usft KB 23 ft @ 991.0usft Grid Minimum Curvature
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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)
7,833.0	89.20	334.60	6,415.0	5,424.0	1,100.9	-976.5	1,443.9	2.15	-2.13	0.32
7,928.0	88.80	335.50	6,416.6	5,425.6	1,187.0	-1,016.6	1,538.4	1.04	-0.42	0.95
8,023.0	89.00	335.50	6,418.5	5,427.5	1,273.5	-1,056.0	1,632.9	0.21	0.21	0.00
8,117.0	89.20	334.90	6,419.9	5,428.9	1,358.8	-1,095.4	1,726.4	0.67	0.21	-0.64
8,211.0	88.90	335.50	6,421.5	5,430.5	1,444.1	-1,134.8	1,820.0	0.71	-0.32	0.64
8,305.0	88.80	336.50	6,423.4	5,432.4	1,530.0	-1,173.0	1,913.4	1.07	-0.11	1.06
8,400.0	89.00	341.60	6,425.2	5,434.2	1,618.6	-1,207.0	2,007.0	5.37	0.21	5.37
8,495.0	88.20	336.90	6,427.5	5,436.5	1,707.4	-1,240.6	2,100.6	5.02	-0.84	-4.95
Top of Onondaga @ 9425' TVD										
8,509.7	88.22	336.81	6,428.0	5,437.0	1,720.9	-1,246.4	2,115.2	0.65	0.11	-0.64
8,589.0	88.30	336.30	6,430.4	5,439.4	1,793.6	-1,277.9	2,193.8	0.65	0.11	-0.64
8,683.0	88.30	338.30	6,433.2	5,442.2	1,880.3	-1,314.2	2,286.9	2.13	0.00	2.13
8,778.0	88.50	336.50	6,435.9	5,444.9	1,968.0	-1,350.7	2,381.0	1.91	0.21	-1.89
8,872.0	90.20	334.20	6,436.9	5,445.9	2,053.4	-1,389.9	2,474.5	3.04	1.81	-2.45
8,966.0	90.90	334.00	6,436.0	5,445.0	2,138.0	-1,431.0	2,568.2	0.77	0.74	-0.21
9,060.0	89.40	332.70	6,435.8	5,444.8	2,222.0	-1,473.1	2,662.0	2.11	-1.60	-1.38
9,155.0	89.70	331.70	6,436.5	5,445.5	2,306.0	-1,517.4	2,756.9	1.10	0.32	-1.05
9,249.0	89.10	333.00	6,437.5	5,446.5	2,389.3	-1,561.0	2,850.8	1.52	-0.64	1.38
9,344.0	88.10	335.10	6,439.8	5,448.8	2,474.6	-1,602.6	2,945.5	2.45	-1.05	2.21
9,438.0	88.40	334.00	6,442.7	5,451.7	2,559.5	-1,643.0	3,039.1	1.21	0.32	-1.17
9,531.0	87.00	333.20	6,446.4	5,455.4	2,642.7	-1,684.3	3,131.8	1.73	-1.51	-0.86
9,626.0	87.00	332.90	6,451.4	5,460.4	2,727.3	-1,727.3	3,226.4	0.32	0.00	-0.32
513144 Pat TD										
9,685.9	87.19	333.03	6,454.4	5,463.4	2,780.6	-1,754.5	3,286.2	0.38	0.32	0.21
9,720.0	87.30	333.10	6,456.1	5,465.1	2,810.9	-1,769.9	3,320.2	0.38	0.32	0.21
9,815.0	88.80	334.70	6,459.3	5,468.3	2,896.2	-1,811.7	3,414.8	2.31	1.58	1.68
9,909.0	89.30	335.20	6,460.9	5,469.9	2,981.3	-1,851.5	3,508.4	0.75	0.53	0.53
10,003.0	90.80	335.80	6,460.8	5,469.8	3,066.9	-1,890.4	3,601.9	1.72	1.60	0.64
10,099.0	90.70	336.40	6,459.5	5,468.5	3,154.6	-1,929.3	3,697.3	0.63	-0.10	0.63
10,193.0	90.50	335.50	6,458.5	5,467.5	3,240.5	-1,967.6	3,790.7	0.98	-0.21	-0.96
10,288.0	90.40	335.20	6,457.8	5,466.8	3,326.8	-2,007.3	3,885.2	0.33	-0.11	-0.32
10,383.0	88.40	336.10	6,458.8	5,467.8	3,413.3	-2,046.4	3,979.6	2.31	-2.11	0.95
10,477.0	88.40	334.70	6,461.4	5,470.4	3,498.8	-2,085.5	4,073.1	1.49	0.00	-1.49
10,572.0	88.50	335.20	6,464.0	5,473.0	3,584.8	-2,125.7	4,167.7	0.54	0.11	0.53
10,666.0	88.30	334.50	6,466.6	5,475.6	3,669.9	-2,165.7	4,261.2	0.77	-0.21	-0.74
Final Survey @ 1682' MD @ 467' TVD										
10,682.0	88.20	334.80	6,467.1	5,476.1	3,684.3	-2,172.5	4,277.2	1.98	-0.63	1.88
513144 Pat TD 2										
10,735.2	88.20	334.80	6,468.8	5,477.8	3,732.4	-2,195.2	4,330.1	0.00	0.00	0.00
Projection to TD / Deepset Point of Well @ 10737' MD @ 469' TVD										
10,737.0	88.20	334.80	6,468.8	5,477.8	3,734.1	-2,195.9	4,331.9	0.00	0.00	0.00

Phoenix Technologies

Survey Report

Database: EDM 5000.1 Single User Db Company: EQT Production - Marcellus Project: Doddridge County, WV Grid Site: Doddridge County 513144 Well: Well #513144 Wellbore: Main Wellbore Design: 513144 As Drilled Surveys	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Site: Doddridge County 513144 KB 23 ft @ 991.0usft KB 23 ft @ 991.0usft Grid Minimum Curvature
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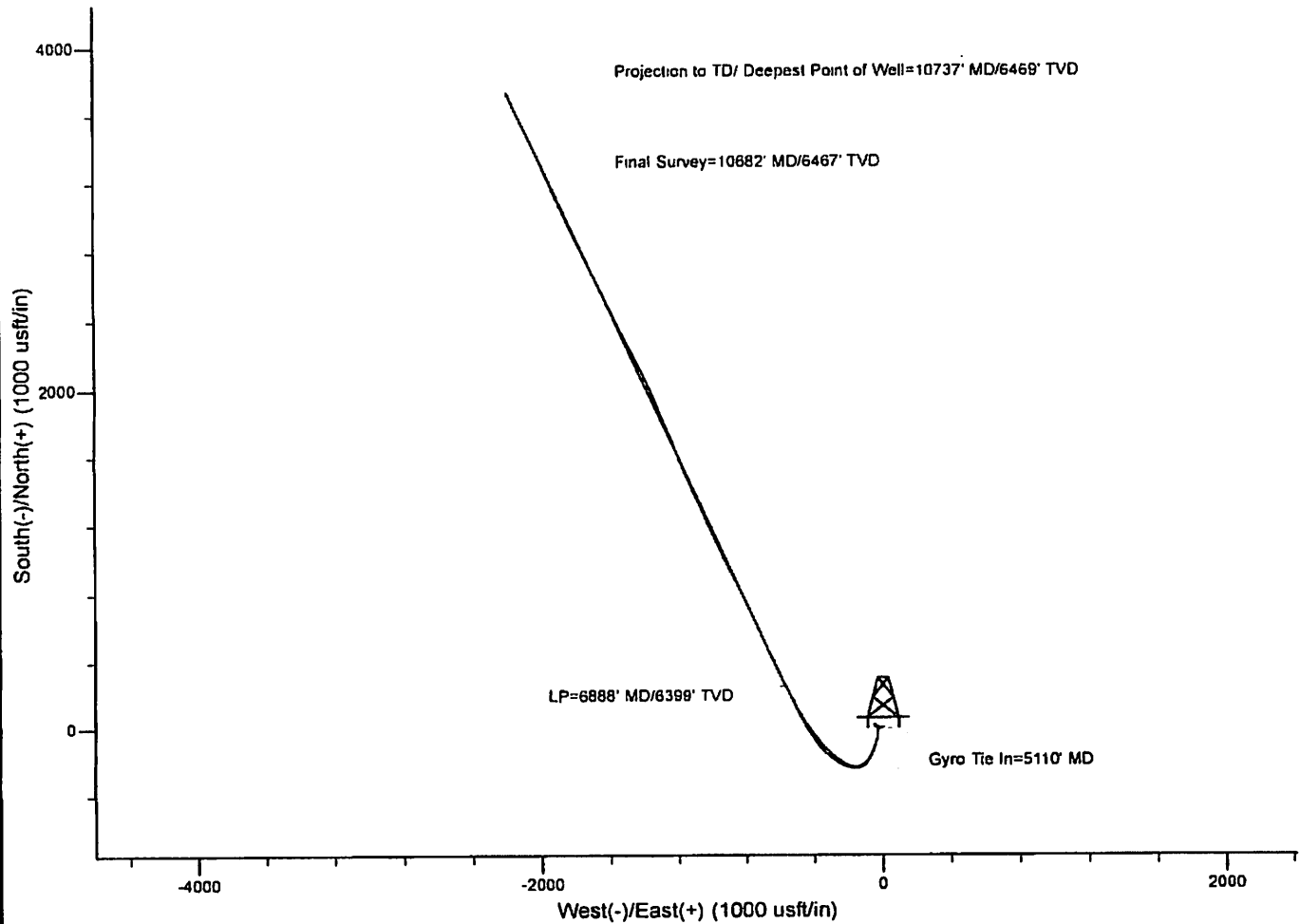
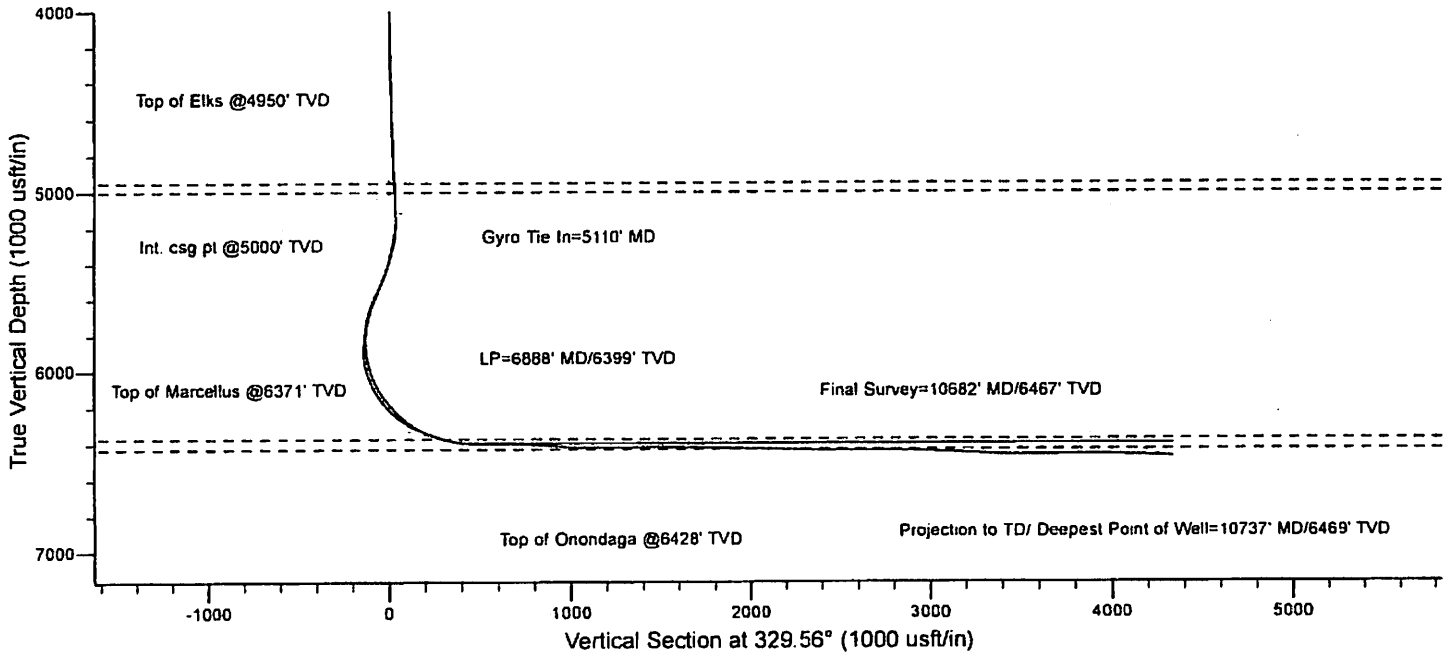
Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,950.6	4,950.0	Top of Elks @4950' TVD				
5,000.7	5,000.0	Int. csg pt @5000' TVD				
6,681.2	6,371.0	Top of Marcellus @6371' TVD				
8,509.7	6,428.0	Top of Onondaga @6428' TVD				

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
5,110.0	5,109.2	13.7	-50.6	Gyro Tie In=5110' MD	
6,888.0	6,399.0	249.1	-569.1	LP=6888' MD/6399' TVD	
10,682.0	6,467.1	3,684.3	-2,172.5	Final Survey=10682' MD/6467' TVD	
10,737.0	6,468.8	3,734.1	-2,195.9	Projection to TD/ Deepest Point of Well=10737' MD/6469' TVD	

Checked By: _____ Approved By: _____ Date: _____

EQT Production - Marcellus

Project: Doddridge County, WV Grid
Site: Doddridge County 513144
Well: Well #513144
Wellbore: Main Wellbore
Design: 513144 As Drilled Surveys



513144 - 47-017-06358-0000 - Perforations

<i>Stage Number</i>	<i>Perforation Date</i>	<i>Top Perf Depth (ftKB)</i>	<i>Bottom Perf Depth (ftKB)</i>	<i>Number of Shots</i>	<i>Formation</i>
Initiation Sleeve	3/27/2015	10,723.00	10,725.00	10	MARCELLUS
1	4/13/2015	10,458.00	10,640.00	32	MARCELLUS
2	4/14/2015	10,234.00	10,416.00	40	MARCELLUS
3	4/14/2015	10,009.00	10,191.00	40	MARCELLUS
4	4/15/2015	9,784.00	9,966.00	40	MARCELLUS
5	4/15/2015	9,561.00	9,741.00	40	MARCELLUS
6	4/16/2015	9,336.00	9,516.00	40	MARCELLUS
7	4/16/2015	9,109.00	9,291.00	40	MARCELLUS
8	4/16/2015	8,884.00	9,066.00	40	MARCELLUS
9	4/16/2015	8,661.00	8,841.00	40	MARCELLUS
10	4/16/2015	8,436.00	8,616.00	40	MARCELLUS
11	4/17/2015	8,209.00	8,387.00	40	MARCELLUS
12	4/17/2015	7,984.00	8,166.00	40	MARCELLUS
13	4/17/2015	7,759.00	7,941.00	40	MARCELLUS
14	4/17/2015	7,532.00	7,718.00	40	MARCELLUS
15	4/17/2015	7,309.00	7,491.00	40	MARCELLUS
16	4/18/2015	7,084.00	7,266.00	40	MARCELLUS
17	4/18/2015	6,859.00	7,041.00	40	MARCELLUS

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/13/2015
Job End Date:	4/18/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06458-00-00
Operator Name:	EQT Production
Wellhead ID Number:	513144
Longitude:	-80.76635300
Latitude:	39.23609200
Datum:	NAD83
Radius From Well:	NO
True Vertical Depth:	6,361
Estimated Water Volume (gal):	7,164,234
Estimated Non-Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Component	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	90.08098	None
Sand (Proppant)	Keane Group	Proppant	Silica Substrate	14808-60-7	100.00000	9.56560	None
MC/MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60.00000	0.06122	None
FFR 760	Keane Group	Friction reducer	Hydrotreated Light Distillate	64742-47-8	30.00000	0.01610	None
			Alkyl Alcohol	Proprietary	10.00000	0.00537	None
			Oxyalkylated alcohol A	Proprietary	5.00000	0.00268	None
Hydrochloric Acid (15%)	Keane Group	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.02246	None
EO6330A	Keane Group	Scale inhibitor	Sodium Phosphate, Tribasic	7601-54-9	5.00000	0.00121	None
FFR 730	Keane Group	Friction reducer	Oxyalkylated alcohol A	Proprietary	5.00000	0.00117	None
AI 600	Keane Group	Corrosion inhibitor	Ethylene Glycol	107-21-1	40.00000	0.00015	None

* 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)

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.

EB-10X	Keane Group	Gel Breaker	Ethylene Glycol	107-21-1	30.00000	0.00001	None
			Triethyl Phosphate	78-40-0	2.50000	0.00001	None
			1-ctanol	111-87-5	2.50000	0.00001	None
			Isopropyl alcohol	67-63-0	2.50000	0.00001	None
			1-Decanol	112-30-1	5.00000	0.00002	None
			Hydroxy-branched alpha-(4-nonylphenyl)-omega-	127087-87-0	5.00000	0.00002	None
			Poly (oxy-1,2-ethanediyl)	111-76-2	15.00000	0.00006	None
			2-Butoxyethanol	111-76-2	15.00000	0.00006	None
			benzyl chloride-quaternized	72480-70-7	15.00000	0.00006	None
			Tar bases, quinoline derivs.	104-55-2	15.00000	0.00006	None
			C Mannamide	58-12-2	20.00000	0.00007	None

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



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

[FIND A WELL BY STATE](#)

[ABOUT PROJECT PARTNERS](#)

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

Prepare Disclosure for FracFocus Submission

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

i Disclosure has been submitted.

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

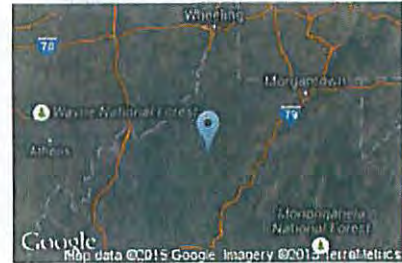
Hydraulic Fracturing Data

Job Start Date 4/13/2015 Job End Date 4/18/2015 API Number 47-017-06458-00-00 State & County West Virginia --- Doddridge

Well Name 513144

Longitude -80.766353 Latitude 39.236092 Datum NAD83 Federal/Tribal Well?

True Vertical Depth (ft) 6360.5 Total Water Vol (gal) 7164234 Total Non Water Vol 0 Total Mass (lbs) 66368649



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%	90.0809845118%	None	59785532.73
<input type="button" value="Edit"/>	Sand (Proppant)	Keane Group	Proppant	Silica Substrate	14808-60-7	100%	9.5656007218%	None	6348560
<input type="button" value="Edit"/>	MC MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60%	.0612229282%	None	40632.831
<input type="button" value="Edit"/>	FFR 760	Keane Group	Friction reducer	Hydrotreated Light Distillate	64742-47-8	30%	.0161010351%	None	10686.04
				Alkyl Alcohol	Proprietary	10%	.0053670117%	None	3562.013
				Oxyalkylated alcohol A	Proprietary	5%	.0026835059%	None	1781.007
<input type="button" value="Edit"/>	Hydrochloric Acid (15%)	Keane Group	Acidizing	Hydrochloric Acid	7647-01-0	15%	.0224648842%	None	14909.64
<input type="button" value="Edit"/>	EC6330A	Keane Group	Scale inhibitor	Sodium Phosphate, Tribasic	7601-54-9	5%	.0012100559%	None	803.098
<input type="button" value="Edit"/>	FFR 730	Keane Group	Friction reducer	Oxyalkylated alcohol A	Proprietary	5%	.0011670916%	None	774.583
<input type="button" value="Edit"/>	AI 600								

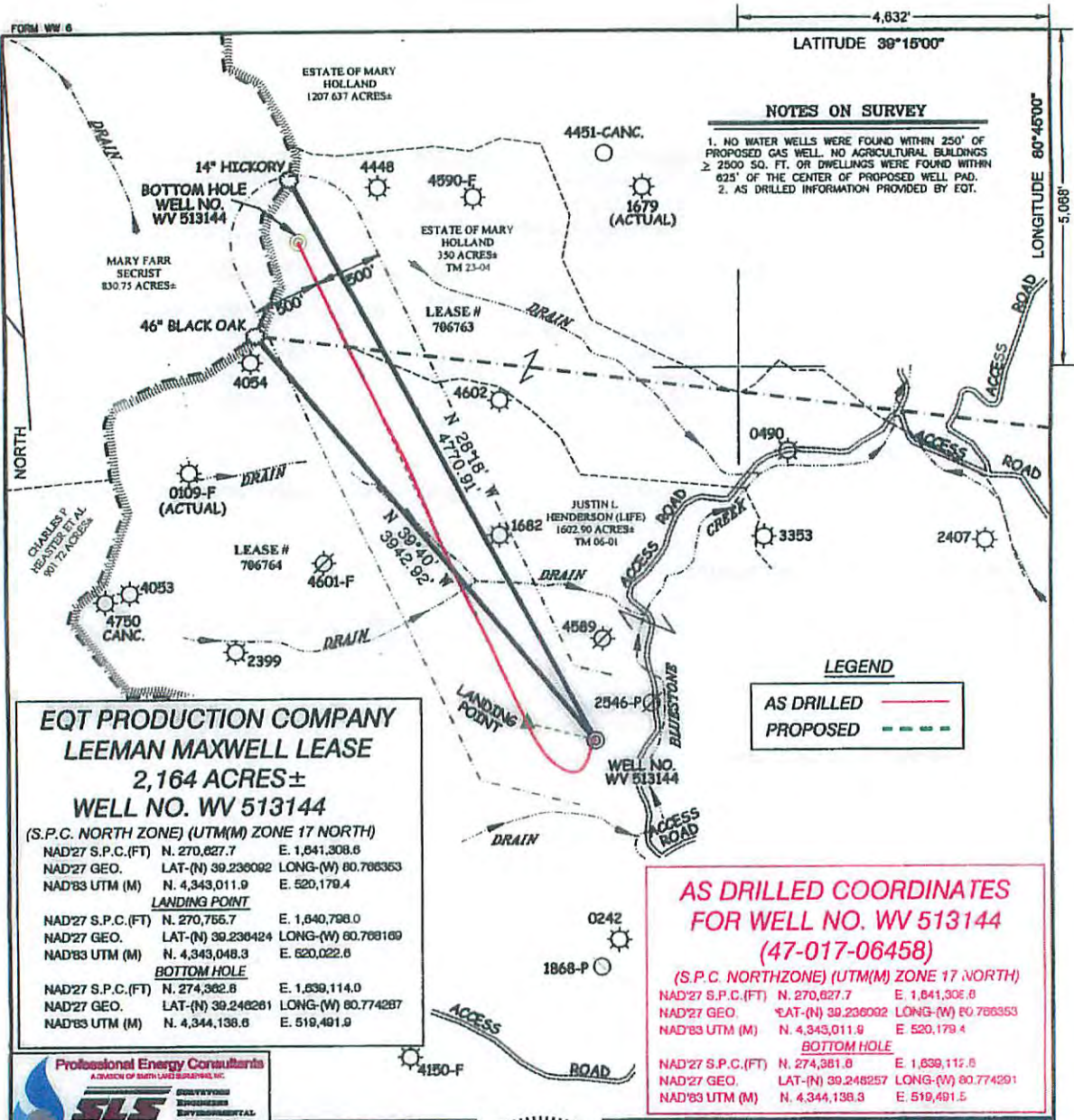
Keane Group	Purpose	Ingredient	CAS #	%	High Additive	% HF Job	Comments	Ingredient Mass
LEB-10X	Corrosion Inhibitor	Ethylene Glycol	107-21-1	40%	.0001499837%	None		99.542
		N, N-Dimethylformamide	68-12-2	20%	.0000749919%	None		49.771
		Cinnamialdehyde	104-55-2	15%	.0000562439%	None		37.328
		Tar bases, quinoline derivs, benzyl chloride-quatemized	72480-70-7	15%	.0000562439%	None		37.328
		2-Butoxyethanol	111-76-2	15%	.0000562439%	None		37.328
		Poly (oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl) .omega.-hydroxy-,branched	127087-87-0	5%	.000018748%	None		12.443
		1-Decanol	112-30-1	5%	.000018748%	None		12.443
		Isopropyl alcohol	67-63-0	2.5%	.000009374%	None		6.221
		1-Octanol	111-87-5	2.5%	.000009374%	None		6.221
		Triethyl Phosphate	78-40-0	2.5%	.000009374%	None		6.221
LEB-10X	Gel Breaker	Ethylene Glycol	107-21-1	30%	.0000067898%	None		4.506

Non-MSDS Chemical Ingredients

Trade Name	Supplier	Purpose	Ingredients	CAS #	% High Additive	% HF Job	Comments	Ingredient Mass
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5240 110



NOTES ON SURVEY

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

**EQT PRODUCTION COMPANY
LEEMAN MAXWELL LEASE
2,164 ACRES±
WELL NO. WV 513144**

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

NAD27 S.P.C.(FT)	N. 270,827.7	E. 1,841,308.8
NAD27 GEO.	LAT-(N) 39.236092	LONG-(W) 80.786353
NAD83 UTM (M)	N. 4,343,011.9	E. 520,179.4

LANDING POINT

NAD27 S.P.C.(FT)	N. 270,755.7	E. 1,840,798.0
NAD27 GEO.	LAT-(N) 39.236424	LONG-(W) 80.788169
NAD83 UTM (M)	N. 4,343,048.3	E. 520,022.8

BOTTOM HOLE

NAD27 S.P.C.(FT)	N. 274,362.8	E. 1,839,114.0
NAD27 GEO.	LAT-(N) 39.246261	LONG-(W) 80.774287
NAD83 UTM (M)	N. 4,344,138.6	E. 519,491.9

**AS DRILLED COORDINATES
FOR WELL NO. WV 513144
(47-017-06458)**

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

NAD27 S.P.C.(FT)	N. 270,827.7	E. 1,841,308.8
NAD27 GEO.	LAT-(N) 39.236092	LONG-(W) 80.786353
NAD83 UTM (M)	N. 4,343,011.9	E. 520,179.4

BOTTOM HOLE

NAD27 S.P.C.(FT)	N. 274,361.0	E. 1,839,112.8
NAD27 GEO.	LAT-(N) 39.246257	LONG-(W) 80.774201
NAD83 UTM (M)	N. 4,344,138.3	E. 519,491.5



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. *Gregory A. Smith*
677

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE APRIL 16, 20 13
REVISED 03/06/14 & 12/18/14
OPERATORS WELL NO. WV 513144
API WELL NO. 47-017-06458
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7889ASDRILLED513144
HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 1000'

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 970'(GROUND) 988'(PROPOSED) WATERSHED BLUESTONE CREEK
DISTRICT WEST UNION COUNTY DODDRIDGE QUADRANGLE OXFORD 7.5'

SURFACE OWNER JUSTIN L. HENDERSON (LIFE) ACREAGE 1,802.90±
ROYALTY OWNER LEEMAN MAXWELL HRS ACREAGE (2,164±) (1,000±)
LEASE NO. 706764 / 706763

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 6399'

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

04/01/2016