

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 514383

API: 47 - 103 - 02870

Submission: Initial Amended

Notes: Stimulation Notes

Re-Perforated: Stage 2 (2.1)

Correction to Production Cement Top
(MD)

RECEIVED
Office of Oil and Gas
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WV Department of
Environmental Protection

AX WS
03/22/16

03/25/2016

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

API 47-103-02870 County Wetzel District Grant
Quad Pine Grove Pad Name PNG129 Field/Pool Name _____
Farm name COASTAL LUMBER COMPANY Well Number 514383
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 4,378,096 Easting 530,868
Landing Point of Curve Northing 4,377,685 Easting 530,480
Bottom Hole Northing 4,376,741 Easting 530,989

Elevation (ft) 1330 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 14.0 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 5/29/2013 Date drilling commenced 8/27/2013 Date drilling ceased 12/24/2013
Date completion activities began 9/29/2014 Date completion activities ceased 10/3/2014
Verbal plugging (Y/N) n/a 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 734' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2016', 2365' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 686', 968', 1038', 1052', 1080' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: _____

API 47-103 - 02870 Farm name COASTAL LUMBER COMPANY Well number 514383

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	28"	26"	40'	New	82.6#/ft	n/a	Y
Surface	17-1/2"	13-3/8"	950'	New	54.5#/ft	120, 507	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	3382	New	40#/ft	1208, 1715	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	11943	New	20#	N/A	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	49	15.6	1.18	57.82	0	8
Surface	Class A	845	15.6	1.19	1005	0	8
Coal							
Intermediate 1	Class A	1265	15.6	1.18	1493	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	890/530	15/15.6	1.21/1.83	2047	3047	72
Tubing							

Drillers TD (ft) 11945 Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 4967

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-N/A

Surface-bow spring centralizers set at 910, 558, 247
 Intermediate-bow spring centralizers set at 3360, 2890, 2385, 1878, 1372, 865, 360
 Production-composite centralizer ran on every joint from 1d up to 3967

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 _____

514383 Final Formations API: 47-103-02870

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
SAND / SHALE	0	0	686	686
FRESH WATER ZONE	1	1	734	734
COAL	686	686	688	688
SAND / SHALE	688	688	968	968
COAL	968	968	969	969
SAND / SHALE	969	969	1,038.00	1,038.00
COAL	1,038.00	1,038.00	1,045.00	1,045.00
SAND / SHALE	1,045.00	1,045.00	1,052.00	1,052.00
COAL	1,052.00	1,052.00	1,054.00	1,054.00
SAND / SHALE	1,054.00	1,054.00	1,080.00	1,080.00
COAL	1,080.00	1,080.00	1,086.00	1,086.00
SAND / SHALE	1,086.00	1,086.00	2,183.00	2,183.00
MAXTON	2,183.00	2,183.00	2,419.00	2,418.90
BIG LIME	2,419.00	2,418.90	2,658.00	2,657.90
WEIR	2,658.00	2,657.90	2,856.00	2,855.80
GANTZ	2,856.00	2,855.80	2,972.00	2,971.80
50F	2,972.00	2,971.80	3,045.00	3,044.70
30F	3,045.00	3,044.70	3,092.00	3,091.70
GORDON	3,092.00	3,091.70	3,212.00	3,211.70
4TH	3,212.00	3,211.70	3,347.00	3,346.60
BAYARD	3,347.00	3,346.60	3,763.00	3,762.50
WARREN	3,763.00	3,762.50	3,889.00	3,888.50
SPEECHLEY	3,889.00	3,888.50	4,763.00	4,762.50
RILEY	4,763.00	4,762.50	5,378.00	5,368.10
BENSON	5,378.00	5,368.10	5,853.00	5,734.40
ALEXANDER	5,853.00	5,734.40	7,632.00	7,040.60
MIDDLESEX	7,632.00	7,040.60	7,692.00	7,082.80
GENESSEE	7,692.00	7,082.80	7,817.00	7,162.80
GENESE0	7,817.00	7,162.80	7,862.00	7,187.90
TULLY	7,862.00	7,187.90	7,903.00	7,208.70
HAMILTON	7,903.00	7,208.70	8,133.00	7,286.60
MARCELLUS	8,133.00	7,286.60	11945.00	7324.62



EQT Production - Marcellus

Wetzel County, WV

Wetzel County 514383

Well 514383

API: 47-103-02870

Main Wellbore

Design: As Drilled Surveys

Standard Survey Report

23 December, 2013



Where energy meets innovation.



Phoenix Technology Services
Survey Report



Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514383
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346 0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346 0usft
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Project: Wetzel County, WV			
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia North 4701		Using geodetic scale factor

Site: Wetzel County 514383					
Site Position:	Northing:	385,168.00 usft	Latitude:	39.55	
From: Map	Easting:	1,678,302.00 usft	Longitude:	-80.64	
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.73 "

Well: Well 514383						
Well Position	+N-S	0.0 usft	Northing:	385,168.00 usft	Latitude:	39° 33' 6.851 N
	+E-W	0.0 usft	Easting:	1,678,302.00 usft	Longitude:	80° 38' 27.235 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,330.0 usft	

Wellbore: Main Wellbore					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	12/11/2013	-8.61	67.05	52,473

Design: 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	175.95	

Survey Program		Date	12/23/2013	
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	4,888.0	514383 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	6,920.0	514383 MWD (Main Wellbore)	MWD	MWD - Standard
0.00	11,945.0	514383 Curve and Lateral (Main Wellbore)	MWD	MWD - Standard

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	-1,346.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.47	185.88	103.0	-1,243.0	-0.4	0.0	0.4	0.46	0.46	0.00
203.0	0.29	204.39	203.0	-1,143.0	-1.1	-0.2	1.0	0.22	-0.18	18.51
303.0	0.18	203.41	303.0	-1,043.0	-1.4	-0.4	1.4	0.11	-0.11	-0.98
403.0	0.08	159.87	403.0	-943.0	-1.6	-0.4	1.6	0.13	-0.10	-43.54
503.0	0.10	192.39	503.0	-843.0	-1.8	-0.4	1.8	0.05	0.02	32.52
603.0	0.10	206.34	603.0	-743.0	-2.0	-0.4	1.9	0.02	0.00	13.95



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514383
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346.0usft
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
703.0	0.05	50.03	703.0	-643.0	-2.0	-0.5	2.0	0.15	-0.05	-156.31
803.0	0.12	343.71	803.0	-543.0	-1.9	-0.4	1.8	0.11	0.07	-66.32
903.0	0.06	34.20	903.0	-443.0	-1.7	-0.4	1.7	0.09	-0.06	50.49
1,003.0	0.07	308.79	1,003.0	-343.0	-1.7	-0.5	1.6	0.09	0.01	-85.41
1,103.0	0.06	351.21	1,103.0	-243.0	-1.6	-0.5	1.5	0.05	-0.01	42.42
1,203.0	0.19	19.36	1,203.0	-143.0	-1.4	-0.5	1.3	0.14	0.13	28.15
1,303.0	0.17	46.91	1,303.0	-43.0	-1.1	-0.3	1.1	0.09	-0.02	27.55
1,403.0	0.22	64.84	1,403.0	57.0	-0.9	0.0	0.9	0.08	0.05	17.93
1,503.0	0.31	109.93	1,503.0	157.0	-0.9	0.4	1.0	0.22	0.09	45.09
1,603.0	0.22	105.97	1,603.0	257.0	-1.1	0.8	1.1	0.09	-0.09	-3.96
1,703.0	0.27	115.48	1,703.0	357.0	-1.2	1.2	1.3	0.06	0.05	9.51
1,803.0	0.25	138.15	1,803.0	457.0	-1.5	1.6	1.6	0.10	-0.02	22.67
1,903.0	0.44	107.52	1,903.0	557.0	-1.8	2.1	1.9	0.26	0.19	-30.63
2,003.0	0.61	110.40	2,003.0	657.0	-2.1	3.0	2.3	0.17	0.17	2.88
2,103.0	0.78	121.20	2,103.0	757.0	-2.6	4.1	2.9	0.21	0.17	10.80
2,203.0	1.06	120.25	2,203.0	857.0	-3.4	5.4	3.8	0.28	0.28	-0.95
2,303.0	1.14	122.20	2,302.9	956.9	-4.4	7.1	4.9	0.09	0.08	1.95
2,403.0	1.24	122.73	2,402.9	1,056.9	-5.5	8.8	6.1	0.10	0.10	0.53
2,503.0	1.39	122.41	2,502.9	1,156.9	-6.8	10.8	7.5	0.15	0.15	-0.32
2,603.0	1.43	122.25	2,602.9	1,256.9	-8.1	12.8	9.0	0.04	0.04	-0.16
2,703.0	1.35	127.63	2,702.8	1,356.8	-9.5	14.8	10.5	0.15	-0.08	5.38
2,803.0	1.29	128.28	2,802.8	1,456.8	-10.9	16.6	12.0	0.06	-0.06	0.65
2,903.0	1.37	129.45	2,902.8	1,556.8	-12.3	18.4	13.6	0.08	0.08	1.17
3,003.0	1.41	131.98	3,002.8	1,656.8	-13.9	20.3	15.3	0.07	0.04	2.53
3,103.0	1.48	132.41	3,102.7	1,756.7	-15.6	22.2	17.1	0.07	0.07	0.43
3,203.0	1.54	128.81	3,202.7	1,856.7	-17.3	24.2	19.0	0.11	0.06	-3.60
3,303.0	1.62	131.89	3,302.6	1,956.6	-19.1	26.3	20.9	0.12	0.08	3.08
3,403.0	1.51	135.94	3,402.6	2,056.6	-21.0	28.2	23.0	0.16	-0.11	4.05
3,503.0	1.36	136.36	3,502.6	2,156.6	-22.8	30.0	24.9	0.15	-0.15	0.42
3,603.0	0.96	138.00	3,602.6	2,256.6	-24.3	31.3	26.4	0.40	-0.40	1.64
3,703.0	0.72	135.13	3,702.5	2,356.5	-25.4	32.3	27.6	0.24	-0.24	-2.87
3,803.0	0.51	137.60	3,802.5	2,456.5	-26.1	33.1	28.4	0.21	-0.21	2.47
3,903.0	0.31	158.73	3,902.5	2,556.5	-26.7	33.5	29.0	0.25	-0.20	21.13
4,003.0	0.17	155.44	4,002.5	2,656.5	-27.1	33.6	29.4	0.14	-0.14	-3.29
4,103.0	0.08	158.20	4,102.5	2,756.5	-27.3	33.7	29.6	0.09	-0.09	2.76
4,203.0	0.20	174.85	4,202.5	2,856.5	-27.5	33.8	29.9	0.13	0.12	16.65
4,303.0	0.10	220.17	4,302.5	2,956.5	-27.8	33.7	30.1	0.15	-0.10	45.32
4,403.0	0.09	251.18	4,402.5	3,056.5	-27.9	33.6	30.2	0.05	-0.01	31.01
4,503.0	0.08	113.94	4,502.5	3,156.5	-27.9	33.6	30.2	0.16	-0.01	-137.24
4,603.0	0.30	69.73	4,602.5	3,256.5	-27.9	33.9	30.2	0.25	0.22	-44.21
4,703.0	0.37	79.75	4,702.5	3,356.5	-27.7	34.5	30.1	0.09	0.07	10.02
4,803.0	0.63	54.75	4,802.5	3,456.5	-27.3	35.2	29.8	0.33	0.26	-25.00

Gyro Tie In=4885' MD



Phoenix Technology Services
Survey Report



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Well:	Well 514383	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
4,888.0	0.75	60.21	4,887.5	3,541.5	-26.8	36.1	29.3	0.16	0.14	6.42
4,933.0	0.80	55.30	4,932.5	3,586.5	-26.5	36.6	29.0	0.18	0.11	-10.91
4,975.0	0.70	52.00	4,974.5	3,628.5	-26.2	37.1	28.7	0.26	-0.24	-7.86
5,019.0	0.80	43.20	5,018.5	3,672.5	-25.8	37.5	28.3	0.35	0.23	-20.00
5,062.0	0.90	28.20	5,061.5	3,715.5	-25.2	37.8	27.9	0.57	0.23	-34.88
5,105.0	1.60	248.10	5,104.5	3,758.5	-25.2	37.4	27.8	5.49	1.63	-325.81
5,148.0	5.20	232.40	5,147.4	3,801.4	-26.6	35.3	29.0	8.57	8.37	-36.51
5,191.0	8.60	237.80	5,190.1	3,844.1	-29.5	31.1	31.6	8.04	7.91	12.56
5,234.0	12.60	239.80	5,232.4	3,886.4	-33.6	24.3	35.2	9.34	9.30	4.65
5,277.0	16.30	235.70	5,274.0	3,928.0	-39.3	15.3	40.3	8.92	8.60	-9.53
5,320.0	20.40	234.30	5,314.8	3,968.8	-47.1	4.2	47.3	9.59	9.53	-3.26
5,363.0	24.70	234.90	5,354.5	4,008.5	-56.6	-9.3	55.8	10.01	10.00	1.40
5,406.0	28.40	237.20	5,393.0	4,047.0	-67.4	-25.2	65.4	8.93	8.60	5.35
5,449.0	32.70	239.50	5,430.0	4,084.0	-78.8	-43.8	75.5	10.36	10.00	5.35
5,492.0	36.90	243.00	5,465.3	4,119.3	-90.6	-65.3	85.7	10.81	9.77	8.14
5,535.0	41.10	245.90	5,498.7	4,152.7	-102.2	-89.8	95.6	10.65	9.77	6.74
5,578.0	42.60	247.50	5,530.7	4,184.7	-113.5	-116.1	105.1	4.28	3.49	3.72
5,621.0	42.60	246.90	5,562.4	4,216.4	-124.8	-142.9	114.4	0.94	0.00	-1.40
5,664.0	42.00	247.00	5,594.2	4,248.2	-136.1	-169.6	123.8	1.40	-1.40	0.23
5,707.0	42.30	248.40	5,626.1	4,280.1	-147.1	-196.3	132.9	2.29	0.70	3.26
5,750.0	41.90	248.00	5,658.0	4,312.0	-157.8	-223.0	141.7	1.12	-0.93	-0.93
5,793.0	42.20	250.00	5,689.9	4,343.9	-168.1	-249.9	150.1	3.19	0.70	4.65
5,836.0	42.10	249.60	5,721.8	4,375.8	-178.1	-277.0	158.1	0.67	-0.23	-0.93
5,879.0	43.10	250.00	5,753.4	4,407.4	-188.1	-304.3	166.2	2.41	2.33	0.93
5,922.0	42.50	248.80	5,785.0	4,439.0	-198.4	-331.7	174.5	2.35	-1.40	-2.79
5,965.0	41.80	247.70	5,816.9	4,470.9	-209.1	-358.5	183.3	2.37	-1.63	-2.56
6,008.0	42.90	249.40	5,848.7	4,502.7	-219.7	-385.4	191.9	3.69	2.56	3.95
6,051.0	42.70	249.80	5,880.2	4,534.2	-229.9	-412.8	200.2	0.78	-0.47	0.93
6,094.0	43.60	250.70	5,911.6	4,565.6	-239.8	-440.5	208.1	2.54	2.09	2.09
6,137.0	43.20	250.90	5,942.8	4,596.8	-249.5	-468.4	215.8	0.98	-0.93	0.47
6,180.0	42.80	251.00	5,974.3	4,628.3	-259.1	-496.1	223.4	0.94	-0.93	0.23
6,223.0	42.20	250.40	6,006.0	4,660.0	-268.7	-523.5	231.1	1.68	-1.40	-1.40
6,266.0	43.50	250.60	6,037.5	4,691.5	-278.5	-551.1	238.9	3.04	3.02	0.47
6,309.0	43.80	251.00	6,068.6	4,722.6	-288.2	-579.1	246.6	0.95	0.70	0.93
6,352.0	43.60	251.00	6,099.7	4,753.7	-297.9	-607.2	254.3	0.47	-0.47	0.00
6,395.0	44.70	250.40	6,130.5	4,784.5	-307.8	-635.5	262.2	2.74	2.56	-1.40
6,438.0	44.50	249.80	6,161.2	4,815.2	-318.1	-663.9	270.4	1.08	-0.47	-1.40
6,481.0	44.10	249.90	6,191.9	4,845.9	-328.4	-692.1	278.8	0.94	-0.93	0.23
6,524.0	43.90	250.00	6,222.9	4,876.9	-338.7	-720.1	287.0	0.49	-0.47	0.23
6,567.0	43.30	249.00	6,254.0	4,908.0	-349.0	-747.9	295.4	2.13	-1.40	-2.33
6,610.0	43.20	247.50	6,285.3	4,939.3	-360.0	-775.3	304.3	2.40	-0.23	-3.49
6,653.0	42.60	247.00	6,316.8	4,970.8	-371.3	-802.3	313.7	1.60	-1.40	-1.16



Phoenix Technology Services
Survey Report



Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514383
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346 0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346 0usft
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)	
6,696.0	43.00	247.80	6,348.4	5,002.4	-382.5	-829.2	323.0	1.57	0.93	1.86	
6,739.0	43.00	245.80	6,379.8	5,033.8	-394.0	-856.2	332.7	3.17	0.00	-4.65	
6,782.0	44.30	247.30	6,410.9	5,064.9	-405.9	-883.4	342.5	3.86	3.02	3.49	
6,825.0	43.90	247.50	6,441.8	5,095.8	-417.4	-911.0	352.0	0.98	-0.93	0.47	
6,868.0	43.40	247.50	6,472.9	5,126.9	-428.7	-938.5	361.4	1.16	-1.16	0.00	
6,911.0	43.20	246.70	6,504.2	5,158.2	-440.2	-965.6	371.0	1.36	-0.47	-1.86	
Final Survey MD=6917' - Plan Tie In=4920' MD											
6,920.0	43.20	247.10	6,510.8	5,164.8	-442.6	-971.3	373.0	3.04	0.00	4.44	
6,940.0	44.50	244.60	6,525.2	5,179.2	-448.3	-983.9	377.7	10.83	6.50	-12.50	
6,972.0	45.00	245.90	6,547.9	5,201.9	-457.7	-1,004.4	385.7	3.26	1.56	4.06	
7,004.0	43.70	251.50	6,570.8	5,224.8	-465.8	-1,025.2	392.3	12.89	-4.06	17.50	
7,035.0	42.80	256.50	6,593.4	5,247.4	-471.7	-1,045.6	396.7	11.42	-2.90	16.13	
7,067.0	42.60	257.30	6,616.9	5,270.9	-476.6	-1,066.7	400.2	1.81	-0.63	2.50	
7,099.0	42.90	256.00	6,640.4	5,294.4	-481.6	-1,087.9	403.7	2.91	0.94	-4.06	
7,131.0	42.70	256.10	6,663.9	5,317.9	-486.9	-1,109.0	407.4	0.66	-0.63	0.31	
7,194.0	42.30	254.60	6,710.4	5,364.4	-497.6	-1,150.2	415.2	1.73	-0.63	-2.38	
7,258.0	41.70	256.00	6,757.9	5,411.9	-508.5	-1,191.6	423.2	1.74	-0.94	2.19	
7,289.0	41.80	257.30	6,781.1	5,435.1	-513.3	-1,211.7	426.5	2.81	0.32	4.19	
7,321.0	40.60	253.90	6,805.1	5,459.1	-518.5	-1,232.1	430.3	7.94	-3.75	-10.63	
7,353.0	40.10	248.10	6,829.5	5,483.5	-525.2	-1,251.6	435.6	11.84	-1.56	-18.13	
7,385.0	39.70	241.60	6,854.1	5,508.1	-533.9	-1,270.2	443.0	13.09	-1.25	-20.31	
7,416.0	39.80	236.50	6,877.9	5,531.9	-544.1	-1,287.2	451.9	10.52	0.32	-16.45	
7,448.0	39.80	231.90	6,902.5	5,556.5	-556.1	-1,303.8	462.7	9.20	0.00	-14.38	
7,480.0	39.40	230.60	6,927.2	5,581.2	-568.9	-1,319.7	474.3	2.88	-1.25	-4.06	
7,511.0	39.80	226.30	6,951.1	5,605.1	-582.0	-1,334.5	486.4	8.93	1.29	-13.87	
7,543.0	41.20	222.50	6,975.4	5,629.4	-596.8	-1,349.0	500.1	8.87	4.38	-11.88	
7,575.0	42.50	219.10	6,999.2	5,653.2	-613.0	-1,362.9	515.3	8.17	4.06	-10.63	
7,606.0	43.40	213.80	7,021.9	5,675.9	-630.0	-1,375.5	531.3	12.00	2.90	-17.10	
7,638.0	44.90	208.10	7,044.9	5,698.9	-649.1	-1,386.9	549.6	13.26	4.69	-17.81	
7,670.0	45.50	205.30	7,067.5	5,721.5	-669.4	-1,397.1	569.1	6.49	1.88	-8.75	
7,701.0	46.20	201.90	7,089.1	5,743.1	-689.7	-1,406.0	588.8	8.19	2.26	-10.97	
7,733.0	48.30	198.00	7,110.8	5,764.8	-711.8	-1,414.0	610.3	11.10	6.56	-12.19	
7,765.0	50.90	194.40	7,131.5	5,785.5	-735.2	-1,420.8	633.1	11.81	8.13	-11.25	
7,796.0	53.70	191.10	7,150.5	5,804.5	-759.1	-1,426.2	656.6	12.35	9.03	-10.65	
7,828.0	55.30	190.20	7,169.1	5,823.1	-784.7	-1,431.0	681.8	5.50	5.00	-2.81	
7,860.0	57.20	187.40	7,186.8	5,840.8	-811.0	-1,435.1	707.7	9.39	5.94	-8.75	
7,891.0	60.60	183.50	7,202.9	5,856.9	-837.4	-1,437.6	733.9	15.37	10.97	-12.58	
7,923.0	63.50	179.90	7,217.9	5,871.9	-865.7	-1,438.4	762.0	13.45	9.06	-11.25	
7,955.0	65.80	175.30	7,231.6	5,885.6	-894.6	-1,437.2	790.9	14.84	7.19	-14.38	
7,986.0	69.20	172.50	7,243.4	5,897.4	-923.0	-1,434.1	819.5	13.78	10.97	-9.03	
8,018.0	70.10	169.50	7,254.6	5,908.6	-952.7	-1,429.4	849.4	9.23	2.81	-9.38	
8,050.0	71.30	168.20	7,265.1	5,919.1	-982.3	-1,423.6	879.4	5.36	3.75	-4.06	
8,081.0	74.10	167.60	7,274.4	5,928.4	-1,011.2	-1,417.4	908.7	9.22	9.03	-1.94	



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514383
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1348.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346.0usft
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
8,113.0	77.10	164.70	7,282.3	5,936.3	-1,041.3	-1,410.0	939.2	12.84	9.38	-9.06
8,145.0	79.20	163.50	7,288.9	5,942.9	-1,071.4	-1,401.4	969.9	7.52	6.56	-3.75
8,176.0	80.30	161.80	7,294.4	5,948.4	-1,100.5	-1,392.3	999.6	6.46	3.55	-5.48
8,208.0	82.20	160.20	7,299.3	5,953.3	-1,130.4	-1,382.0	1,030.1	7.72	5.94	-5.00
8,240.0	84.30	158.70	7,303.0	5,957.0	-1,160.2	-1,370.8	1,060.6	8.05	6.56	-4.69
8,271.0	85.80	156.00	7,305.7	5,959.7	-1,188.7	-1,358.9	1,089.8	9.93	4.84	-8.71
8,297.0	87.40	154.40	7,307.2	5,961.2	-1,212.3	-1,348.1	1,114.1	8.70	6.15	-6.15
8,326.0	89.70	154.10	7,308.0	5,962.0	-1,238.4	-1,335.5	1,141.0	8.00	7.93	-1.03
8,390.0	90.50	155.00	7,307.9	5,961.9	-1,296.2	-1,308.0	1,200.6	1.88	1.25	1.41
8,453.0	88.80	153.80	7,308.3	5,962.3	-1,353.0	-1,280.7	1,259.2	3.30	-2.70	-1.90
8,517.0	88.20	153.80	7,309.9	5,963.9	-1,410.4	-1,252.5	1,318.5	0.94	-0.94	0.00
8,580.0	88.00	153.40	7,312.0	5,966.0	-1,466.8	-1,224.5	1,376.7	0.71	-0.32	-0.63
8,643.0	87.60	152.50	7,314.4	5,968.4	-1,522.8	-1,195.9	1,434.7	1.56	-0.63	-1.43
8,707.0	87.30	152.30	7,317.3	5,971.3	-1,579.5	-1,166.3	1,493.3	0.56	-0.47	-0.31
8,770.0	87.90	151.60	7,319.9	5,973.9	-1,635.1	-1,136.7	1,550.8	1.46	0.95	-1.11
8,833.0	89.50	150.80	7,321.4	5,975.4	-1,690.2	-1,106.3	1,608.0	2.84	2.54	-1.27
8,897.0	90.50	154.50	7,321.4	5,975.4	-1,747.1	-1,076.9	1,666.7	5.99	1.56	5.78
8,960.0	90.70	154.40	7,320.7	5,974.7	-1,803.9	-1,049.7	1,725.3	0.35	0.32	-0.16
9,023.0	90.40	153.30	7,320.1	5,974.1	-1,860.5	-1,022.0	1,783.7	1.81	-0.48	-1.75
9,087.0	89.50	151.80	7,320.1	5,974.1	-1,917.3	-992.5	1,842.4	2.73	-1.41	-2.34
9,150.0	89.30	151.90	7,320.8	5,974.8	-1,972.8	-962.8	1,899.9	0.35	-0.32	0.16
9,214.0	89.40	152.50	7,321.5	5,975.5	-2,029.4	-932.9	1,958.5	0.95	0.16	0.94
9,277.0	89.10	152.00	7,322.4	5,976.4	-2,085.2	-903.6	2,016.2	0.93	-0.48	-0.79
9,340.0	90.10	154.90	7,322.8	5,976.8	-2,141.5	-875.4	2,074.4	4.87	1.59	4.60
9,403.0	89.90	153.80	7,322.8	5,976.8	-2,198.3	-848.2	2,133.0	1.77	-0.32	-1.75
9,466.0	89.70	152.40	7,323.0	5,977.0	-2,254.5	-819.7	2,191.0	2.24	-0.32	-2.22
9,530.0	89.90	153.50	7,323.2	5,977.2	-2,311.5	-790.5	2,249.9	1.75	0.31	1.72
9,593.0	89.40	152.60	7,323.6	5,977.6	-2,367.6	-762.0	2,308.0	1.63	-0.79	-1.43
9,656.0	90.10	152.40	7,323.9	5,977.9	-2,423.5	-732.9	2,365.8	1.16	1.11	-0.32
9,720.0	91.00	151.60	7,323.3	5,977.3	-2,480.0	-702.9	2,424.2	1.88	1.41	-1.25
9,783.0	90.70	150.90	7,322.3	5,976.3	-2,535.2	-672.6	2,481.5	1.21	-0.48	-1.11
9,846.0	90.30	149.50	7,321.8	5,975.8	-2,589.9	-641.3	2,538.2	2.31	-0.63	-2.22
9,910.0	90.50	150.30	7,321.4	5,975.4	-2,645.3	-609.2	2,595.7	1.29	0.31	1.25
9,973.0	90.80	150.70	7,320.6	5,974.6	-2,700.1	-578.1	2,652.6	0.79	0.48	0.63
10,036.0	90.60	150.80	7,319.9	5,973.9	-2,755.1	-547.4	2,709.6	0.35	-0.32	0.16
10,100.0	90.40	150.60	7,319.3	5,973.3	-2,810.9	-516.0	2,767.5	0.44	-0.31	-0.31
10,163.0	90.90	151.20	7,318.6	5,972.6	-2,865.9	-485.4	2,824.5	1.24	0.79	0.95
10,226.0	91.10	151.70	7,317.5	5,971.5	-2,921.3	-455.3	2,881.8	0.85	0.32	0.79
10,290.0	90.00	151.10	7,316.9	5,970.9	-2,977.4	-424.7	2,940.1	1.96	-1.72	-0.94
10,353.0	88.70	151.00	7,317.6	5,971.6	-3,032.6	-394.2	2,997.2	2.07	-2.06	-0.16
10,416.0	88.80	150.80	7,319.0	5,973.0	-3,087.6	-363.5	3,054.2	0.35	0.16	-0.32
10,480.0	89.50	151.50	7,319.9	5,973.9	-3,143.6	-332.7	3,112.3	1.55	1.09	1.09



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514383
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346.0usft
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
10,543.0	90.00	154.00	7,320.2	5,974.2	-3,199.7	-303.8	3,170.2	4.05	0.79	3.97
10,606.0	89.20	152.30	7,320.6	5,974.6	-3,255.9	-275.4	3,228.3	2.98	-1.27	-2.70
10,670.0	88.90	152.20	7,321.7	5,975.7	-3,312.5	-245.6	3,286.9	0.49	-0.47	-0.16
10,733.0	88.60	151.90	7,323.1	5,977.1	-3,368.1	-216.1	3,344.5	0.67	-0.48	-0.48
10,797.0	89.30	153.20	7,324.2	5,978.2	-3,424.9	-186.6	3,403.2	2.31	1.09	2.03
10,860.0	90.60	154.60	7,324.3	5,978.3	-3,481.5	-158.8	3,461.6	3.03	2.06	2.22
10,923.0	90.50	154.50	7,323.7	5,977.7	-3,538.4	-131.8	3,520.2	0.22	-0.16	-0.16
10,987.0	90.50	154.30	7,323.1	5,977.1	-3,596.1	-104.1	3,579.8	0.31	0.00	-0.31
11,050.0	90.40	153.90	7,322.6	5,976.6	-3,652.8	-76.6	3,638.2	0.65	-0.16	-0.63
11,114.0	89.80	153.80	7,322.5	5,976.5	-3,710.2	-48.4	3,697.5	0.95	-0.94	-0.16
11,177.0	89.60	153.50	7,322.9	5,976.9	-3,766.7	-20.4	3,755.8	0.57	-0.32	-0.48
11,240.0	89.50	152.70	7,323.4	5,977.4	-3,822.8	8.1	3,813.9	1.28	-0.16	-1.27
11,304.0	89.70	153.80	7,323.8	5,977.8	-3,880.0	36.9	3,872.9	1.75	0.31	1.72
11,367.0	89.90	153.60	7,324.0	5,978.0	-3,936.5	64.8	3,931.2	0.45	0.32	-0.32
11,430.0	89.40	153.40	7,324.4	5,978.4	-3,992.8	92.9	3,989.4	0.85	-0.79	-0.32
11,493.0	89.10	153.40	7,325.2	5,979.2	-4,049.2	121.1	4,047.6	0.48	-0.48	0.00
11,556.0	88.70	153.50	7,326.4	5,980.4	-4,105.5	149.3	4,105.8	0.65	-0.63	0.16
11,620.0	89.70	153.40	7,327.3	5,981.3	-4,162.8	177.9	4,164.9	1.57	1.56	-0.16
11,683.0	91.10	153.20	7,326.9	5,980.9	-4,219.0	206.2	4,223.1	2.24	2.22	-0.32
11,746.0	91.20	153.20	7,325.6	5,979.6	-4,275.3	234.6	4,281.2	0.16	0.16	0.00
11,810.0	90.20	152.90	7,324.8	5,978.8	-4,332.3	263.6	4,340.1	1.63	-1.56	-0.47
11,873.0	90.00	153.70	7,324.7	5,978.7	-4,388.6	291.9	4,398.2	1.31	-0.32	1.27
Last Survey MD=11887'										
11,887.0	90.10	153.50	7,324.7	5,978.7	-4,401.1	298.1	4,411.2	1.60	0.71	-1.43
Projection to TD MD=11945'										
11,945.0	90.10	153.50	7,324.6	5,978.6	-4,453.0	324.0	4,464.8	0.00	0.00	0.00

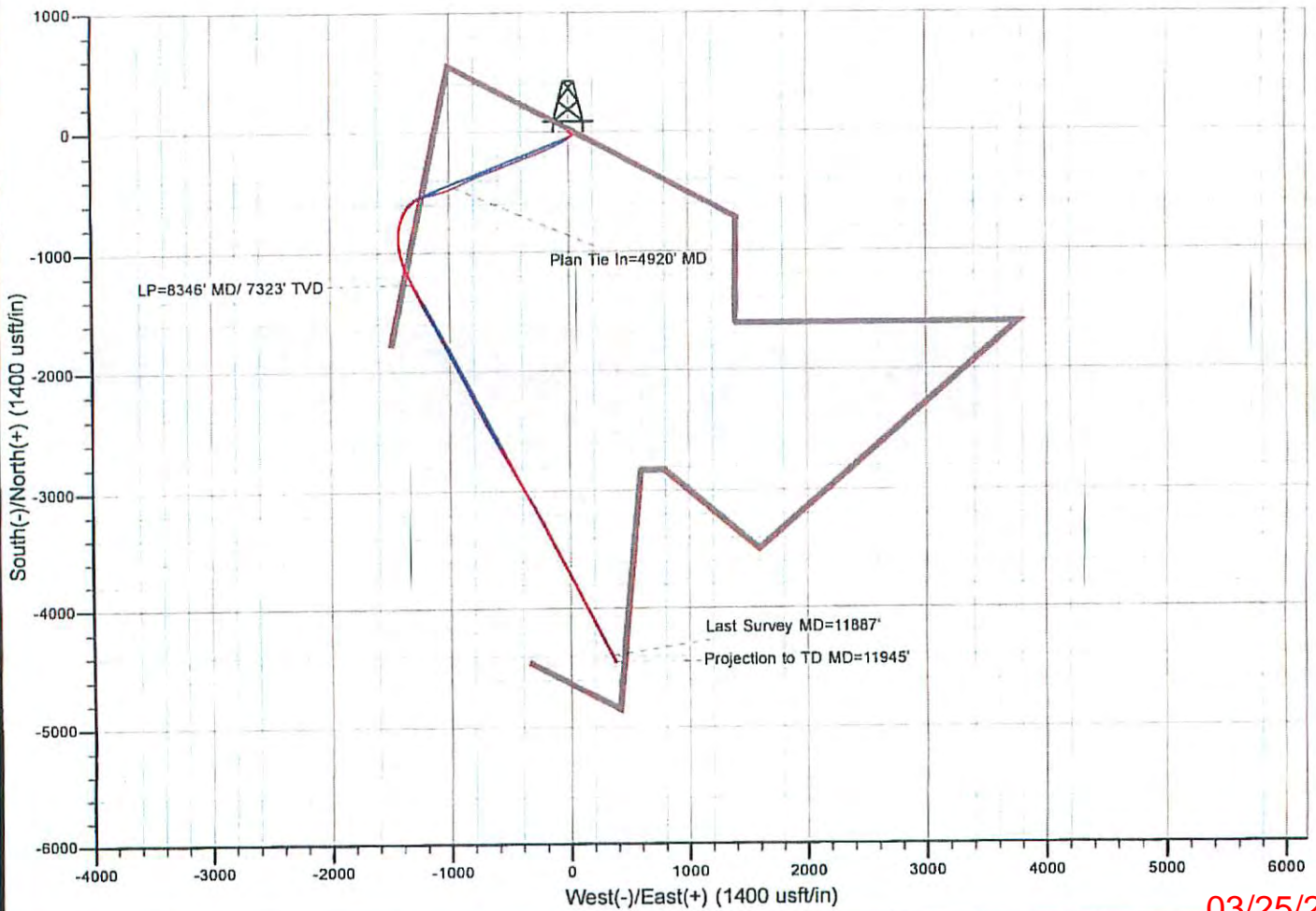
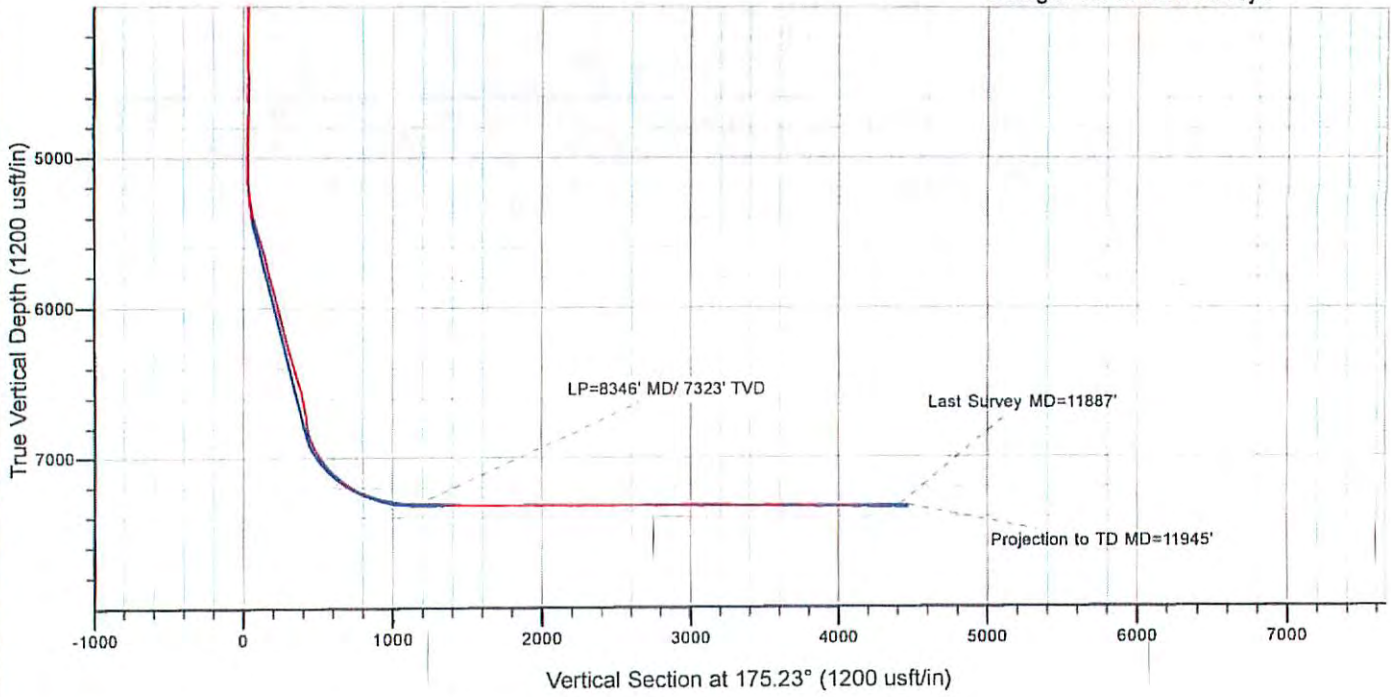
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,888.0	4,887.5	-26.8	36.1	Gyro Tie In=4885' MD
6,920.0	6,510.8	-442.6	-971.3	Final Survey MD=6917'
6,920.0	6,510.8	-442.6	-971.3	Plan Tie In=4920' MD
11,887.0	7,324.7	-4,401.1	298.1	Last Survey MD=11887'
11,945.0	7,324.6	-4,453.0	324.0	Projection to TD MD=11945'

Checked By: _____ Approved By: _____ Date: _____



EQT Production - Marcellus

Project: Wetzel County, WV
 Site: Wetzel County 514383
 Well: Well 514383
 Wellbore: Main Wellbore
 Design: As Drilled Surveys



514383 - 47-103-02870-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	9/29/2014	11,916.00	11,918.00	10	MARCELLUS
1	9/29/2014	11,735.00	11,870.00	32	MARCELLUS
2	9/30/2014	11,511.00	11,691.00	40	MARCELLUS
2.1 (Re-Perf)	9/30/2014	11,530.00	11,560.00	24	MARCELLUS
3	9/30/2014	11,286.00	11,466.00	40	MARCELLUS
4	9/30/2014	11,064.00	11,241.00	40	MARCELLUS
5	10/1/2014	10,836.00	11,014.00	40	MARCELLUS
6	10/1/2014	10,611.00	10,791.00	40	MARCELLUS
7	10/1/2014	10,386.00	10,566.00	40	MARCELLUS
8	10/1/2014	10,161.00	10,341.00	40	MARCELLUS
9	10/1/2014	9,938.00	10,116.00	40	MARCELLUS
10	10/2/2014	9,711.00	9,891.00	40	MARCELLUS
11	10/2/2014	9,486.00	9,667.00	40	MARCELLUS
12	10/2/2014	9,261.00	9,441.00	40	MARCELLUS
13	10/2/2014	9,036.00	9,216.00	40	MARCELLUS
14	10/2/2014	8,811.00	8,991.00	40	MARCELLUS
15	10/3/2014	8,586.00	8,766.00	40	MARCELLUS
16	10/3/2014	8,363.00	8,541.00	40	MARCELLUS

514383 - 47-103-02870-0000 - Stimulated Stages

Stage Number	Stimulation Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	9/29/2014	12.00	3,200.00	NA	2,783	0	427	0
1	9/30/2014	100.20	8,073.00	8,294.00	5,726	297,539	7,543	0
2	9/30/2014	98.10	7,923.00	8,329.00	4,845	301,944	10,451	0
2:1 (Re-Perf)								
3	9/30/2014	98.80	8,247.00	8,559.00	4,452	301,056	7,712	0
4	9/30/2014	97.70	7,976.00	8,477.00	5,062	302,327	7,771	0
5	10/1/2014	97.90	8,238.00	8,730.00	4,500	300,857	7,755	0
6	10/1/2014	96.50	8,096.00	8,553.00	4,468	302,850	7,759	0
7	10/1/2014	97.20	8,113.00	8,549.00	4,503	300,542	7,914	0
8	10/1/2014	98.30	8,021.00	8,637.00	4,414	305,414	7,821	0
9	10/2/2014	97.50	8,255.00	9,017.00	4,380	302,758	7,757	0
10	10/2/2014	99.60	8,165.00	8,471.00	4,867	300,360	7,637	0
11	10/2/2014	99.50	7,975.00	8,928.00	5,504	301,093	7,627	0
12	10/2/2014	99.40	7,936.00	8,664.00	5,366	297,109	7,402	0
13	10/2/2014	98.20	7,862.00	8,274.00	5,456	303,094	7,775	0
14	10/3/2014	98.70	7,759.00	8,218.00	4,840	298,968	7,618	0
15	10/3/2014	99.80	7,896.00	8,807.00	5,287	273,302	7,188	0
16	10/3/2014	99.70	7,587.00	8,681.00	4,590	300,452	7,627	0

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/29/2014
Job End Date:	10/3/2014
State:	West Virginia
County:	Wetzel
API Number:	47-103-02870-00-00
Operator Name:	EQT Production
Well Name and Number:	PNG129 - 514383
Longitude:	-80.64071400
Latitude:	39.55198900
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,327
Total Base Water Volume (gal):	5,444,838
Total Base Non Water Volume:	234,695



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	FTSI	Carrier	Water	7732-18-5	100.00000	90.14740	
Sand	FTSI	Proppant	Crystalline Silica	14808-60-7	100.00000	9.51981	
Hydrochloric Acid 15%	FTSI	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.03024	
FRW-600	FTSI	Friction Reducer	Hydrotreated light distillate	64742-47-8	30.00000	0.02241	
			Ammonium acetate	631-61-8	6.00000	0.00448	
B-10	FTSI	Buffer Agent	Potassium carbonate	584-08-7	48.00000	0.00598	
			Potassium hydroxide	1310-58-3	20.00000	0.00249	
HVG-1	FTSI	Gel	Petroleum Distillate	64742-47-8	55.00000	0.00403	
			Guar Gum	9000-30-0	50.00000	0.00366	
			Surfactant	68439-51-0	2.00000	0.00015	
			Clay	14808-60-7	2.00000	0.00015	
CI-3240	FTSI	Biocide					

			Dazomet (Tetrahydro-3, 5-dimethyl-2H-1, 3, 5-thiadiazine-2-thione)	533-74-4	24.00000	0.00237
			Sodium Hydroxide	1310-73-2	4.00000	0.00040
CS-500-SI	FTSI	Scale Inhibitor				
			Ethylene Glycol	107-21-1	10.00000	0.00246
CIO2	Neptune	Biocide				
			Chlorine Dioxide	10049-04-4	100.00000	0.00077
FE-100L	FTSI	Iron Control				
			Citric Acid	77-92-9	55.00000	0.00042
CI-150	FTSI	Corrosion Inhibitor				
			Ethylene Glycol	107-21-1	30.00000	0.00010
			Isopropanol	67-63-0	30.00000	0.00010
			Organic amine resin salt	Proprietary	30.00000	0.00010
			Aromatic aldehyde	Proprietary	10.00000	0.00003
			Dimethylformamide	68-12-2	10.00000	0.00003
			Quaternary ammonium compound	Proprietary	10.00000	0.00003
APB-1	FTSI	Gel Breaker				
			Ammonium Persulfate	7727-54-0	95.00000	0.00008
NE-100	FTSI	Non-Emulsifier				
			2-Propanol	67-63-0	10.00000	0.00003
			2-Butoxyethanol	111-76-2	10.00000	0.00003
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00001

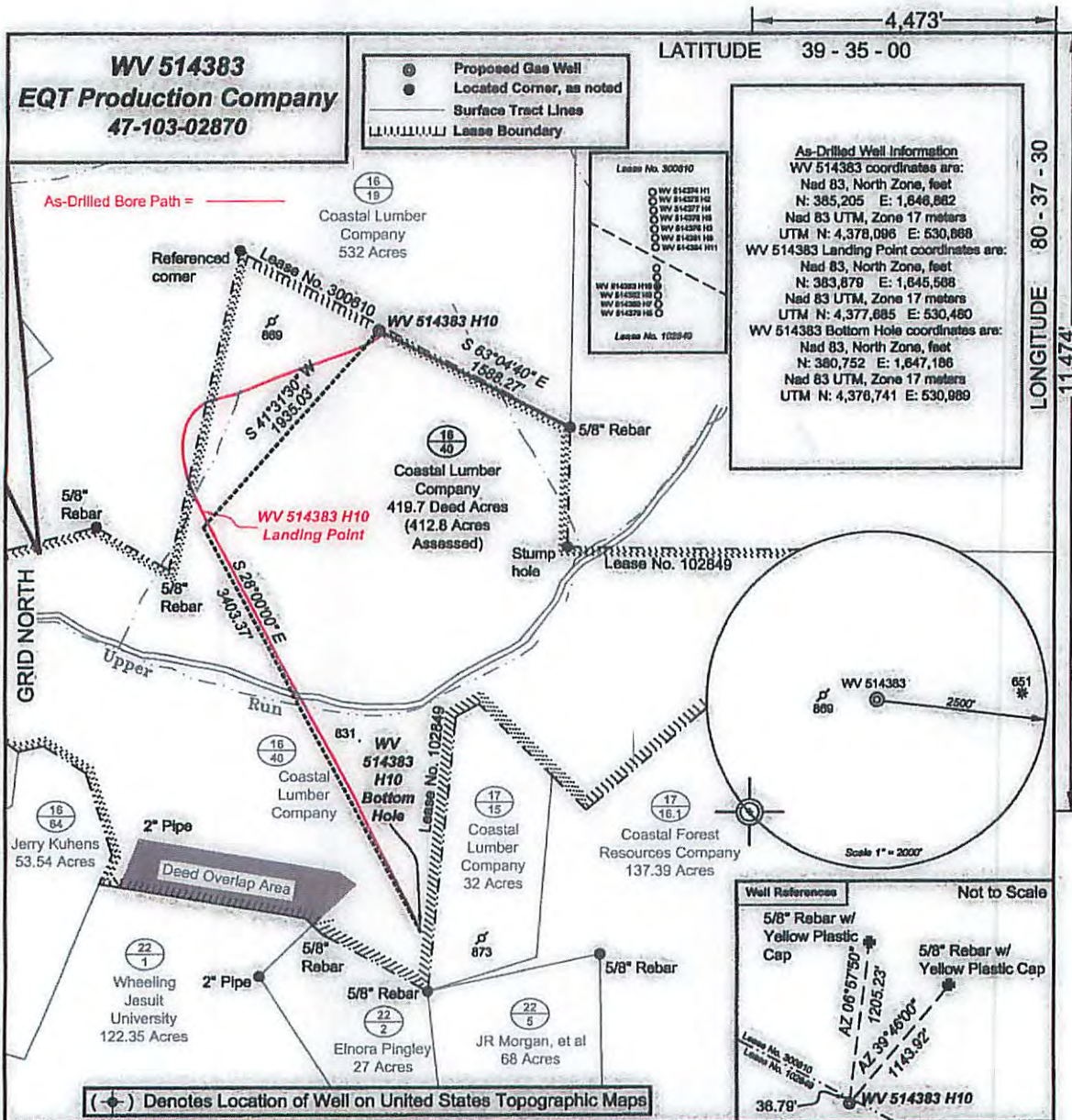
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* 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)



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 Department of Environmental Protection.

P.S. 2092



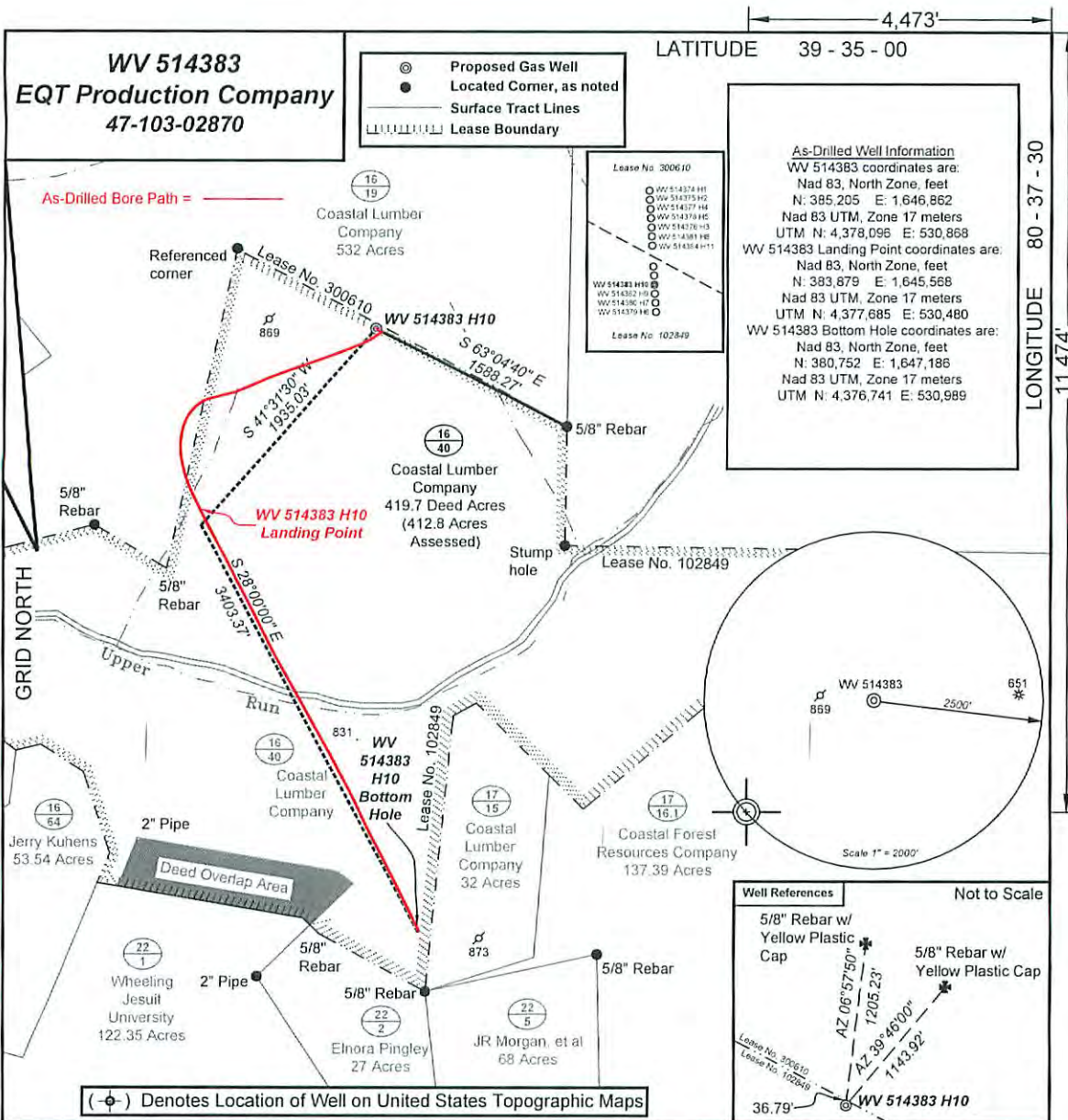
FILE NO: 204-34-G-12
 DRAWING NO: 204-12 PNG 129 H10 As Drilled
 SCALE: 1" = 1000'
 MINIMUM DEGREE OF ACCURACY: 1:2500
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: June 23 20 14
 OPERATOR'S WELL NO. WV 514383
 API WELL NO
 47 - 103 - 02870
 STATE COUNTY PERMIT

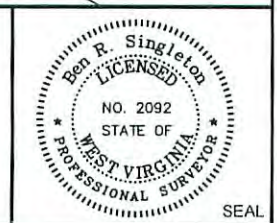
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Ground 1,367' Proposed 1,329.5' WATERSHED Upper Run of South Fork of Fishing Creek QUADRANGLE: Pine Grove
 DISTRICT: Grant COUNTY: Wetzel
 SURFACE OWNER: Coastal Lumber Company ACREAGE: 412.8
 ROYALTY OWNER: Shiben Estates LEASE NO: 102849 ACREAGE: 419.7
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: TVD 1,707' MD 14,397'
 WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray
 ADDRESS: 115 Professional Place P.O. Box 280 ADDRESS: 115 Professional Place P.O. Box 280
 Bridgeport, WV 26330 Bridgeport, WV 26330

03/25/2016



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 Department of Environmental Protection.

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03/25/2016