



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

API 47-085-10219 County RITCHIE District UNION
Quad PULLMAN Pad Name PUL96 Field/Pool Name N/A
Farm name JAMES H. & WILMA J. WILSON Well Number 515883
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 N. 4,340,205.69 Easting E. 501,214.98
Landing Point of Curve Northing N. 4,340,359.34 Easting E. 500,565.86
Bottom Hole Northing N. 4,338,146.74 Easting E. 501,225.37

Elevation (ft) 1183' 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 11.5 ppg, Synthetic Base Mud 11.5 ppg, barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and amino 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 07/24/2015 Date drilling commenced 09/24/2015 Date drilling ceased 2/6/2016
Date completion activities began 8/15/2016 Date completion activities ceased 8/23/2016
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 342,368,399,556 Open mine(s) (Y/N) depths N
Salt water depth(s) ft No salt water shows Void(s) encountered (Y/N) depths N
Coal depth(s) ft No coal seams Cavern(s) encountered (Y/N) depths N

Is coal being mined in area (Y/N) N

APPROVED

NAME: Michael Hoff
DATE: 12-21-2016

Reviewed by: _____

04/28/2017
AC RBOA
4/27/17

API 47-085 - 10219 Farm name JAMES H. & WILMA J. WILSON Well number 515883

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	N/A	Y
Surface	17 1/2"	13 3/8"	670'	NEW	J-55	248'	Y
Coal							
Intermediate 1	12 3/8"	9 5/8"	2,577'	NEW	A-500	735', 2027'	Y
Intermediate 2							
Intermediate 3							
Production	8 1/2"	5 1/2"	15,139'	NEW	P-110	N/A	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 ²)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	38	15.6	1.18	44.84	0	8
Surface	CLASS A	599	15.6	1.20	718.80	0	8
Coal							
Intermediate 1	CLASS A	988	15.6	1.18	1165.84	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS H / CLASS H	929 / 934	15.2 / 15.6	1.25 / 2.06	3085.29	1,826'	72
Tubing							

Drillers TD (ft) 15,151' Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 2,968'

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 DEC 07 2016
 CONDUCTOR: NONE
 SURFACE: 2 CENTRALIZERS AT JOINTS 1 AND 10
 INTERMEDIATE: 6 CENTRALIZERS PLACED EVERY 500'
 PRODUCTION: 286 Composite body spiral centralizers run every joint from bottom to 2,471 RMD.

RECEIVED
Office of Oil and Gas
WV Department of Environmental Protection

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- 085 - 10219 Farm name JAMES H. & WILMA J. WILSON Well number 515883

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

RECEIVED
 Office of Oil and Gas
 DEC 07 2016
 WV Department of
 Environmental Protection

Please insert additional pages as applicable.

API 47- 085 - 10219 Farm name JAMES H. & WILMA J. WILSON Well number 515883

PRODUCING FORMATION(S)	DEPTHS			
		TVD		MD
MARCELLUS	6,341'		7,348'	

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1,798 psi Bottom Hole N/A psi DURATION OF TEST 71.00 hrs

OPEN FLOW Gas 12,179 mcfpd Oil N/A bpd NGL 409 bpd Water 1,057 bpd GAS MEASURED BY Estimated Orifice Pilot

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

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 Vaughn Energy Services
Address P.O. BOX 261021 City Corpus Christi State TX Zip 78246-1021

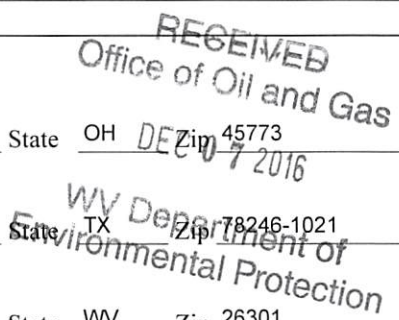
Cementing Company Baker Hughes
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Stimulating Company Halliburton Energy Services
Address 121 Champion Way, Suite 110 City Canonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Jim Helmick Telephone (412) 395-5518
Signature  Title VP Completions Date 12/6/2016

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



04/28/2017

API 47- 085 - 10219 Farm name JAMES H. & WILMA J. WILSON Well number 515883

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

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

RECEIVED
Office of Oil and Gas
DEC 07 2016
WV Department of
Environmental Protection

515883 Final Formations (API #47-08510219)

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
SAND/SHALE	1'	1'	1,060'	1,060'
MAXTON	1,060'	1,060'	1,086'	1,086'
SAND/SHALE	1,086'	1,086'	1,117'	1,117'
BIG LIME	1,117'	1,117'	1,242'	1,242'
SAND/SHALE	1,242'	1,242'	2,319'	2,319'
BIG INJUN	2,319'	2,319'	2,467'	2,467'
SAND/SHALE	2,467'	2,467'	2,672'	2,672'
GANTZ	2,672'	2,672'	2,754'	2,754'
50F	2,754'	2,754'	2,841'	2,841'
GORDON	2,841'	2,841'	3,054'	3,054'
5TH	3,054'	3,054'	3,111'	3,110'
BAYARD	3,111'	3,110'	3,513'	3,456'
WARREN	3,513'	3,456'	3,623'	3,534'
SPEECHLEY	3,623'	3,534'	3,961'	3,782'
BALLTOWN A	3,961'	3,782'	4,204'	3,968'
BALLTOWN B	4,204'	3,968'	4,351'	4,080'
BRADFORD	4,351'	4,080'	4,607'	4,277'
RILEY	4,607'	4,277'	4,948'	4,538'
BENSON	4,948'	4,538'	5,227'	4,746'
ALEXANDER	5,227'	4,746'	5,241'	4,757'
ANGOLA	5,241'	4,757'	5,999'	5,327'
RHINESTREET UPPER	5,999'	5,327'	6,097'	5,402'
RHINESTREET	6,097'	5,402'	6,976'	6,116'
SONYEA	6,976'	6,116'	7,093'	6,208'
MIDDLESEX	7,093'	6,208'	7,169'	6,259'
GENESEE	7,169'	6,259'	7,253'	6,305'
GENESE0	7,253'	6,305'	7,318'	6,331'
TULLY	7,318'	6,331'	7,348'	6,341'
MARCELLUS	7,348'	6,341'	15,151'	6,368'

RECEIVED
 Office of Oil and Gas
 DEC 07 2016
 WV Department of
 Environmental Protection



EQT PRODUCTION

PUL96 Pad
Well #515883- Marcellus - Slot 515883
Main Wellbore
Well License:
API #47-08510219
Design: 515883 As Drilled Surveys

Survey Report

08 February, 2016



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515883- Marcellus - Slot 515883
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1206.0usft
Project:	Ritchie County, WV	MD Reference:	KB 23' @ 1206.0usft
Site:	PUL96 Pad	North Reference:	Grid
Well:	Well #515883- Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore	Well License	
Design:	515883 As Drilled Surveys		

Project	Ritchie 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		

Site	PUL96 Pad				
Site Position:		Northing:	262,406.23 usft	Latitude:	39.21
From:	Map	Easting:	1,578,892.82 usft	Longitude:	-80.99
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.95 °

Well	Well #515883- Marcellus - Slot 515883					
Well Position	+N/-S	0.0 usft	Northing:	262,458.95 usft	Latitude:	39° 12' 39.752 N
	+E/-W	0.0 usft	Easting:	1,578,921.47 usft	Longitude:	80° 59' 9.944 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	0.0 usft	Ground Level:	1,183.0 usft

Wellbore	Main Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/22/2016	-7.88	66.53	51,970

Design	515883 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	180.62	

Survey Program	Date	2/8/2016			
From (°)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	2,942.0	515883 VES Gyros (Main Wellbore)	VES Spec AVG 04-09-15	Triaxial Continuous Gyro Model	
0.00	15,151.0	515883 PHX MWD (Main Wellbore)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM	

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	-1,206.0	0.0	0.0	0.0	0.00	0.00	0.00	
110.0	0.06	29.78	110.0	-1,096.0	0.0	0.0	-0.1	0.05	0.05	0.00	
210.0	0.25	118.74	210.0	-996.0	0.0	0.2	0.0	0.26	0.19	88.96	
310.0	0.21	137.94	310.0	-896.0	-0.3	0.6	0.2	0.09	-0.04	19.20	
410.0	0.32	125.48	410.0	-796.0	-0.5	0.9	0.5	0.12	0.11	-12.46	
510.0	0.28	217.03	510.0	-696.0	-0.9	1.0	0.9	0.43	-0.04	91.55	
610.0	0.27	294.87	610.0	-596.0	-1.0	0.6	1.0	0.35	-0.01	77.84	
710.0	0.89	305.46	710.0	-496.0	-0.5	-0.2	0.5	0.63	0.62	10.59	



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515883- Marcellus - Slot 515883
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1206.0usft
Project:	Ritchie County, WV	MD Reference:	KB 23' @ 1206.0usft
Site:	PUL96 Pad	North Reference:	Grid
Well:	Well #515883- Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore	Well License	
Design:	515883 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	1.03	298.62	810.0	-396.0	0.4	-1.6	-0.4	0.18	0.14	-6.84
910.0	1.06	303.00	910.0	-296.0	1.4	-3.2	-1.3	0.09	0.03	4.38
1,010.0	0.91	300.89	1,009.9	-196.1	2.3	-4.7	-2.2	0.15	-0.15	-2.11
1,110.0	0.66	285.76	1,109.9	-96.1	2.8	-5.9	-2.8	0.32	-0.25	-15.13
1,210.0	0.77	278.08	1,209.9	3.9	3.1	-7.1	-3.0	0.15	0.11	-7.68
1,310.0	0.71	284.81	1,309.9	103.9	3.3	-8.4	-3.3	0.11	-0.06	6.73
1,410.0	0.60	290.59	1,409.9	203.9	3.7	-9.5	-3.6	0.13	-0.11	5.78
1,510.0	0.56	302.14	1,509.9	303.9	4.1	-10.4	-4.0	0.12	-0.04	11.55
1,610.0	0.42	4.07	1,609.9	403.9	4.8	-10.8	-4.6	0.52	-0.14	61.93
1,710.0	0.35	45.70	1,709.9	503.9	5.3	-10.5	-5.2	0.28	-0.07	41.63
1,810.0	0.38	84.61	1,809.9	603.9	5.6	-10.0	-5.5	0.24	0.03	38.91
1,910.0	0.54	128.54	1,909.9	703.9	5.3	-9.3	-5.2	0.37	0.16	43.93
2,010.0	0.54	117.22	2,009.9	803.9	4.8	-8.5	-4.7	0.11	0.00	-11.32
2,110.0	0.66	122.66	2,109.9	903.9	4.3	-7.6	-4.2	0.13	0.12	5.44
2,210.0	0.66	147.16	2,209.9	1,003.9	3.5	-6.8	-3.4	0.28	0.00	24.50
2,310.0	0.48	135.62	2,309.9	1,103.9	2.7	-6.2	-2.6	0.21	-0.18	-11.54
2,410.0	0.38	131.75	2,409.9	1,203.9	2.2	-5.6	-2.1	0.10	-0.10	-3.87
2,510.0	0.49	132.33	2,509.9	1,303.9	1.7	-5.1	-1.6	0.11	0.11	0.58
2,610.0	0.39	113.75	2,609.9	1,403.9	1.2	-4.4	-1.2	0.17	-0.10	-18.58
2,710.0	0.40	111.80	2,709.9	1,503.9	1.0	-3.8	-0.9	0.02	0.01	-1.95
2,810.0	0.46	138.99	2,809.9	1,603.9	0.5	-3.2	-0.5	0.21	0.06	27.19
2,910.0	0.28	137.78	2,909.9	1,703.9	0.1	-2.8	0.0	0.18	-0.18	-1.21
Gyro Tie On=2942' MD										
2,942.0	0.39	151.47	2,941.9	1,735.9	-0.1	-2.7	0.1	0.42	0.34	42.78
2,971.0	1.00	277.70	2,970.9	1,764.9	-0.1	-2.9	0.2	4.38	2.10	435.28
3,002.0	2.90	301.40	3,001.8	1,795.8	0.3	-3.8	-0.3	6.53	6.13	76.45
3,034.0	5.50	305.90	3,033.8	1,827.8	1.6	-5.8	-1.6	8.18	8.13	14.06
3,065.0	7.70	305.70	3,064.5	1,858.5	3.7	-8.7	-3.6	7.10	7.10	-0.65
3,097.0	10.30	305.50	3,096.1	1,890.1	6.6	-12.7	-6.5	8.13	8.13	-0.63
3,128.0	12.80	304.70	3,126.5	1,920.5	10.2	-17.8	-10.0	8.08	8.06	-2.58
3,159.0	15.40	303.80	3,156.6	1,950.6	14.4	-24.0	-14.2	8.42	8.39	-2.90
3,191.0	17.40	303.90	3,187.3	1,981.3	19.5	-31.6	-19.1	6.25	6.25	0.31
3,222.0	20.00	301.80	3,216.6	2,010.6	24.8	-39.9	-24.4	8.66	8.39	-6.77
3,254.0	22.60	300.20	3,246.5	2,040.5	30.8	-49.9	-30.3	8.32	8.13	-5.00
3,285.0	25.10	299.50	3,274.8	2,068.8	37.1	-60.7	-36.4	8.12	8.06	-2.26
3,316.0	28.10	298.80	3,302.5	2,096.5	43.8	-72.9	-43.0	9.73	9.68	-2.26
3,348.0	31.10	299.50	3,330.3	2,124.3	51.5	-86.7	-50.6	9.44	9.38	2.19
3,379.0	34.50	300.60	3,356.4	2,150.4	59.9	-101.2	-58.8	11.13	10.97	3.55
3,411.0	38.40	301.10	3,382.1	2,176.1	69.7	-117.5	-68.4	12.22	12.19	1.56
3,473.0	45.60	303.30	3,428.2	2,222.2	91.8	-152.6	-90.1	11.85	11.61	3.55
3,568.0	45.50	301.50	3,494.7	2,288.7	128.2	-209.8	-125.9	1.36	-0.11	-1.89
3,662.0	44.70	299.40	3,561.1	2,355.1	161.9	-267.2	-159.0	1.80	-0.85	-2.23
3,756.0	43.40	296.40	3,628.6	2,422.6	192.5	-324.9	-188.9	2.61	-1.38	-3.19



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515883- Marcellus - Slot 515883
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1206.0usft
Project:	Ritchie County, WV	MD Reference:	KB 23' @ 1206.0usft
Site:	PUL96 Pad	North Reference:	Grid
Well:	Well #515883- Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore	Well License	
Design:	515883 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)
3,851.0	41.30	299.70	3,698.8	2,492.8	222.5	-381.4	-218.4	3.22	-2.21	3.47
3,945.0	40.20	295.50	3,770.1	2,564.1	251.0	-435.8	-246.2	3.14	-1.17	-4.47
4,039.0	39.70	303.00	3,842.2	2,636.2	280.4	-488.3	-275.1	5.15	-0.53	7.98
4,133.0	40.60	304.10	3,914.0	2,708.0	313.9	-538.9	-308.0	1.22	0.96	1.17
4,227.0	40.80	303.40	3,985.3	2,779.3	348.0	-589.8	-341.5	0.53	0.21	-0.74
4,321.0	40.60	304.00	4,056.5	2,850.5	382.0	-640.8	-375.0	0.47	-0.21	0.64
4,415.0	38.30	304.40	4,129.1	2,923.1	415.5	-690.2	-408.0	2.46	-2.45	0.43
4,509.0	39.80	306.90	4,202.1	2,996.1	450.1	-738.3	-442.0	2.31	1.60	2.66
4,604.0	41.10	306.70	4,274.4	3,068.4	487.0	-787.7	-478.4	1.38	1.37	-0.21
4,698.0	39.70	301.70	4,346.0	3,140.0	521.2	-838.0	-512.1	3.75	-1.49	-5.32
4,793.0	39.00	305.30	4,419.5	3,213.5	554.5	-888.2	-544.7	2.51	-0.74	3.79
4,887.0	40.30	305.30	4,491.9	3,285.9	589.1	-937.2	-578.9	1.38	1.38	0.00
4,981.0	41.80	304.80	4,562.8	3,356.8	624.6	-987.7	-613.8	1.63	1.60	-0.53
5,076.0	42.50	304.90	4,633.2	3,427.2	661.0	-1,040.0	-649.6	0.74	0.74	0.11
5,170.0	40.80	301.90	4,703.4	3,497.4	695.4	-1,092.2	-683.4	2.79	-1.81	-3.19
5,264.0	42.00	302.80	4,773.9	3,567.9	728.7	-1,144.7	-716.1	1.42	1.28	0.96
5,359.0	39.80	299.20	4,845.8	3,639.8	760.7	-1,197.9	-747.6	3.39	-2.32	-3.79
5,453.0	41.20	301.00	4,917.2	3,711.2	791.3	-1,250.7	-777.7	1.94	1.49	1.91
5,548.0	44.00	302.10	4,987.2	3,781.2	825.0	-1,305.5	-810.7	3.05	2.95	1.16
5,642.0	42.20	298.00	5,055.8	3,849.8	857.2	-1,361.1	-842.3	3.54	-1.91	-4.36
5,736.0	41.50	300.50	5,125.8	3,919.8	887.8	-1,415.8	-872.3	1.92	-0.74	2.66
5,831.0	40.70	304.20	5,197.4	3,991.4	921.2	-1,468.5	-905.1	2.69	-0.84	3.89
5,925.0	39.10	301.60	5,269.5	4,063.5	954.0	-1,519.1	-937.3	2.46	-1.70	-2.77
6,019.0	39.70	304.70	5,342.2	4,136.2	986.6	-1,569.1	-969.4	2.19	0.64	3.30
6,113.0	40.60	303.90	5,414.0	4,208.0	1,020.7	-1,619.1	-1,003.0	1.10	0.96	-0.85
6,208.0	41.40	302.60	5,485.7	4,279.7	1,054.9	-1,671.3	-1,036.6	1.23	0.84	-1.37
6,302.0	38.80	299.30	5,557.6	4,351.6	1,086.1	-1,723.1	-1,067.2	3.57	-2.77	-3.51
6,333.0	37.60	297.80	5,582.0	4,376.0	1,095.2	-1,740.0	-1,076.2	4.89	-3.87	-4.84
6,365.0	36.80	296.30	5,607.5	4,401.5	1,104.0	-1,757.2	-1,084.8	3.78	-2.50	-4.69
6,396.0	37.00	294.50	5,632.3	4,426.3	1,112.0	-1,774.0	-1,092.6	3.55	0.65	-5.81
6,428.0	38.30	292.90	5,657.6	4,451.6	1,119.9	-1,791.9	-1,100.3	5.08	4.06	-5.00
6,459.0	38.30	290.80	5,681.9	4,475.9	1,127.0	-1,809.7	-1,107.2	4.20	0.00	-6.77
6,491.0	37.40	287.10	5,707.2	4,501.2	1,133.4	-1,828.3	-1,113.4	7.63	-2.81	-11.56
6,522.0	36.10	281.00	5,732.1	4,526.1	1,137.9	-1,846.3	-1,117.7	12.49	-4.19	-19.68
6,553.0	35.10	275.40	5,757.3	4,551.3	1,140.5	-1,864.1	-1,120.1	11.00	-3.23	-18.06
6,585.0	33.30	270.80	5,783.7	4,577.7	1,141.5	-1,882.1	-1,120.9	9.84	-5.63	-14.38
6,616.0	31.30	265.00	5,810.0	4,604.0	1,140.9	-1,898.6	-1,120.1	11.89	-6.45	-18.71
6,648.0	29.60	258.80	5,837.5	4,631.5	1,138.6	-1,914.6	-1,117.7	11.16	-5.31	-19.38
6,679.0	29.80	254.10	5,864.5	4,658.5	1,135.0	-1,929.6	-1,113.9	7.54	0.65	-15.16
6,711.0	30.40	249.80	5,892.2	4,686.2	1,130.1	-1,944.8	-1,108.8	6.99	1.88	-13.44
6,742.0	30.40	244.00	5,918.9	4,712.9	1,123.9	-1,959.2	-1,102.5	9.46	0.00	-18.71
6,773.0	30.60	237.80	5,945.6	4,739.6	1,116.3	-1,973.0	-1,094.7	10.17	0.65	-20.00



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515883- Marcellus - Slot 515883
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1206.0usft
Project:	Ritchie County, WV	MD Reference:	KB 23' @ 1206.0usft
Site:	PUL96 Pad	North Reference:	Grid
Well:	Well #515883- Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore	Well License	
Design:	515883 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)	
6,805.0	31.12	231.90	5,973.1	4,767.1	1,106.8	-1,986.4	-1,085.1	9.59	1.63	-18.44	
6,836.0	31.70	226.20	5,999.6	4,793.6	1,096.2	-1,998.5	-1,074.4	9.76	1.87	-18.39	
6,868.0	33.00	221.10	6,026.6	4,820.6	1,083.9	-2,010.3	-1,061.9	9.44	4.06	-15.94	
6,899.0	34.90	217.10	6,052.3	4,846.3	1,070.4	-2,021.2	-1,048.3	9.46	6.13	-12.90	
6,931.0	34.90	213.60	6,078.6	4,872.6	1,055.5	-2,031.8	-1,033.3	6.26	0.00	-10.94	
6,962.0	34.50	209.90	6,104.1	4,898.1	1,040.5	-2,041.1	-1,018.2	6.92	-1.29	-11.94	
6,973.0	34.50	208.60	6,113.1	4,907.1	1,035.1	-2,044.2	-1,012.7	6.69	0.00	-11.82	
7,004.0	34.80	203.60	6,138.6	4,932.6	1,019.2	-2,051.9	-996.8	9.22	0.97	-16.13	
7,036.0	37.30	201.20	6,164.5	4,958.5	1,001.8	-2,059.1	-979.3	8.97	7.81	-7.50	
7,067.0	40.40	199.50	6,188.6	4,982.6	983.6	-2,065.8	-961.0	10.57	10.00	-5.48	
7,099.0	44.10	196.90	6,212.3	5,006.3	963.2	-2,072.5	-940.5	12.79	11.56	-8.13	
7,130.0	47.70	196.10	6,233.9	5,027.9	941.8	-2,078.8	-919.1	11.76	11.61	-2.58	
7,161.0	50.70	194.50	6,254.1	5,048.1	919.2	-2,085.0	-896.4	10.44	9.68	-5.16	
7,193.0	55.00	192.50	6,273.5	5,067.5	894.4	-2,091.0	-871.5	14.33	13.44	-6.25	
7,224.0	58.70	191.90	6,290.4	5,084.4	869.0	-2,096.4	-846.1	12.04	11.94	-1.94	
7,256.0	62.50	192.10	6,306.1	5,100.1	841.8	-2,102.2	-818.8	11.89	11.88	0.63	
7,287.0	66.50	191.00	6,319.5	5,113.5	814.4	-2,107.8	-791.3	13.29	12.90	-3.55	
7,318.0	69.50	189.90	6,331.1	5,125.1	786.1	-2,113.0	-763.0	10.22	9.68	-3.55	
7,350.0	72.90	188.70	6,341.4	5,135.4	756.2	-2,117.9	-733.1	11.20	10.63	-3.75	
7,381.0	76.10	187.30	6,349.7	5,143.7	726.6	-2,122.1	-703.4	11.20	10.32	-4.52	
7,413.0	79.20	185.60	6,356.5	5,150.5	695.6	-2,125.6	-672.3	10.99	9.69	-5.31	
7,444.0	82.10	183.50	6,361.6	5,155.6	665.1	-2,128.0	-641.8	11.50	9.35	-6.77	
7,476.0	84.70	180.60	6,365.2	5,159.2	633.3	-2,129.2	-610.1	12.13	8.13	-9.06	
7,507.0	87.20	177.60	6,367.4	5,161.4	602.4	-2,128.7	-579.2	12.58	8.06	-9.68	
7,539.0	89.00	173.70	6,368.5	5,162.5	570.5	-2,126.2	-547.3	13.42	5.63	-12.19	
LP/Deepest Point=7570' MD/6369' TVD											
7,570.0	90.50	169.50	6,368.6	5,162.6	539.9	-2,121.7	-516.7	14.39	4.84	-13.55	
7,590.0	90.90	166.10	6,368.4	5,162.4	520.3	-2,117.5	-497.2	17.12	2.00	-17.00	
515883 LP -498 VS											
7,605.0	91.11	164.91	6,368.1	5,162.1	505.8	-2,113.7	-482.7	8.07	1.37	-7.95	
515883 LP -498' VS p6											
7,606.7	91.13	164.77	6,368.1	5,162.1	504.2	-2,113.3	-481.1	8.07	1.37	-7.95	
7,634.0	91.50	162.60	6,367.5	5,161.5	478.0	-2,105.6	-455.0	8.07	1.36	-7.96	
7,728.0	92.20	160.80	6,364.4	5,158.4	388.8	-2,076.1	-366.1	2.05	0.74	-1.91	
7,822.0	90.70	160.90	6,362.0	5,156.0	300.0	-2,045.3	-277.7	1.60	-1.60	0.11	
7,917.0	90.60	161.20	6,361.0	5,155.0	210.2	-2,014.5	-188.2	0.33	-0.11	0.32	
8,011.0	90.60	160.40	6,360.0	5,154.0	121.4	-1,983.5	-99.8	0.85	0.00	-0.85	
8,105.0	90.80	160.60	6,358.8	5,152.8	32.8	-1,952.2	-11.5	0.30	0.21	0.21	
8,200.0	89.30	161.80	6,358.7	5,152.7	-57.1	-1,921.6	78.1	2.02	-1.58	1.26	
8,294.0	89.60	162.60	6,359.6	5,153.6	-146.6	-1,892.8	167.3	0.91	0.32	0.85	
8,388.0	89.30	162.00	6,360.6	5,154.6	-236.2	-1,864.2	256.5	0.71	-0.32	-0.64	
8,483.0	90.00	162.60	6,361.1	5,155.1	-326.7	-1,835.4	346.7	0.97	0.74	0.63	
8,577.0	90.10	163.60	6,361.0	5,155.0	-416.6	-1,808.0	436.3	1.07	0.11	1.06	



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515883- Marcellus - Slot 515883
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1206.0usft
Project:	Ritchie County, WV	MD Reference:	KB 23' @ 1206.0usft
Site:	PUL96 Pad	North Reference:	Grid
Well:	Well #515883- Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore	Well License	
Design:	515883 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)	
515883 Plat LP											
8,646.4	90.25	163.23	6,360.8	5,154.8	-483.1	-1,788.2	502.6	0.57	0.21	-0.53	
8,672.0	90.30	163.10	6,360.7	5,154.7	-507.6	-1,780.8	527.0	0.57	0.21	-0.53	
8,766.0	90.70	163.40	6,359.9	5,153.9	-597.6	-1,753.7	616.7	0.53	0.43	0.32	
8,860.0	90.70	162.30	6,358.7	5,152.7	-687.5	-1,726.0	706.2	1.17	0.00	-1.17	
8,955.0	89.30	164.50	6,358.7	5,152.7	-778.5	-1,698.9	797.0	2.74	-1.47	2.32	
9,049.0	88.90	164.10	6,360.2	5,154.2	-869.0	-1,673.4	887.2	0.60	-0.43	-0.43	
9,143.0	91.50	166.60	6,359.9	5,153.9	-959.9	-1,649.7	977.8	3.84	2.77	2.66	
9,238.0	91.80	166.20	6,357.2	5,151.2	-1,052.2	-1,627.3	1,069.9	0.53	0.32	-0.42	
9,333.0	91.80	166.60	6,354.2	5,148.2	-1,144.5	-1,605.0	1,161.9	0.42	0.00	0.42	
9,426.0	92.80	166.20	6,350.4	5,144.4	-1,234.8	-1,583.2	1,252.0	1.16	1.08	-0.43	
9,521.0	89.50	164.20	6,348.5	5,142.5	-1,326.6	-1,558.9	1,343.5	4.06	-3.47	-2.11	
9,615.0	89.40	163.70	6,349.4	5,143.4	-1,416.9	-1,532.9	1,433.6	0.54	-0.11	-0.53	
9,710.0	89.30	163.40	6,350.5	5,144.5	-1,508.1	-1,506.0	1,524.4	0.33	-0.11	-0.32	
9,804.0	89.30	163.20	6,351.7	5,145.7	-1,598.1	-1,479.0	1,614.1	0.21	0.00	-0.21	
9,899.0	89.30	163.30	6,352.8	5,146.8	-1,689.0	-1,451.6	1,704.8	0.11	0.00	0.11	
9,993.0	89.40	163.80	6,353.9	5,147.9	-1,779.2	-1,425.0	1,794.6	0.54	0.11	0.53	
10,087.0	90.10	165.20	6,354.3	5,148.3	-1,869.8	-1,399.9	1,884.9	1.67	0.74	1.49	
10,182.0	90.00	166.00	6,354.2	5,148.2	-1,961.8	-1,376.3	1,976.7	0.85	-0.11	0.84	
10,276.0	90.30	165.70	6,354.0	5,148.0	-2,052.9	-1,353.3	2,067.6	0.45	0.32	-0.32	
10,371.0	90.40	165.50	6,353.4	5,147.4	-2,144.9	-1,329.7	2,159.3	0.24	0.11	-0.21	
10,465.0	90.60	165.80	6,352.6	5,146.6	-2,236.0	-1,306.4	2,250.1	0.38	0.21	0.32	
10,560.0	90.50	164.70	6,351.7	5,145.7	-2,327.9	-1,282.2	2,341.7	1.16	-0.11	-1.16	
10,654.0	88.40	164.60	6,352.6	5,146.6	-2,418.5	-1,257.3	2,432.1	2.24	-2.23	-0.11	
10,748.0	88.50	164.60	6,355.1	5,149.1	-2,509.1	-1,232.4	2,522.4	0.11	0.11	0.00	
10,843.0	88.40	164.80	6,357.7	5,151.7	-2,600.7	-1,207.3	2,613.7	0.24	-0.11	0.21	
10,937.0	88.30	164.30	6,360.4	5,154.4	-2,691.3	-1,182.3	2,704.0	0.54	-0.11	-0.53	
11,031.0	88.20	164.80	6,363.3	5,157.3	-2,781.8	-1,157.2	2,794.3	0.54	-0.11	0.53	
11,126.0	88.50	164.80	6,366.0	5,160.0	-2,873.5	-1,132.3	2,885.6	0.32	0.32	0.00	
11,220.0	92.20	166.20	6,365.4	5,159.4	-2,964.4	-1,108.8	2,976.4	4.21	3.94	1.49	
11,314.0	92.40	166.00	6,361.6	5,155.6	-3,055.6	-1,086.2	3,067.3	0.30	0.21	-0.21	
11,408.0	92.70	165.20	6,357.5	5,151.5	-3,146.6	-1,062.9	3,158.0	0.91	0.32	-0.85	
11,503.0	90.20	164.30	6,355.1	5,149.1	-3,238.2	-1,037.9	3,249.3	2.80	-2.63	-0.95	
11,597.0	89.80	164.60	6,355.1	5,149.1	-3,328.8	-1,012.7	3,339.6	0.53	-0.43	0.32	
11,692.0	89.00	164.90	6,356.1	5,150.1	-3,420.4	-987.7	3,431.0	0.90	-0.84	0.32	
11,786.0	88.90	164.80	6,357.8	5,151.8	-3,511.1	-963.2	3,521.4	0.15	-0.11	-0.11	
11,880.0	89.30	165.80	6,359.3	5,153.3	-3,602.0	-939.3	3,612.1	1.15	0.43	1.06	
11,975.0	89.40	165.40	6,360.3	5,154.3	-3,694.0	-915.7	3,703.8	0.43	0.11	-0.42	
12,069.0	89.80	165.40	6,361.0	5,155.0	-3,785.0	-892.0	3,794.5	0.43	0.43	0.00	
12,164.0	90.00	165.80	6,361.2	5,155.2	-3,877.0	-868.4	3,886.3	0.47	0.21	0.42	
12,258.0	89.50	165.20	6,361.6	5,155.6	-3,968.0	-844.8	3,977.0	0.83	-0.53	-0.64	
12,352.0	90.10	166.40	6,361.9	5,155.9	-4,059.1	-821.8	4,067.9	1.43	0.64	1.28	
12,447.0	90.30	166.10	6,361.6	5,155.6	-4,151.4	-799.2	4,159.9	0.38	0.21	-0.32	



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515883- Marcellus - Slot 515883
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1206.0usft
Project:	Ritchie County, WV	MD Reference:	KB 23' @ 1206.0usft
Site:	PUL96 Pad	North Reference:	Grid
Well:	Well #515883- Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore	Well License	
Design:	515883 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)
12,541.0	90.60	166.30	6,360.8	5,154.8	-4,242.7	-776.8	4,250.9	0.38	0.32	0.21
12,636.0	90.60	166.50	6,359.8	5,153.8	-4,335.0	-754.4	4,343.0	0.21	0.00	0.21
12,730.0	89.00	165.00	6,360.2	5,154.2	-4,426.1	-731.3	4,433.9	2.33	-1.70	-1.60
12,824.0	89.00	165.20	6,361.8	5,155.8	-4,517.0	-707.1	4,524.4	0.21	0.00	0.21
12,919.0	89.00	165.50	6,363.5	5,157.5	-4,608.9	-683.1	4,616.0	0.32	0.00	0.32
13,013.0	89.00	164.90	6,365.1	5,159.1	-4,699.7	-659.1	4,706.6	0.64	0.00	-0.64
13,107.0	91.00	163.80	6,365.1	5,159.1	-4,790.2	-633.7	4,796.9	2.43	2.13	-1.17
13,202.0	91.10	163.80	6,363.4	5,157.4	-4,881.5	-607.2	4,887.8	0.11	0.11	0.00
13,296.0	91.10	164.30	6,361.5	5,155.5	-4,971.8	-581.4	4,977.9	0.53	0.00	0.53
13,390.0	91.10	164.50	6,359.7	5,153.7	-5,062.3	-556.1	5,068.1	0.21	0.00	0.21
13,485.0	91.10	164.10	6,357.9	5,151.9	-5,153.8	-530.4	5,159.3	0.42	0.00	-0.42
13,579.0	90.70	164.30	6,356.4	5,150.4	-5,244.2	-504.9	5,249.4	0.48	-0.43	0.21
13,674.0	89.30	163.40	6,356.4	5,150.4	-5,335.5	-478.4	5,340.4	1.75	-1.47	-0.95
13,768.0	89.30	162.90	6,357.6	5,151.6	-5,425.4	-451.2	5,430.0	0.53	0.00	-0.53
13,862.0	89.70	164.10	6,358.4	5,152.4	-5,515.5	-424.5	5,519.8	1.35	0.43	1.28
13,956.0	89.70	163.70	6,358.9	5,152.9	-5,605.9	-398.4	5,609.9	0.43	0.00	-0.43
14,051.0	89.80	163.70	6,359.3	5,153.3	-5,697.0	-371.8	5,700.7	0.11	0.11	0.00
14,145.0	90.00	163.80	6,359.5	5,153.5	-5,787.3	-345.5	5,790.7	0.24	0.21	0.11
14,239.0	90.40	164.30	6,359.2	5,153.2	-5,877.7	-319.6	5,880.8	0.68	0.43	0.53
14,333.0	90.40	164.20	6,358.5	5,152.5	-5,968.1	-294.1	5,971.0	0.11	0.00	-0.11
14,427.0	90.40	163.90	6,357.8	5,151.8	-6,058.5	-268.3	6,061.1	0.32	0.00	-0.32
14,522.0	90.40	164.40	6,357.2	5,151.2	-6,149.9	-242.3	6,152.2	0.53	0.00	0.53
14,616.0	90.40	164.30	6,356.5	5,150.5	-6,240.4	-217.0	6,242.4	0.11	0.00	-0.11
14,710.0	90.70	165.60	6,355.6	5,149.6	-6,331.2	-192.6	6,332.9	1.42	0.32	1.38
14,805.0	90.90	166.30	6,354.3	5,148.3	-6,423.3	-169.5	6,424.8	0.77	0.21	0.74
14,899.0	89.80	164.60	6,353.7	5,147.7	-6,514.3	-145.9	6,515.5	2.15	-1.17	-1.81
14,994.0	90.00	164.40	6,353.9	5,147.9	-6,605.8	-120.5	6,606.8	0.30	0.21	-0.21
15,088.0	90.10	164.60	6,353.8	5,147.8	-6,696.4	-95.4	6,697.1	0.24	0.11	0.21
Final Survey=15098' MD/6354' MD										
15,098.0	90.00	164.70	6,353.8	5,147.8	-6,706.1	-92.7	6,706.7	1.41	-1.00	1.00
PROJ to TD=15151' MD/6354' TVD - 515883 Plat TD p6 - 515883 Plat TD										
15,151.0	90.00	164.70	6,353.8	5,147.8	-6,757.2	-78.8	6,757.6	0.00	0.00	0.00

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,942.0	2,941.9	-0.1	-2.7	Gyro Tie On=2942' MD
7,570.0	6,368.6	539.9	-2,121.7	LP/Deepest Point=7570' MD/6369' TVD
15,098.0	6,353.8	-6,706.1	-92.7	Final Survey=15098' MD/6354' MD
15,151.0	6,353.8	-6,757.2	-78.8	PROJ to TD=15151' MD/6354' TVD



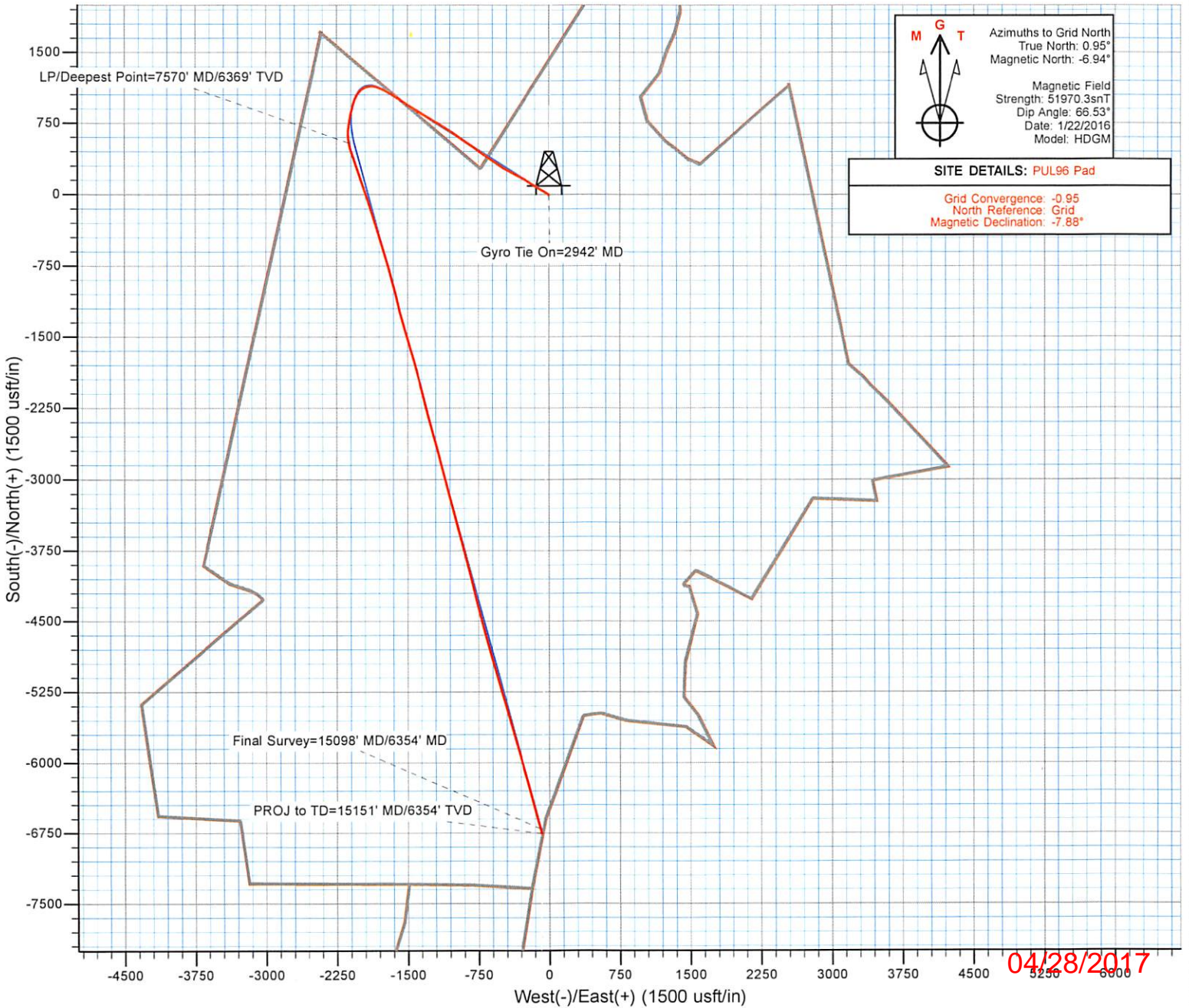
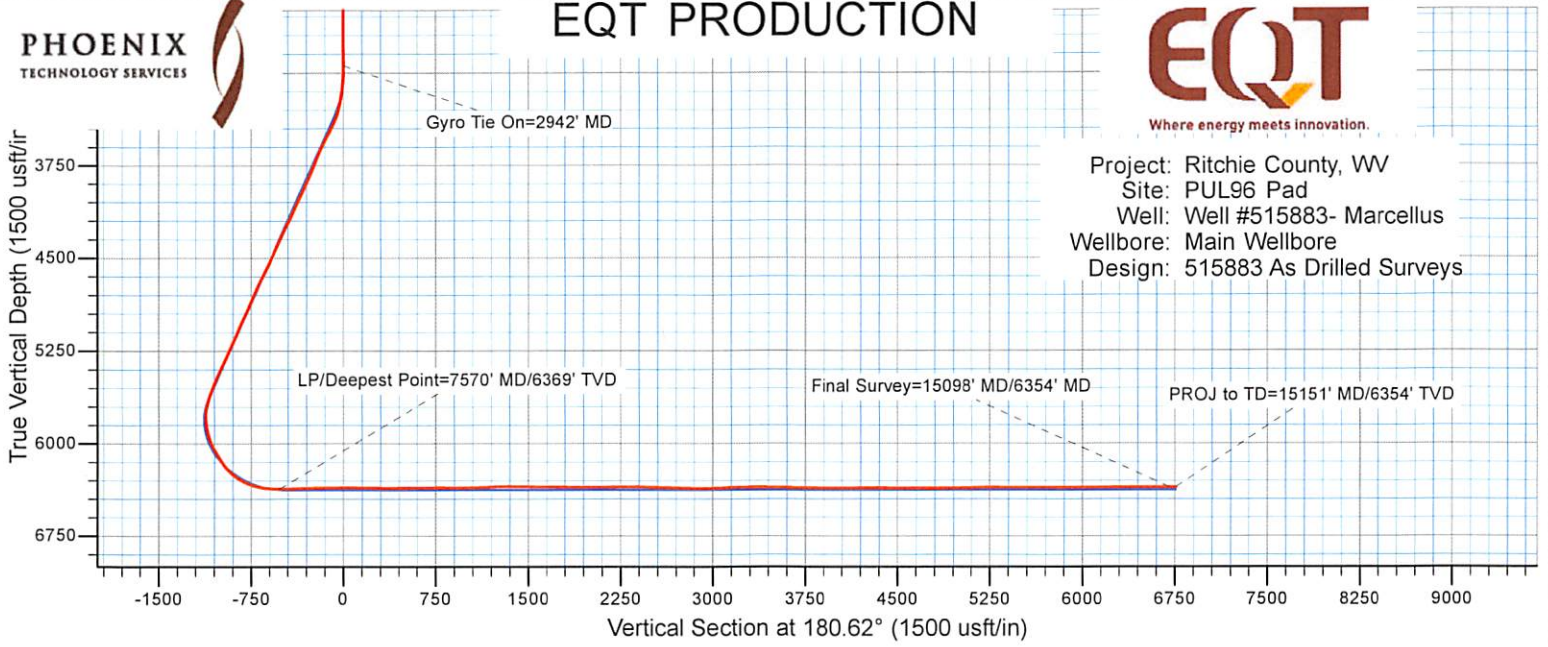
Phoenix Technology Services
Survey Report




Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515883- Marcellus - Slot 515883
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1206.0usft
Project:	Ritchie County, WV	MD Reference:	KB 23' @ 1206.0usft
Site:	PUL96 Pad	North Reference:	Grid
Well:	Well #515883- Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore	Well License	
Design:	515883 As Drilled Surveys		

Checked By: _____ Approved By: _____ Date: _____

Project: Ritchie County, WV
 Site: PUL96 Pad
 Well: Well #515883- Marcellus
 Wellbore: Main Wellbore
 Design: 515883 As Drilled Surveys



	Azimuths to Grid North True North: 0.95° Magnetic North: -6.94°
	Magnetic Field Strength: 51970.3snT Dip Angle: 66.53° Date: 1/22/2016 Model: HDGM

SITE DETAILS: PUL96 Pad Grid Convergence: -0.95 North Reference: Grid Magnetic Declination: -7.88°

04/28/2017

515883- 47-085-10219-0000- Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	3/4/2016	15116.00	15140.00	10	MARCELLUS
1	8/15/2016	14,995.00	15,085.00	32	MARCELLUS
2	8/15/2016	14,845.00	14,967.00	40	MARCELLUS
3	8/15/2016	14,695.00	14,817.00	40	MARCELLUS
4	8/15/2016	14,545.00	14,667.00	40	MARCELLUS
5	8/16/2016	14,395.00	14,517.00	40	MARCELLUS
6	8/16/2016	14,245.00	14,365.00	40	MARCELLUS
7	8/16/2016	14,095.00	14,217.00	40	MARCELLUS
8	8/16/2016	13,945.00	14,065.00	40	MARCELLUS
9	8/17/2016	13,795.00	13,917.00	40	MARCELLUS
10	8/17/2016	13,645.00	13,767.00	40	MARCELLUS
11	8/17/2016	13,495.00	13,617.00	40	MARCELLUS
12	8/17/2016	13,345.00	13,467.00	40	MARCELLUS
13	8/17/2016	13,195.00	13,317.00	40	MARCELLUS
14	8/17/2016	13,045.00	13,167.00	40	MARCELLUS
15	8/18/2016	12,895.00	13,017.00	40	MARCELLUS
16	8/18/2016	12,745.00	12,867.00	40	MARCELLUS
17	8/18/2016	12,595.00	12,717.00	40	MARCELLUS
18	8/18/2016	12,445.00	12,565.00	40	MARCELLUS
19	8/18/2016	12,295.00	12,417.00	40	MARCELLUS
20	8/18/2016	12,145.00	12,267.00	40	MARCELLUS
21	8/19/2016	11,995.00	12,117.00	40	MARCELLUS
22	8/19/2016	11,845.00	11,967.00	40	MARCELLUS
23	8/19/2016	11,695.00	11,817.00	40	MARCELLUS
24	8/19/2016	11,545.00	11,667.00	40	MARCELLUS
25	8/19/2016	11,395.00	11,517.00	40	MARCELLUS
26	8/19/2016	11,245.00	11,367.00	40	MARCELLUS
27	8/20/2016	11,095.00	11,217.00	40	MARCELLUS
28	8/20/2016	10,945.00	11,067.00	40	MARCELLUS
29	8/20/2016	10,795.00	10,917.00	40	MARCELLUS
30	8/20/2016	10,645.00	10,767.00	40	MARCELLUS
31	8/20/2016	10,495.00	10,617.00	40	MARCELLUS
32	8/21/2016	10,345.00	10,467.00	40	MARCELLUS
33	8/21/2016	10,195.00	10,317.00	40	MARCELLUS
34	8/21/2016	10,045.00	10,167.00	40	MARCELLUS
35	8/21/2016	9,895.00	10,015.00	40	MARCELLUS
36	8/21/2016	9,745.00	9,867.00	40	MARCELLUS
37	8/21/2016	9,595.00	9,717.00	40	MARCELLUS
38	8/21/2016	9,445.00	9,567.00	40	MARCELLUS
39	8/22/2016	9,295.00	9,417.00	40	MARCELLUS
40	8/22/2016	9,145.00	9,267.00	40	MARCELLUS
41	8/22/2016	8,995.00	9,117.00	40	MARCELLUS
42	8/22/2016	8,845.00	8,968.00	40	MARCELLUS
43	8/22/2016	8,695.00	8,817.00	40	MARCELLUS
44	8/22/2016	8,545.00	8,667.00	40	MARCELLUS
45	8/22/2016	8,395.00	8,517.00	40	MARCELLUS
46	8/23/2016	8,245.00	8,367.00	40	MARCELLUS
47	8/23/2016	8,095.00	8,217.00	40	MARCELLUS
48	8/23/2016	7,945.00	8,067.00	40	MARCELLUS
49	8/23/2016	7,795.00	7,917.00	40	MARCELLUS
50	8/23/2016	7,645.00	7,767.00	40	MARCELLUS
51	8/23/2016	7,495.00	7,617.00	40	MARCELLUS

515883- 47-085-10219-0000- 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	8/15/2016	9	6,448.00	9,352.00	4,056.00	0	2,302.07	0
1	8/15/2016	91	8,686.00	9,211.00	2,346.00	249,901	5,868.00	0
2	8/15/2016	89	8,758.00	9,210.00	3,181.00	246,999	6,089.90	0
3	8/16/2016	93	8,459.00	8,971.00	2,943.00	250,500	5,409.40	0
4	8/16/2016	97	8,762.00	9,136.00	3,011.00	253,801	5,559.00	0
5	8/16/2016	89	8,342.00	9,333.00	2,727.00	250,200	5,608.00	0
6	8/16/2016	96	8,390.00	8,769.00	2,905.00	249,100	5,347.00	0
7	8/16/2016	101	8,369.00	8,678.00	3,586.00	252,500	5,366.90	0
8	8/16/2016	99	8,038.00	8,272.00	3,338.00	251,001	5,649.00	0
9	8/17/2016	100	8,440.00	8,808.00	3,106.00	249,001	5,144.00	0
10	8/17/2016	96	8,065.00	9,428.00	2,842.00	249,001	5,776.00	0
11	8/17/2016	91	8,664.00	9,277.00	3,025.00	213,400	4,868.00	0
12	8/17/2016	98	8,318.00	8,892.00	2,896.00	248,399	5,011.70	0
13	8/17/2016	100	8,289.00	8,466.00	2,983.00	251,100	4,995.00	0
14	8/18/2016	100	7,884.00	8,071.00	3,016.00	249,301	4,967.20	0
15	8/18/2016	100	7,777.00	7,952.00	2,942.00	259,101	5,005.00	0
16	8/18/2016	101	8,245.00	8,468.00	3,107.00	254,100	4,889.00	0
17	8/18/2016	100	8,007.00	8,173.00	3,033.00	251,100	4,926.00	0
18	8/18/2016	100	8,143.00	8,386.00	3,255.00	250,300	4,942.70	0
19	8/18/2016	100	7,987.00	8,170.00	3,308.00	249,001	4,827.40	0
20	8/19/2016	100	8,025.00	8,550.00	3,870.00	250,701	4,879.20	0
21	8/19/2016	101	7,779.00	8,202.00	3,154.00	249,601	4,910.40	0
22	8/19/2016	100	7,823.00	9,189.00	3,284.00	254,301	5,082.00	0
23	8/19/2016	101	7,504.00	8,355.00	3,040.00	253,999	5,279.00	0
24	8/19/2016	95	7,208.00	8,644.00	2,951.00	251,199	5,338.00	0
25	8/19/2016	101	7,669.00	8,349.00	3,128.00	250,200	4,805.70	0
26	8/19/2016	101	7,688.00	7,954.00	3,270.00	249,499	4,808.00	0
27	8/20/2016	100	7,209.00	7,964.00	3,372.00	249,799	4,806.10	0
28	8/20/2016	100	7,902.00	8,299.00	3,046.00	247,200	4,668.00	0
29	8/20/2016	100	8,500.00	8,693.00	3,328.00	249,400	4,785.50	0
30	8/20/2016	101	7,598.00	7,878.00	4,212.00	249,301	4,740.30	0
31	8/21/2016	100	7,706.00	7,941.00	3,607.00	249,901	4,726.50	0
32	8/21/2016	101	8,007.00	8,271.00	3,596.00	249,799	4,731.00	0
33	8/21/2016	101	7,490.00	8,388.00	3,162.00	251,999	4,655.00	0
34	8/21/2016	100	7,961.00	8,159.00	3,092.00	246,300	4,606.00	0
35	8/21/2016	100	7,173.00	7,259.00	3,144.00	248,801	4,584.00	0
36	8/21/2016	102	7,362.00	7,488.00	3,056.00	250,300	4,726.00	0
37	8/21/2016	101	7,103.00	7,385.00	3,125.00	248,501	4,617.00	0
38	8/22/2016	101	7,616.00	7,994.00	3,058.00	249,700	4,626.00	0
39	8/22/2016	102	7,267.00	7,495.00	3,223.00	250,200	4,617.00	0
40	8/22/2016	101	7,240.00	7,345.00	3,273.00	250,200	4,634.00	0
41	8/22/2016	100	7,215.00	7,376.00	3,219.00	250,000	4,600.00	0
42	8/22/2016	101	6,967.00	7,044.00	2,972.00	250,300	4,626.00	0
43	8/22/2016	102	7,011.00	7,508.00	3,086.00	249,400	4,529.00	0
44	8/22/2016	101	7,182.00	7,399.00	3,514.00	250,000	4,550.00	0
45	8/23/2016	100	6,978.00	7,371.00	3,293.00	250,099	4,482.00	0
46	8/23/2016	100	6,912.00	7,328.00	2,988.00	251,600	4,535.00	0
47	8/23/2016	100	6,834.00	7,756.00	3,780.00	248,300	4,591.00	0
48	8/23/2016	100	6,875.00	7,218.00	3,337.00	250,000	4,484.00	0
49	8/23/2016	100	6,719.00	6,873.00	3,384.00	250,701	4,390.00	0
50	8/23/2016	100	7,123.00	7,280.00	3,854.00	246,999	4,295.00	0
51	8/23/2016	88	8,635.00	9,314.00	2,719.00	250,099	7,067.99	0

WELL OPERATOR: EQT Production Company
 ADDRESS: PO Box 280 / 115 Professional Place
 Bridgeport, WV 26330

DESIGNATED AGENT: Rex C. Ray
 ADDRESS: PO Box 280 / 115 Professional Place
 Bridgeport, WV 26330

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: WATERSHED Goose Run of Rockcamp Run
 QUADRANGLE: Pullman
 DISTRICT: Union
 COUNTY: Ritchie

SURFACE OWNER: James H. & Wilma J. Wilson
 ROYALTY OWNER: Laurie Ann Haddox, et al
 LEASE NO: 919995
 ACREAGE: 40.089

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION

PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 TARGET FORMATION: Marcellus
 ESTIMATED DEPTH: TVD 6,396

PLUG AND ABANDON CLEAN OUT AND REPLUG

FILE NO: 243-14
 DRAWING NO: 243-14 Pullman 96 H1.dwg
 SCALE: 1" = 200'
 MINIMUM DEGREE OF ACCURACY: 1:2500
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

STATE 47
 COUNTY 85
 PERMIT 10219

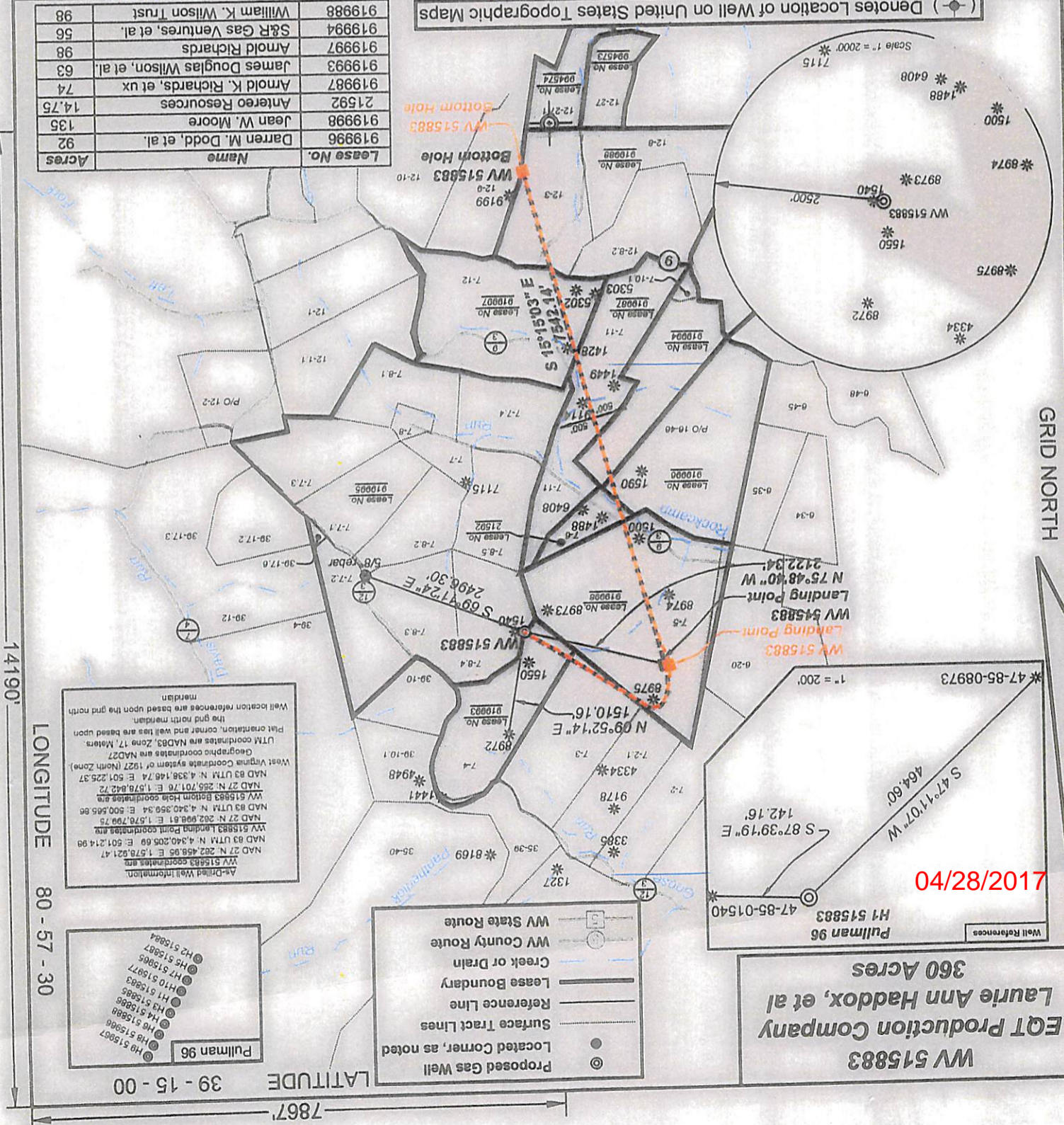
DATE: February 23 20 16
 OPERATORS WELL NO. 515883
 API WELL NO

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

L. 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.

Shirley A. Bell
 P.S. 20895U

ALLEGHENY SURVEYS, INC.



04/28/2017