

APPROVED

NAME: *John A. Fisher*

DATE: *2/10/2010*

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 513153

API: 47 - 017 - 06503

Submission: Initial Amended

Notes: w/o Flowback

Correction to Production Cement Top
(MD)

Includes Flowback information

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Office of Oil & Gas
JAN 07 2016

02/12/2016

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

API 47-017-06503 County DODDRIDGE District Southwest
Quad OXFORD 7.5' Pad Name OXFORD 159 Field/Pool Name _____
Farm name JUSTIN L. HENDERSON ET AL Well Number 513153
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 4,339,877.7 Easting 520,532.8
Landing Point of Curve Northing 4,340,087.7 Easting 520,447.2
Bottom Hole Northing 4,342,115.0 Easting 519,460.4
4342.115 DF

Elevation (ft) 1,252 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 07/30/2014 Date drilling commenced 11/21/2014 Date drilling ceased 5/13/2015
Date completion activities began 6/28/2015 Date completion activities ceased 7/8/2015
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

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Freshwater depth(s) ft 264, 325, 411 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1312, 1379 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 256, 323, 484, 626, 742, 745 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
02/12/2016

API 47-017 - 06503 Farm name JUSTIN L. HENDERSON ET AL Well number 513153

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24"	20"	40'	NEW	A-500 40LB/FT	NONE	Y
Surface	17.5"	13.375"	1,106'	NEW	J-55 54.5LB/FT	None	Y
Coal							
Intermediate 1	12.375"	9.625"	5,280'	NEW	P-110 40LB/FT	None	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	14,700'	NEW	P-110 20LB/FT	NONE	N
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	38	15.6	1.18	44.84	0	8
Surface	CLASS A	926	15.6	1.20	1,111.2	0	8
Coal							
Intermediate 1	CLASS A / A / A	459 / 364 / 1,127	14.2 / 15.6 / 15.6	1.24 / 1.18 / 1.18	2,328.54	0	8
Intermediate 2							
Intermediate 3							
Production	Class A 50/50 POZ / H	555 / 995	14.2 / 15.2	1.26 / 1.97	2659.45	3,291'	8
Tubing							

Drillers TD (ft) 14,720' Loggers TD (ft) 6778'
 Deepest formation penetrated Onondaga Plug back to (ft) 5,438 ft
 Plug back procedure Pumped isolation plug # 1 with 2 bbls H2O, 39.5 bbls of 14.2 ppg cmt. 1 bbls H2O, Trip out of hole to @ 5,580', Pump isolation plug # 2 with 1 bbls H2O, 39.5 bbls of 14.2 ppg cmt, 1 bbls H2O, Trip out of hole to @ 5,111', pump kickoff plug with 1 bbls H2O, 38.5 bbls Class A cmt (sks 193) at 1.12 yield, 16.0 ppg 20 bbls H2O, Trip out of hole

Kick off depth (ft) 5448'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____
 CONDUCTOR- NONE _____
 SURFACE- JOINTS: 1,9,20 _____
 INTERMEDIATE- RAN AT LEAST EVERY 500' FEET JOINTS: 1, 12, 24, 37, 50, 62, 74, 86, 98, 109, 121 _____
 PRODUCTION- Ran 225 centralizers on every joint from 14699' to 5183' _____

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 017 - 06503 Farm name JUSTIN L. HENDERSON ET AL Well number 513153

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft	Perforated to MD ft	Number of Perforations	Formation(s)
					Please see attached

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
						Please	see	attached

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Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6,735.60</u>	<u>TVD</u>	<u>6,996.00</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,060 psi Bottom Hole N/A psi DURATION OF TEST 81.50 hrs

OPEN FLOW Gas 13,437 mcfpd Oil N/A bpd NGL 62.9 bpd Water 772.8 bpd GAS MEASURED BY Estimated Orifice Pilot

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

Please insert additional pages as applicable.

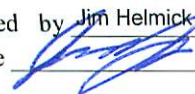
Drilling Contractor ALPHA HUNTER DRILLING (RIG 5)
Address P.O. BOX 430 City RENO State OH Zip 45773

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

Cementing Company Allied Services
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company FTS International
Address 1432 Route 519 City Eighty Four State PA Zip 15330

Please insert additional pages as applicable.

Completed by Jim Helmick Telephone 412-395-5518
Signature  Title VP Completions Date 12/22/2015

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

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API 47- 017 - 06503 Farm name JUSTIN L. HENDERSON ET AL Well number 513153

Drilling Contractor Patterson UTI
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

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

Logging Company Gyro Data Inc.
Address 601 Mayer St. City Bridgeville State PA Zip 15017

Cementing Company C & J Energy Services (Nabors)
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

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Well #513153 Final Formations				
Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
FRESH WATER ZONE	1	1	411	411
SAND/SHALE	1	1	256	256
WASHINGTON COAL	256	256	258	258
SAND/SHALE	258	258	323	323
WAYNESBURG A COAL	323	323	325	325
SAND/SHALE	325	325	484	484
UNIONTOWN COAL	484	484	486	486
SAND/SHALE	486	486	626	626
SEWICKLEY	626	626	628	628
SAND/SHALE	628	628	742	742
REDSTONE COAL	742	742	743	743
SAND/SHALE	743	743	745	745
PITTSBURGH COAL	745	745	749	749
SAND/SHALE	749	749	2,030.00	2,029.80
BIG LIME	2,030.00	2,029.80	2,174.00	2,173.70
SAND/SHALE	2,174.00	2,173.70	2,323.00	2,322.70
WEIR	2,323.00	2,322.70	2,437.00	2,436.70
SAND/SHALE	2,437.00	2,436.70	2,531.00	2,530.60
GANTZ	2,531.00	2,530.60	2,608.00	2,607.60
50F	2,608.00	2,607.60	2,684.00	2,683.50
SAND/SHALE	2,684.00	2,683.50	2,730.00	2,729.50
30F	2,730.00	2,729.50	2,765.00	2,764.50
SAND/SHALE	2,765.00	2,764.50	2,779.00	2,778.50
GORDON	2,779.00	2,778.50	2,870.00	2,869.50
4TH SAND	2,870.00	2,869.50	3,051.00	3,050.40
BAYARD	3,051.00	3,050.40	3,151.00	3,150.30
SAND/SHALE	3,151.00	3,150.30	3,388.00	3,387.10
WARREN	3,388.00	3,387.10	3,447.00	3,446.10
SAND/SHALE	3,447.00	3,446.10	3,459.00	3,458.10
SPEECHLEY	3,459.00	3,458.10	3,703.00	3,701.90
SAND/SHALE	3,703.00	3,701.90	4,139.00	4,136.80
BALLTOWN A	4,139.00	4,136.80	4,253.00	4,250.30
SAND/SHALE	4,253.00	4,250.30	4,338.00	4,334.80
RILEY	4,338.00	4,334.80	4,484.00	4,480.00
SAND/SHALE	4,484.00	4,480.00	5,009.00	5,002.10
BENSON	5,009.00	5,002.10	5,049.00	5,041.90
SAND/SHALE	5,049.00	5,041.90	5,180.00	5,172.30
ALEXANDER	5,180.00	5,172.30	6,211.00	6,156.80
RHINESTREET UPPER	6,211.00	6,156.80	6,362.00	6,306.60
RHINESTREET	6,362.00	6,306.60	6,438.00	6,380.10
SONYEA	6,438.00	6,380.10	6,608.00	6,533.20
MIDDLESEX	6,608.00	6,533.20	6,662.00	6,575.80
GENESSEE	6,662.00	6,575.80	6,762.00	6,643.00
GENESE0	6,762.00	6,643.00	6,853.00	6,688.80
TULLY	6,853.00	6,688.80	6,908.00	6,710.50
HAMILTON	6,908.00	6,710.50	6,996.00	6,735.60
MARCELLUS	6,996.00	6,735.60		

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EQT Production - Marcellus

Doddridge County, WV Grid

Doddridge County 513153

Well #513153

Main Wellbore

Design: 513153 As Drilled

Standard Survey Report

14 May, 2015

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Database:	COMPASS 5000 1 Build 710	Local Co-ordinate Reference:	West Virginia County 513153
Company:	PHX Technology Services	TVD Reference:	513153 14 1275 usft
Project:	PHX MWD (Main Wellbore)	MD Reference:	513153 14 1275 usft
Site:	Leakwater County WV 1703	North Reference:	513153 14 1275 usft
Well:	Main Wellbore	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	11153 14 1275		

Project			
Leakwater County WV 1703			
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			
Leakwater County WV 1703			
Site Position:		Northing:	260.323 30 usft
From:	Map	Easting:	1,642,296.70 usft
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.21
		Longitude:	-80.76
		Grid Convergence:	-0.81 °

Well			
PHX MWD (Main Wellbore)			
Well Position	+N/-S	0 0 usft	Northing:
	+E/-W	0 0 usft	Easting:
Position Uncertainty		0 0 usft	Wellhead Elevation:
			usft
			Latitude:
			Longitude:
			Ground Level:
			1,252 0 usft

Wellbore					
Main Wellbore					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/21/2015	-7.78	66.68	52.235

Design	
11153 14 1275	
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	335.34	

Survey Program		Date	5/14/2015
From (')	To (usft)	Survey (Wellbore)	Tool Name
0 00	5 410 0 513153	Gyrodata Gyro (Main Wellbore)	GYD_DP_MS
0 00	14 720 0 513153	PHX MWD (Main Wellbore)	PHX+MWD+HDGM
			Description
			Gyrodata gyro-compassing and drop
			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	-1,275 0	0 0	0 0	0 0	0 00	0 00	0 00
110 0	0 16	294.33	110 0	-1,165.0	0 1	-0 1	0 1	0 15	0 15	0 00
210 0	0 12	312.16	210 0	-1,065.0	0 2	-0 3	0 3	0 06	-0 04	17 83
310 0	0 15	291.39	310 0	-965 0	0 3	-0 5	0 5	0 06	0 03	-20 77
410 0	0 16	276.38	410 0	-865 0	0 4	-0 8	0 7	0 04	0 01	-15 01
510 0	0 16	282.07	510 0	-765 0	0 4	-1 1	0 8	0 02	0 00	5 69
610 0	0 12	290.05	610 0	-665 0	0 5	-1 3	1 0	0 04	-0 04	7 98
710 0	0 13	289.98	710 0	-565 0	0 6	-1 5	1 1	0 01	0 01	-0 07

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Database:	PH 5000 - Single Well BH	Local Co-ordinate Reference:	PH 5000 - Single Well BH
Company:	EQT Production, LLC	TVD Reference:	PH 5000 - 177.500
Project:	Madison County, WV, USA	MD Reference:	PH 5000 - 177.500
Site:	Madison County, WV, USA	North Reference:	PH 5000 - 177.500
Well:	Well: PH 5000	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	10153 AS Draw		

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	0.10	277.80	810.0	-465.0	0.6	-1.7	1.3	0.04	-0.03	-12.18
910.0	0.21	268.30	910.0	-365.0	0.6	-2.0	1.4	0.11	0.11	-9.50
1,010.0	0.55	268.96	1,010.0	-265.0	0.6	-2.6	1.6	0.34	0.34	0.66
1,110.0	0.59	276.20	1,110.0	-165.0	0.6	-3.6	2.1	0.08	0.04	7.24
1,210.0	0.63	301.24	1,210.0	-65.0	1.0	-4.6	2.8	0.27	0.04	25.04
1,310.0	1.04	296.82	1,310.0	35.0	1.7	-5.9	4.0	0.41	0.41	-4.42
1,410.0	1.18	297.35	1,410.0	135.0	2.6	-7.6	5.5	0.14	0.14	0.53
1,510.0	1.40	299.17	1,509.9	234.9	3.6	-9.6	7.3	0.22	0.22	1.82
1,610.0	1.29	299.17	1,609.9	334.9	4.8	-11.7	9.2	0.11	-0.11	0.00
1,710.0	1.29	299.24	1,709.9	434.9	5.9	-13.6	11.0	0.00	0.00	0.07
1,810.0	1.31	300.39	1,809.9	534.9	7.0	-15.6	12.9	0.03	0.02	1.15
1,910.0	1.33	301.65	1,909.8	634.8	8.2	-17.6	14.8	0.04	0.02	1.26
2,010.0	1.35	297.78	2,009.8	734.8	9.3	-19.6	16.7	0.09	0.02	-3.87
2,110.0	1.40	296.91	2,109.8	834.8	10.5	-21.7	18.6	0.05	0.05	-0.87
2,210.0	1.50	296.79	2,209.7	934.7	11.6	-24.0	20.5	0.10	0.10	-0.12
2,310.0	1.57	297.76	2,309.7	1,034.7	12.8	-26.4	22.7	0.07	0.07	0.97
2,410.0	1.58	297.64	2,409.7	1,134.7	14.1	-28.8	24.8	0.01	0.01	-0.12
2,510.0	1.64	300.44	2,509.6	1,234.6	15.5	-31.3	27.1	0.10	0.06	2.80
2,610.0	1.67	301.59	2,609.6	1,334.6	17.0	-33.7	29.5	0.04	0.03	1.15
2,710.0	1.72	303.07	2,709.5	1,434.5	18.5	-36.2	32.0	0.07	0.05	1.48
2,810.0	1.78	304.36	2,809.5	1,534.5	20.2	-38.8	34.6	0.07	0.06	1.29
2,910.0	1.87	305.45	2,909.4	1,634.4	22.1	-41.4	37.3	0.11	0.09	2.09
3,010.0	1.91	305.74	3,009.4	1,734.4	24.0	-44.0	40.2	0.05	0.04	-0.71
3,110.0	1.95	305.37	3,109.3	1,834.3	26.0	-46.8	43.1	0.04	0.04	-0.37
3,210.0	2.06	302.42	3,209.3	1,934.3	27.9	-49.7	46.1	0.15	0.11	-2.95
3,310.0	2.15	302.58	3,309.2	2,034.2	29.9	-52.8	49.2	0.09	0.09	0.16
3,410.0	2.25	305.41	3,409.1	2,134.1	32.0	-55.9	52.5	0.15	0.10	2.83
3,510.0	2.36	306.95	3,509.0	2,234.0	34.4	-59.2	56.0	0.13	0.11	1.54
3,610.0	2.36	309.08	3,609.0	2,334.0	37.0	-62.4	59.6	0.09	0.00	2.13
3,710.0	2.42	310.17	3,708.9	2,433.9	39.6	-65.6	63.4	0.08	0.06	1.09
3,810.0	2.70	309.33	3,808.8	2,533.8	42.5	-69.1	67.4	0.28	0.28	-0.84
3,910.0	3.78	303.69	3,908.6	2,633.6	45.8	-73.6	72.3	1.12	1.08	-5.64
4,010.0	4.73	304.44	4,008.3	2,733.3	50.0	-79.8	78.7	0.95	0.95	0.75
4,110.0	5.46	306.43	4,107.9	2,832.9	55.1	-87.0	86.4	0.75	0.73	1.99
4,210.0	5.71	306.72	4,207.5	2,932.5	60.9	-94.8	94.9	0.25	0.25	0.29
4,310.0	5.86	309.13	4,307.0	3,032.0	67.1	-102.8	103.9	0.29	0.15	2.47
4,410.0	5.86	311.78	4,406.4	3,131.4	73.7	-110.5	113.1	0.27	0.00	2.65
4,510.0	6.04	315.11	4,505.9	3,230.9	80.9	-118.1	122.7	0.39	0.18	3.33
4,610.0	6.14	319.99	4,605.3	3,330.3	88.7	-125.2	132.8	0.53	0.10	4.88
4,710.0	6.22	324.34	4,704.8	3,429.8	97.2	-131.8	143.3	0.47	0.08	4.35
4,810.0	6.05	327.79	4,804.2	3,529.2	106.0	-137.8	153.8	0.41	-0.17	3.45
4,910.0	5.89	330.81	4,903.6	3,628.6	115.0	-143.1	164.2	0.35	-0.16	3.02

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Database:	COMPASS 5000 1 Build 73	Local Co-ordinate Reference:	North American Datum 83
Company:	EQT Production - Marcellus	TVD Reference:	NA 83 (2011) - Mean
Project:	001 West County - W. One	MD Reference:	NA 83 (2011) - 1775.000'
Site:	Address: Co. #N 01 1123	North Reference:	NA 83
Well:	01 0117 193	Survey Calculation Method:	Minimum Curvature
Wellbore:	Multi Wellbore		
Design:	01 0115 11 0000		

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)
5,010.0	5.73	332.99	5,003.1	3,728.1	123.9	-147.9	174.3	0.27	-0.16	2.18
5,110.0	5.44	337.04	5,102.6	3,827.6	132.7	-152.0	184.0	0.49	-0.29	4.05
5,210.0	5.51	337.64	5,202.2	3,927.2	141.5	-155.7	193.6	0.09	0.07	0.60
5,310.0	5.11	340.76	5,301.8	4,026.8	150.2	-158.9	202.8	0.49	-0.40	3.12
5,410.0	4.45	359.07	5,401.4	4,126.4	158.2	-160.5	210.8	1.65	-0.66	18.31
5,474.0	4.00	49.30	5,465.3	4,190.3	162.2	-158.8	213.7	5.64	-0.70	78.48
5,505.0	7.30	94.90	5,496.1	4,221.1	162.7	-156.0	213.0	17.19	10.65	147.10
5,537.0	12.10	110.20	5,527.7	4,252.7	161.4	-150.9	209.6	16.90	15.00	47.81
5,569.0	15.90	118.60	5,558.7	4,283.7	158.1	-143.9	203.7	13.44	11.88	26.25
5,600.0	17.30	127.40	5,588.4	4,313.4	153.3	-136.5	196.3	9.27	4.52	28.39
5,631.0	17.90	140.70	5,618.0	4,343.0	146.8	-129.8	187.6	13.09	1.94	42.90
5,663.0	20.40	147.30	5,648.2	4,373.2	138.3	-123.7	177.3	10.32	7.81	20.63
5,695.0	22.90	146.80	5,678.0	4,403.0	128.4	-117.2	165.6	7.83	7.81	-1.56
5,726.0	23.70	150.40	5,706.4	4,431.4	117.9	-110.9	153.4	5.27	2.58	11.61
5,747.0	24.92	151.92	5,725.6	4,450.6	110.4	-106.7	144.8	6.51	5.79	7.25
5,757.0	25.50	152.60	5,734.6	4,459.6	106.6	-104.7	140.6	6.51	5.84	6.77
5,789.0	27.90	152.40	5,763.2	4,488.2	93.8	-98.1	126.2	7.51	7.50	-0.63
5,821.0	30.20	150.50	5,791.2	4,516.2	80.2	-90.6	110.7	7.74	7.19	-5.94
5,852.0	32.40	149.10	5,817.7	4,542.7	66.3	-82.5	94.7	7.47	7.10	-4.52
5,884.0	32.00	146.60	5,844.7	4,569.7	51.9	-73.5	77.8	4.35	-1.25	-7.81
5,915.0	28.40	144.40	5,871.5	4,596.5	39.0	-64.6	62.4	12.15	-11.61	-7.10
5,947.0	24.80	142.60	5,900.1	4,625.1	27.5	-56.1	48.4	11.53	-11.25	-5.63
5,979.0	20.40	139.20	5,929.7	4,654.7	17.9	-48.4	36.5	14.34	-13.75	-13.55
6,010.0	16.70	135.00	5,959.1	4,684.1	10.7	-41.7	27.1	12.68	-11.94	-13.55
6,042.0	14.20	127.60	5,989.9	4,714.9	5.0	-35.4	19.3	9.93	-7.81	-23.13
6,074.0	11.90	117.00	6,021.1	4,746.1	1.1	-29.3	13.3	10.35	-7.19	-33.13
6,106.0	9.50	104.70	6,052.5	4,777.5	-1.0	-23.8	9.0	10.31	-7.50	-38.44
6,137.0	7.40	91.20	6,083.2	4,808.2	-1.7	-19.4	6.5	9.28	-6.77	-43.55
6,168.0	5.70	67.40	6,114.0	4,839.0	-1.2	-15.9	5.6	10.22	-5.48	-76.77
6,200.0	5.40	52.20	6,145.8	4,870.8	0.4	-13.3	5.9	4.67	-0.94	-47.50
6,231.0	5.30	48.10	6,176.7	4,901.7	2.2	-11.1	6.6	1.27	-0.32	-13.23
6,263.0	5.30	40.00	6,208.6	4,933.6	4.3	-9.0	7.7	2.34	0.00	-25.31
6,294.0	6.70	29.40	6,239.4	4,964.4	7.0	-7.2	9.4	5.74	4.52	-34.19
6,326.0	8.50	22.60	6,271.1	4,996.1	10.8	-5.4	12.1	6.28	5.63	-21.25
6,358.0	11.10	9.60	6,302.7	5,027.7	16.0	-4.0	16.2	10.62	8.13	-40.63
6,389.0	14.00	359.30	6,332.9	5,057.9	22.7	-3.5	22.1	11.78	9.35	-33.23
6,421.0	16.30	352.10	6,363.8	5,088.8	31.0	-4.2	30.0	9.27	7.19	-22.50
6,452.0	18.50	345.30	6,393.4	5,118.4	40.1	-6.0	39.0	9.65	7.10	-21.94
6,483.0	21.00	343.20	6,422.6	5,147.6	50.2	-8.9	49.3	8.38	8.06	-6.77
6,515.0	24.00	342.50	6,452.1	5,177.1	61.9	-12.5	61.5	9.41	9.38	-2.19
6,546.0	27.40	342.70	6,480.1	5,205.1	74.7	-16.5	74.8	10.97	10.97	0.65

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Database:	PHOENIX	Local Co-ordinate Reference:	PHOENIX
Company:	PHOENIX	TVD Reference:	PHOENIX
Project:	PHOENIX	MD Reference:	PHOENIX
Site:	PHOENIX	North Reference:	PHOENIX
Well:	PHOENIX	Survey Calculation Method:	PHOENIX
Wellbore:	PHOENIX		
Design:	PHOENIX		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6 578 0	31 30	343 10	6 507 9	5 232 9	89 7	-21 1	90 3	12 20	12 19	1 25
6 610 0	34 50	344 10	6 534 8	5 259 8	106 4	-26 0	107 5	10 14	10 00	3 13
6 642 0	38 60	343 50	6 560 5	5 285 5	124 7	-31 3	126 4	12 86	12 81	-1 88
6 673 0	42 60	342 10	6 584 0	5 309 0	143 9	-37 3	146 4	13 23	12 90	-4 52
6 704 0	46 50	341 40	6 606 1	5 331 1	164 6	-44 1	168 0	12 68	12 58	-2 26
6 736 0	51 00	341 70	6 627 2	5 352 2	187 4	-51 7	191 9	14 08	14 06	0 94
6 767 0	55 10	342 00	6 645 8	5 370 8	210 9	-59 4	216 5	13 25	13 23	0 97
6 799 0	58 70	342 60	6 663 3	5 388 3	236 5	-67 6	243 1	11 36	11 25	1 88
6 831 0	62 60	342 20	6 679 0	5 404 0	263 1	-76 0	270 8	12 24	12 19	-1 25
6 884 0	67 00	341 50	6 701 6	5 426 6	308 6	-91 0	318 4	8 39	8 30	-1 32
6 925 0	71 10	338 40	6 716 2	5 441 2	344 6	-104 1	356 6	12 24	10 00	-7 56
6 957 0	73 90	336 10	6 725 8	5 450 8	372 7	-115 9	387 1	11 11	8 75	-7 19
6 989 0	76 50	334 40	6 734 0	5 459 0	400 8	-128 8	418 0	9 61	8 13	-5 31
7 020 0	79 30	334 50	6 740 5	5 465 5	428 1	-141 9	448 3	9 04	9 03	0 32
7 051 0	82 50	334 60	6 745 4	5 470 4	455 8	-155 1	478 9	10 33	10 32	0 32
7 084 0	85 20	334 60	6 749 0	5 474 0	485 4	-169 1	511 7	8 18	8 18	0 00
7 116 0	86 00	334 90	6 751 4	5 476 4	514 3	-182 8	543 6	2 67	2 50	0 94
7 178 0	87 20	335 00	6 755 1	5 480 1	570 3	-209 0	605 5	1 94	1 94	0 16
7 272 0	89 40	334 80	6 757 9	5 482 9	655 4	-248 8	699 5	2 35	2 34	-0 21
7 367 0	89 60	334 10	6 756 7	5 483 7	741 1	-289 8	794 4	0 77	0 21	-0 74
7 461 0	91 30	335 00	6 758 0	5 483 0	826 0	-330 2	888 4	2 05	1 81	0 96
7 556 0	91 10	332 70	6 756 0	5 481 0	911 2	-372 0	983 4	2 43	-0 21	-2 42
7 650 0	91 60	332 60	6 753 8	5 478 8	994 7	-415 2	1 077 2	0 54	0 53	-0 11
7 744 0	92 00	334 80	6 750 8	5 475 8	1 078 9	-456 8	1 171 1	2 38	0 43	2 34
7 838 0	91 90	333 90	6 747 6	5 472 6	1 163 6	-497 5	1 265 1	0 96	-0 11	0 63
7 933 0	92 10	334 50	6 744 3	5 469 3	1 249 1	-538 8	1 360 0	0 67	0 21	0 63
8 027 0	91 70	332 60	6 741 2	5 466 2	1 333 2	-580 7	1 453 9	2 06	-0 43	-2 02
8 122 0	92 40	335 50	6 737 8	5 462 8	1 418 6	-622 2	1 548 8	3 14	0 74	3 05
8 216 0	91 60	333 90	6 734 5	5 459 5	1 503 5	-662 4	1 642 7	1 90	-0 85	-1 70
8 310 0	91 40	333 90	6 732 0	5 457 0	1 587 9	-703 7	1 736 7	0 21	-0 21	0 00
8 405 0	93 20	335 50	6 728 2	5 453 2	1 673 7	-744 3	1 831 6	2 53	1 89	1 68
8 499 0	93 20	333 90	6 723 0	5 448 0	1 758 5	-784 4	1 925 4	1 70	0 00	-1 70
8 593 0	93 30	337 20	6 717 6	5 442 6	1 844 0	-823 2	2 019 3	3 51	0 11	3 51
8 688 0	93 10	335 80	6 712 3	5 437 3	1 930 9	-861 0	2 114 1	1 49	-0 21	-1 47
8 782 0	90 70	331 80	6 709 2	5 434 2	2 015 2	-902 5	2 208 0	4 96	-2 55	-4 26
8 877 0	91 40	334 30	6 707 5	5 432 5	2 099 9	-945 5	2 302 9	2 73	0 74	2 63
8 971 0	91 80	336 60	6 704 9	5 429 9	2 185 3	-984 6	2 396 8	2 48	0 43	2 45
9 066 0	92 00	336 20	6 701 7	5 426 7	2 272 3	-1 022 6	2 491 8	0 47	0 21	-0 42
9 161 0	92 00	335 90	6 698 4	5 423 4	2 359 1	-1 061 1	2 586 7	0 32	0 00	-0 32
9 255 0	90 90	333 40	6 696 0	5 421 0	2 444 0	-1 101 4	2 680 7	2 90	-1 17	-2 66
9 350 0	91 80	336 20	6 693 8	5 418 8	2 530 0	-1 141 8	2 775 6	3 10	0 95	2 95

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Database:	PHX - Phoenix Technology Services	Local Co-ordinate Reference:	PHX - Phoenix Technology Services
Company:	PHX - Phoenix Technology Services	TVD Reference:	PHX - Phoenix Technology Services
Project:	PHX - Phoenix Technology Services	MD Reference:	PHX - Phoenix Technology Services
Site:	PHX - Phoenix Technology Services	North Reference:	PHX - Phoenix Technology Services
Well:	PHX - Phoenix Technology Services	Survey Calculation Method:	PHX - Phoenix Technology Services
Wellbore:	PHX - Phoenix Technology Services		
Design:	PHX - Phoenix Technology Services		

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)
9,445.0	90.60	334.80	6,691.8	5,416.8	2,616.4	-1,181.2	2,870.6	1.94	-1.26	-1.47
9,539.0	90.50	334.70	6,690.9	5,415.9	2,701.4	-1,221.3	2,964.6	0.15	-0.11	-0.11
9,634.0	90.40	334.20	6,690.1	5,415.1	2,787.1	-1,262.2	3,059.6	0.54	-0.11	-0.53
9,728.0	91.20	336.20	6,688.8	5,413.8	2,872.4	-1,301.7	3,153.6	2.29	0.65	2.13
9,822.0	90.90	335.80	6,687.1	5,412.1	2,958.3	-1,339.9	3,247.5	0.53	-0.32	-0.43
9,916.0	91.30	336.90	6,685.3	5,410.3	3,044.4	-1,377.6	3,341.5	1.24	0.43	1.17
10,010.0	91.80	337.70	6,682.8	5,407.8	3,131.0	-1,413.9	3,435.4	1.00	0.53	0.85
10,105.0	91.30	335.40	6,680.2	5,405.2	3,218.2	-1,451.6	3,530.3	2.48	-0.53	-2.42
10,199.0	90.80	332.60	6,678.5	5,403.5	3,302.6	-1,492.8	3,624.3	3.03	-0.53	-2.98
10,294.0	91.60	336.30	6,676.5	5,401.5	3,388.3	-1,533.8	3,719.2	3.98	0.84	3.89
10,388.0	91.50	335.10	6,673.9	5,398.9	3,473.9	-1,572.5	3,813.2	1.28	-0.11	-1.28
10,483.0	91.00	333.90	6,671.9	5,396.9	3,559.7	-1,613.4	3,908.2	1.37	-0.53	-1.26
10,577.0	91.10	336.80	6,670.1	5,395.1	3,645.1	-1,652.5	4,002.1	3.09	0.11	3.09
10,672.0	91.10	337.90	6,668.3	5,393.3	3,732.7	-1,689.1	4,097.1	1.16	0.00	1.16
10,767.0	91.30	339.60	6,666.3	5,391.3	3,821.3	-1,723.5	4,191.9	1.80	0.21	1.79
10,862.0	91.20	337.70	6,664.2	5,389.2	3,909.7	-1,758.1	4,286.7	2.00	-0.11	-2.00
10,956.0	91.00	337.40	6,662.4	5,387.4	3,996.6	-1,794.0	4,380.6	0.38	-0.21	-0.32
11,051.0	90.40	335.90	6,661.3	5,386.3	4,083.6	-1,831.7	4,475.6	1.70	-0.63	-1.58
11,145.0	91.50	336.30	6,659.7	5,384.7	4,169.7	-1,869.7	4,569.5	1.25	1.17	0.43
11,239.0	91.10	335.80	6,657.6	5,382.6	4,255.6	-1,907.9	4,663.5	0.68	-0.43	-0.53
11,334.0	90.30	332.90	6,656.4	5,381.4	4,341.2	-1,949.0	4,758.5	3.17	-0.84	-3.05
11,428.0	92.30	332.90	6,654.3	5,379.3	4,424.9	-1,991.8	4,852.4	2.13	2.13	0.00
11,523.0	92.20	332.60	6,650.6	5,375.6	4,509.3	-2,035.3	4,947.2	0.33	-0.11	-0.32
11,617.0	92.50	332.00	6,646.7	5,371.7	4,592.4	-2,078.9	5,041.0	0.71	0.32	-0.64
11,712.0	90.70	332.30	6,644.1	5,369.1	4,676.4	-2,123.3	5,135.8	1.92	-1.89	0.32
11,806.0	90.50	331.80	6,643.1	5,368.1	4,759.4	-2,167.3	5,229.6	0.57	-0.21	-0.53
11,901.0	90.00	331.10	6,642.7	5,367.7	4,842.8	-2,212.8	5,324.4	0.91	-0.53	-0.74
11,995.0	90.10	334.40	6,642.6	5,367.6	4,926.4	-2,255.8	5,418.3	3.51	0.11	3.51
12,090.0	90.20	335.20	6,642.3	5,367.3	5,012.4	-2,296.2	5,513.3	0.85	0.11	0.84
12,184.0	89.90	334.00	6,642.3	5,367.3	5,097.3	-2,336.6	5,607.3	1.32	-0.32	-1.28
12,279.0	90.30	333.20	6,642.1	5,367.1	5,182.4	-2,378.8	5,702.2	0.94	0.42	-0.84
12,373.0	90.00	335.60	6,641.8	5,366.8	5,267.1	-2,419.4	5,796.2	2.57	-0.32	2.55
12,468.0	89.30	335.50	6,642.4	5,367.4	5,353.6	-2,458.7	5,891.2	0.74	-0.74	-0.41
12,563.0	88.40	332.90	6,644.3	5,369.3	5,439.1	-2,500.1	5,986.2	2.90	-0.95	-2.74
12,657.0	89.00	336.00	6,646.5	5,371.5	5,523.9	-2,540.6	6,080.1	3.36	0.64	3.30
12,752.0	88.80	334.90	6,648.3	5,373.3	5,610.3	-2,580.0	6,175.1	1.18	-0.21	-1.16
12,846.0	90.30	336.60	6,649.0	5,374.0	5,696.0	-2,618.7	6,269.1	2.41	1.60	1.81
12,940.0	90.20	335.40	6,648.6	5,373.6	5,781.9	-2,656.9	6,363.1	1.28	-0.11	-1.28
13,035.0	90.20	335.80	6,648.3	5,373.3	5,868.4	-2,696.1	6,458.1	0.42	0.00	0.42
13,129.0	90.20	335.50	6,648.0	5,373.0	5,954.0	-2,734.9	6,552.1	0.32	0.00	-0.32
13,224.0	90.10	334.80	6,647.7	5,372.7	6,040.2	-2,774.8	6,647.1	0.74	-0.11	-0.74
13,318.0	90.10	333.50	6,647.5	5,372.5	6,124.8	-2,815.8	6,741.1	1.38	0.00	-1.38
13,413.0	88.40	335.10	6,648.8	5,373.8	6,210.4	-2,857.0	6,836.0	2.46	-1.79	1.68

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Database:	PHX Survey 1 - Sig. Survey 01	Local Co-ordinate Reference:	PHX Survey 1 - Sig. Survey 01
Company:	EQ Production - Maracaibo	TVD Reference:	PHX Survey 1 - Sig. Survey 01
Project:	Wellbore - Sig. Survey 01	MD Reference:	PHX Survey 1 - Sig. Survey 01
Site:	Maracaibo - Sig. Survey 01	North Reference:	PHX Survey 1 - Sig. Survey 01
Well:	PHX Survey 1 - Sig. Survey 01	Survey Calculation Method:	PHX Survey 1 - Sig. Survey 01
Wellbore:	PHX Survey 1 - Sig. Survey 01		
Design:	PHX Survey 1 - Sig. Survey 01		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,508.0	88.40	335.60	6,651.4	5,376.4	6,296.7	-2,896.6	6,931.0	0.53	0.00	0.53
13,603.0	88.30	335.30	6,654.2	5,379.2	6,383.1	-2,936.0	7,025.9	0.33	-0.11	-0.32
13,697.0	88.00	333.90	6,657.2	5,382.2	6,467.9	-2,976.3	7,119.9	1.52	-0.32	-1.49
13,791.0	88.10	333.50	6,660.4	5,385.4	6,552.2	-3,018.0	7,213.8	0.44	0.11	-0.43
13,886.0	88.60	336.50	6,663.1	5,388.1	6,638.2	-3,058.1	7,308.7	3.20	0.53	3.16
13,980.0	90.80	336.90	6,663.6	5,388.6	6,724.5	-3,095.3	7,402.7	2.38	2.34	0.43
14,075.0	91.70	335.90	6,661.6	5,386.6	6,811.6	-3,133.3	7,497.7	1.42	0.95	-1.05
14,169.0	91.40	335.20	6,659.0	5,384.0	6,897.1	-3,172.2	7,591.6	0.81	-0.32	-0.74
14,264.0	90.90	334.60	6,657.1	5,382.1	6,983.1	-3,212.5	7,686.6	0.82	-0.53	-0.63
14,358.0	90.30	334.10	6,656.1	5,381.1	7,067.9	-3,253.2	7,780.6	0.83	-0.64	-0.53
14,452.0	89.90	334.60	6,656.0	5,381.0	7,152.6	-3,293.9	7,874.6	0.68	-0.43	0.53
14,546.0	88.00	336.00	6,657.7	5,382.7	7,238.0	-3,333.1	7,968.6	2.51	-2.02	1.49
14,641.0	88.00	336.30	6,661.0	5,386.0	7,324.8	-3,371.5	8,063.5	0.32	0.00	0.32
14,662.0	88.10	336.10	6,661.7	5,386.7	7,344.0	-3,380.0	8,084.5	1.06	0.48	0.95
14,720.0	88.10	336.10	6,663.6	5,388.6	7,397.0	-3,403.5	8,142.4	0.00	0.00	0.00

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,410.0	5,401.4	158.2	-160.5	Plan Tie In-5410' MD
5,747.0	5,725.6	110.4	-106.7	KOP=5747' MD
7,272.0	6,757.9	655.4	-248.8	LP=7272' MD/ 6758' TVD
7,367.0	6,758.7	741.1	-289.8	Deepest Point of Well=7367' MD/ 6759' TVD
14,662.0	6,661.7	7,344.0	-3,380.0	Final Survey=14662' MD/ 6662' TVD
14,720.0	6,663.6	7,397.0	-3,403.5	Projected TD=14720' MD/6664' TVD

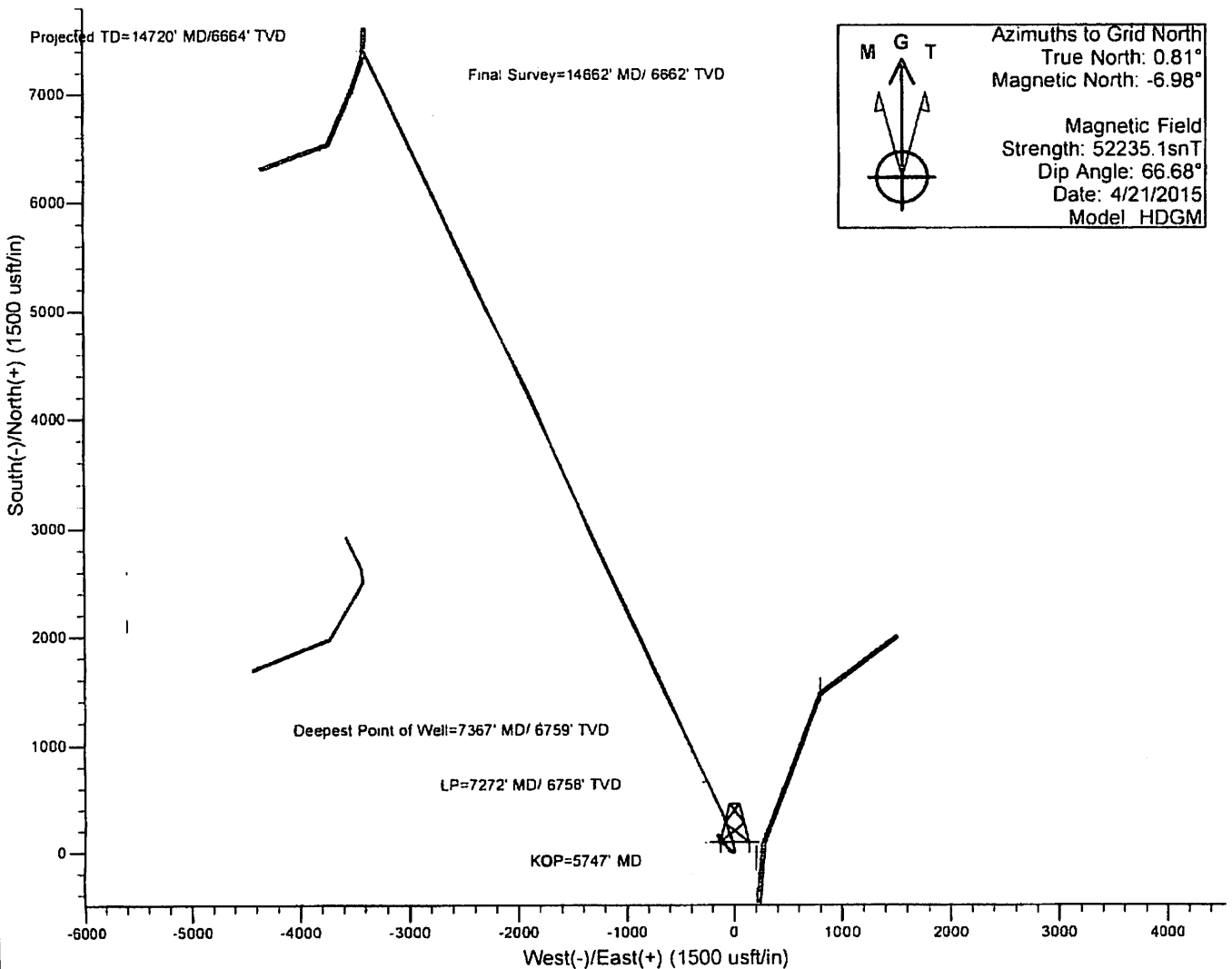
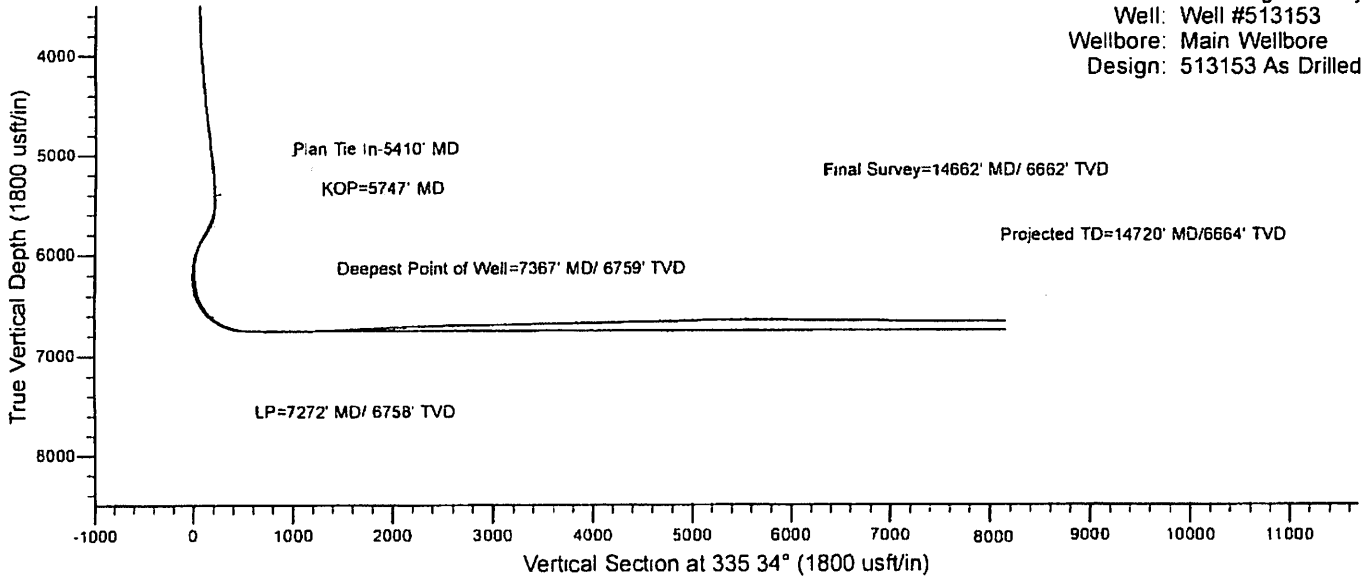
Checked By _____ Approved By _____ Date: _____

02/12/2016



EQT Production - Marcellus

Project: Doddridge County, WV Grid
 Site: Doddridge County 513153
 Well: Well #513153
 Wellbore: Main Wellbore
 Design: 513153 As Drilled



513153 - 47-017-06503-0000- Stimulated Stages								
Stage Number	Stimulation Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	6/28/2015	21.1	6,022.00	7,616.00	3,413.00	0	730	0
1	6/28/2015	90.1	7,625.00	7,995.00	3,373.00	299,172	7953	0
2	6/28/2015	90.1	7,707.00	8,471.00	3,557.00	305,528	7122	0
3	6/29/2015	89.4	7,805.00	8,952.00	4,323.00	303,185	6914	0
4	6/29/2015	91.9	8,161.00	8,722.00	4,915.00	302,774	7319	0
5	6/29/2015	42.9	7,246.00	9,285.00	4,437.00	0	2613	0
5.1	6/29/2015	54.2	8,824.00	9,144.00	6,792.00	0	4241	0
6	6/29/2015	93.3	7,873.00	8,673.00	3,305.00	505,763	10558	0
7	6/30/2015	91.9	8,119.00	9,109.00	4,423.00	259,547	6854	0
8	6/30/2015	92.4	8,082.00	8,570.00	3,906.00	298,911	7119	0
9	6/30/2015	86.5	8,113.00	8,888.00	4,581.00	241,206	8141	0
10	6/30/2015	93.6	8,071.00	8,553.00	4,209.00	305,354	7026	0
11	7/1/2015	93.4	7,885.00	8,832.00	4,734.00	303,701	8062	0
12	7/1/2015	93.2	7,854.00	9,131.00	5,269.00	297,394	7246	0
13	7/1/2015	90.7	8,013.00	8,985.00	4,965.00	299,321	6914	0
14	7/2/2015	88.2	7,914.00	9,664.00	4,023.00	286,695	7335	0
15	7/2/2015	95.1	8,049.00	9,433.00	4,571.00	250,032	8115	0
16	7/3/2015	78.3	7,298.00	8,179.00	5,071.00	248,179	8296	0
17	7/3/2015	90.1	7,780.00	9,111.00	5,031.00	297,883	6489	0
18	7/4/2015	88.7	7,355.00	8,101.00	5,227.00	301,213	7956	0
19	7/4/2015	82.3	7,755.00	8,311.00	4,706.00	265,680	7857	0
20	7/5/2015	95	7,862.00	8,755.00	4,753.00	299,191	7,135	0
21	7/5/2015	78.60	7,914.00	9,470.00	4,863	288,528	9,555	0
21.01	7/5/2015	18.50	5,618.00	5,734.00	0	0	1,205	0
22	7/6/2015	90.60	7,892.00	9,132.00	5,137	281,256	6,684	0
23	7/6/2015	84.30	7,765.00	8,464.00	4,198	301,405	7513	0
24	7/6/2015	82.80	7,612.00	9,336.00	4,641	300,827	8605	0
25	7/6/2015	95.6	8,120.00	8,879.00	4,912.00	289,826	7693	0
26	7/6/2015	91.5	8,007.00	9,464.00	4,957.00	299,615	6987	0
27	7/6/2015	100.00	7,561.00	7,893.00	5,018	300,807	6,488	0
28	7/7/2015	98.50	7,593.00	7,910.00	5,146	301,263	6,558	0
29	7/7/2015	100.10	7,827.00	9,036.00	4,864	307,246	8,180	0
30	7/7/2015	90.20	8,014.00	9,123.00	5,008	303,464	7,403	0
31	7/7/2015	86.20	7,868.00	9,121.00	3,920	302,117	7,228	0
32	7/7/2015	79.70	7,535.00	9,006.00	4,782	247,485	6,296	0
32.01	7/8/2015	7.40	3,924.00	6,490.00	0	0	1,568	0
33	7/8/2015	90.30	7,897.00	8,750.00	4,648	305,033	7,637	0
34	7/8/2015	91.10	7,803.00	7,907.00	5,090	297,995	7,203	0
35	7/8/2015	94.90	7,381.00	7,754.00	4,900	298,352	6,693	0
36	7/9/2015	75.10	7,653.00	9,124.00	5,018	279,294	8,080	0
36.01	7/9/2015	10.10	4,523.00	6,316.00	0	0	1,050	0
37	7/9/2015	97.20	7,429.00	7,665.00	5,421	301,081	6,972	0
38.01	7/9/2015	16.20	6,032.00	7,003.00	5,152	0	2,421	0
38	7/10/2015	98.10	7,675.00	9,822.00	4,649	283,584	9,826	0
38.02	7/10/2015	8.30	5,862.00	6,894.00	0	0	2,642	0
39	7/10/2015	93.80	7,118.00	8,153.00	5,060	292,642	6,720	0
40	7/10/2015	88.10	7,248.00	7,927.00	5,570	252,845	6,138	0
41	7/11/2015	91.00	7,152.00	8,119.00	5,443	262,809	6,364	0
42	7/11/2015	98.60	7,330.00	7,607.00	5,725	302,083	7,056	0

513153 - 47-017-06503-0000- Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	6/28/2015	14,698.50	14,700.00	10	MARCELLUS
1	6/28/2015	14,545.00	14,674.00	7	MARCELLUS
2	6/28/2015	14,365.00	14,487.00	7	MARCELLUS
3	6/29/2015	14,185.00	14,304.00	7	MARCELLUS
4	6/29/2015	14,005.00	14,127.00	7	MARCELLUS
5	6/29/2015	13,827.00	13,947.00	7	MARCELLUS
5.1	6/29/2015	13,800.00	13,820.00	7	MARCELLUS
6	6/29/2015	13,645.00	13,768.00	7	MARCELLUS
7	6/30/2015	13,465.00	13,587.00	7	MARCELLUS
8	6/30/2015	13,285.00	13,407.00	7	MARCELLUS
9	6/30/2015	13,105.00	13,227.00	7	MARCELLUS
10	6/30/2015	12,925.00	13,045.00	7	MARCELLUS
11	7/1/2015	12,745.00	12,864.00	7	MARCELLUS
12	7/1/2015	12,568.00	12,687.00	7	MARCELLUS
13	7/1/2015	12,385.00	12,507.00	7	MARCELLUS
14	7/2/2015	12,205.00	12,327.00	7	MARCELLUS
15	7/2/2015	12,025.00	12,147.00	7	MARCELLUS
16	7/3/2015	11,845.00	11,967.00	7	MARCELLUS
17	7/3/2015	11,665.00	11,785.00	7	MARCELLUS
18	7/3/2015	11,485.00	11,607.00	7	MARCELLUS
19	7/4/2015	11,305.00	11,427.00	7	MARCELLUS
20	7/4/2015	11,125.00	11,247.00	7	MARCELLUS
21	7/5/2015	10,945.00	11,067.00	7	MARCELLUS
22	7/5/2015	10,765.00	10,887.00	7	MARCELLUS
23	7/6/2015	10,585.00	10,707.00	7	MARCELLUS
24	7/6/2015	10,405.00	10,525.00	7	MARCELLUS
25	7/6/2015	10,225.00	10,344.00	7	MARCELLUS
26	7/6/2015	10,045.00	10,167.00	7	MARCELLUS
27	7/6/2015	9,868.00	9,987.00	7	MARCELLUS
28	7/7/2015	9,685.00	9,807.00	7	MARCELLUS
29	7/7/2015	9,505.00	9,627.00	7	MARCELLUS
30	7/7/2015	9,325.00	9,449.00	7	MARCELLUS
31	7/7/2015	9,147.00	9,267.00	7	MARCELLUS
32	7/7/2015	8,963.00	9,085.00	7	MARCELLUS
33	7/8/2015	8,785.00	8,905.00	7	MARCELLUS
34	7/8/2015	8,605.00	8,727.00	7	MARCELLUS
35	7/8/2015	8,425.00	8,547.00	7	MARCELLUS
36	7/9/2015	8,245.00	8,368.00	7	MARCELLUS
37	7/9/2015	8,065.00	8,187.00	7	MARCELLUS
38	7/9/2015	7,885.00	8,007.00	7	MARCELLUS
38.1	7/9/2015	7,865.00	7,877.00	7	MARCELLUS
39	7/10/2015	7,685.00	7,807.00	7	MARCELLUS
40	7/10/2015	7,505.00	7,627.00	7	MARCELLUS
41	7/11/2015	7,325.00	7,447.00	7	MARCELLUS
42	7/11/2015	7,145.00	7,267.00	7	MARCELLUS

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/28/2015
Job End Date:	7/8/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06503-00-00
Operator Name:	EQT Production
Well Name and Number:	513153
Longitude:	-80.76235400
Latitude:	39.20784100
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,736
Total Base Water Volume (gal):	13,555,920
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	FTS International	Carrier/Base Fluid	Water	7732-18-5	100.00000	89.84802	None
Sand (Proppant)	FTS International	Proppant	Crystalline Silica	14808-60-7	100.00000	9.58673	None
MC MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60.00000	0.05899	None
Hydrochloric Acid (15%)	FTS International	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.04335	None
FRW-900	FTS International	Friction reducer	Hydrotreated light distillate	64742-47-8	30.00000	0.02529	None
			Alkyl Alcohol	Proprietary	10.00000	0.00843	None
			Oxyalkylated alcohol A	Proprietary	5.00000	0.00421	None
CS-500-SI	FTS International	Scale inhibitor	Ethylene glycol	107-21-1	10.00000	0.00845	None
HVG-1	FTS International	Gelling agent	Petroleum distillate	64742-47-8	55.00000	0.00281	None
			Guar gum	9000-30-0	50.00000	0.00256	None
			Surfactant	68439-51-0	2.00000	0.00010	None

			Clay	14808-60-7	2.00000	0.00010	None
APB-1	FTS International	Breaker					
			Ammonium persulfate	7727-54-0	95.00000	0.00152	None
FE-100L	FTS International	Iron control					
			Citric acid	77-92-9	55.00000	0.00086	None
CI-150	FTS International	Acid Corrosion Inhibitor					
			Ethylene glycol	107-21-1	30.00000	0.00016	None
			Isopropanol	67-63-0	30.00000	0.00016	None
			Organic amine resin salt	Proprietary	30.00000	0.00016	None
			Dimethylformamide	68-12-2	10.00000	0.00005	None
			Aromatic aldehyde	Proprietary	10.00000	0.00005	None
			Quaternary ammonium compound	Proprietary	10.00000	0.00005	None
NE-100	FTS International	Non-emulsifier					
			2-Propanol	67-63-0	10.00000	0.00003	None
			2-Butoxyethanol	111-76-2	10.00000	0.00003	None
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00002	None

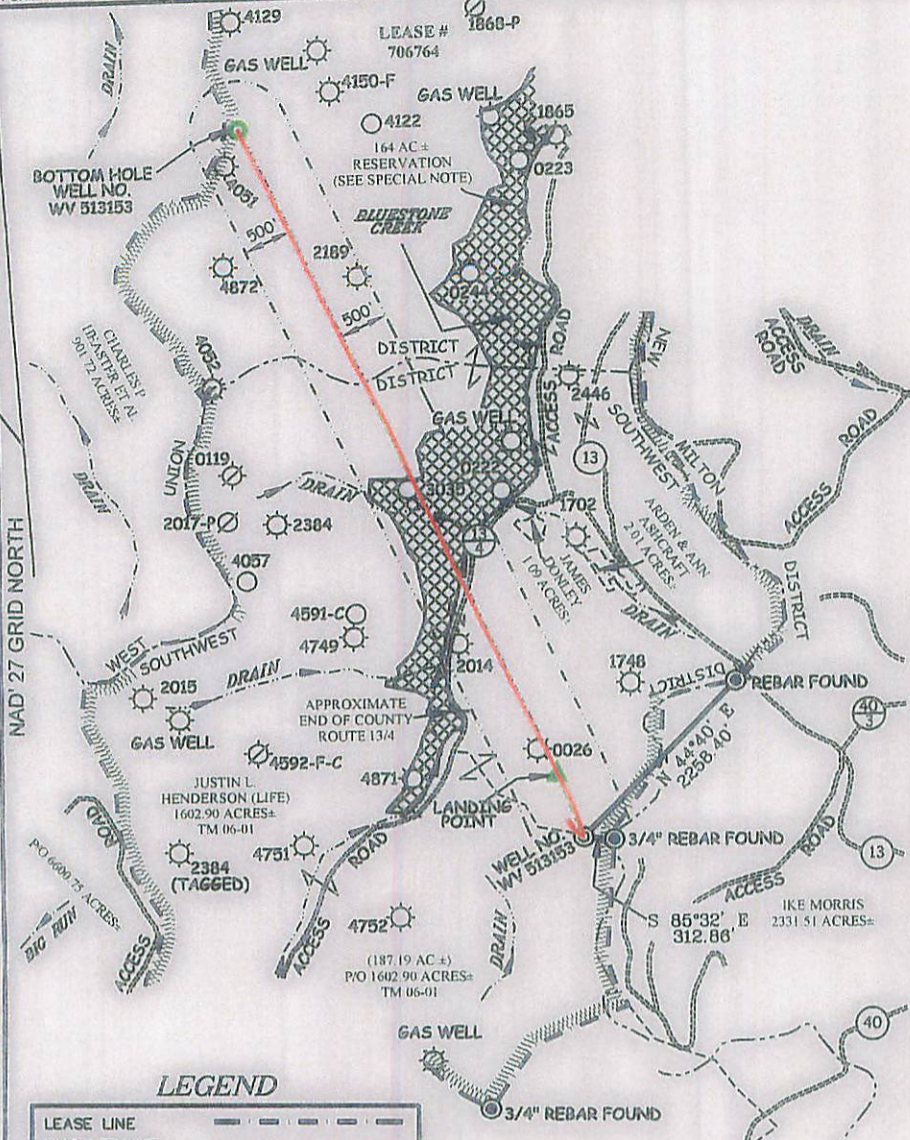
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)



SPECIAL NOTE
 THERE IS NO SURVEY OR LEGAL DESCRIPTION DEFINING THE ACTUAL LOCATION OF THE 164 ACRE MEADOWLAND RESERVATION, DUE TO THE PASSAGE OF TIME SINCE THE RESERVATION WAS CREATED IT APPEARS THERE IS NO LIVING PERSON(S) WITH KNOWLEDGE OF ITS TRUE LOCATION. LOCATION OF RESERVATION SHOWN HEREON COMPILED FROM: "A" A MAP TITLED "CARNEGIE NATURAL GAS CO. LEEMAN MAXWELL LEASES, DODDRIDGE COUNTY, WEST VA" "B" PERIMETER OF RESERVATION AS SHOWN BY GLENN TRADER "CARETAKER OF HENDERSONS' PORTION OF MAXWELL LANDS" WHICH WAS LOCATED USING A MAPPING GRADE GPS RECEIVER "C" DETAILS SHOWN ON 1939 USDA AERIAL PHOTOGRAPHY OBTAINED FROM THE WV GEOLOGICAL SURVEY. SLS RECOMMENDS THAT PROPER LEGAL STEPS BE TAKEN TO CONFIRM CONCURRENCE OF ALL APPROPRIATE PARTIES RELATIVE TO THE RESERVATION AS SHOWN HEREON. THIS PLAT IS SUBJECT TO ANY ADDITIONAL INFORMATION (UNDISCOVERED TO DATE) WHICH MAY CHANGE THE LOCATION AND/OR CONFIGURATION OF THE RESERVATION AS SHOWN HEREON.

NOTES ON SURVEY

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

**EQT PRODUCTION COMPANY
 LEEMAN MAXWELL LEASE
 2,164 ACRES ±
 WELL NO. WV 513153**

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

NAD27 S.P.C.(FT)	N. 260,323.3	E. 1,642,296.7
NAD27 GEO.	LAT-(N) 39.207841	LONG-(W) 80.762354
NAD83 UTM (M)	N. 4,339,877.7	E. 520,532.8
LANDING POINT		
NAD27 S.P.C.(FT)	N. 261,017.1	E. 1,642,027.1
NAD27 GEO.	LAT-(N) 39.209735	LONG-(W) 80.763340
NAD83 UTM (M)	N. 4,340,087.7	E. 520,447.2
BOTTOM HOLE		
NAD27 S.P.C.(FT)	N. 267,723.8	E. 1,638,899.7
NAD27 GEO.	LAT-(N) 39.228026	LONG-(W) 80.774711
NAD83 UTM (M)	N. 4,342,115.0	E. 519,460.4

LEGEND

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

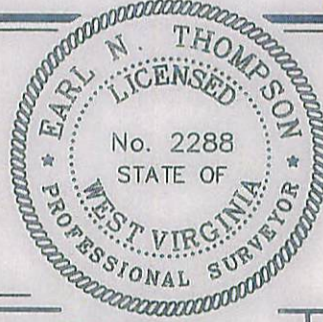
**AS DRILLED COORDINATES
 FOR WELL NO. WV513153**

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

NAD27 S.P.C.(FT)	N. 260,323.3	E. 1,642,296.7
NAD27 GEO.	LAT-(N) 39.207841	LONG-(W) 80.762354
NAD83 UTM (M)	N. 4,339,877.7	E. 520,532.8
BOTTOM HOLE		
NAD27 S.P.C.(FT)	N. 267,720.1	E. 1,638,899.3
NAD27 GEO.	LAT-(N) 39.228016	LONG-(W) 80.774733
NAD83 UTM (M)	N. 4,342,113.8	E. 519,458.4

Professional Energy Consultants
 A DIVISION OF SLS LAND SURVEYING, INC.

 SURVEYORS
 ENGINEERS
 ENVIRONMENTAL
 PROJECT MGMT.
 (304) 482-8834 WWW.SLSURVEYS.COM



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

P.S. 2288 *Earl N. Thompson*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE JANUARY 06, 20 14
 REVISED 3/24/14, 07/25/14 & 05/27/15
 OPERATORS WELL NO. WV 513153
 API WELL NO. 47-017-06503H
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7889AD513153
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

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

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1,270'(GROUND) 1,252'(PROPOSED) WATERSHED BLUESTONE CREEK
 DISTRICT SOUTHWEST COUNTY DODDRIDGE QUADRANGLE OXFORD 7.5'
 SURFACE OWNER JUSTIN L. HENDERSON (LIFE) ACREAGE 187.19 OF 1,602.90±
 ROYALTY OWNER LEEMAN MAXWELL HRS ACREAGE 2,164±
 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 TVD 6,663'

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

COUNTY NAME PERMIT

02/12/2016