



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Monday, October 1, 2018
PERMIT MODIFICATION APPROVAL
Horizontal 6A / Horizontal 6A Well

EQT PRODUCTION COMPANY
625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit Modification Approval for JONES 3H
47-049-02283-00-00

Modified to correct lateral to as drilled to satisfy NOV for drilling outside of permit

EQT PRODUCTION COMPANY

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304)-926-0450.

A blue ink signature of James A. Martin.

James A. Martin
Chief

Operator's Well Number: JONES 3H
Farm Name: JONES, ROBERT
U.S. WELL NUMBER: 47-049-02283-00-00
Horizontal 6A Horizontal 6A Well
Date Modification Issued: October 1, 2018

Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>871655</u> (12-26-17)	Robert L Jones, et ux (original lessor) Trans Energy Inc	Trans Energy Inc EQT Production Company	**	1051/391 See attached
<u>871670</u> (12-26-18)	<u>Trans Energy, Inc, et al (current royalty owner)</u> Joshua E Riley Trans Energy Inc	Trans Energy, Inc EQT Production Company	**	1058/452 See attached
<u>871413</u> (12-39-1)	George Ornduff (original lessor) Republic Energy Ventures,LLC (50%) Trans Energy, Inc (50%)	Trans Energy, Inc (50%) and Republic Energy Ventures,LLC (50%) EQT Production Company EQT Production Company	**	1093/538 51/525 See attached
<u>871653</u> (12-39-8)	Alfred Kendall (original lessor) N.C. Smith Ellen Smith, et al W.W. Hepburn Eastern Petroleum Company The Pennsylvania Company for Insurances on Lives Granting Annuities, Clifton Oil & Gas Company Adolph Beren, et al dba OKMAR Oil Company Quaker State Oil Refining Corporation B-C Oil and Gas Company, Inc. Clarence W Mutschelknaus, Sr, et al Cobham Gas Industries, Inc. Prima Oil Company, Inc Trans Energy, Inc	N.C. Smith Ellen Smith, et al W.W. Hepburn Eastern Petroleum Company The Pennsylvania Company for Insurances on Lives Granting Annuities, Trustee Clifton Oil & Gas Company Adolph Beren, et al dba OKMAR Oil Company Quaker State Oil Refining Corporation B-C Oil and Gas Company, Inc. Clarence W Mutschelknaus, Sr, et al Cobham Gas Industries, Inc. Prima Oil Company, Inc Trans Energy, Inc EQT Production Company	**	196/165 217/257 217/259 217/307 43/1 260/147 438/41 482/375 6/132 12/293 15/339 27/258 30/165 See attached
<u>871671</u> (12-39-9)	Huskie Lumber Company (original lessor) Republic Energy Ventures,LLC (50%) Trans Energy, Inc (50%)	Trans Energy, Inc (50%) and Republic Energy Ventures,LLC (50%) EQT Production Company EQT Production Company	**	1080/339 51/525 See attached

** Per West Virginia Code Section 22-6-8.

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WW-6A1
(5/13)

Operator's Well No Jones 3H (47-049-02283)

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows.

Lease Name or Number	Grantor, Lessor, etc	Grantee, Lessee, etc	Royalty	Book/Page
See Attached				

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U S Army Corps of Engineers
- U S Fish and Wildlife Service
- County Floodplain Coordinator

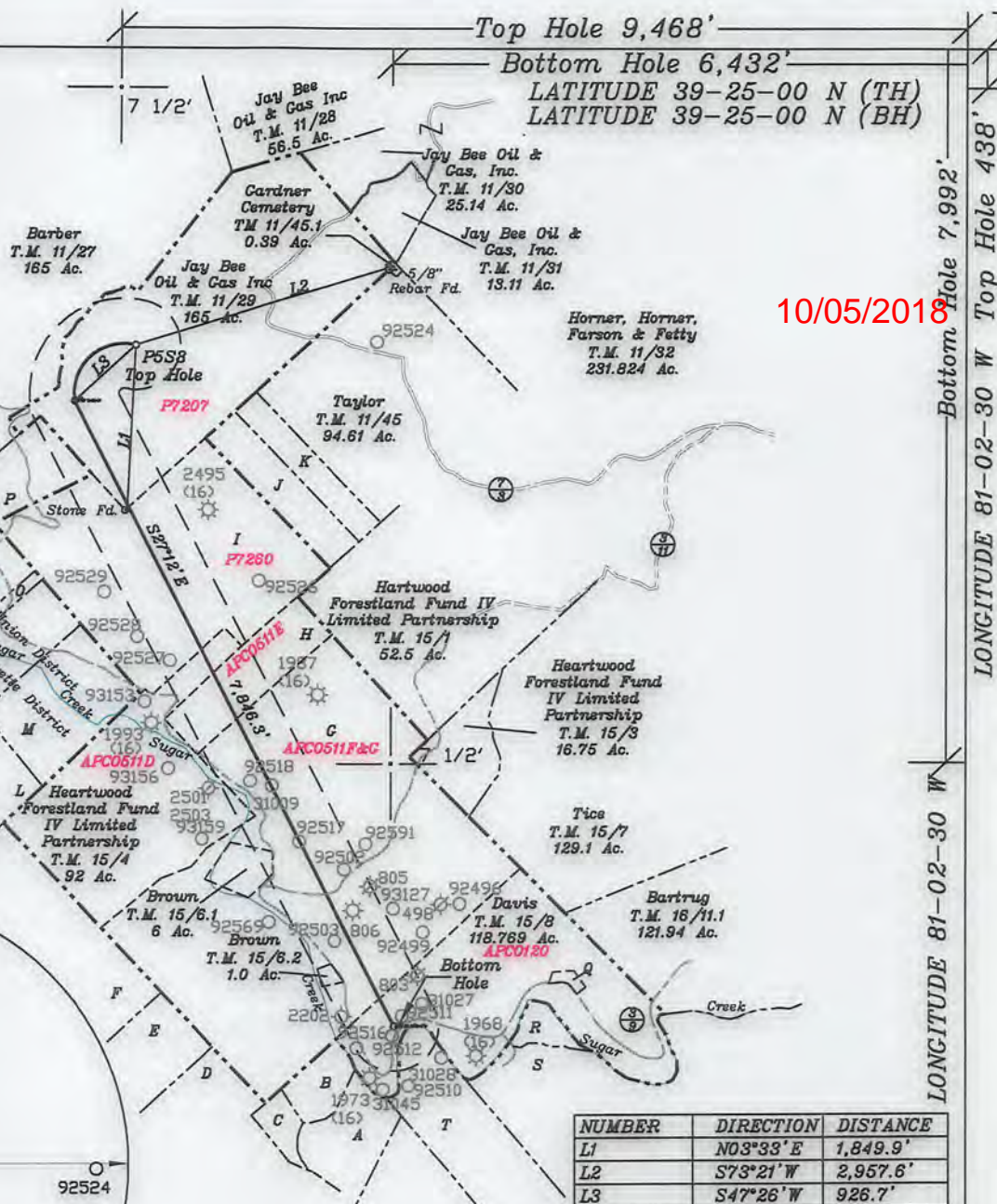
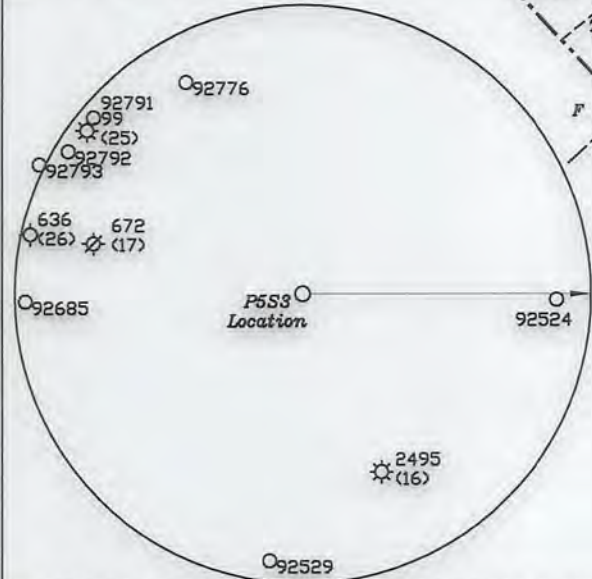
The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: EQT Production Company
 By: Erin Spine
 Its: Regional Land Supervisor

References:



- A- Napier T.M. 4/28.18 20.52 Ac.
- B- Napier T.M. 4/28.17 17.164 Ac.
- C- Winland T.M. 4/28.18 8.076 Ac.
- D- Hooper T.M. 4/25 23.066 Ac.
- E- Cumm T.M. 4/24 51.0 Ac.
- F- Fleming T.M. 4/15 87.5 Ac.
- G- Heartwood Forestland Fund IV Limited Partnership T.M. 15/6 266 Ac.
- H- Heartwood Forestland Fund IV Limited Partnership T.M. 15/5 50 Ac.
- I- Melanie Jo Manuse Revocable Trust T.M. 11/41 123.27 Ac.
- J- Taylor T.M. 11/44 26.8 Ac.
- K- Taylor T.M. 11/43 18.8 Ac.
- L- Hall T.M. 4/7 39.5 Ac.
- M- Heartwood Forestland Fund IV Limited Partnership T.M. 15/2 27 Ac.
- N- Golden Eagles Resources LLC & Hummer Properties LLC T.M. 15/12 28.944 Ac.
- O- Hall T.M. 11/49 6.38 Ac.
- P- Golden Eagles Resources LLC & Hummer Properties LLC T.M. 11/40 62.063 Ac.
- Q- Fourquarean T.M. 15/8.1 1.23 Ac.
- R- Hansen T.M. 4/29 3.5 Ac.
- S- Heartwood Forestland Fund IV Limited Partnership T.M. 4/51 114 Ac.
- T- Heartwood Forestland Fund IV Limited Partnership T.M. 15/11 50.00 Ac.



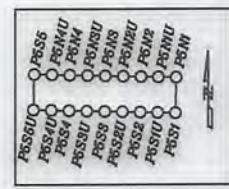
Top Hole 9,468'
Bottom Hole 6,432'
LATITUDE 39-25-00 N (TH)
LATITUDE 39-25-00 N (BH)

10/05/2018

Longitude 81-02-30 W Top Hole 438'
Longitude 81-02-30 W Bottom Hole 7,992'

NUMBER	DIRECTION	DISTANCE
L1	N03°33' E	1,849.9'
L2	S73°21' W	2,957.6'
L3	S47°26' W	926.7'

Top Hole
Geo NAD 83- 39.415463 N, 81.075180 W
UTM NAD 83(Meters)-4362885.29 N, 493528.29 E
UTM NAD 83(Feet)-14313899.50 N, 1619184.07 E
Landing Point
Geo NAD 83- 39.418709 N, 81.077556 W
UTM NAD 83(Meters)-4362690.84 N, 493323.56 E
UTM NAD 83(Feet)-14313261.53 N, 1618512.37 E
Bottom Hole
Geo NAD 83- 39.394726 N, 81.064431 W
UTM NAD 83(Meters)-4360583.18 N, 494451.95 E
UTM NAD 83(Feet)-14306346.64 N, 1622214.43 E



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

FILE NO. _____
DRAWING NO. 1
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY 1 in 200
PROVEN SOURCE OF ELEVATION GPS
submeter unit

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

(SIGNED) David J. Jackson
R.P.E. _____ P.S. 708



STATE OF WEST VIRGINIA
Division of Environmental Protection
OFFICE OF OIL AND GAS

DATE December 05, 2017
OPERATOR'S WELL NO. P5S3
API WELL NO. _____

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____ STATE 47 COUNTY 073 PERMIT 02576 HGA

(IF "GAS") PRODUCTION X STORAGE _____ DEEP _____ SHALLOW X

LOCATION: ELEVATION 868.1' WATER SHED Sugar Creek of Outlet Middle Island Creek (HUC-10)
DISTRICT Union COUNTY Pleasants
QUADRANGLE Bens Run 7 1/2'

SURFACE OWNER Jay Bee Oil & Gas Inc. ACREAGE 165.0 Ac.
OIL & GAS ROYALTY OWNER Roger Wells, Howard Wells, J.R. Wells, Clint Jones, Beverly Walker, Sara Wells & Thomas Dunsford, Yvonne Shelley LEASE ACREAGE 165.0 Ac. LEASE NO. P7207

PROPOSED WORK: DRILL X CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
TARGET FORMATION Marcellus ESTIMATED DEPTH TVD = 5,900'; TMD = 15,173'
WELL OPERATOR Jay-Bee Oil & Gas, Inc. DESIGNATED AGENT Randy Broda
ADDRESS 1720 Route 22 E, Union, NJ 07083 ADDRESS 3570 Shields Hill Rd., Cairo, WV 26337

STATE OF NEVADA

219-02-283 M50 10/05/2018

BARBARA K. CEGAVSKE
Secretary of State

KIMBERLEY PERONDI
Deputy Secretary
for Commercial Recordings



Commercial Recordings Division
202 N. Carson Street
Carson City, NV 89701-4201
Telephone (775) 684-5708
Fax (775) 684-7138

OFFICE OF THE
SECRETARY OF STATE

Certified Copy

December 5, 2016

Job Number: C20161205-1090
Reference Number: 00010484915-22
Expedite:
Through Date:

The undersigned filing officer hereby certifies that the attached copies are true and exact copies of all requested statements and related subsequent documentation filed with the Secretary of State's Office, Commercial Recordings Division listed on the attached report.

Document Number(s)	Description	Number of Pages
20160527874-72	Merge In	7 Pages/1 Copies



Respectfully,

BARBARA K. CEGAVSKE
Secretary of State

Certified By: Christal Shirley
Certificate Number: C20161205-1090
You may verify this certificate
online at <http://www.nvsos.gov/>

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Commercial Recording Division
202 N. Carson Street
Carson City, Nevada 89701-4201
Telephone (775) 684-5708
Fax (775) 684-7138

49-02283108
10/05/2018



140105



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Carson City, Nevada 89701-4201
(775) 684-5708
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Filed in the office of <i>Barbara K. Cegavske</i> Barbara K. Cegavske Secretary of State State of Nevada	Document Number 20160527874-72
	Filing Date and Time 12/05/2016 11:23 AM
	Entity Number C13796-1993

Articles of Merger
(PURSUANT TO NRS 92A.200)
Page 1

USE BLACK INK ONLY - DO NOT HIGHLIGHT

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Articles of Merger
(Pursuant to NRS Chapter 92A)

1) Name and jurisdiction of organization of each constituent entity (NRS 92A.200):

If there are more than four merging entities, check box and attach an 8 1/2" x 11" blank sheet containing the required information for each additional entity from article one.

WV Merger Sub, Inc.

Name of merging entity

Nevada

Jurisdiction

Corporation

Entity type *

Name of merging entity

Jurisdiction

Entity type *

Name of merging entity

Jurisdiction

Entity type *

Name of merging entity

Jurisdiction

Entity type *

and,

Trans Energy, Inc.

Name of surviving entity

Nevada

Jurisdiction

Corporation

Entity type *

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* Corporation, non-profit corporation, limited partnership, limited-liability company or business trust.

Filing Fee: \$350.00

This form must be accompanied by appropriate fees.



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Articles of Merger
(PURSUANT TO NRS 92A.200)
Page 2

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2) Forwarding address where copies of process may be sent by the Secretary of State of Nevada (if a foreign entity is the survivor in the merger - NRS 92A.190):

Attn: _____

c/o: _____

3) Choose one:

- The undersigned declares that a plan of merger has been adopted by each constituent entity (NRS 92A.200).
- The undersigned declares that a plan of merger has been adopted by the parent domestic entity (NRS 92A.180).

4) Owner's approval (NRS 92A.200) (options a, b or c must be used, as applicable, for each entity):

- If there are more than four merging entities, check box and attach an 8 1/2" x 11" blank sheet containing the required information for each additional entity from the appropriate section of article four.

(a) Owner's approval was not required from

Name of **merging** entity, if applicable

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Name of **merging** entity, if applicable

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Name of **merging** entity, if applicable

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Name of **merging** entity, if applicable

and, or;

Trans Energy, Inc.

Name of **surviving** entity, if applicable



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Articles of Merger
(PURSUANT TO NRS 92A.200)
Page 3

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(b) The plan was approved by the required consent of the owners of *:

Name of **merging** entity, if applicable

Name of **merging** entity, if applicable

Name of **merging** entity, if applicable

Name of **merging** entity, if applicable

and, or;

Name of **surviving** entity, if applicable

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* Unless otherwise provided in the certificate of trust or governing instrument of a business trust, a merger must be approved by all the trustees and beneficial owners of each business trust that is a constituent entity in the merger.



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Articles of Merger
(PURSUANT TO NRS 92A.200)
Page 4

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(c) Approval of plan of merger for Nevada non-profit corporation (NRS 92A.160):

The plan of merger has been approved by the directors of the corporation and by each public officer or other person whose approval of the plan of merger is required by the articles of incorporation of the domestic corporation.

Name of **merging** entity, if applicable

Name of **merging** entity, if applicable

Name of **merging** entity, if applicable

Name of **merging** entity, if applicable

and, or,

Name of **surviving** entity, if applicable

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Articles of Merger
(PURSUANT TO NRS 92A.200)
Page 5

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5) Amendments, if any, to the articles or certificate of the surviving entity. Provide article numbers, if available. (NRS 92A.200)*:

None.

6) Location of Plan of Merger (check a or b):

(a) The entire plan of merger is attached;

or,

(b) The entire plan of merger is on file at the registered office of the surviving corporation, limited liability company or business trust, or at the records office address if a limited partnership, or other place of business of the surviving entity (NRS 92A.200).

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7) Effective date and time of filing: (optional) (must not be later than 90 days after the certificate is filed)

Date: Time:

* Amended and restated articles may be attached as an exhibit or integrated into the articles of merger. Please entitle them "Restated" or "Amended and Restated," accordingly. The form to accompany restated articles prescribed by the secretary of state must accompany the amended and/or restated articles. Pursuant to NRS 92A.180 (merger of subsidiary into parent - Nevada parent owning 90% or more of subsidiary), the articles of merger may not contain amendments to the constituent documents of the surviving entity except that the name of the surviving entity may be changed.



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Articles of Merger
(PURSUANT TO NRS 92A.200)
Page 6

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8) Signatures - Must be signed by: An officer of each Nevada corporation; All general partners of each Nevada limited partnership; All general partners of each Nevada limited-liability limited partnership; A manager of each Nevada limited-liability company with managers or one member if there are no managers; A trustee of each Nevada business trust (NRS 92A.230)*

If there are more than four merging entities, check box and attach an 8 1/2" x 11" blank sheet containing the required information for each additional entity from article eight.

WV Merger Sub, Inc.

Name of merging entity

X
Signature

Senior Vice President and CFO
Title

12/5/2016
Date

Name of merging entity

X
Signature

Title

Date

Name of merging entity

X
Signature

Title

Date

Name of merging entity

X
Signature

Title

Date

and,

Trans Energy, Inc.

Name of surviving entity

X
Signature

Title

Date

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* The articles of merger must be signed by each foreign constituent entity in the manner provided by the law governing it (NRS 92A.230). Additional signature blocks may be added to this page or as an attachment, as needed.

IMPORTANT: Failure to include any of the above information and submit with the proper fees may cause this filing to be rejected.

This form must be accompanied by appropriate fees.



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Articles of Merger
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If there are more than four merging entities, check box and attach an 8 1/2" x 11" blank sheet containing the required information for each additional entity from article eight.

WV Merger Sub, Inc.
Name of merging entity

X
Signature Title Date

Name of merging entity
X
Signature Title Date

Name of merging entity
X
Signature Title Date

Name of merging entity
X
Signature Title Date

and,
Trans Energy, Inc.
Name of surviving entity
X *[Signature]* President 12/5/2016
Signature Title Date

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

API 47-049-02283 County MARION District MANNINGTON
 Quad CAMERON Pad Name JONES Field/Pool Name MARCELLUS
 Farm name HUBBS, TIMOTHY JAMES Well Number JONES 3H
 Operator (as registered with the OOG) TRANS ENERGY, INC. (a subsidiary of EQT Production)
 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 4381936.973 Easting 549192.077
 Landing Point of Curve Northing 4382023.97 Easting 549570.82
 Bottom Hole Northing 4380404.44 Easting 550477.98

Elevation (ft) 1042 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 DRILLING MUD & SYNTHETIC BASE DRILLING MUD
CALCIUM CARBONATE, CALCIUM CHLORIDE, SYNVERT LEM, SYNVERT SYNTHETIC WA-L, BARITE, HYDRATED LIME, CEDAR FIBER, RUBBER CRUMB,
COTTONSEED HULLS, SYNVERT SYNTHETIC 11-L, SYNVERT SYNTHETIC 1-L, BENTONITE, SODA ASH DENSE, LIGNITE, ALUMINUM STERATE,
CITRIC ACID, SODIUM BICARBONATE, GLYCERINE, DESCO, CAUSTIC SODA BEADS, DRISPAC LOW VIS, L-20C, BIOCLEAR

Date permit issued 04/21/2014 Date drilling commenced 05/28/2014 Date drilling ceased 06/26/2014
 Date completion activities began _____ Date completion activities ceased _____
 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 150' Open mine(s) (Y/N) depths N
 Salt water depth(s) ft N Void(s) encountered (Y/N) depths N
 Coal depth(s) ft 144', 239', 598', 641' Cavern(s) encountered (Y/N) depths N
 Is coal being mined in area (Y/N) N

Reviewed by: _____

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WR-35
Rev. 8/23/13

Page ___ of ___

API 47-049 - 02283 Farm name HUBBS, TIMOTHY JAMES Well number JONES 3H

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	26"	20"	118'	NEW	J-55 94#	-	-
Surface	17-1/2"	13-3/8"	1015'	NEW	J-55 54.5#	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3039'	NEW	J-55 36#	N/A	Y
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	8-3/4"	5-1/2"	13115'	NEW	DQXR3 23#	N/A	Y
Tubing	-	-	-	-	-	-	-
Packer type and depth set							

Comment Details Production Cement job received 30 bbls back to surface.

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	-	-	-	-	-	-	-
Surface	TYPE 1	743	15.2	1.27	943	0	8
Coal							
Intermediate 1	TYPE 1	928	15.6	1.21	1123	0	8
Intermediate 2							
Intermediate 3							
Production	POZ H / CLASS H	1421 / 1656	14.0 / 15.6	1.34 / 1.18	3858	0	8
Tubing							

Drillers TD (ft) ¹⁴²⁹⁹ _____ Loggers TD (ft) ^{N/A} _____
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) ³¹⁴⁸ MD _____

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING CONDUCTOR: NONE

SURFACE: 1 CENTRALIZER EVERY 160'

INTERMEDIATE 1: 1 CENTRALIZER EVERY 100' FROM TD TO 800'

PRODUCTION: 1 CENTRALIZER EVERY 80' FROM TD TO ABOVE KOP

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 _____

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10/05/2018

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Page ___ of ___

API 47- 049 - 02283 Farm name HUBBS, TIMOTHY JAMES Well number JONES 3H

PERFORATION RECORD

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

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 insert additional pages as applicable.

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API 47- 049 - 02283 Farm name HUBBS, TIMOTHY JAMES Well number JONES 3H

PRODUCING FORMATION(S)

DEPTHS

	TVD	MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface ___ psi Bottom Hole ___ psi DURATION OF TEST ___ hrs

OPEN FLOW Gas ___ mcfpd Oil ___ bpd NGL ___ bpd Water ___ bpd GAS MEASURED BY Estimated Orifice Pilot

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

Please insert additional pages as applicable.

Drilling Contractor Nabors Address 515 West Greens Road Suite 1000 City Houston State TX Zip 77067

Logging Company MS Energy Services Address 3335 Pollok Drive City Conroe State TX Zip 77303

Cementing Company BJ Services, LLC (formerly Baker Hughes) Address 4000 Town Center Blvd, Suite 210 City Cannonsburg State PA Zip 15317

Stimulating Company Address City State Zip

Please insert additional pages as applicable.

Completed by Signature [Signature] Title DIRECTOR COMPLETION Date 3/22/18 Telephone

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

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10/05/2018

WR-35
Rev. 8/23/13

Page ___ of ___

API 47- 049 - 02283 Farm name HUBBS, TIMOTHY JAMES Well number JONES 3H

Drilling Contractor _____
Address _____ City _____ State _____ Zip _____

Logging Company Baker Hughes
Address 400 Technology DR - Suite 100 City Cannonsburg State PA Zip 15317

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company _____
Address _____ City _____ State _____ Zip _____

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Jones 3H		Final Formations		
		47-049-02283		
Formation Name	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)	Drill Btm MD (ftKB)	Drill Btm (TVD) (ftKB)
COAL	144	144	147	147
SAND/SHALE	147	147	239	239
COAL	239	239	240	240
SAND/SHALE	240	240	598	598
PITTSBURGH COAL	598	598	606	606
SAND/SHALE	606	606	641	641
MAPLE COAL	641	641	671	671
SAND/SHALE	671	671	1207	1207
DUNKARD	1207	1207	1233	1233
SAND/SHALE	1233	1233	1253	1253
GAS SAND	1253	1253	1261	1261
SAND/SHALE	1261	1261	1458	1456
1ST SALT	1458	1456	1479	1477
SAND/SHALE	1479	1477	1533	1530
2ND SALT	1533	1530	1555	1552
SAND/SHALE	1555	1552	1560	1557
3RD SALT	1560	1557	1641	1637
SAND/SHALE	1641	1637	1766	1761
MAXON	1766	1761	1794	1789
SAND/SHALE	1794	1789	1883	1877
BIG LIME	1883	1877	1966	1959
SAND/SHALE	1966	1959	1970	1963
BIG JUN	1970	1963	2021	2014
SAND/SHALE	2021	2014	2158	2151
BEREA	2158	2151	2163	2156
SAND/SHALE	2163	2156	2494	2487
30 FOOT	2494	2487	2528	2521
SAND/SHALE	2528	2521	2593	2586
GORDON	2593	2586	2641	2634
SAND/SHALE	2641	2634	2645	2638
4TH	2645	2638	2687	2680
SAND/SHALE	2687	2680	2763	2756
5TH	2763	2756	2778	2771
SAND/SHALE	2778	2771	2903	2896
BAYARD	2903	2896	2914	2907
SAND/SHALE	2914	2907	3590	3579
WARREN	3590	3579	3624	3612
SAND/SHALE	3624	3612	4152	4123
RILEY	4152	4123	4197	4166
SAND/SHALE	4197	4166	4513	4472
BENSON	4513	4472	4598	4554
SAND/SHALE	4598	4554	4870	4815
ALEXANDER	4870	4815	4947	4888
SAND/SHALE	4947	4888	5834	5739
ELK	5834	5739	7214	7071
SONYEA	7214	7071	7392	7240
MIDDLESEX	7392	7240	7466	7307
GENESSEE	7466	7307	7599	7410
GENESE	7599	7410	7638	7437
TULLY	7638	7437	7691	7471
HAMILTON	7691	7471	7901	7568
MARCELLUS	7901	7568	14299	7642

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Where energy meets innovation.

EQT-Trans Energy

Marion County, WV

Jones Unit

Jones 3H - Slot Jones 3H

Wellbore #1

Design: Jones 3H As Drilled

Standard Survey Report

22 February, 2018

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Database:	PEPC06SW01DB	Local Co-ordinate Reference:	Well Jones 3H - Slot Jones 3H
Company:	EQT-Trans Energy	TVD Reference:	KB @ 1034.000usft
Project:	Marion County, WV	MD Reference:	KB @ 1064.000usft
Site:	Jones Unit	North Reference:	Grid
Well:	Jones 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Jones 3H As Drilled		

Project: Marion County, WV, West Virginia

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: Jones Unit

Site Position:		Northing:	398,770.370 usft	Latitude:	39.59
From:	Map	Easting:	1,738,625.590 usft	Longitude:	-80.43
Position Uncertainty:	0.000 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.5915 "

Well: Jones 3H - Slot Jones 3H

Well Position	+N/-S	0.000 usft	Northing:	398,768.930 usft	Latitude:	39.5856583
	+E/-W	0.000 usft	Easting:	1,738,640.890 usft	Longitude:	80.4273490°W
Position Uncertainty		0.000 usft	Wellhead Elevation:	0.000 usft	Ground Level:	1,042.000 usft

Wellbore: Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/14/2017	-8.8277	66.7831	52,072

Design: Jones 3H As Drilled

Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 0.000

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.000	0.000	0.000	145.515

Survey Program Date: 2/22/2018

From (l)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	14,299.000	Jones 2H Final Surveys (Wellbore #1)	MWD	MWD - Standard

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)
0.000	0.000	0.000	0.000	-1.064.000	0.000	0.000	0.000	0.00000	0.00000	0.00000
24.000	0.000	54.520	24.000	-1.040.000	0.000	0.000	0.000	0.00000	0.00000	0.00000
100.000	0.610	54.520	99.999	-964.001	0.235	0.329	-0.007	0.80263	0.80263	0.00000
200.000	0.610	58.850	199.993	-864.007	0.819	1.218	0.015	0.04609	0.00000	4.33000
300.000	0.620	53.840	299.987	-764.013	1.414	2.111	0.030	0.05488	0.01000	-5.01000
400.000	0.610	55.060	399.981	-664.019	2.038	2.984	0.010	0.01648	-0.01000	1.22000
500.000	0.570	59.840	499.976	-564.024	2.594	3.850	0.041	0.06181	-0.04000	4.58000
600.000	0.650	53.790	599.970	-464.030	3.181	4.736	0.060	0.10129	0.08000	-5.85000
700.000	0.600	40.000	699.964	-364.035	3.917	5.531	-0.097	0.15806	-0.05000	-13.79000

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EQT Corporation
Survey Report

10/05/2018

Database:	PEPCOBSWD DB	Local Co-ordinate Reference:	Well Jones 3H - Slot Jones 3H
Company:	EQT-Trans Energy	TVD Reference:	KB @ 1064.000usft
Project:	Marion County, WV	MD Reference:	KB @ 1064.000usft
Site:	Jones Unit	North Reference:	Grid
Well:	Jones 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Jones 3H As Drilled		

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)
800.000	0.550	36.960	799.950	-264.040	4.701	6.156	-0.390	0.05856	-0.05000	-3.04000
900.000	0.780	28.120	899.953	-184.047	5.685	6.765	-0.856	0.25116	0.23000	-8.84000
965.000	1.100	32.580	964.944	-99.058	6.601	7.310	-1.303	0.50484	0.49231	6.86154
1,063.000	2.010	88.670	1,062.912	-1.088	7.434	9.535	-0.729	1.70221	0.92857	57.23470
1,094.000	2.580	88.810	1,093.887	29.887	7.463	10.776	-0.051	1.83873	1.83871	-0.19355
1,126.000	2.940	86.510	1,125.849	81.849	7.531	12.315	0.765	1.16835	1.12500	-8.56250
1,158.000	3.400	83.250	1,157.800	93.800	7.692	14.078	1.829	1.54338	1.43750	-10.18750
1,189.000	3.790	80.050	1,188.740	124.740	7.977	15.896	2.481	1.38532	1.22591	-10.32258
1,221.000	4.280	76.450	1,220.680	156.680	8.439	18.195	3.346	1.75040	1.56250	-11.25000
1,253.000	4.680	72.280	1,252.583	188.583	9.116	20.600	4.149	1.61123	1.25000	-13.03125
1,284.000	5.170	67.500	1,283.448	219.448	10.035	23.095	4.804	2.08046	1.58065	-15.41938
1,316.000	5.700	63.120	1,315.304	251.304	11.306	25.844	5.314	2.10217	1.65625	-13.68750
1,347.000	5.940	59.980	1,346.145	282.145	12.804	28.806	5.643	1.28333	0.77419	-10.06877
1,379.000	6.990	54.550	1,377.941	313.941	14.761	31.627	5.739	3.79523	3.28125	-17.00000
1,410.000	7.650	48.960	1,408.689	344.689	17.210	34.720	5.472	3.12994	2.12903	-18.03228
1,442.000	8.490	42.860	1,440.372	376.372	20.340	37.933	4.711	3.74513	2.62500	-19.08250
1,474.000	8.580	39.970	1,472.018	408.018	23.801	41.073	3.554	1.38940	0.28125	-9.03125
1,537.000	8.550	37.180	1,534.315	470.315	31.234	46.922	0.821	0.86121	-0.04762	-4.42857
1,632.000	8.290	33.510	1,628.292	564.292	42.571	54.971	-3.067	0.82826	-0.27368	-3.86316
1,726.000	8.350	31.810	1,721.303	657.303	54.022	62.310	-9.250	0.28938	0.06383	-1.80851
1,758.000	8.450	31.410	1,752.980	688.980	58.003	64.760	-11.144	0.38184	0.31250	-1.25000
1,789.000	8.380	29.540	1,783.626	719.626	61.912	67.061	-13.064	0.91115	-0.22561	-6.03226
1,820.000	7.080	29.740	1,814.344	750.344	65.532	69.120	-14.882	4.25894	-4.25808	0.84616
1,852.000	6.590	29.000	1,846.118	782.118	68.843	70.984	-16.556	1.52490	-1.50000	-2.31250
1,884.000	6.250	28.560	1,877.917	813.917	71.876	72.706	-18.164	1.04262	-1.03125	-1.37500
1,915.000	6.210	28.020	1,908.734	844.734	74.939	74.300	-19.703	0.22887	-0.12803	-1.74194
1,947.000	6.230	29.740	1,940.546	876.546	77.974	75.974	-21.257	0.58568	0.08250	5.37500
1,979.000	5.850	27.880	1,972.374	908.374	80.873	77.575	-22.740	1.89860	-1.81250	-5.46875
2,010.000	4.970	24.530	2,003.243	939.243	83.417	78.838	-24.122	2.71511	-2.51613	-11.16129
2,042.000	4.360	22.320	2,035.139	971.139	85.778	79.864	-25.488	1.68755	-1.59375	-6.90825
2,074.000	4.120	18.980	2,067.052	1,003.052	87.981	80.700	-26.838	1.07415	-0.75000	-10.40625
2,106.000	3.970	15.280	2,098.972	1,034.972	90.146	81.366	-28.238	0.94239	-0.46875	-11.59375
2,188.000	3.480	5.210	2,160.842	1,096.842	94.091	82.102	-31.072	1.31545	-0.79032	-16.24184
2,200.000	3.210	5.570	2,192.767	1,128.767	95.949	82.277	-32.505	0.84630	-0.84375	1.12500
2,232.000	3.090	2.840	2,224.739	1,160.739	97.703	82.407	-33.878	0.80023	-0.37500	-8.53125
2,264.000	2.570	8.170	2,256.700	1,192.700	99.274	82.552	-35.090	1.81954	-1.82500	16.65625
2,285.000	2.040	8.190	2,287.674	1,223.675	100.508	82.729	-36.007	1.70968	-1.70968	0.06452
2,327.000	1.550	0.110	2,319.659	1,255.659	101.505	82.811	-36.782	1.71977	-1.53125	-25.25000
2,390.000	1.180	358.600	2,382.641	1,318.641	103.004	82.774	-38.039	0.80184	-0.58730	-5.57143
2,421.000	0.680	352.770	2,413.637	1,349.637	103.505	82.732	-38.476	1.62442	-1.61280	-12.35484
2,484.000	0.560	329.420	2,476.633	1,412.633	104.141	82.528	-39.115	0.43981	-0.19048	-37.08349
2,578.000	0.290	271.310	2,570.631	1,506.631	104.542	82.057	-39.713	0.50566	-0.26723	-61.81915

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Database:	PERCDBSV01DB	Local Coordinate Reference:	Well Jones 3H - Slot Jones 3H
Company:	EQT-Trans Energy	TVD Reference:	KB @ 1064.00usft
Project:	Marion County, WV	MD Reference:	KB @ 1064.00usft
Site:	Jones 3H	North Reference:	Grid
Well:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Jones 3H As Drilled		
Design:			

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)
2,673.000	0.460	276.470	2,665.629	1,801.629	104.591	81.437	-40.103	0.18226	0.17695	5.43158
2,768.000	0.650	250.480	2,760.624	1,696.624	104.454	80.551	-40.492	0.32712	0.20000	-27.35790
2,863.000	1.000	243.440	2,855.614	1,791.614	103.903	79.301	-40.746	0.38267	0.36842	-7.41053
2,958.000	1.070	263.140	2,950.599	1,886.599	103.426	77.679	-41.271	0.37974	0.07368	20.73684
3,002.000	0.740	259.790	2,994.594	1,930.594	103.327	76.992	-41.579	0.75926	-0.75000	-7.61364
3,086.000	0.980	252.540	3,078.584	2,014.584	103.020	75.786	-42.008	0.29102	0.26190	-8.63095
3,117.000	0.470	266.920	3,109.562	2,045.562	102.935	75.412	-42.150	1.87111	-1.58085	46.38710
KOP=3148' MD/ 3141' TVD										
3,148.000	0.980	44.840	3,140.580	2,076.580	103.117	75.471	-42.268	4.40279	1.64516	444.25807
3,180.000	2.930	52.310	3,172.560	2,108.560	103.812	76.311	-42.364	6.13477	6.09375	23.96875
3,211.000	5.790	51.090	3,203.467	2,139.467	105.278	78.155	-42.529	9.23014	9.22581	-3.93548
3,243.000	6.520	53.990	3,235.283	2,171.283	107.361	80.880	-42.702	2.47755	2.28125	9.03125
3,274.000	6.380	63.930	3,266.087	2,202.087	109.410	83.666	-42.797	0.45188	-0.45161	-0.16120
3,306.000	5.800	53.720	3,297.906	2,233.906	111.413	86.437	-42.896	1.81383	-1.81250	-0.65625
3,337.000	5.560	51.740	3,328.754	2,264.754	113.270	88.878	-43.044	0.99938	-0.77419	-6.38710
3,369.000	4.870	50.210	3,360.621	2,296.621	115.099	91.139	-43.272	2.19942	-2.15625	-4.78126
3,400.000	5.450	53.590	3,391.495	2,327.495	116.815	93.335	-43.443	2.11159	1.87097	10.90323
3,432.000	6.340	55.820	3,423.326	2,359.326	118.710	96.020	-43.485	2.87135	2.78125	6.96875
3,463.000	7.530	57.880	3,454.098	2,390.098	120.752	99.157	-43.392	3.92106	3.83871	8.64516
3,494.000	8.970	55.670	3,484.777	2,420.777	123.168	102.878	-43.293	4.73672	4.64518	-6.48987
3,525.000	10.200	54.340	3,515.344	2,451.344	126.144	107.108	-43.335	4.05161	3.98774	-4.93548
3,557.000	11.310	52.680	3,546.781	2,482.781	129.698	111.908	-43.548	3.80094	3.48875	-5.18750
3,589.000	11.800	49.050	3,578.133	2,514.133	133.745	116.873	-44.072	2.73932	1.53125	-11.34375
3,621.000	12.130	46.440	3,609.765	2,545.765	142.520	126.535	-45.841	1.00587	0.52381	-4.14286
3,746.000	11.470	48.570	3,731.778	2,667.778	155.519	140.888	-48.529	0.84114	-0.70213	2.28596
3,841.000	14.720	50.120	3,824.295	2,760.296	169.512	157.048	-50.807	3.44066	3.42105	1.63158
3,936.000	16.730	50.650	3,915.735	2,851.735	185.922	176.885	-53.101	2.12116	2.11579	0.55789
4,030.000	17.880	48.790	4,005.480	2,941.480	204.008	198.204	-55.939	1.35748	1.22340	-1.97872
4,125.000	15.500	47.740	4,096.471	3,032.471	222.165	218.573	-59.365	2.52518	-2.50526	-1.10528
4,220.000	14.150	46.840	4,188.307	3,124.307	238.335	236.711	-62.432	1.45155	-1.42105	1.15789
4,315.000	14.210	52.280	4,280.414	3,216.414	253.111	254.677	-64.440	0.85916	0.06316	3.62105
4,410.000	14.800	51.020	4,372.366	3,308.366	267.878	273.333	-66.049	0.70428	0.82105	-1.32632
4,505.000	14.440	47.970	4,464.311	3,400.311	283.441	291.563	-68.555	0.89445	-0.37895	-3.21053
4,600.000	14.880	44.830	4,556.261	3,492.261	299.909	308.848	-72.343	0.88836	0.25293	-3.30528
4,693.000	16.290	40.010	4,645.886	3,581.886	318.258	325.544	-76.015	2.21486	1.73118	-5.18280
4,788.000	17.200	40.590	4,736.857	3,672.857	339.130	343.249	-85.195	0.97390	0.95789	0.81053
4,883.000	18.650	43.480	4,827.245	3,763.245	360.820	362.842	-91.990	1.79017	1.52632	3.04211
4,977.000	16.030	43.160	4,916.985	3,852.985	381.197	382.005	-97.893	2.78907	-2.78723	-0.34043
5,071.000	15.760	40.080	5,007.373	3,943.373	400.432	398.163	-104.067	0.94210	-0.28723	-3.27860
5,166.000	15.260	43.930	5,098.915	4,034.916	419.308	416.144	-110.012	1.20445	-0.52632	4.05263
5,260.000	15.320	46.750	5,189.592	4,125.592	436.405	434.063	-113.959	1.35332	0.06383	5.12766
5,354.000	16.470	49.650	5,279.996	4,215.996	453.221	453.555	-116.784	1.25116	1.22340	0.95745
5,449.000	13.620	50.270	5,371.731	4,307.731	469.093	472.424	-119.183	3.00474	-3.00000	0.65263

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EQT Corporation
Survey Report

10/05/2018

Database:	PEPCDBSW/DB	Local Co-ordinate Reference:	Well Jones 3H - 3H Jones 3H
Company:	EQT-Trans Energy	TVD Reference:	LR @ 1064.90(usft)
Project:	Marion County, WV	MD Reference:	LR @ 1064.00(usft)
Site:	Jones Well	North Reference:	Grid
Well:	Jones 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Jones 3H A4 District		

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)
5,544.000	15.090	41.840	5,463.772	4,399.772	485.458	489.278	-123.130	2.68588	1.54737	-8.87388
5,639.000	20.300	33.160	5,554.262	4,490.262	508.488	508.558	-132.330	6.13302	5.48421	-9.13684
5,733.000	18.710	33.650	5,642.865	4,578.865	534.689	523.830	-144.147	1.70041	-1.69149	0.52128
5,828.000	18.140	45.970	5,733.529	4,669.529	556.561	541.776	-152.016	4.71887	-2.70526	12.98842
5,923.000	13.110	43.060	5,825.440	4,761.441	573.495	558.755	-156.361	3.23257	-3.18847	-2.09474
6,018.000	14.000	44.520	5,917.793	4,853.793	589.442	574.294	-160.707	0.94626	0.93884	0.56842
6,113.000	14.100	50.220	6,009.956	4,945.956	605.040	591.245	-163.967	1.45984	0.10526	6.00000
6,208.000	13.340	46.530	6,102.246	5,038.246	619.984	608.092	-166.747	1.21975	-0.80000	-3.88421
6,301.000	13.000	46.160	6,192.800	5,128.800	634.811	623.423	-170.123	0.37666	-0.36559	-0.38785
6,394.000	16.110	41.740	6,282.607	5,218.607	651.489	639.583	-174.097	3.54865	3.34409	-4.75269
6,489.000	13.460	42.150	6,374.654	5,310.654	668.524	655.760	-180.582	2.79163	-2.78947	0.43158
6,583.000	12.780	39.730	6,466.200	5,402.200	685.631	669.747	-185.949	0.92881	-0.72340	-2.57447
6,677.000	13.280	39.130	6,557.778	5,493.778	702.008	683.211	-181.826	0.58132	0.54255	-0.63830
6,771.000	16.500	38.760	6,648.607	5,584.607	720.803	698.391	-188.723	3.41636	3.41488	-0.39362
6,866.000	16.240	41.680	6,739.758	5,675.758	741.244	715.670	-205.789	0.90938	-0.27368	3.07368
6,960.000	19.150	47.300	6,829.307	5,765.307	761.523	735.748	-211.137	3.58636	3.08574	5.97872
7,052.000	16.480	49.310	6,897.464	5,853.464	776.964	753.070	-214.057	1.31448	-0.95833	2.79167
7,087.000	16.620	53.470	6,949.612	5,885.612	787.869	766.729	-215.312	2.42202	0.29091	7.56364
7,118.000	17.640	62.930	6,979.079	5,915.079	792.953	774.890	-214.882	9.99580	-3.16129	30.51613
7,150.000	16.310	73.870	7,009.692	5,945.692	796.409	783.527	-212.841	10.79230	-4.15625	34.18750
7,181.000	15.680	84.670	7,039.499	5,975.499	798.007	791.881	-209.428	9.78806	-2.03228	34.83871
7,213.000	16.380	97.280	7,070.265	6,006.265	797.838	800.660	-204.318	11.05849	2.12500	39.40825
7,245.000	16.990	108.060	7,100.924	6,036.924	795.973	809.625	-197.706	8.10723	1.98875	27.43750
7,276.000	17.190	112.140	7,130.558	6,066.558	792.984	818.221	-190.382	5.79716	0.64516	19.81290
7,308.000	17.850	117.930	7,161.076	6,097.076	788.914	828.935	-182.066	5.82148	2.08250	18.09375
7,340.000	18.770	122.610	7,191.457	6,127.457	783.842	835.605	-172.986	5.41777	2.87500	14.82500
7,371.000	20.210	126.470	7,220.681	6,158.681	777.971	844.114	-163.339	6.22981	4.64516	12.45161
7,403.000	23.310	130.410	7,250.399	6,186.399	770.579	853.392	-151.899	10.70394	9.68750	12.31250
7,434.000	26.830	133.410	7,278.475	6,214.475	761.782	863.138	-139.232	12.86922	11.35484	9.87742
7,466.000	30.860	135.550	7,306.527	6,242.527	751.000	874.102	-124.129	12.39157	11.86875	6.88750
7,498.000	35.480	135.330	7,333.335	6,269.335	738.584	885.352	-106.943	15.09715	15.08250	-0.68750
7,529.000	39.330	132.580	7,357.958	6,293.958	725.512	898.915	-88.505	13.52763	12.41936	-8.83871
7,561.000	41.790	130.620	7,382.268	6,318.268	711.705	915.477	-68.314	8.68653	7.68750	-6.15625
7,593.000	43.480	131.360	7,405.813	6,341.813	697.480	931.832	-47.336	5.44857	5.21875	2.31250
7,624.000	46.150	132.730	7,427.806	6,363.806	682.857	948.048	-26.093	9.21895	8.67742	4.41935
7,655.000	48.140	134.750	7,448.690	6,384.690	667.015	964.589	-3.670	10.77947	9.64516	6.51813
7,687.000	53.310	136.990	7,468.728	6,404.728	648.105	981.944	20.919	14.12640	13.03125	7.00000
7,719.000	57.170	138.250	7,488.970	6,422.970	629.685	999.655	46.955	12.48833	12.06250	3.93750
7,749.000	59.840	139.300	7,502.641	6,438.641	610.445	1,016.509	72.356	9.38688	8.90000	3.50000
7,780.000	62.850	140.790	7,517.506	6,453.506	589.801	1,033.983	99.430	10.51933	8.70968	4.61290
7,811.000	65.080	141.830	7,531.116	6,467.116	567.902	1,051.440	127.201	7.59114	7.12903	2.90323
7,843.000	65.910	142.370	7,544.394	6,480.394	544.959	1,069.384	156.281	3.38658	2.65625	2.31250

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EQT Corporation
Survey Report

10/05/2018

Database:	PEPCDBS/W0103	Local Co-ordinate Reference:	Well Jones 3H - Slot Jones 3H
Company:	EQT-Trans Energy	TVD Reference:	KB @ 1064.000usf
Project:	Manoa County, WV	MD Reference:	KB @ 1064.000usf
Site:	Jones Unit	North Reference:	G64
Well:	Jones 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Jones 3H As Drilled		

Measured Depth (usf)	Inclination (°)	Azimuth (°)	Vertical Depth (usf)	Subsea Depth (usf)	+N/-S (usf)	+E/-W (usf)	Vertical Section (usf)	Dogleg Rate (°/100usf)	Build Rate (°/100usf)	Turn Rate (°/100usf)
7,875.000	85.800	142.410	7,557.484	8,483.484	521.827	1,067.185	185.418	0.35218	-0.34375	0.12500
7,906.000	86.250	142.850	7,570.080	8,506.080	499.315	1,104.377	213.707	1.94656	1.45161	1.41935
7,937.000	89.340	143.840	7,581.795	8,517.795	476.292	1,121.508	242.384	10.39686	9.96774	3.19355
7,969.000	73.660	146.630	7,591.948	8,527.948	451.368	1,138.786	272.719	15.82935	13.50000	8.71875
8,000.000	75.820	148.050	7,600.107	8,538.107	426.169	1,154.933	302.608	8.25078	6.96774	4.58065
8,032.000	75.830	149.030	7,607.943	8,543.943	389.724	1,171.125	333.590	2.98942	0.03125	3.06250
8,063.000	76.760	149.720	7,615.283	8,551.283	373.807	1,186.467	363.840	3.75089	3.06452	2.22581
8,094.000	79.360	150.280	7,621.690	8,557.690	347.544	1,201.635	383.875	6.49526	6.32258	1.74194
8,126.000	82.380	150.750	7,626.767	8,562.767	320.047	1,217.188	425.346	9.55780	9.43750	1.53125
8,158.000	85.830	151.910	7,630.109	8,566.109	292.128	1,232.454	457.002	10.77697	10.15625	3.62500
8,189.000	88.030	152.380	7,631.823	8,567.823	264.763	1,248.912	487.745	7.89477	7.74194	1.54839
LP=8226 MD=7832 TVD										
8,220.000	90.370	153.880	7,632.258	8,568.258	237.114	1,260.918	516.466	8.94832	7.54839	4.80645
8,315.000	90.120	153.910	7,631.850	8,567.850	151.806	1,302.719	612.450	0.26505	-0.26316	0.03158
8,409.000	90.000	153.890	7,631.752	8,567.752	67.391	1,344.074	705.446	0.12942	-0.12766	-0.02128
8,503.000	90.050	152.810	7,631.702	8,567.702	-16.621	1,386.238	798.567	1.15071	0.06383	-1.14894
8,598.000	90.060	148.910	7,631.803	8,567.603	-99.581	1,432.488	893.136	4.10526	0.00000	-4.10526
8,693.000	90.060	147.200	7,631.503	8,567.503	-180.191	1,482.749	988.039	1.80000	0.00000	-1.80000
8,787.000	90.030	148.060	7,631.420	8,567.430	-259.592	1,533.061	1,081.973	0.93671	-0.03191	0.93617
8,882.000	89.940	148.180	7,631.454	8,567.454	-339.364	1,584.812	1,176.931	1.99173	-0.09474	-1.98947
8,976.000	90.000	148.970	7,631.504	8,567.504	-418.726	1,635.002	1,270.861	2.95614	0.06383	2.95745
9,070.000	90.090	151.480	7,631.430	8,567.430	-500.313	1,681.671	1,364.535	2.68256	0.09574	2.68085
9,165.000	90.000	154.540	7,631.355	8,567.355	-584.860	1,724.773	1,458.711	3.21192	-0.09474	3.21053
9,260.000	90.090	157.900	7,631.280	8,567.281	-671.882	1,783.074	1,552.044	3.53811	0.09474	3.53684
9,355.000	90.090	159.590	7,631.131	8,567.131	-760.417	1,797.512	1,644.520	1.77895	0.00000	1.77895
9,448.000	89.760	157.950	7,631.237	8,567.237	-847.102	1,831.187	1,735.039	1.79467	-0.33333	-1.76344
9,543.000	89.750	155.070	7,631.628	8,567.627	-934.220	1,869.049	1,828.285	3.03172	-0.03158	-3.03158
9,638.000	89.780	153.300	7,632.016	8,568.016	-1,019.735	1,910.418	1,922.195	1.85341	0.03158	-1.86316
9,732.000	90.000	151.490	7,632.197	8,568.197	-1,103.031	1,953.972	2,015.514	1.93970	0.23404	-1.92553
9,827.000	89.910	149.220	7,632.271	8,568.271	-1,185.580	2,000.958	2,110.169	2.39135	-0.09474	-2.38947
9,921.000	89.820	148.230	7,632.493	8,568.493	-1,268.353	2,049.054	2,203.972	0.09633	-0.09574	0.01064
10,016.000	89.910	150.380	7,632.717	8,568.717	-1,348.454	2,096.848	2,298.705	1.19324	0.09474	1.18947
10,111.000	89.880	150.280	7,632.891	8,568.891	-1,430.980	2,143.897	2,393.371	0.08994	-0.03158	-0.08421
10,206.000	89.850	150.070	7,633.115	8,569.115	-1,513.407	2,191.136	2,488.057	0.22330	-0.03158	-0.22105
10,301.000	89.910	148.920	7,633.313	8,569.314	-1,595.256	2,239.358	2,582.826	1.21217	0.06316	-1.21053
10,396.000	89.880	146.550	7,633.486	8,569.486	-1,674.735	2,289.535	2,678.748	2.52147	-0.03191	-2.52128
10,490.000	89.910	146.150	7,633.660	8,569.660	-1,753.817	2,342.176	2,771.738	0.42223	0.03158	-0.42105
10,585.000	89.910	147.830	7,633.809	8,569.809	-1,833.478	2,393.929	2,866.703	1.76842	0.00000	1.78842

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EQT Corporation
Survey Report

10/05/2018

Database:	PEPCDBSW01DB	Local Coordinate Reference:	Well Jones 3H - Stor Jones 3H
Company:	EQT-Trans Energy	TVD Reference:	KB @ 1064.000usft
Project:	Marion County, WV	MD Reference:	KB @ 1064.000usft
Site:	Jones Unit	North Reference:	GGA
Well:	Jones 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Jones 3H As Drilled		

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)
10,679.00	89.970	148.500	7,633.908	6,569.808	-1,913.337	2,443.511	2,960.802	0.71562	0.06383	0.71277
0										
10,774.00	88.920	150.370	7,634.828	6,570.828	-1,995.129	2,491.815	3,055.370	2.25739	-1.10526	1.96842
0										
10,869.00	88.860	152.200	7,636.868	6,572.668	-2,078.428	2,537.447	3,149.867	1.92699	-0.06316	1.92632
0										
10,964.00	88.860	152.680	7,638.558	6,574.558	-2,162.630	2,581.383	3,244.155	0.50516	0.00000	0.50526
0										
11,058.000	89.200	154.270	7,640.150	6,576.150	-2,246.720	2,623.365	3,337.233	1.72949	0.36170	1.69149
11,152.000	89.420	155.360	7,641.282	6,577.282	-2,331.777	2,663.362	3,429.989	1.16287	0.23404	1.15957
11,247.000	89.780	155.590	7,641.945	6,577.945	-2,418.204	2,702.795	3,523.555	0.44868	0.37895	0.24211
11,340.000	89.820	157.590	7,642.270	6,578.270	-2,503.544	2,739.742	3,614.818	2.15095	0.04301	2.15054
0										
Deepest Point of Well=11435 MD/ 7642 TVD										
11,435.000	89.970	158.570	7,642.444	6,578.444	-2,581.674	2,775.205	3,707.541	1.04359	0.15789	1.03158
11,531.000	91.230	157.430	7,641.439	6,577.439	-2,680.676	2,811.165	3,801.263	1.78892	1.31250	-1.18750
11,626.000	90.550	152.060	7,639.962	6,575.962	-2,766.553	2,851.677	3,894.967	5.69706	-0.71579	-5.65263
11,720.000	89.910	148.040	7,639.584	6,575.584	-2,847.983	2,898.568	3,988.672	4.33040	-0.88085	-4.27860
11,814.000	90.340	147.250	7,639.379	6,575.379	-2,927.388	2,948.901	4,082.606	0.95685	0.45745	-0.84043
0										
11,908.000	90.250	145.960	7,638.890	6,574.890	-3,006.700	3,001.188	4,177.585	1.38116	-0.09474	-1.35789
12,003.00	89.910	145.880	7,638.759	6,574.759	-3,084.550	3,053.860	4,271.583	0.37158	-0.36170	-0.08511
0										
12,098.00	89.970	150.310	7,638.856	6,574.856	-3,165.184	3,104.056	4,366.463	4.66358	0.06316	4.68316
0										
12,193.00	90.150	156.100	7,638.759	6,574.759	-3,249.947	3,148.864	4,460.568	6.09768	0.18947	6.09474
0										
12,287.00	91.350	158.600	7,637.528	6,573.528	-3,336.882	3,183.057	4,552.553	2.94984	1.27860	2.65957
0										
12,382.00	90.550	156.720	7,635.953	6,571.953	-3,424.534	3,219.160	4,645.410	2.15040	-0.84211	-1.97895
0										
12,477.00	90.520	152.820	7,635.066	6,571.066	-3,510.451	3,250.845	4,739.151	4.10521	-0.03158	-4.10526
0										
12,571.00	90.520	150.100	7,634.212	6,570.212	-3,593.018	3,304.549	4,832.633	2.89350	0.00000	-2.89362
0										
12,667.00	90.520	146.810	7,633.341	6,569.341	-3,674.728	3,354.906	4,928.496	3.63527	0.00000	-3.63542
0										
12,761.00	90.550	145.580	7,632.463	6,568.463	-3,752.740	3,407.338	5,022.486	1.09816	0.03191	-1.09574
0										
12,856.00	90.580	148.580	7,631.526	6,567.526	-3,832.473	3,458.859	5,117.435	3.15780	0.03158	3.15789
0										
12,950.00	90.490	153.520	7,630.648	6,566.648	-3,914.698	3,504.443	5,210.964	5.25596	-0.09574	5.25532
0										
13,044.00	90.550	156.100	7,629.795	6,565.795	-3,999.748	3,544.447	5,303.718	2.74531	0.06383	2.74468
0										
13,138.00	90.460	156.710	7,628.966	6,564.966	-4,085.866	3,582.070	5,396.021	0.85594	-0.09574	0.84894
0										
13,233.00	90.550	157.750	7,628.129	6,564.129	-4,173.477	3,618.837	5,489.037	1.09879	0.09474	1.09474
0										

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Database: PEPDDBSWG1DB	Local Co-ordinate Reference: Well Jones 3H - Slot Jones 3H
Company: EQT-Trans Energy	TVD Reference: KB @ 1064.000usft
Project: Marion County, WV	MD Reference: KB @ 1064.000usft
Site: Jones Unit	North Reference: Gnd
Well: Jones 3H	Survey Calculation Method: Minimum Curvature
Wellbore: Wellbore #1	
Design: Jones 3H As Ordered	

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)
13,328.00	90.650	158.740	7,627.134	6,563.134	-4,261.077	3,655.579	5,582.047	1.06830	0.10526	-1.06318
0										
13,422.00	90.950	151.610	7,625.821	6,561.821	-4,345.653	3,686.510	5,674.936	5.46823	0.31915	-5.45745
0										
13,516.00	90.580	144.880	7,624.564	6,560.564	-4,425.439	3,746.086	5,768.771	7.38217	-0.38362	-7.37234
0										
13,611.000	90.820	141.480	7,623.569	6,559.569	-4,501.375	3,803.142	5,863.667	3.36850	0.04211	-3.36842
13,705.00	90.490	143.900	7,622.648	6,558.648	-4,576.926	3,860.717	5,958.540	2.55092	-0.13684	2.54737
0										
13,800.00	90.340	143.680	7,621.968	6,557.968	-4,652.768	3,916.246	6,052.495	0.28326	-0.15957	-0.23404
0										
13,895.00	90.800	150.280	7,621.022	6,557.022	-4,732.376	3,967.983	6,147.407	6.96366	0.48421	6.94737
0										
13,990.00	90.280	151.670	7,620.126	6,556.126	-4,815.438	4,014.073	6,241.969	1.56213	-0.54737	1.46316
0										
14,085.00	90.150	156.510	7,619.770	6,555.770	-4,900.863	4,055.571	6,335.676	5.09654	-0.13684	5.09474
0										
14,180.00	90.280	158.530	7,619.413	6,555.413	-4,988.639	4,091.893	6,428.795	2.13070	0.13684	2.12632
0										
Final Survey=14272' MD/ 7619' TVD										
14,272.00	90.310	158.220	7,618.939	6,554.939	-5,074.163	4,125.798	6,518.487	0.33853	0.03261	-0.33696
0										
Projected TD=14289' MD/ 7619' TVD										
14,289.00	90.310	158.220	7,618.793	6,554.793	-5,099.235	4,135.616	6,544.825	0.00000	0.00000	0.00000
0										

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (103.117)	+E-W (75.471)	Northing (usft)	Easting (usft)	Latitude	Longitude
Jones 3H KOP	0.000	380.000	3,140.58	103.117	75.471	396,872.047	1,738,716.352	39.5859435	80.4270850°W
- hit/miss target									
- Shape									
- actual wellpath hits target center									
- Point									
Jones 3H TD	0.000	380.000	7,618.79	-5,099.235	4,135.616	391,669.695	1,742,776.696	39.5717753	80.4124916°W
- actual wellpath hits target center									
- Point									
Jones 3H LP	0.000	0.000	7,632.25	237.114	1,280.918	397,008.044	1,739,901.786	39.5863449	80.4228840°W
- actual wellpath hits target center									
- Point									

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EQT Corporation
Survey Report

10/05/2018

Database:	PEPCDBSY01DB	Local Co-ordinate Reference:	Well: Jones 3H - Slot Jones 3H
Company:	EQT-Trans Energy	TVD Reference:	KB @ 1064.000ust
Project:	Marion County, WV	MD Reference:	KB @ 1064.000ust
Site:	Jones Unit	North Reference:	Grid
Well:	Jones 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Jones 3H As Drilled		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,900.841	7,568.000	Marcellus		0.0000	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
3,148.000	3,140.580	103.117	75.471	KOP=3148' MD/ 3141' TVD	
8,220.000	7,832.256	237.114	1,260.918	LP=8220' MD/ 7632' TVD	
11,435.000	7,642.444	-2,591.674	2,775.206	Deepest Point of Well=11435' MD/ 7642' TVD	
14,272.000	7,618.939	-5,074.163	4,125.798	Final Survey=14272' MD/ 7618' TVD	
14,299.000	7,618.793	-5,099.235	4,135.816	Projected TD=14299' MD/ 7618' TVD	

Checked By: _____ Approved By: _____ Date: _____

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KB Elevation=1064 FT
Ground Elevation= 1042 FT

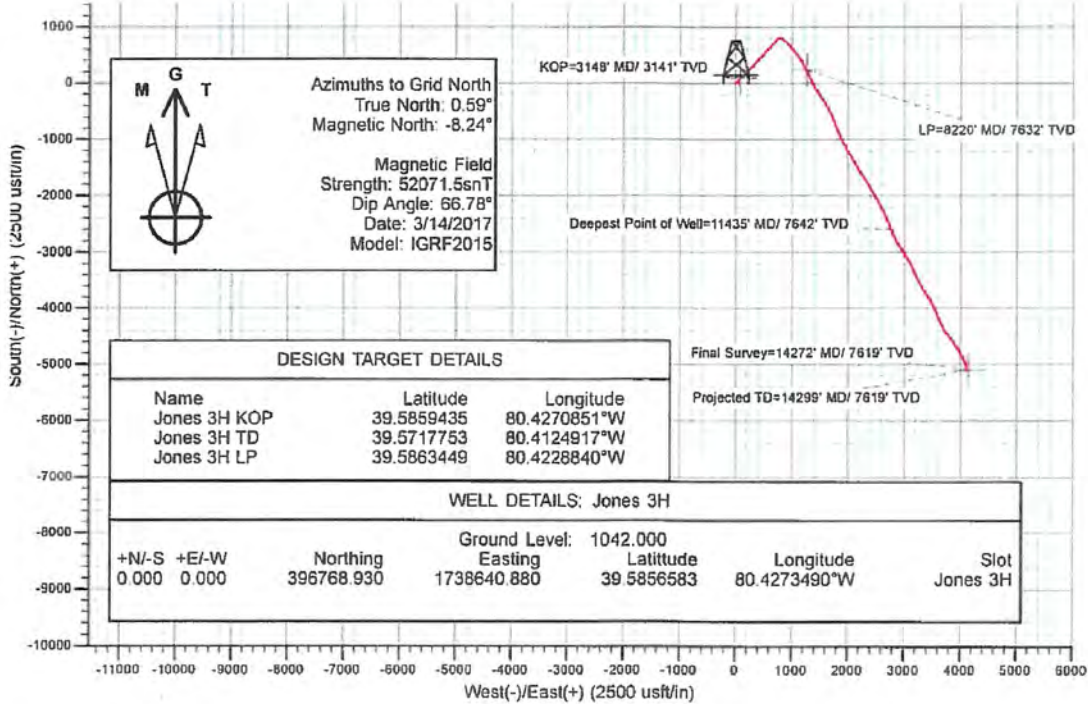
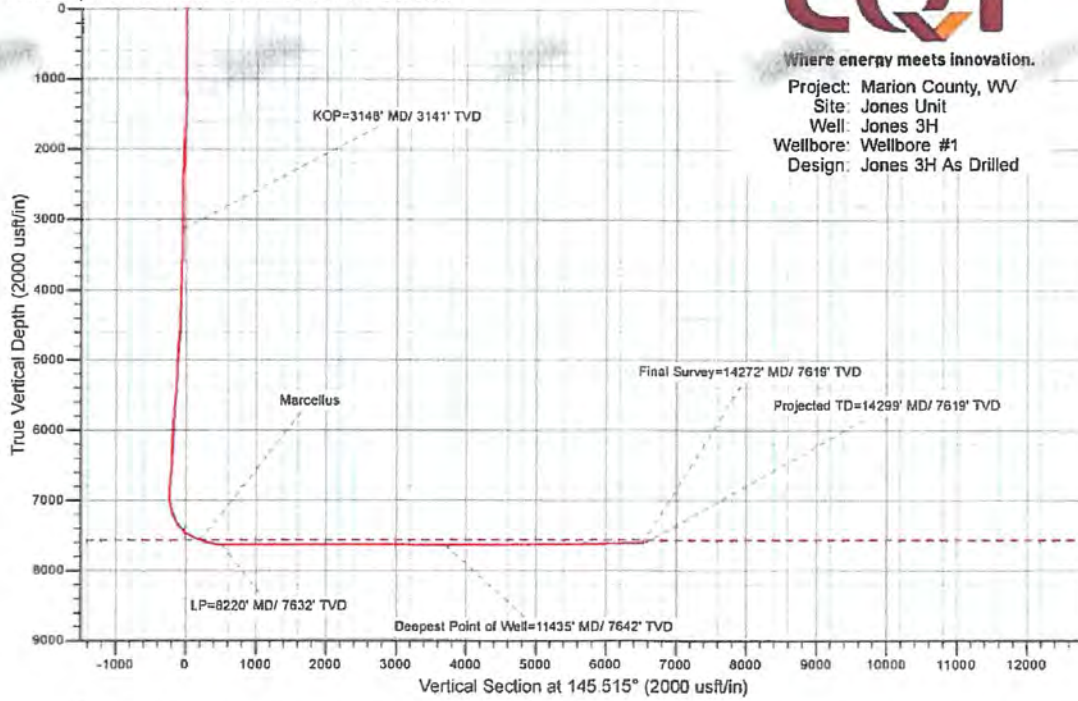


10/05/2018

All Survey Measurements were taken from KB Elevation

Where energy meets innovation.

Project: Marion County, WV
Site: Jones Unit
Well: Jones 3H
Wellbore: Wellbore #1
Design: Jones 3H As Drilled



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