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west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, June 12, 2018  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

EQT PRODUCTION COMPANY  
625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit Modification Approval for BIG177H5  
47-103-03189-00-00

**Adjust bottom hole location**

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.

James A. Martin  
Chief

A handwritten signature in blue ink, appearing to read 'James A. Martin', is positioned to the right of the typed name and title.

Operator's Well Number: BIG177H5  
Farm Name: COASTAL FOREST RESOURCES CO. D/B/A COA   
U.S. WELL NUMBER: 47-103-03189-00-00  
Horizontal 6A New Drill  
Date Modification Issued: June 12, 2018

Promoting a healthy environment.



47-103-03189  
MOD

November 3, 2017

Laura Adkins  
West Virginia Department of Environmental Protection  
601 57th Street SE  
Charleston, WV 25304

Re: Modification of 47-10303189

Dear Ms. Adkins,

Attached is a modification for the above API number. The bottom hole was adjusted.

If you have any questions, please do not hesitate to contact me at (304) 848-0076.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Vicki Roark'.

Vicki Roark  
Regional Land Supervisor

Enc.

RECEIVED  
Office of Oil and Gas  
NOV - 6 2017  
WV Department of  
Environmental Protection

**BIG177H5**  
**BIG177**  
**EQT PRODUCTION COMPANY**

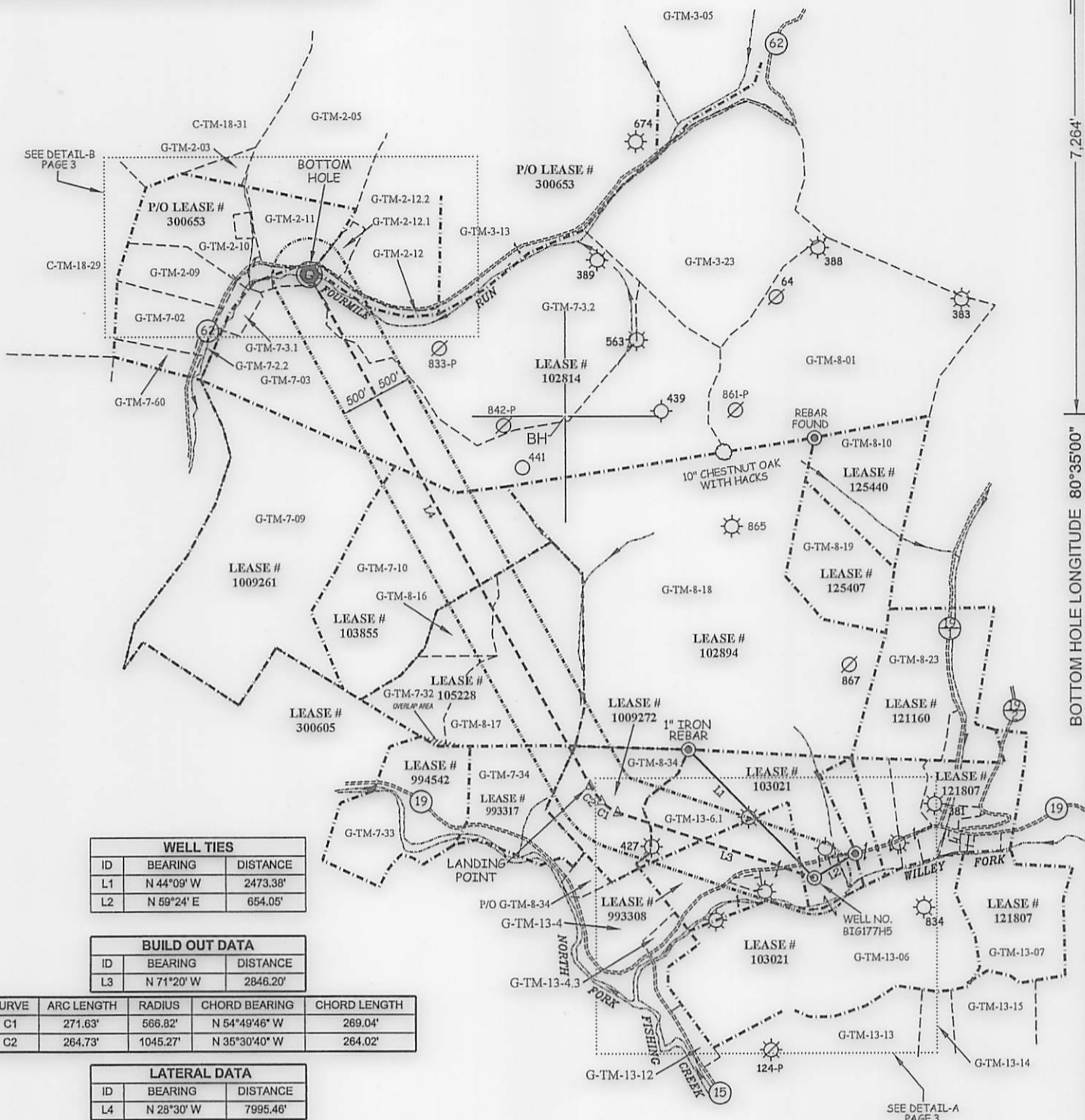
BOTTOM HOLE LATITUDE 39°37'30"  
 7,206'

TH

TOP HOLE LONGITUDE 80°35'00"

BOTTOM HOLE LONGITUDE 80°35'00"

NAD'27 GRID NORTH



WELL TIES		
ID	BEARING	DISTANCE
L1	N 44°09' W	2473.38'
L2	N 69°24' E	654.05'

BUILD OUT DATA		
ID	BEARING	DISTANCE
L3	N 71°20' W	2846.20'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	271.63'	566.82'	N 54°49'46" W	269.04'
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LATERAL DATA		
ID	BEARING	DISTANCE
L4	N 28°30' W	7995.46'

**SLS**  
**Land & Energy Development**  
*Solutions from the ground up.*  
 P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 462-5834  
 www.slssurveys.com

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)			
NAD'27 S.P.C.(FT)	N. 396,107.39	E. 1,694,445.87	
NAD'27 GEO.	LAT-(N) 39.582484	LONG-(W) 80.584118	
NAD'83 UTM (M)	N. 4,381,510.506	E. 535,730.872	
<b>LANDING POINT</b>			
NAD'27 S.P.C.(FT)	N. 397,387.89	E. 1,691,375.99	
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<b>BOTTOM HOLE</b>			
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NAD'27 GEO.	LAT-(N) 39.605058	LONG-(W) 80.608908	
NAD'83 UTM (M)	N. 4,384,006.271	E. 533,591.110	

**VICTOR MOYERS**  
 LICENSED  
 No. 849  
 STATE OF  
 WEST VIRGINIA  
 PROFESSIONAL SURVEYOR

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

LEGEND	
LEASE LINE	---
SURFACE LINE	- - - - -
WELL LATERAL	---
OFFSET LINE	---
TIE LINE	---
CREEK	—>—>—>
ROAD	—+—+—+—+—
COUNTY ROUTE	⊕
PROPOSED WELL	⊙
EXISTING WELL	⊛
PERMITTED WELL	⊘
DRILL PATH BEND POINT	△
GRANT DISTRICT TAX MAP-PARCEL	G-TM-00-00
CENTER DISTRICT TAX MAP-PARCEL	C-TM-00-00

SCALE 1" = 2000' FILE NO. 6806PBIG177H5-R2.dwg  
 DATE MAY 4, 20 17  
 REVISED 10/26/17 & 10/31/17  
 OPERATORS WELL NO. BIG177H5  
 API WELL NO. 47 — 103 — 03189  
 STATE COUNTY PERMIT

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

<b>WELL OPERATOR</b> EQT PRODUCTION COMPANY	<b>DESIGNATED AGENT</b> REX C. RAY
<b>ADDRESS</b> 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330	<b>ADDRESS</b> 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

COUNTY NAME  
 PERMIT

**BIG177H5**  
**BIG177**  
**EQT PRODUCTION COMPANY**

BOTTOM HOLE LATITUDE 39°37'30"  
 7,206'

TH

309'

80°35'00"

7,264'

80°35'00"

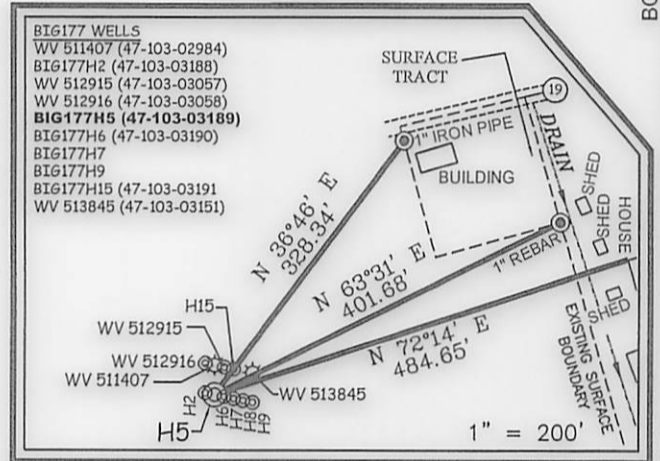
**SURFACE OWNERS**

G-TM-2-03	DALE K. DULANEY ET UX	5.57 ACRES±	G-TM-7-32	STELLA & LEEK POSTLETHWAIT ET AL	44.60 ACRES±
G-TM-2-04	JOHN C. COMER ET UX	104.00 ACRES±	G-TM-7-33	JOHN R. & ROSA MARGELLEA COOK	20 ACRES±
G-TM-2-05	EDWIN L. DULANEY ET UX	104.00 ACRES±	G-TM-7-34	KENNETH & LORRAINE WILDMAN	44.60 ACRES±
G-TM-2-09	ROBERT W. DULANEY	22.87 ACRES±	G-TM-7-60	CODY N. & WALTER N., JR. NORRIS	10 ACRES±
G-TM-2-10	HARLEY R. DULANEY	38 ACRES±	G-TM-8-16	O. J. & MINNIE M. WYATT HEIRS	31.89 ACRES±
G-TM-2-10.1	TEORA L. & SANDRA J. DULANEY	1.53 ACRES±	G-TM-8-17	KENNETH & LORRAINE WILDMAN	67 ACRES±
G-TM-2-10.2	ROBERT W. DULANEY	.45 ACRES±	G-TM-8-18	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	337 ACRES±
G-TM-2-10.3	ROBERT W. DULANEY	.09 ACRES±			
G-TM-2-10.4	HARLEY R. DULANEY	0.130 ACRES±			
G-TM-2-11	EDWIN LEO & LINDA L. DULANEY	26.4 ACRES±	G-TM-8-19	PHILLIP & KIMBERLY SHREVE	46.45 ACRES±
G-TM-2-12	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	3.63 ACRES±	G-TM-8-23	DALE DULANEY ET AL	70.81 ACRES±
			G-TM-8-34	HALLIE HARDBARGER	54.01 ACRES±
G-TM-2-12.1	TEORA L. & SANDRA DULANEY	4.72 ACRES±	G-TM-8-35	DEBORAH FRONCZEK ET AL	15.5 ACRES±
G-TM-2-12.2	TEORA & SANDRA DULANEY	66.64 ACRES±	G-TM-8-58	HIGGINS CHAPEL CHURCH OF CHRIST	0.99 ACRES±
G-TM-2-13	ROBERT W. DULANEY	2.14 ACRES±	G-TM-8-64	MARY BASTHAM ET AL	1.45 ACRES±
G-TM-2-14	TEORA L. & SANDRA J. DULANEY	498 ACRES±	G-TM-8-65	IKKEY & TINA WILLEY	2.15 ACRES±
G-TM-2-15	TEORA L. & SANDRA J. DULANEY	1.023 ACRES±	G-TM-8-66	EOM GATHERING OPOC LLC	0.42 ACRES±
G-TM-2-16	TEORA L. DULANEY	3.187 ACRES±	G-TM-13-4	JEFFERY L. WILLEY	3.35 ACRES±
			G-TM-13-05	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	179.00 ACRES±
G-TM-3-13	EDWARD L. DULANEY II	164.75 ACRES±	G-TM-13-06	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	217.19 ACRES±
G-TM-3-23	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	167.75 ACRES±	G-TM-13-6.1	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	55.06 ACRES±
G-TM-7-02	ROBERT W. DULANEY	19.43 ACRES±	G-TM-13-07	MANSIE MCDIFFITT ET AL	51.8 ACRES±
G-TM-7-2.1	HARLEY R. DULANEY, JR.	2 ACRES±	G-TM-13-12	LESLIE & MIRACLE SUSAN LYDICK	15.02 ACRES±
G-TM-7-2.2	CODY N. & WALTER N., JR. NORRIS	2.43 ACRES±	G-TM-13-13	LEEMANE & LINDA L. DUNN	67.5 ACRES±
G-TM-7-03	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	178 ACRES±	G-TM-13-14	LEEMANE & LINDA L. DUNN	12.5 ACRES±
			G-TM-13-15	ROBERT COLE ET AL.	27.75 ACRES±
G-TM-7-3.1	ROBERT W. DULANEY	4 ACRES±	C-TM-18-29	BERNARD LEE, JR & EVELYN M. YOHO	372.90 ACRES±
G-TM-7-3.2	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	156.98 ACRES±	C-TM-18-31	JAMES L. DULANEY, (L/E) DONALD & OLIVE DULANEY	130 19/32 ACRES±
G-TM-7-9	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	170.875 ACRES±			
G-TM-7-10	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	120 ACRES±			

**NOTES ON SURVEY**

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS 2500 SQ. FT. OR GREATER, WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD. SEE REFERENCE BOX FOR DWELLING WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE (SHEET 3) AND TOPO MARK IS SCALE 1" = 2000'.

**REFERENCES**



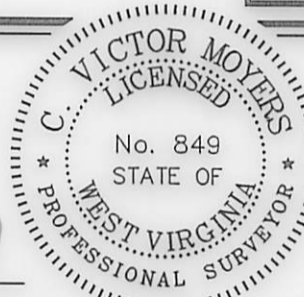
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 www.slsurveys.com

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. 849 *C. Victor Moyers*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE MAY 4, 20 17  
 REVISED 10/26/17 & 10/31/17  
 OPERATORS WELL NO. BIG177H5  
 API WELL NO. 47-103-03189  
 STATE WV COUNTY WETZEL PERMIT 03189

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 6806PBIG177H5-R2.dwg  
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE SEE NOTE 2

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: PAD ELEVATION 811' WATERSHED WILLEY FORK OF NORTH FORK FISHING CREEK  
 DISTRICT GRANT COUNTY WETZEL QUADRANGLE BIG RUN 7.5'  
 SURFACE OWNER COASTAL FOREST RESOURCES CO. d/b/a COASTAL TIMBERLANDS CO. ACREAGE 27± OF 217±  
 ROYALTY OWNER HIGGINS FAMILY TRUST ET AL. ACREAGE 242.5  
 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 6,886'

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

**BIG177H5**  
**BIG177**  
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BOTTOM HOLE LATITUDE 39°37'30"  
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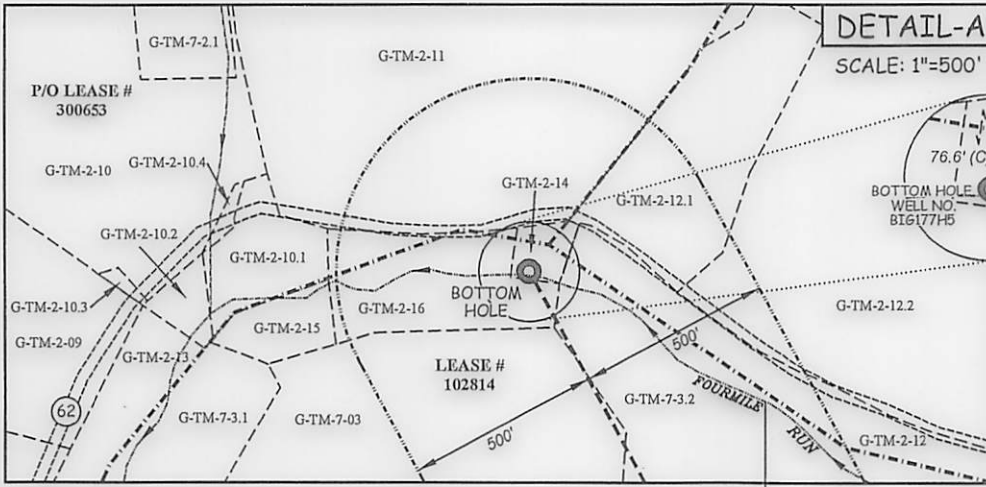
TH

TOP HOLE LONGITUDE 80°35'00"

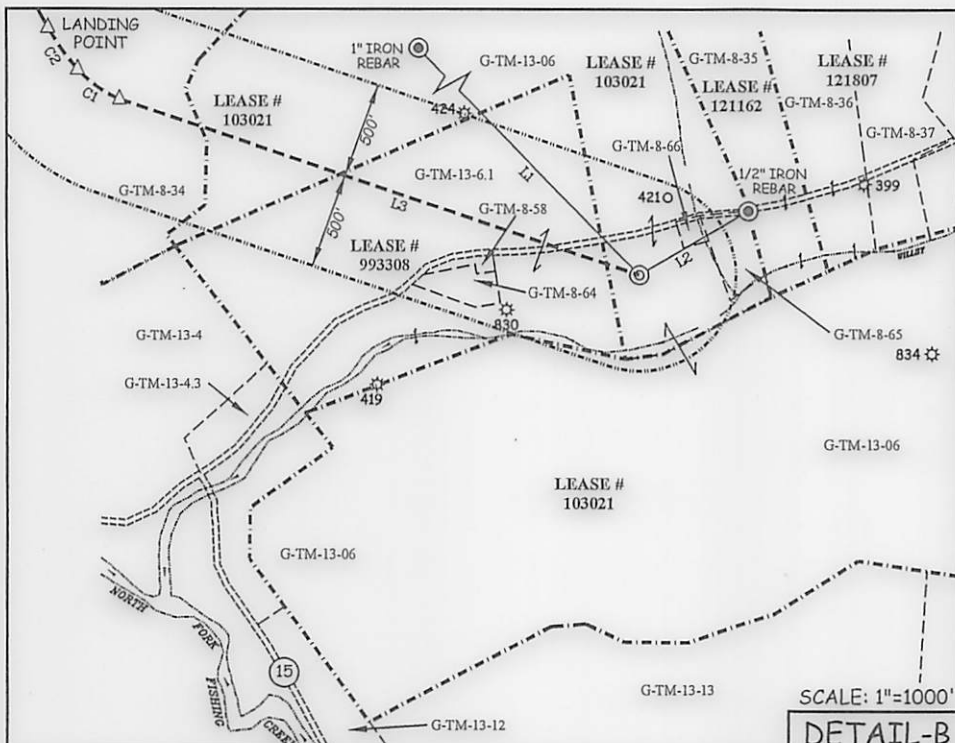
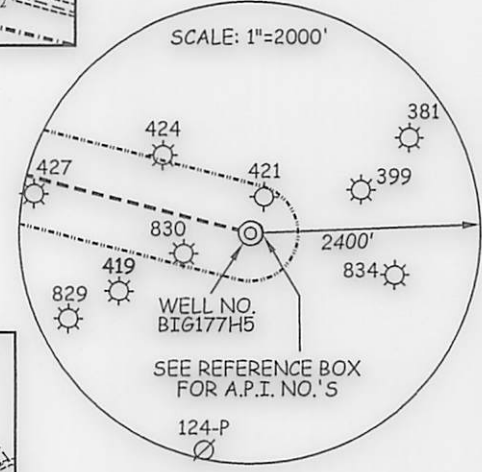
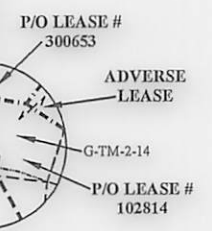
7,264'

BOTTOM HOLE LONGITUDE 80°35'00"

NAD 27 GRID NORTH



**DETAIL-A**  
SCALE: 1"=500'



**DETAIL-B**  
SCALE: 1"=1000'

ROYALTY OWNERS		
COASTAL FOREST RESOURCES CO. d/b/a COASTAL TIMBERLAND CO., ET AL	57.5 AC.±	LEASE NO. 993308
KEVIN GOFF	48.25 AC.±	LEASE NO. 1009272
HIGGINS FAMILY TRUST ET AL	51.750 AC.±	LEASE NO. 993317
IRREVOCABLE INTERVIVOS TRUST OF BILLY J. HIGGINS & FRANCES J. HIGGINS, ET AL	142.5 AC.±	LEASE NO. 105228
SHIBEN ESTATES INC.	101 AC.±	LEASE NO. 103855
JOSEPH SHIBEN & MINNIE SHIBEN ESTATE ET AL	1030 AC.±	LEASE NO. 102814

WELL TIES		
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L1	N 44°09' W	2473.38'
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BUILD OUT DATA		
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**LEGEND**

- LEASE LINE -----
- SURFACE LINE - - - - -
- WELL LATERAL - - - - -
- OFFSET LINE - - - - -
- TIE LINE —————
- CREEK ————>
- ROAD - - - - -
- COUNTY ROUTE ⊕
- PROPOSED WELL ⊙
- EXISTING WELL ⊛
- PERMITTED WELL ○
- DRILL PATH BEND POINT Δ
- GRANT DISTRICT TAX MAP-PARCEL G-TM-00-00
- CENTER DISTRICT TAX MAP-PARCEL C-TM-00-00

SCALE SEE DETAILS FILE NO. 6806PBIG177H5-R2.dwg  
 DATE MAY 4, 20 17  
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 API WELL NO. 47 — 103 — 03189100  
 NO. STATE COUNTY PERMIT

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



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

47 103 03 189 mod

WW-6A1 attachment

Operator's Well No.

BIG177H5

Lease No.	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
	<b>Higgins Family Trust, et al. (current royalty owner)</b>		**	
<b>103021</b>	James V. Higgins (Original Lease) The Philadelphia Company of West Va. Pittsburgh & West Virginia Gas Company Equitable Gas Company Equitrans, Inc. Equitrans, L.P.	The Philadelphia Company of West Va. Pittsburgh & West Virginia Gas Company Equitable Gas Company Equitrans, Inc. Equitrans, LP EQT Production Company		DB 60/414 DB 98/146 DB 187/321 OG 71A/453 AB 105/915 DB 131A/81
<b>993308</b>	Coastal Forest Resources Company, d/b/a Coastal Lumber Company, et al.	EQT Production Company	**	DB 147A/664
<b>1009272</b>	Kevin S. Goff	EQT Production Company		OG 163A/843
<b>993317</b>	Higgins Family Trust, et al.	EQT Production Company	**	DB 149A/198
	<b>The Irrevocable Intervivos Trust of Billy J. Higgins and Frances J. Higgins Family Trust dated January 10, 2012, et al. (current royalty owner)</b>		**	
<b>105228</b>	J. E. Bartlett, et al. (Original Lease) The Philadelphia Company of West Virginia Pittsburgh & West Virginia Gas Company Equitable Gas Company Equitrans, Inc. Equitrans, LP Equitable Production-Eastern States Inc. (EPES) Equitable Production Company	The Philadelphia Company of West Virginia Pittsburgh & West Virginia Gas Company Equitable Gas Company Equitrans, Inc. Equitrans, LP Equitable Production-Eastern States Inc. (EPES) Equitable Production Company EQT Production Company		DB 111/491 DB 22A/352 DB 187/321 AB 71/453 AB 105/915 AB 23/899 Marioi see attached CB 13/14
	<b>Shiben Estates Inc. (current royalty owner)</b>		**	
<b>103855</b>	C.J. Lavelle (Original Lease) Fisher Oil Company Philadelphia Company of WV Pittsburgh and WV Gas Company Equitable Gas Company Equitrans, Inc. Equitrans, LP Equitable Production-Eastern States Inc. (EPES) Equitable Production Company	Fisher Oil Company Philadelphia Company of WV Pittsburgh and WV Gas Company Equitable Gas Company Equitrans, Inc. Equitrans, LP Equitable Production-Eastern States Inc. (EPES) Equitable Production Company EQT Production Company		DB 58/49 DB 22A/352 DB 187/321 DB 71A/453 AB 71/453 AB 105/915 AB 23/899 Marioi see attached CB 13/14
<b>102814</b>	Joseph Shiben and Minnie Shiben Estate, et al.	EQT Production Company	**	DB 182A/84

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

RECEIVED  
Office of Oil and Gas

NOV - 6 2017

WV Department of  
Environmental Protection