



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

Tuesday, June 12, 2018
PERMIT MODIFICATION APPROVAL
Horizontal 6A / Horizontal 6A Well - 1

EQT PRODUCTION COMPANY
625 LIBERTY AVE., SUITE 1700

PITTSBURGH, PA 15222

Re: Permit Modification Approval for 512916
47-103-03058-00-00

Modified bottom hole location - shortened TMD

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

Operator's Well Number: 512916
Farm Name: COASTAL FOREST RESOURCES COMPANY
U.S. WELL NUMBER: 47-103-03058-00-00
Horizontal 6A Horizontal 6A Well - 1
Date Modification Issued: June 12, 2018

Promoting a healthy environment.



47 103 03058
mod

September 26, 2017

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

Re: Modification of 47-103-03058

Dear Ms. Adkins,

Attached is a modification for the above API number. The landing point was changed and the length was shortened, changing the bottom hole.

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

SEP 27 2017

WV Department of
Environmental Protection

BIG177
WV 512916
EQT PRODUCTION COMPANY

BOTTOM HOLE LATITUDE 39°37'30"

5,327'

4,861'

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°31' W	2443.03'
L2	N 62°20' E	646.80'

BUILD OUT DATA		
ID	BEARING	DISTANCE
L3	N 80°28' W	644.84'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	289.08'	484.19'	N 60°19'35" W	284.80'
C2	288.93'	935.67'	N 36°24'52" W	287.78'

AS DRILLED COORDINATES
(BIG177H4 512916)
(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT) N. 396140.10 E. 1694,435.93
 NAD'27 GEO. LAT-(N) 39.582573 LONG-(W) 80.584155
 NAD'83 UTM (M) N. 4,381,520.422 E. 535,727.679

LANDING POINT

NAD'27 S.P.C.(FT) N. 396,685.04 E. 1,693,341.59
 NAD'27 GEO. LAT-(N) 39.584033 LONG-(W) 80.588061
 NAD'83 UTM (M) N. 4,381,680.87 E. 535,391.50

BOTTOM HOLE

NAD'27 S.P.C.(FT) N. 404,077.67 E. 1,689,901.70
 NAD'27 GEO. LAT-(N) 39.604213 LONG-(W) 80.600586
 NAD'83 UTM (M) N. 4,383,915.60 E. 534,305.98



Land & Energy Development
 Solutions from the ground up.
 P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 462-5634
www.slsurveys.com

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

NAD'27 S.P.C.(FT) N. 396,140.10 E. 1,694,435.93
 NAD'27 GEO. LAT-(N) 39.582573 LONG-(W) 80.584155
 NAD'83 UTM (M) N. 4,381,520.422 E. 535,727.679

LANDING POINT

NAD'27 S.P.C.(FT) N. 396,618.92 E. 1,693,381.03
 NAD'27 GEO. LAT-(N) 39.583853 LONG-(W) 80.587918
 NAD'83 UTM (M) N. 4,381,680.93 E. 535,403.86

BOTTOM HOLE

NAD'27 S.P.C.(FT) N. 405,497.34 E. 1,689,453.20
 NAD'27 GEO. LAT-(N) 39.608095 LONG-(W) 80.602240
 NAD'83 UTM (M) N. 4,384,345.83 E. 534,162.14

SCALE 1" = 2000' FILE NO. 6806P512916R14AD.dwg
 DATE OCTOBER 02, 20 13
 REVISED 03/26/14, 09/09/14, 08/25/15, 09/14/15, 10/06/16
 03/31/17, 04/21/17 & 09/13/17

OPERATORS WELL NO. WV 512916
 API WELL NO. 47 — 103 — 03058
 NO. STATE COUNTY PERMIT



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

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

LEGEND

- LEASE LINE
- SURFACE LINE
- PROPOSED WELL
- LATERAL
- AS-DRILLED WELL
- LATERAL
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- GRANT DISTRICT TAX MAP-PARCEL

PROPOSED LATERAL DATA

ID	BEARING	DISTANCE
L4	N 28°00' W	5610.22'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C3	338.90'	1910.04'	N 22°54'59" W	338.45'

ID	BEARING	DISTANCE
L5	N 17°50' W	3795.46'

TOTAL LATERAL LENGTH = 9744.58'

AS-DRILLED TOTAL LATERAL LENGTH = 8179.79'

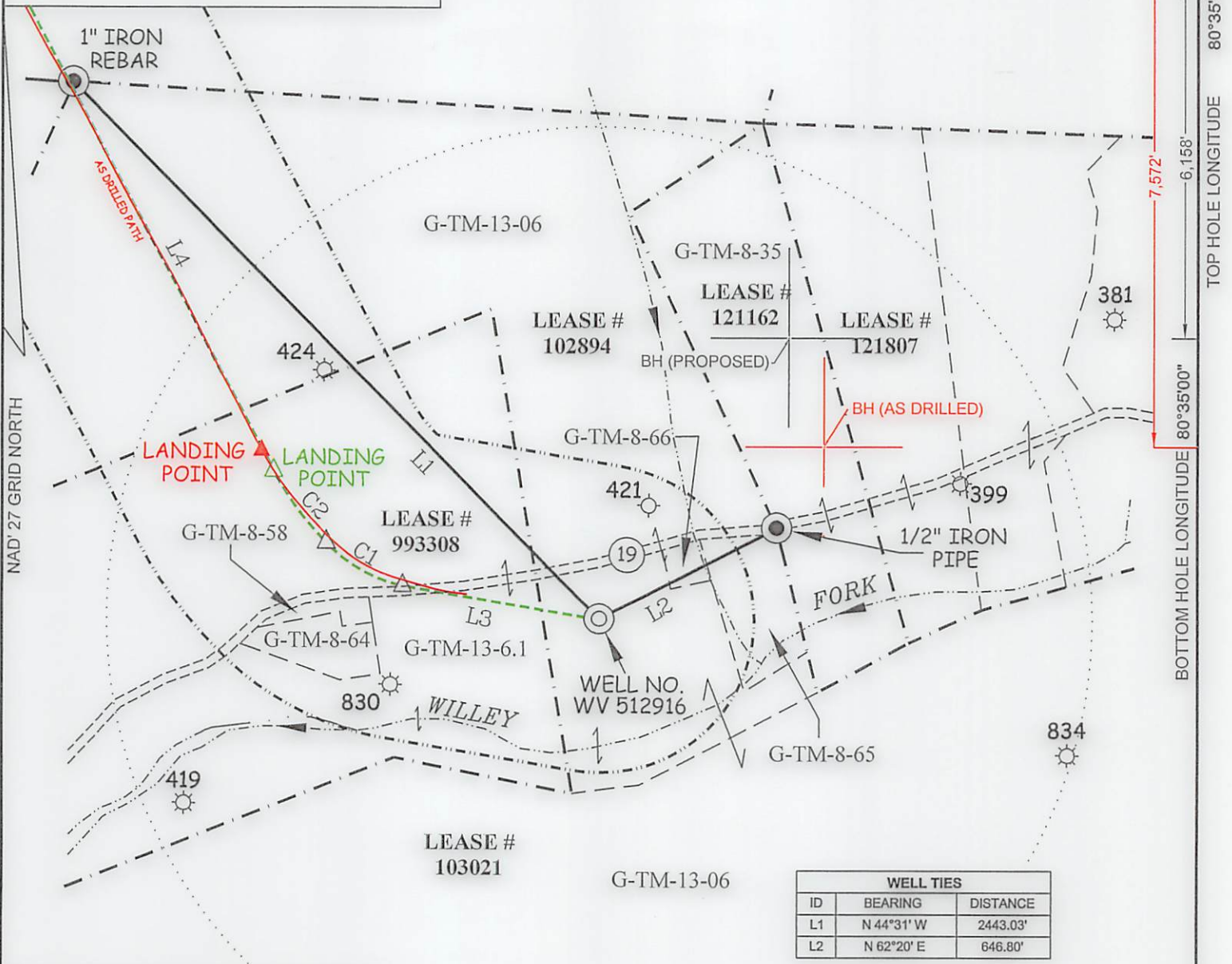
WELL OPERATOR **EQT PRODUCTION COMPANY** DESIGNATED AGENT **REX C. RAY**
 ADDRESS **115 PROFESSIONAL PLACE P.O. BOX 280** ADDRESS **115 PROFESSIONAL PLACE P.O. BOX 280**
 BRIDGEPORT, WV 26330 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT

BIG177
WV 512916
EQT PRODUCTION COMPANY

BOTTOM HOLE LATITUDE 39°37'30"

TOP HOLE LATITUDE 39°35'00"



NAD'27 GRID NORTH

TOP HOLE LONGITUDE 80°35'00"
 BOTTOM HOLE LONGITUDE 80°35'00"

AS DRILLED COORDINATES
 (BIG177H4 512916)
 (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 396,140.10	E. 1,694,435.93
NAD'27 GEO.	LAT-(N) 39.582573	LONG-(W) 80.584155
NAD'83 UTM (M)	N. 4,381,520.422	E. 535,727.679

LANDING POINT

NAD'27 S.P.C.(FT)	N. 396,685.04	E. 1,693,341.59
NAD'27 GEO.	LAT-(N) 39.584033	LONG-(W) 80.589061
NAD'83 UTM (M)	N. 4,381,680.87	E. 535,391.50

BOTTOM HOLE

NAD'27 S.P.C.(FT)	N. 404,077.67	E. 1,689,901.70
NAD'27 GEO.	LAT-(N) 39.604213	LONG-(W) 80.600586
NAD'83 UTM (M)	N. 4,383,915.60	E. 534,305.98

DETAIL
 1"=500'

WELL TIES

ID	BEARING	DISTANCE
L1	N 44°31' W	2443.03'
L2	N 62°20' E	646.80'

BUILD OUT DATA

ID	BEARING	DISTANCE
L3	N 80°28' W	644.84'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	289.08'	484.19'	N 60°19'35" W	284.80'
C2	288.93'	935.67'	N 36°24'52" W	287.78'

PROPOSED LATERAL DATA

ID	BEARING	DISTANCE
L4	N 28°00' W	5610.22'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C3	338.90'	1910.04'	N 22°54'59" W	338.45'

ID	BEARING	DISTANCE
L5	N 17°50' W	3795.46'

TOTAL LATERAL LENGTH = 9744.58'

AS-DRILLED TOTAL LATERAL LENGTH = 8179.79'

SLS
Land & Energy Development
 Solutions from the ground up.
 P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 482-5634
 www.slsurveys.com

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

NAD'27 S.P.C.(FT)	N. 396,140.10	E. 1,694,435.93
NAD'27 GEO.	LAT-(N) 39.582573	LONG-(W) 80.584155
NAD'83 UTM (M)	N. 4,381,520.422	E. 535,727.679

LANDING POINT

NAD'27 S.P.C.(FT)	N. 396,618.92	E. 1,693,381.03
NAD'27 GEO.	LAT-(N) 39.583853	LONG-(W) 80.587918
NAD'83 UTM (M)	N. 4,381,660.93	E. 535,403.86

BOTTOM HOLE

NAD'27 S.P.C.(FT)	N. 405,497.34	E. 1,689,453.20
NAD'27 GEO.	LAT-(N) 39.608095	LONG-(W) 80.602240
NAD'83 UTM (M)	N. 4,384,345.83	E. 534,162.14



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

LEGEND

- LEASE LINE
- SURFACE LINE
- PROPOSED WELL LATERAL
- AS-DRILLED WELL LATERAL
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- GRANT DISTRICT TAX MAP-PARCEL

SCALE 1" = 2000' FILE NO. 6806P512916R14AD.dwg
 DATE OCTOBER 02, 20 13
 03/26/14, 09/09/14, 08/25/15, 09/14/15, 10/06/16
 REVISED 03/31/17, 04/21/17 & 09/13/17
 OPERATORS WELL NO. WV 512916
 API WELL NO. 47 — 103 — 03058
 NO. STATE COUNTY PERMIT

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

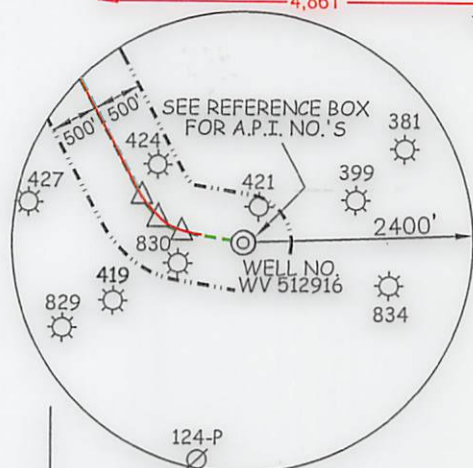
WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
 BRIDGEPORT, WV 26330 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT

BIG177
WV 512916
EQT PRODUCTION COMPANY

BOTTOM HOLE LATITUDE 39°37'30"

TOP HOLE LATITUDE 39°35'00"



BH (PROPOSED)

BH (AS DRILLED)

TOP HOLE LONGITUDE 80°35'00"

BOTTOM HOLE LONGITUDE 80°35'00"

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

NAD'27 S.P.C.(FT)	N. 396,140.10	E. 1,694,435.93
NAD'27 GEO.	LAT-(N) 39.582573	LONG-(W) 80.584155
NAD'83 UTM (M)	N. 4,381,520.422	E. 535,727.679

LANDING POINT

NAD'27 S.P.C.(FT)	N. 396,618.92	E. 1,693,381.03
NAD'27 GEO.	LAT-(N) 39.583853	LONG-(W) 80.587918
NAD'83 UTM (M)	N. 4,381,660.93	E. 535,403.86

BOTTOM HOLE

NAD'27 S.P.C.(FT)	N. 405,497.34	E. 1,689,453.20
NAD'27 GEO.	LAT-(N) 39.608095	LONG-(W) 80.602240
NAD'83 UTM (M)	N. 4,384,345.83	E. 534,162.14

SURFACE OWNERS		
G-TM-2-04	JOHN C. COMER ET UX	104.00 ACRES±
G-TM-2-05	EDWIN L. DULANEY ET UX	104.00 ACRES±
G-TM-2-12	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	3.63 ACRES±
G-TM-2-12.2	TEORA & SANDRA DULANEY	66.64 ACRES±
G-TM-3-05	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-3-23	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	167.75 ACRES±
G-TM-7-03	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	178 ACRES±
G-TM-7-3.2	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	156.98 ACRES±
G-TM-7-10	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	120 ACRES±
G-TM-8-01	DANNY STOCKSLAGER ET AL	170 ACRES±
G-TM-8-10	GARLAND MINOR ET AL	48.1 ACRES±
G-TM-8-17	KENNETH & LORRAINE WILDMAN	67 ACRES±
G-TM-8-18	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	337 ACRES±
G-TM-8-19	PHILLIP & KIMBERLY SHREVE	46.45 ACRES±
G-TM-8-23	DALE DULANEY ET AL	70.81 ACRES±
G-TM-8-34	HALLIE HARDBARGER	54.01 ACRES±
G-TM-8-35	DEBORAH FRONCZEK ET AL	15.5 ACRES±
G-TM-8-58	HIGGINS CHAPEL CHURCH OF CHRIST	0.99 ACRES±
G-TM-8-64	MARY EASTHAM ET AL	1.45 ACRES±
G-TM-8-65	IKEY & TINA WILLEY	2.15 ACRES±
G-TM-8-66	EQM GATHERING OPOC LLC	.42 ACRES±
G-TM-13-06	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	217.19 ACRES±

ROYALTY OWNERS		
COASTAL FOREST RESOURCES CO. d/b/a COASTAL TIMBERLANDS CO. ET AL	57.5 AC±	LEASE NO. 993308
KEVIN GOFF	48.25 AC±	LEASE NO. 1009272
EQT PRODUCTION COMPANY	300 AC±	LEASE NO. 102894
JOSEPH SHIBEN & MINNIE SHIBEN ESTATE	1030 AC±	LEASE NO. 102814
JAMES E. NEWMAN ET AL	P/O 332 AC±	LEASE NO. 300653

AS DRILLED COORDINATES
 (BIG177H4 512916)
 (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 396140.10	E. 1694,435.93
NAD'27 GEO.	LAT-(N) 39.582573	LONG-(W) 80.584155
NAD'83 UTM (M)	N. 4,381,520.422	E. 535,727.679

LANDING POINT

NAD'27 S.P.C.(FT)	N. 396,685.04	E. 1,693,341.59
NAD'27 GEO.	LAT-(N) 39.584033	LONG-(W) 80.588061
NAD'83 UTM (M)	N. 4,381,680.87	E. 535,391.50

BOTTOM HOLE

NAD'27 S.P.C.(FT)	N. 404,077.67	E. 1,689,901.70
NAD'27 GEO.	LAT-(N) 39.604213	LONG-(W) 80.600586
NAD'83 UTM (M)	N. 4,383,915.60	E. 534,305.98

* SEE NOTE 4

NOTES ON SURVEY

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS > 2500 SQ. FT. 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 & TOPO MARK SCALE IS 1"=2000'.
- AS DRILLED INFORMATION PROVIDED BY EQT.
- AS-DRILLED PATH DOES NOT PENETRATE LEASE NO. 300653.

SLS
 Land & Energy Development
 Solutions from the ground up.
 P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 462-5634
 www.slsurveys.com

SURFACE OWNERS - CONTINUED		
G-TM-13-6.1	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	55.06 ACRES±
G-TM-13-07	MANSEL McDIFFITT ET AL	51.8 ACRES±

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 OCTOBER 02, 20 13
 REVISED 03/26/14, 09/09/14, 08/25/15, 09/14/15, 10/06/16
03/31/17, 04/21/17 & 09/13/17
 OPERATORS WELL NO. WV 512916
 API WELL NO. 47 - 103 - 03058
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 6806P512916R14AD.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 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 6,881'

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