



west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

PERMIT MODIFICATION APPROVAL

May 13, 2015

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359
SPRING, TX 773914954

Re: Permit Modification Approval for API Number 10303053, Well #: RIDGETOP LAND
VENT WTZ 5H
Move Lateral

Oil and Gas Operator:

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.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Gene Smith', is written over a light blue circular stamp.

Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

Promoting a healthy environment.

05/15/2015

SWN

Southwestern Energy®

PO Box 1300
Jane Lew, WV 26378
PHONE: (832) 796-1610

May 12, 2015

Ms. Laura Adkins
Office of Oil & Gas
601 57th Street
Charleston, WV 25304

RE: Proposed New Well Ridgetop Land Ventures WTZ 3H & Ridgetop Land Ventures WTZ 5H

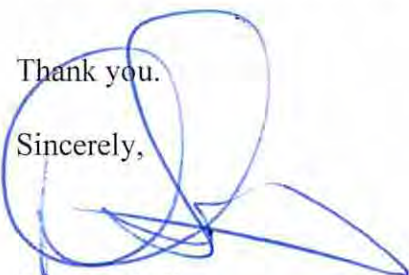
Dear Ms. Adkins:

Enclosed please find revised plats for the above captioned wells. Everything else stays the same, we would just like to change the direction of the wellbore. (per our DEP meeting) These wells are situated on the Ridgetop property, in Proctor District, Wetzel County, West Virginia.

If you have any questions or desire additional information, please me at 304-884-1614

Thank you.

Sincerely,



Dee Southall
Regulatory Supervisor
Southwestern Energy Production Company, LLC
PO Box 1300
Jane Lew, WV 26378

Received

MAY 13 2015

Office of Oil and Gas
WV Dept. of Environmental Protection



The Right People doing the Right Things,
wisely Investing the cash flow from
our underlying Assets, will create Value+

05/15/2015

13,628'

PROPOSED SURFACE LOCATION LONG. W 80°40'24.2" (NAD 27)

Latitude: N 39°42'30"

Longitude: W 80°37'30"

REFERENCE LINE

L1 N31°49'24"E 1,000'

UTM NORTH (NAD 83)

CHESAPEAKE APPALACHIA, LLC
85.3 TOTAL ACRES
TMP # 12-14-13
Lease Number 1-251298-000

RITCHEA, JAMES & JORETTA
62.11 TOTAL ACRES
TMP # 12-14-04
Lease Number WV0000150-001

RIDGETOP CAPITAL, LP
173.0 TOTAL ACRES
TMP # 12-14-25
Lease Number WV0000105-000

WADE, RONNIE E.
94.37 TOTAL ACRES
TMP # 12-14-04.1
Lease Number WV0000150-001

LASURE, MICHAEL E. & VELVA C.
25.00 TOTAL ACRES
TMP # 12-14-14
Lease Number WV0000164-001

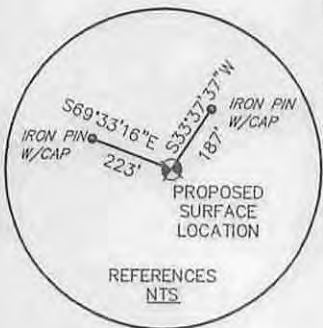
TOP HOLE UTM (NAD 83)	
N) 4,390,726.4m	E) 528,031.3m
TP UTM (NAD 83)	
N) 4,390,898.7m	E) 528,172.8m
BOTTOM HOLE UTM (NAD 83)	
N) 4,391,928.2m	E) 527,057.6m

TOP HOLE UTM (NAD 83)	
N) 14,405,241.5f	E) 1,732,383.6f
TP UTM (NAD 83)	
N) 14,405,806.7f	E) 1,732,847.0f
BOTTOM HOLE UTM (NAD 83)	
N) 14,409,184.4f	E) 1,729,188.1f

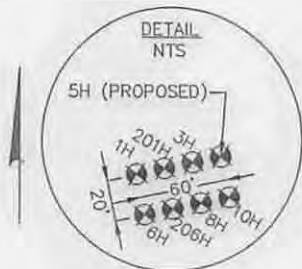
GENERAL NOTES:

1. THE BOUNDARY LINES SHOWN HEREON ARE BASED ON RECORD DEED, PLATS, AND TAX MAPS BEST FIT TO FOUND FIELD EVIDENCE AND AERIAL PHOTOS.
2. THIS PLAT DOES NOT REPRESENT AN ACTUAL BOUNDARY SURVEY OF THE INDIVIDUAL PARCELS.
3. THERE ARE NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' OF PROPOSED WELL.
4. THERE ARE NO EXISTING OCCUPIED DWELLINGS OR BUILDINGS WITHIN 625' OF PROPOSED WELL.
5. THE PROPOSED WELL IS GREATER THAN 100' FROM PERENNIAL STREAM, WETLAND, POND, RESERVOIR OR LAKE.
6. THERE ARE NO NATIVE TROUT STREAMS WITHIN 300' OF PROPOSED WELL.

PITOSCIA, ANTHONY A. & DAVID T.
66.58 TOTAL ACRES
TMP # 12-14-26
Lease Number WV0000132, 1-348405-001



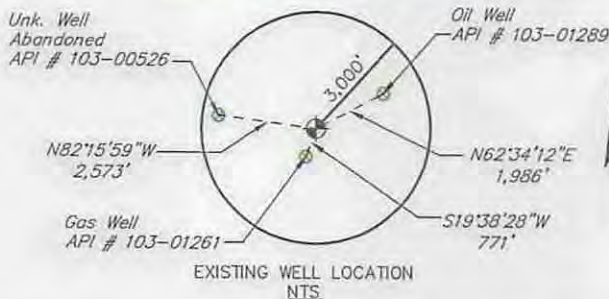
REFERENCES NTS



PROPOSED SURFACE LOCATION

LEGEND

	PROPOSED GAS WELL
	EXISTING GAS WELL
	PROPOSED BORE TIE LINE
	500' SETBACK
	OIL & GAS LEASE BOUNDARY
	PROPERTY LINE
	STREAM LINE



EXISTING WELL LOCATION NTS

FILE #: 087569007

DRAWING #: 087569007 WELL PLAT

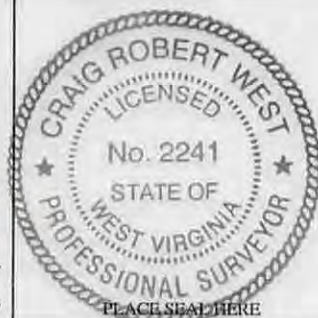
SCALE: 1" = 2,000'

MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GPS

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: [Signature] R.P.E.: L.L.S.: 2241



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304



DATE: MAY 6, 2015
OPERATOR'S WELL #: RIDGETOP LAND VENTURES WTZ 5H
API WELL #: 47 103 03053464
STATE COUNTY PERMIT MAD

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

WATERSHED: LITTLE FISHING CREEK ELEVATION: 1,436' (AS-BUILT)
COUNTY/DISTRICT: WETZEL / PROCTOR QUADRANGLE: WILEYVILLE, WVA
SURFACE OWNER: RIDGETOP CAPITAL, LP ACREAGE: 173 ±
OIL & GAS ROYALTY OWNER: RIDGETOP CAPITAL, LP ACREAGE: 173 ±

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY):

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 12,879' TMD 7,390' TVD
WELL OPERATOR: SWN PRODUCTION CO., LLC DESIGNATED AGENT: DEE SOUTHALL
ADDRESS: P.O. BOX 1300 ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378 CITY: JANE LEW STATE: WV ZIP CODE: 26378

PROPOSED SURFACE LOCATION LAT. N 39°39'56.9" (NAD 27)

05/15/2015



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PERMIT MODIFICATION APPROVAL

May 14, 2015

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359
SPRING, TX 773914954

Re: Permit Modification Approval for API Number 10303053, Well #: RIDGETOP LAND
VENT WTZ 5H
Fish hook vertical

Oil and Gas Operator:

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Sincerely,

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Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

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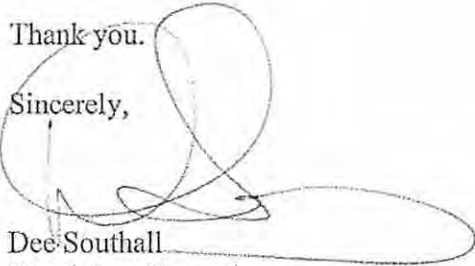
Dear Ms. Adkins:

Enclosed please find a deviation survey for the above captioned wells. Everything else stays the same, we would just like to fish hook the vertical section of wellbore. (per our DEP meeting) These wells are situated on the Ridgetop property, in Proctor District, Wetzel County, West Virginia.

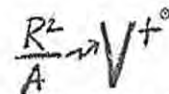
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Dee Southall
Regulatory Supervisor
Southwestern Energy Production Company, LLC
PO Box 1300
Jane Lew, WV 26378



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Weatherford®

Plan Data for 5H

Plan Point Information:

Dogleg Severity (USft)	MD (USft)	Inc (°)	Az (°)	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Vsec (USft)	Turn (DLSU)	Build (DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1000.00	0.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00
1250.00	5.00	70.00	1249.68	3.73	10.24	-3.60	0.00	2.00	0.00
1550.00	5.00	70.00	1548.54	12.67	34.81	-12.23	0.00	0.00	0.00
2050.00	0.00	0.00	2047.91	20.13	55.30	-19.43	1.00	-1.00	0.00
3102.09	0.00	0.00	3100.00	20.13	55.30	-19.43	0.00	0.00	0.00
3364.17	10.48	103.73	3360.62	14.45	78.53	-38.53	4.00	4.00	0.00
6659.00	10.48	103.73	6600.46	-127.82	660.87	-517.34	0.00	0.00	0.00
7865.71	90.00	335.00	7390.00	565.22	463.44	144.10	8.00	6.59	-10.67
9140.81	90.00	309.50	7390.00	1565.11	-310.78	1408.25	2.00	0.00	-2.00
12879.22	90.00	309.50	7390.00	3942.94	-3195.52	5075.19	0.00	0.00	0.00

Plan Data for 5H

Target Set Information:

Name: RIDGETOP 5H TARGETS

Name	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)	Lat (°)	Long (°)
5H LP	7390.00	565.22	463.45	14405806.70	1732847.04	39.667438	-80.671540
5H PBHL	7390.00	3942.94	-3195.52	14409184.42	1729188.07	39.676750	-80.684500

Plan Data for 5H

Field: SOUTHWESTERN WETZEL CO, WV UTM MAD 83 (17N)
 Vertical Reference Datum (VRD): Mean Sea Level
 Projected Coordinate System: MAD83 / UTM zone 17N

Site: RIDGETOP LAND VENTURES WTZ
 Unit: USFeet
 TVD Reference: SOUTHWESTERN ENERGY
 Company Name: SOUTHWESTERN ENERGY
 Position: Northing: 14405241.08USft Latitude: 39.665889°
 Easting: 1732383.46USft Longitude: -80.673194°
 North Reference: Grid
 Grid Convergence: 0.21°
 Elevation Above VRD: 1436.00USft

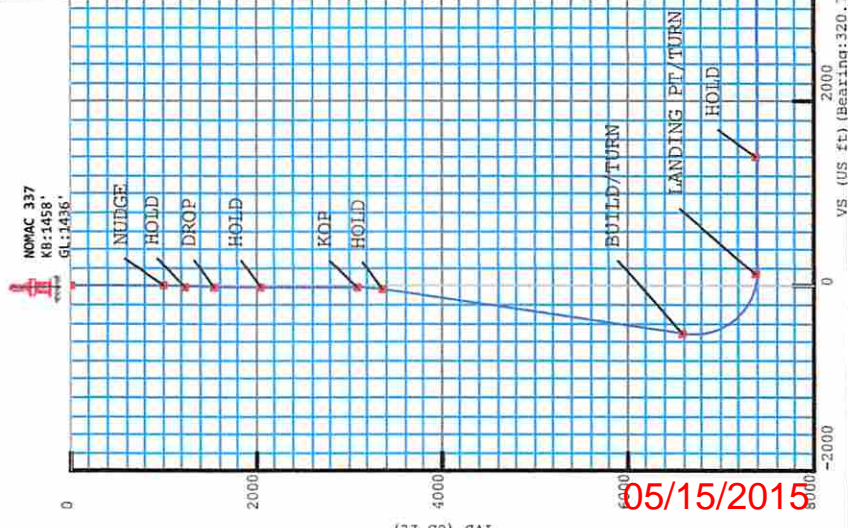
Slot: 5H
 Position: Offset is from Site centre
 +N/-S: 0.41USft Northing: 14405241.48USft Latitude: 39.665898°
 +E/-W: 0.12USft Easting: 1732383.59USft Longitude: -80.673194°
 Elevation Above VRD: 1436.00USft

Well: 5H
 Type: Main-Well
 File Number:
 Vertical Section: Position offset of origin from Slot centre:
 +N/-S: 0.00USft +E/-W: 0.00USft Azimuth: 320.72°

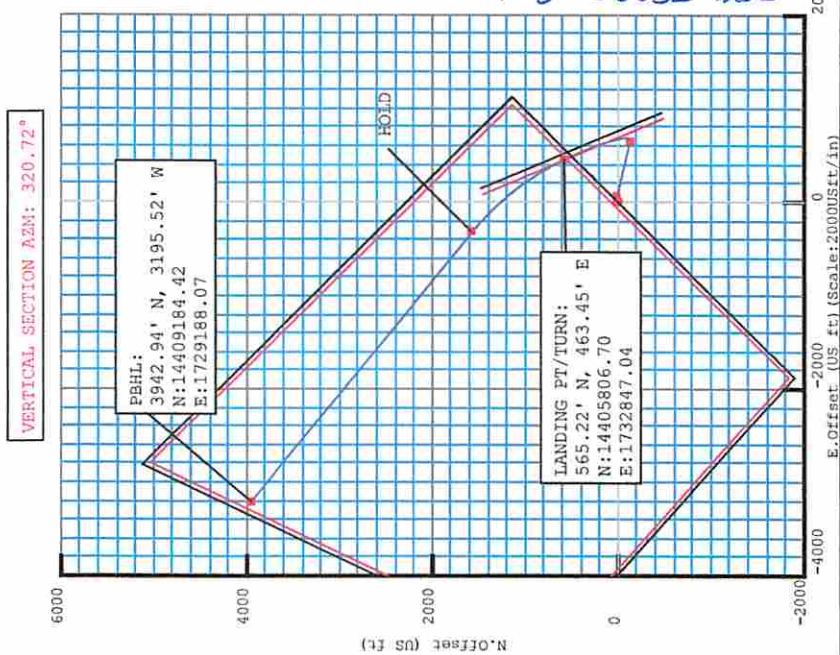
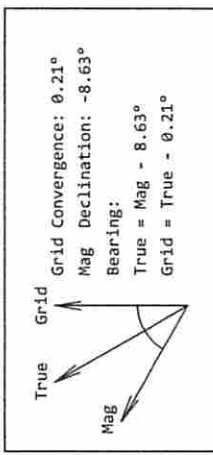
Magnetic Parameters:
 Model: BGGM
 Field Strength: 52341(nT)
 Declination: -8.63°
 Dip: 67.07°
 Date: 2015-04-15



SOUTHWESTERN ENERGY
RIDGETOP LAND VENTURES WTZ 5H
WETZEL CO, WV
PLAN 8



05/15/2015



103-03053 MOD 2