



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

April 08, 2015

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359
SPRING, TX 77391

Re: Permit Modification Approval for API Number 10302903, Well #: RIDGETOP LAND VENT
Extend 5 1/2" casing for directional work

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,

Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

47 10 302903 MOD

SWN

Southwestern Energy®

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

April 7, 2015

CERTIFIED VIA UPS

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

Received

APR - 8 2015

Office of Oil and Gas
WV Dept. of Environmental Protection

RE: Revision to Well Ridgetop Land Ventures WTZ 201H

Dear Ms. Adkins:

Enclosed please find a modification request for the above captioned well. We would like to extend the 5 ½" casing due to directional work only. We will Not be crossing any additional leases This well is 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

$\frac{R^2}{A} \rightarrow V^+$

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

04/10/2015

WW-6B
(9/13)

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

- 1) Well Operator: Chesapeake Appalachia, LLC

49447757	103-Wetzel	7-Proctor	681-Wileyville
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Operator ID County District Quadrangle
- 2) Operator's Well Number: Ridgetop Land Ventures WTZ 201H Well Pad Name: Ridgetop Land Ventures PAD
- 3) Farm Name/Surface Owner: Ridgetop Capital, LP Public Road Access: Harlan Ridge Road
- 4) Elevation, current ground: 1436' Elevation, proposed post-construction: 1436'
- 5) Well Type (a) Gas Oil Underground Storage
Other
(b) If Gas Shallow Deep
Horizontal
- 6) Existing Pad: Yes or No Yes
- 7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Target formation- Marcellus Target top TVD- 7329' Target base TVD- 7349' Anticipated thickness-50 Associated Pressure- 4650
- 8) Proposed Total Vertical Depth: 7243'
- 9) Formation at Total Vertical Depth: Marcellus
- 10) Proposed Total Measured Depth: 13,200'
- 11) Proposed Horizontal Leg Length: 4127'
- 12) Approximate Fresh Water Strata Depths: 708'
- 13) Method to Determine Fresh Water Depths: Data was gathered from e-logs, drillers logs, and from nearby water wells
- 14) Approximate Saltwater Depths: 1911'
- 15) Approximate Coal Seam Depths: 1258'
- 16) Approximate Depth to Possible Void (coal mine, karst, other): none that we are aware of.
- 17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes No
- (a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

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WV Department of
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WW-6B
(9/13)

18)

CASING AND TUBING PROGRAM

TYPE	Size	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu. Ft.)
Conductor	20"	New	J-55	94#	122'	122'	CTS
Fresh Water	13 3/8"	New	J-55	54.5#	858'	858'	743 sx/CTS
Coal	9 5/8"	New	J-55	40#	2997'	2997'	1106 sx/CTS
Intermediate	7"	New	P-110	20#	If Needed	If Needed	If Needed/As Needed
Production	5 1/2"	New	P-110	20#	13,200'	13,200'	Load 1023 on Top 1340 on 100' inside
Tubing	2 3/8"	New	N-80	4.7#	Approx. 8242'	Approx. 8242'	
Liners							

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	Class A	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	Class A	1.19/50% Excess
Coal	9 5/8"	12 1/4"	0.395	3950	Class A	1.19/50% Excess
Intermediate	7"	8 3/4"	0.317	4360	Class A	1.20/15% Excess
Production	5 1/2"	8 3/4"	0.361	12360	Class A	1.20/15% Excess
Tubing	2 3/8"	4.778"	0.190			
Liners						

PACKERS

Kind:	10K Arrowset AS1-X			
Sizes:	5 1/2"			
Depths Set:				

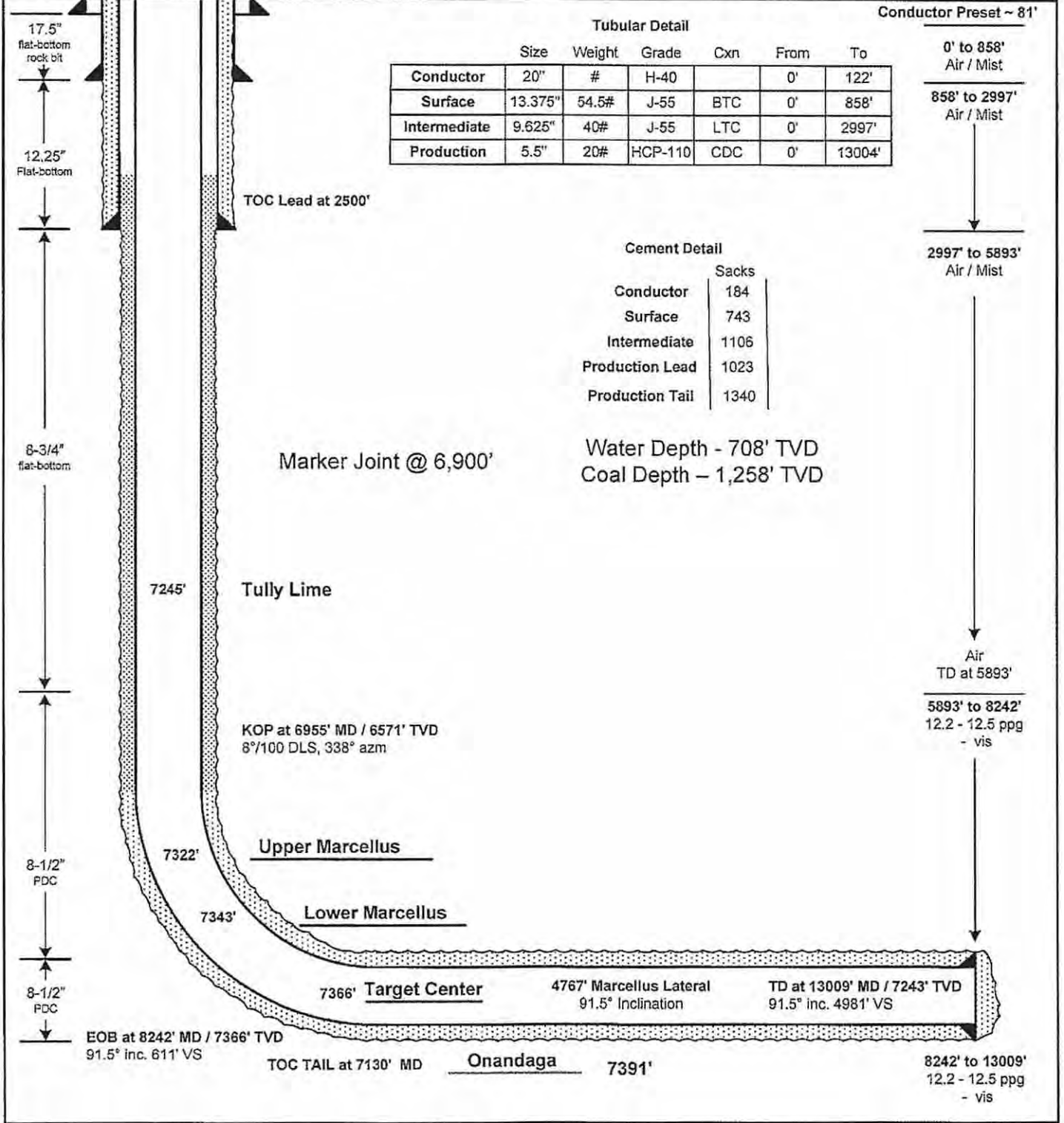
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Southwestern Energy Company		Proposed Drilling Program	
Well	: RIDGETOP LAND VENTURES WTZ 201	Re-entry Rig	: Nomac 337
Field	: VICTORY FIELD	Prospect	: VICTORY
County	: WETZEL	State	: WV
SHL	: 39.665866 Latitude	80.673336 Longitude	
BHL	: 39.669659 Latitude	80.690968 Longitude	
KB Elev	: 1458 ft MSL	KB	: 22 ft AGL
		GL Elev	: 1436 ft MSL



Data source: K:\EandP\WVD\Team Data\Drilling\Wells\RIDGETOP LAND VENTURES WTZ 201\Drilling Program\Master SWN Well Input Sheet v E-0-1.xlsm

NOTE: This drawing was created for the Reentry Rig. The depths and lengths shown in the plot are referenced to Reentry Rig RKB. 04/10/2015

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