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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

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

PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC  
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit Modification Approval for MELVIN KAHLE OHI 6H  
47-069-00224-00-00

**Fresh Water Casing Modified**

SWN PRODUCTION COMPANY, LLC

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.

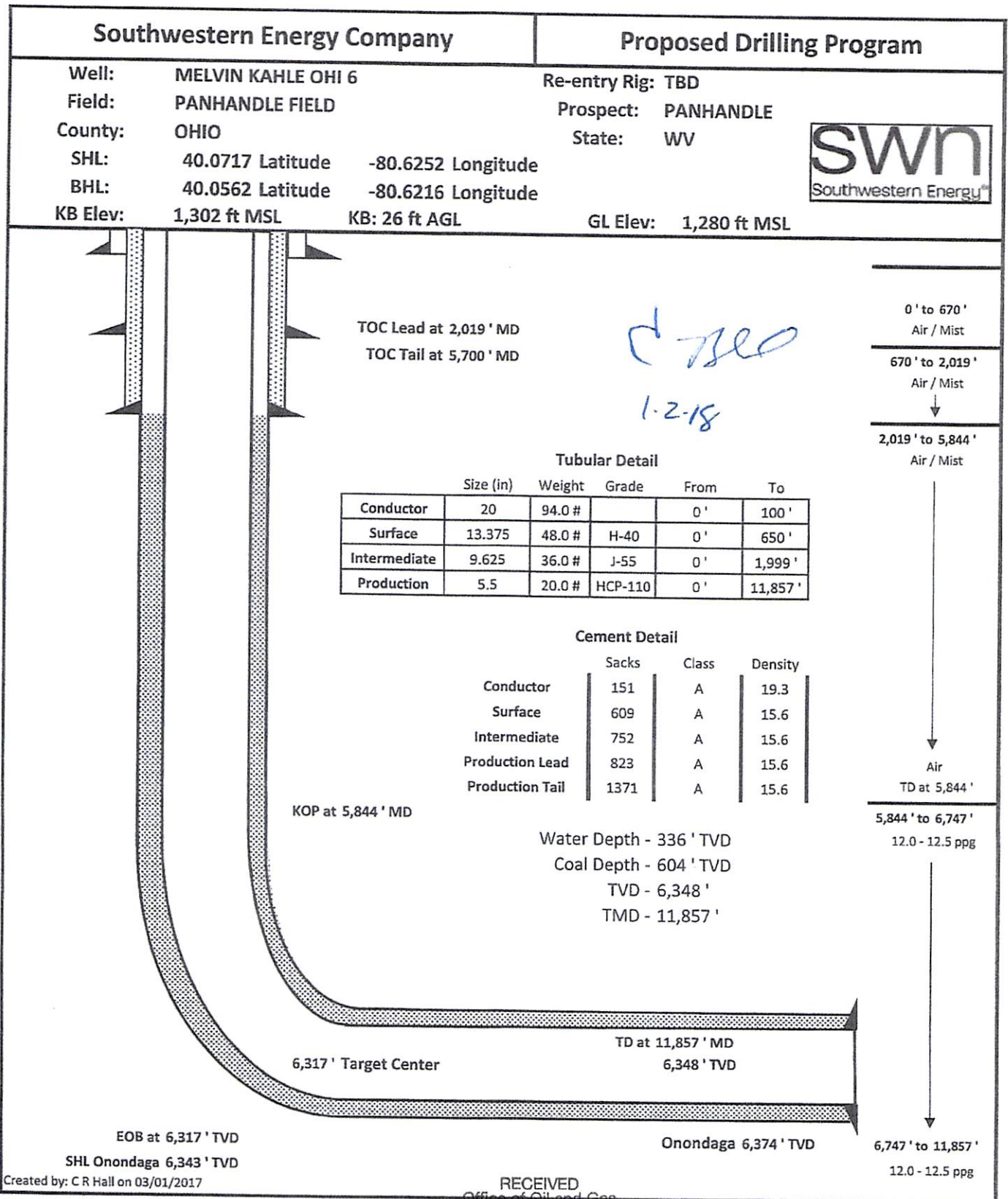
If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin  
Chief

Operator's Well Number: MELVIN KAHLE OHI 6H  
Farm Name: KAHLE, MELVIN W. & CAROL M.  
U.S. WELL NUMBER: 47-069-00224-00-00  
Horizontal 6A / New Drill  
Date Issued:

Promoting a healthy environment.

01/05/2018



JAN 2 2018

WV Department of Environmental Protection

01/05/2018

4706900224

WW-6B  
(04/15)

API NO. 47- 069 -  
OPERATOR WELL NO. Melvin Kahle OHI 6H  
Well Pad Name: Melvin Kahle OHI

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	H-40	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	650'	650'	609 sx/CTS
Coal	9 5/8"	New	J-55	36#	1999'	1999'	752 sx/CTS
Intermediate	7"	New	HCP-110	20#	If Needed	If Needed	If Needed/As Needed
Production	5 1/2"	New	HCP-110	20#	11857'	11857'	load 823sx Tal 1371sx/100' inside int
Tubing	2 3/8"	New	P-110	4.7#	Approx. 6317'	Approx. 6317'	
Liners							

*C. BLO  
1-2-18*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	81	Class A	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Coal	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Intermediate	7"	8 3/4"	0.317	4360	3250	Class A	1.20/50% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/50% Excess
Tubing	2 3/8"	4.778"	0.190	Approx 8193'	Approx 8193'		
Liners							

PACKERS

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

RECEIVED  
Office of Oil and Gas

JAN 2 2013

WV Department of  
Environmental Protection