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

August 14, 2013

NOBLE ENERGY, INC.
333 TECHNOLOGY DRIVE, SUITE 110
CANONSBURG, PA 15317

Re: Permit Modification Approval for API Number 9502111 , Well #: SHR 1 CHS
modified casing

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,

for Gene Smith
Regulatory/Compliance Manager
Office of Oil and Gas

95-02111 MOD

noble energy

July 25, 2013

West Virginia Department of Environmental Protection
Office of Oil and Gas
1478 Claylick Road
Ripley, WV 25271

Re: Casing Modification for the SHR 1 Wells

Dear Laura,

Enclosed please find casing modifications for the Shirley (SHR) 1 wells. The driller would like to extend the conductor string to 120' from 40' and shorten the Intermediate casing setting it at 2500' or 100' below the Big Injun they were asking to set it at 3627', I believe they are realizing the issues with the red rock in the area and are trying to plan ahead to avoid some of the drilling issues.

We would also like to extend the lateral legs on the 47-095-02109, 47-095-02110 and 47-095-02114. I have enclosed new casing program for those along with new plat and mineral exhibits.

If you have any questions, or need any additional information, please do not hesitate to get in touch with me office 724-820-3061 cell 412-310-8967 or email me at dswiger@nobleenergyinc.com.

Sincerely,

Dee Swiger,
Regulatory Analyst

Received
JUL 29 2013
Office of Oil and Gas
WV Dept. of Environmental Protection

Enclosures:

/DS

WW - 6B
(1/12)

95-2111 MOD

API 47-95-02111
SHRICHS

20) **CASING AND TUBING PROGRAM**

TYPE	Size	New or Used	Grade	Weight per ft.	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill -up (Cu. Ft.)
Conductor	20"	N	LS	94	120'	120'	CTS
Fresh Water	13 3/8"	N	J55	54.5	699'	699'	CTS / 15.6 ppg Yield 1.18
Coal							
Intermediate	9 5/8"	N	J55	36.0	2500' or 100' below Big Injun	2500' or 100' below Big Injun	CTS / 15.6 ppg Yield 1.19
Production	5 1/2"	N	P110	20.0	15,964'	15,964'	TOC 200' above 9.625 shoe
Tubing							
Liners							

**We would like to drill through all the freshwater zones into a more stable rock before setting casing. Once we set the casing string will be circulated with cement to the surface.

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield
Conductor	20"	26"	.25		Type 1	cts
Fresh Water	13 3/8"	17 1/2"	.380	2730	Type 1	1.18
Coal						
Intermediate	9 5/8"	12 3/8"	.352	3520	Class A	1.19
Production	5 1/2"	8 3/4" & 8 1/2"	.361	12,640	Class A	1.27
Tubing						
Liners						

PACKERS

Kind:				
Sizes:				
Depths Set:				

JCL
7-16-13