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west virginia department of environmental protection

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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](http://www.dep.wv.gov)

## PERMIT MODIFICATION APPROVAL

June 06, 2014

HAUGHT ENERGY CORPORATION  
12864 STAUNTON TURNPIKE  
SMITHVILLE, WV 26178

Re: Permit Modification Approval for API Number 8510016 , Well #: W-1642H

**Modify 4 1/2 casing using packers instead of cement.**

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 faint, larger version of the signature.

Gene Smith  
Regulatory/Compliance Manager  
Office of Oil and Gas



June 5, 2014

To: WVDEP  
Office of Oil and Gas  
Attn: Gene Smith  
601 57<sup>th</sup> St SE  
Charleston, WV 25304

From: Haight Energy Corporation  
12864 Staunton Turnpike  
Smithville, WV 26178

Re: Modification of Permit 47-085-10016

GCS  
6/5/14

Haight Energy Corporation intends to modify its completion plan for the Roby W-1642H – API # 47-085-10016 in the following manner:

All casing outside of the 4-1/2 inch production casing shall remain the same per the original permit. The 7" Intermediate casing string shall be set into the big lime and cemented back to surface. The 4-1/2" casing will then be run with three Predator II baffle systems including frac sleeves for a multi stage completion and one Strata pack Hangar packer to seal off the completion zones. Once all packers have been set and confirmed with pressure, the foam frac completion process will ensue.

We have spoken with Dave Cowan (Ritchie County Inspector) as well and he has agreed that our plans are acceptable. Please let me know if you have any questions on any of the above process. Let me know if you need any further information.

Thanks,

Bobby Haught

Vice President of Development

Received

JUN - 5 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection

WW - 2B  
(Rev. 8/10)

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

1) Well Operator: Haught Energy Corporation      494494463      Ritchie      Murphy      Harrisville  
Operator ID      County      District      Quadrangle

2) Operator's Well Number: W-1642 H      3) Elevation: 832'

4) Well Type: (a) Oil  or Gas   
 (b) If Gas: Production  / Underground Storage \_\_\_\_\_  
 Deep \_\_\_\_\_ / Shallow

5) Proposed Target Formation(s): Big Injun      Proposed Target Depth: 1,980'

6) Proposed Total Depth: 3,500 Feet      Formation at Proposed Total Depth: Big Injun

7) Approximate fresh water strata depths: 50'

8) Approximate salt water depths: None Noted in Offset Wells

9) Approximate coal seam depths: None Noted in Offset Wells

10) Approximate void depths,(coal, Karst, other): None Noted in Offset Wells

11) Does land contain coal seams tributary to active mine? No

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

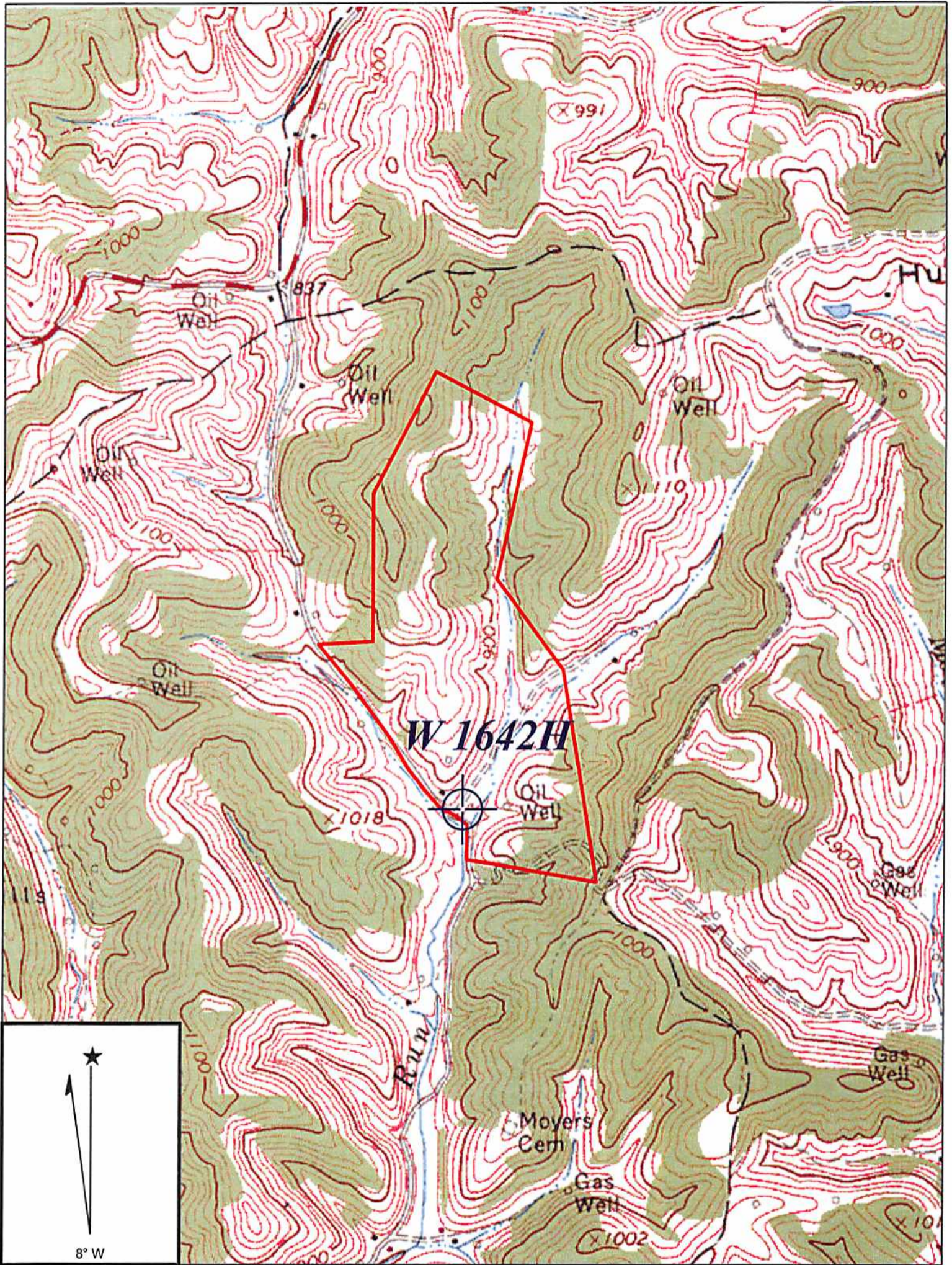
Drill new shallow Horizontal Oil and Gas well. Anticipate Fracturing formation using a four stage foam Frac including approximately 700,000 cubic feet of nitrogen, 500 Barrels of water and 500 gallons of acid per stage. The 4.5" production casing will be set into the wellbore using 4 - peak completion packers and 3 frac sleeves. This system will be used in place of a traditional cement and perforations system.

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	20"	K	94 #	40'	40'	Sanded In
Fresh Water	13-3/8"	K	54.5 #	850'	850'	To Surface
Coal	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate	7"	K	20 #	2000'	2000'	To surface
Production	4-1/2"	K	10.5 #	3500'	3500'	N/A - Peak Baffle System
Tubing	N/A	N/A	N/A	N/A	N/A	N/A
Liners	N/A	N/A	N/A	N/A	N/A	N/A

*Received*  
 JUN 5 2014  
 GOS  
 Office of Oil and Gas  
 WV Dept. of Environmental Protection  
 6/5/14

Packers: Kind: Peak Completion - (3)Predator Packers with frac sleeves (1) Strata Pak Hanger Packer  
 Sizes: 4-1/2" casing x 6-3/8" wellbore  
 Depths Set Approximately 2700', 2900', 3100', 3300'



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**HARRISVILLE QUADRANGLE**

SCALE 1" = 1000'

**HAUGHT ENERGY, INC.**

L. WEAVER 137 ACRE LEASE

MURPHY DISTRICT RITCHIE COUNTY WEST VIRGINIA

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

2012 NOV 19 P 1:17

*Dul*  
*11-9-12*

RECEIVED  
OFFICE OF OIL & GAS  
06/06/2014

bottom hole 81°04' 20.40" (81.07233)

8720'

top hole 81°04' 07.46" (81.068739)

7640'

LATITUDE

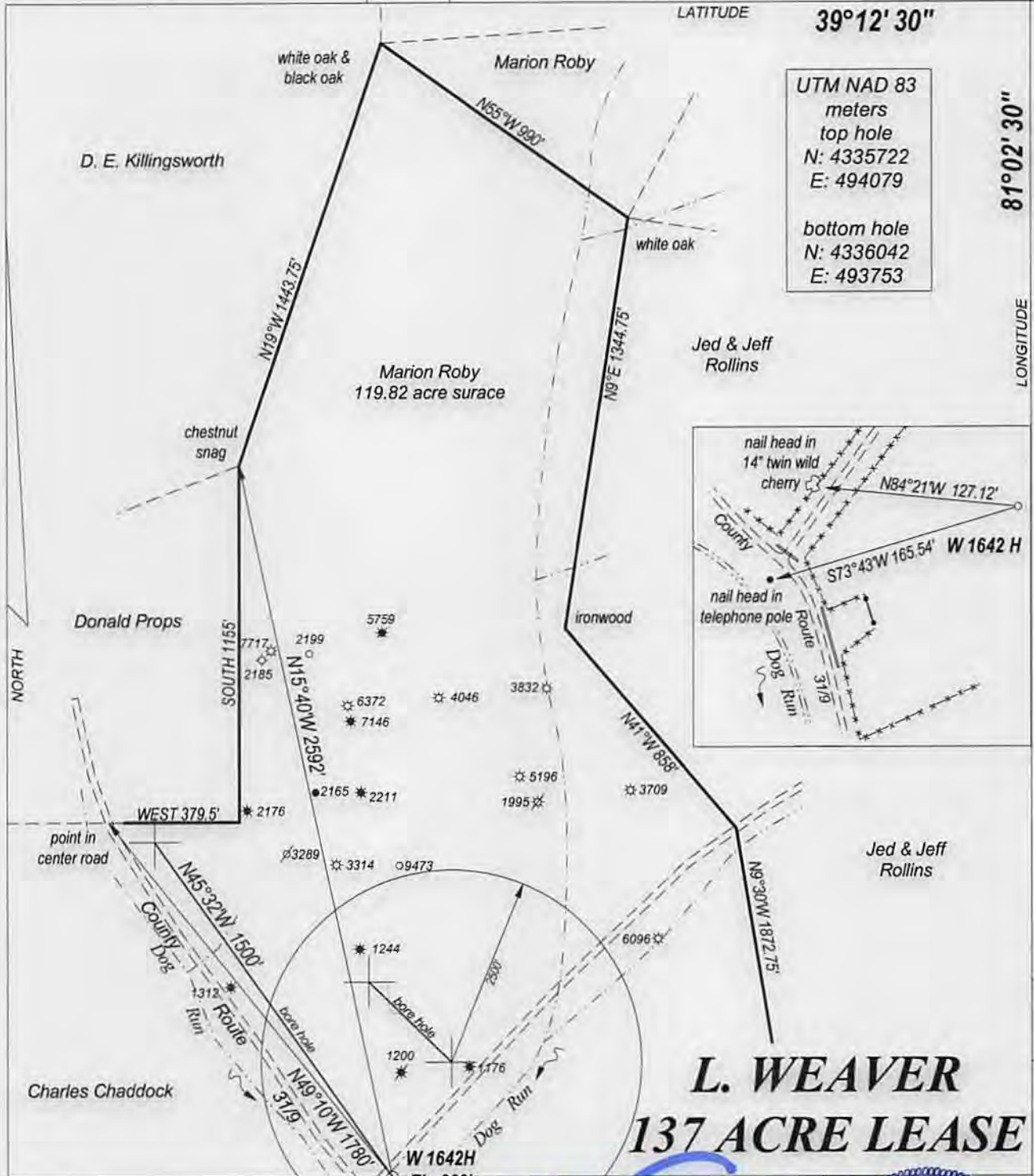
39°12' 30"

81°02' 30"

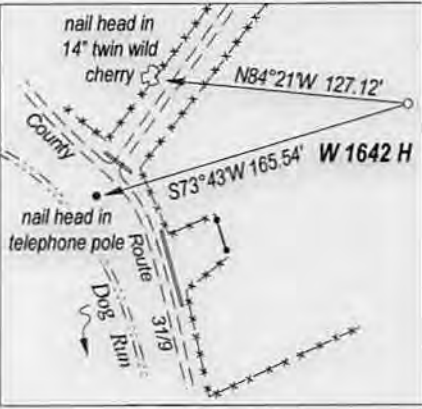
LONGITUDE

12690'

13720'



UTM NAD 83  
meters  
top hole  
N: 4335722  
E: 494079  
  
bottom hole  
N: 4336042  
E: 493753



**L. WEAVER**  
**137 ACRE LEASE**

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 500'  
MINIMUM DEGREE OF ACCURACY 1 : 200  
PROVEN SOURCE OF ELEVATION GPS OBSERVATION

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 DEPARTMENT OF ENERGY.

(SIGNED) \_\_\_\_\_  
PROFESSIONAL SURVEYOR: 551



**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENERGY**  
**DIVISION OF OIL AND GAS**

DATE OCTOBER 15TH, 2012  
OPERATORS WELL NO. W-1642H

**API 47 - 085 - 10016**  
STATE COUNTY PERMIT

WELL TYPE: OIL  GAS  LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF GAS) PRODUCTION  STORAGE \_\_\_ DEEP \_\_\_ SHALLOW

LOATION: ELEVATION 832' WATER SHED DOG RUN  
DISTRICT MURPHY COUNTY RITCHIE QUADRANGLE HARRISVILLE

SURFACE OWNER MARION ROBY ACREAGE 119.82  
OIL & GAS ROYALTY MARION ROBY, ET AL LEASE AC. 137

PROPOSED WORK: DRILL  CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_  
FRACTURE OR STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_  
PERFORATE NEW FORMATION \_\_\_  
OTHER PHYSICAL CHANGE IN WELL \_\_\_  
PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_

TARGET FORMATION BIG INJUN ESTIMATED DEPTH 2100'

WELL OPERATOR HAUGHT ENERGY CORP. DESIGNATED AGENT WARREN HAUGHT  
ADDRESS HC 68, BOX 14 ADDRESS HC 68, BOX 14  
SMITHVILLE, WV 26178 SMITHVILLE, WV 26178

06/06/2014

bottom hole 39°10' 20.27" (39.172297)  
top hole 39°10' 14.40" (39.170667)

FORM WW-6

COUNTY NAME  
PREMIT