



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

July 28, 2014

HAUGHT ENERGY CORPORATION
12864 STAUNTON TURNPIKE
SMITHVILLE, WV 26178

Re: Permit Modification Approval for API Number 8510016 , Well #: W-1642H
MODIFY 13 3/8", 9 5/8" & 7" 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,

A handwritten signature in blue ink that reads "Gene Smith".

Handwritten initials "GWM" in blue ink.

Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

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now

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 X or Gas X
(b) If Gas: Production X / Underground Storage _____
Deep _____ / Shallow X

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

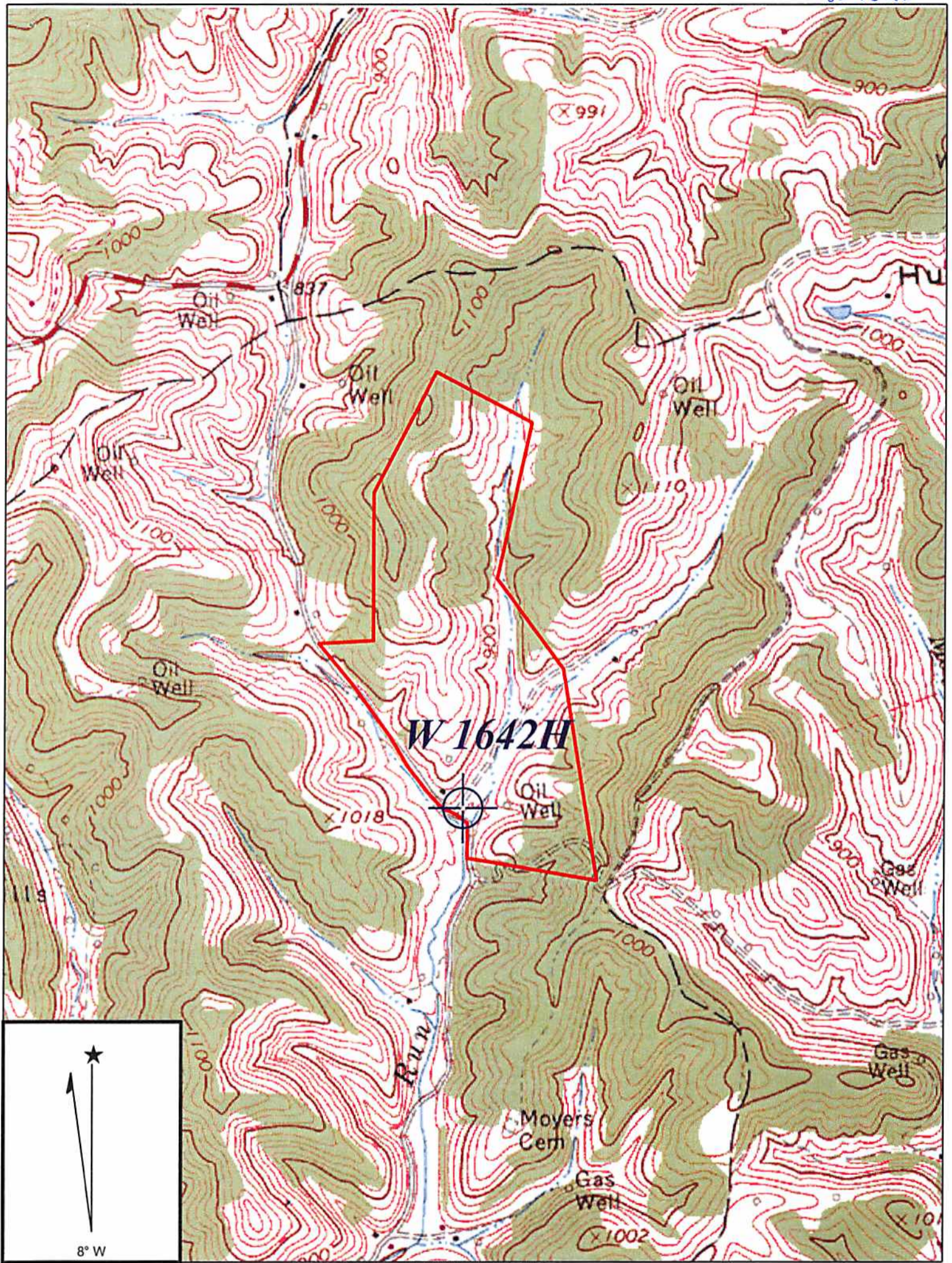
12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)
Drill new shallow Horizontal Oil and Gas well. Anticipate Fracturing formation using a four stage foam Frac including approximately 700,000 cubic feet of nitrogen, 500 Barrels of water and 500 gallons 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 #	190'	190'	To Surface
Coal	9-5/8"	N/A	29.3#	900'	900'	To Surface
Intermediate	7"	K	20 #	2300'	2300'	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

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

RECEIVED
Office of Oil and Gas
JUL 7 2014
WV Department of Environmental Protection
08/01/2014



Copyright (C) 1997, Maptech, Inc.

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

Duc
11-9-12

08/01/2014

RECEIVED
OFFICE OF OIL & GAS

bottom hole 81°04' 20.40" (81.07233)

8720'

top hole 81°04' 07.46" (81.068739)

7640'

LATITUDE

39°12' 30"

LONGITUDE

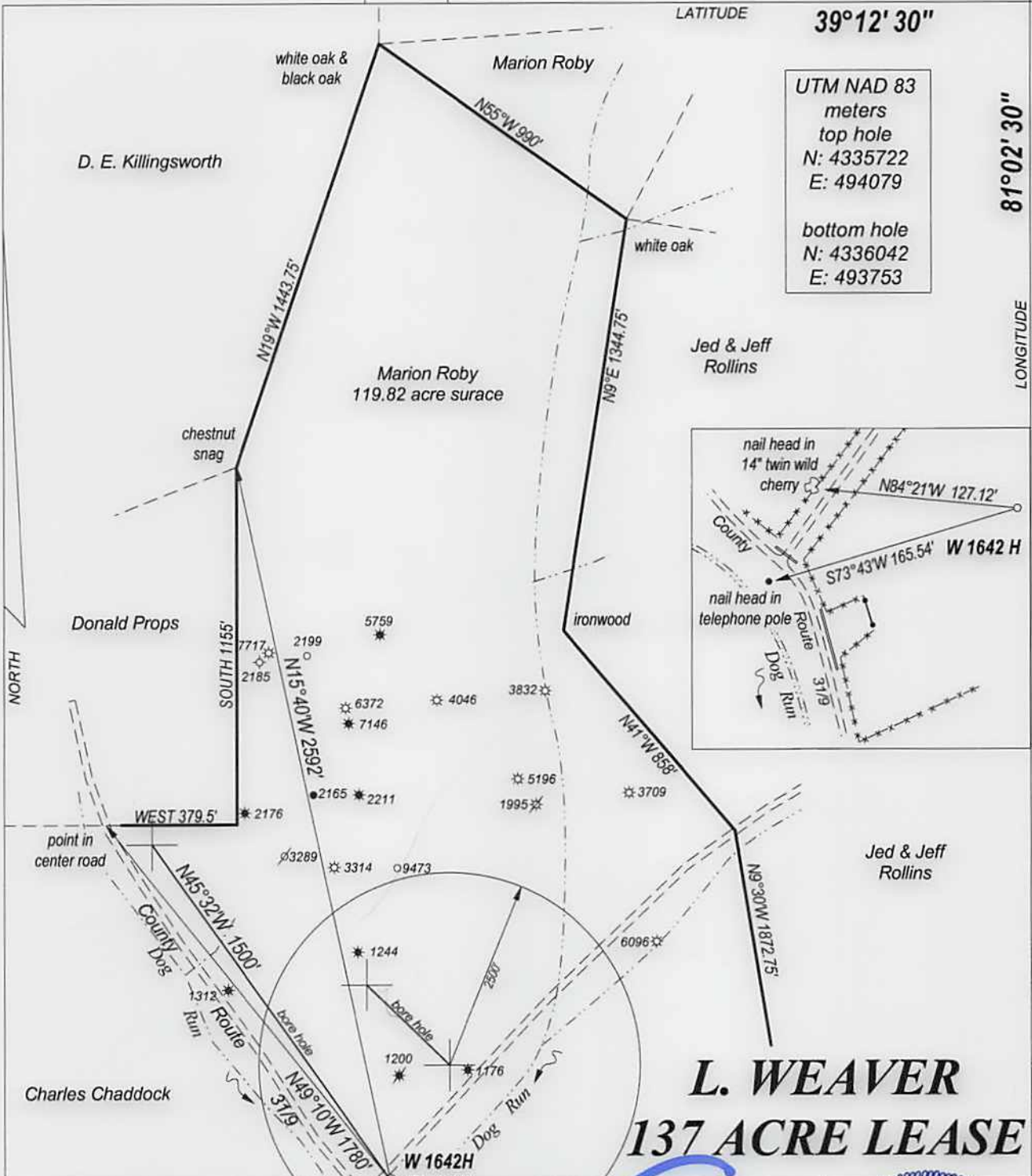
81°02' 30"

12690'

13720'

bottom hole 39°10' 20.27" (39.172297)

top hole 39°10' 14.40" (39.170667)



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 XX GAS XX LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION XX STORAGE DEEP SHALLOW XX

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 XX 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

08/01/2014

FORM WW - 6

COUNTY NAME
PREMIT