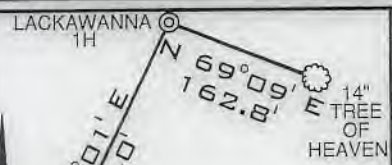


form ww6

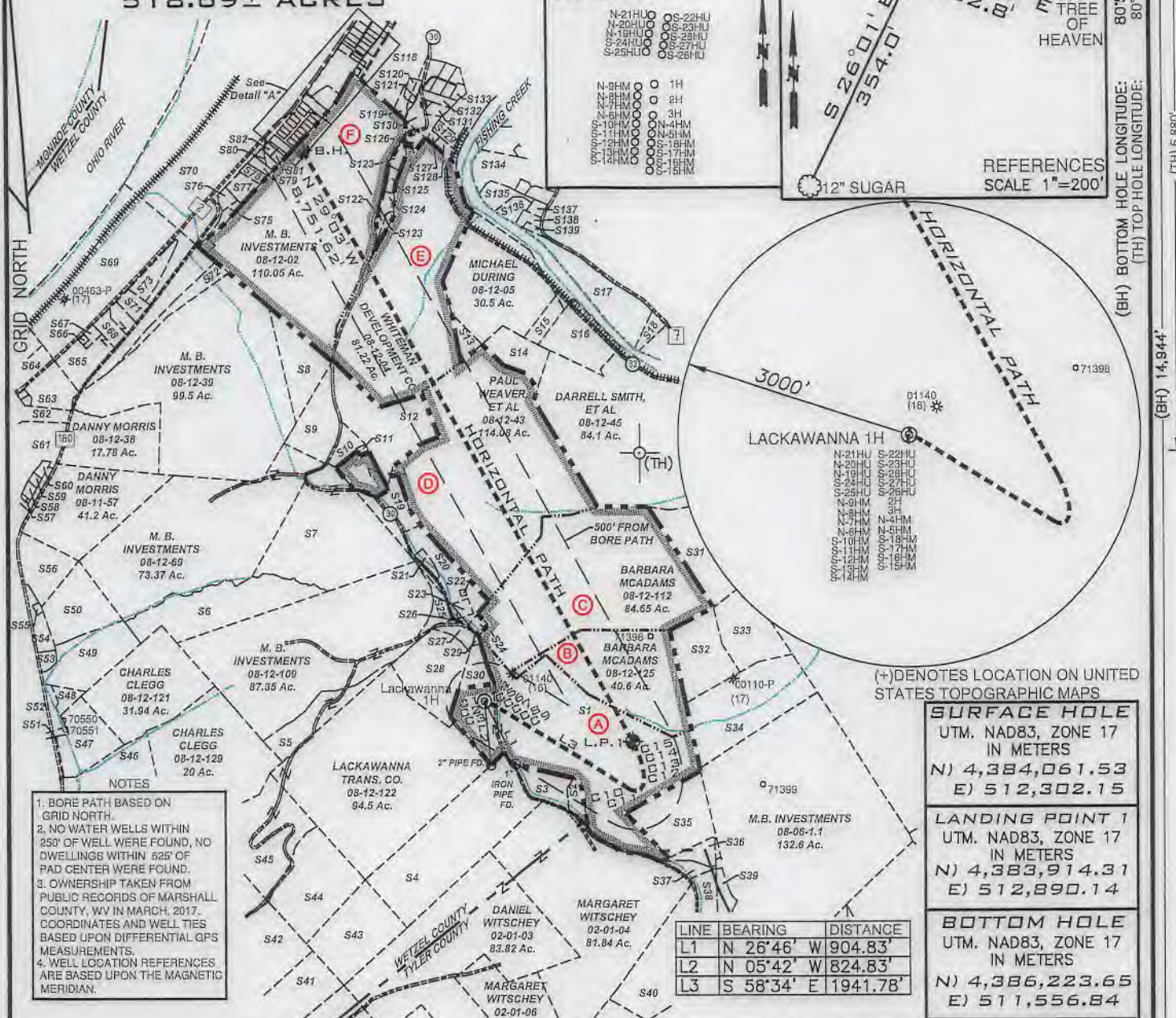
**LACKAWANNA LEASE WELL 1H**  
518.69± ACRES

TOP HOLE LATITUDE: 39°37'30"  
BOTTOM HOLE LATITUDE: 39°40'00"

DETAIL SCALE 1"=100'  
SKETCH "A"



REFERENCES SCALE 1"=200'



- NOTES**
1. BORE PATH BASED ON GRID NORTH.
  2. NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 625' OF PAD CENTER WERE FOUND.
  3. OWNERSHIP TAKEN FROM PUBLIC RECORDS OF MARSHALL COUNTY, WV IN MARCH, 2017. COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS.
  4. WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.

(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

<b>SURFACE HOLE</b> UTM. NAD83, ZONE 17 IN METERS N) 4,384,061.53 E) 512,302.15
<b>LANDING POINT 1</b> UTM. NAD83, ZONE 17 IN METERS N) 4,383,914.31 E) 512,890.14
<b>BOTTOM HOLE</b> UTM. NAD83, ZONE 17 IN METERS N) 4,386,223.65 E) 511,556.84

LINE	BEARING	DISTANCE
L1	N 26°46' W	904.83'
L2	N 05°42' W	824.83'
L3	S 58°34' E	1941.78'

NUMBER	CHORD DIRECTION	CHORD LENGTH	RADIUS	ARC LENGTH
C1	N 73°28' W	3.16	10.50	3.17
C2	S 06°21' W	2.33	1.17	3.51
C3	S 55°28' E	6.93	88.28	6.93
C4	S 56°10' W	0.46	0.38	1.90
C5	N 02°36' W	5.76	20.99	5.78
C6	N 52°55' E	6.58	4.91	7.20
C7	S 73°36' E	37.17	92.41	37.43

**LEGEND**

- LEASE TRACTS
- - - SURFACE TRACTS
- ▬ UNIT BOUNDARY
- (A) LEASE # (SEE 6A1 FORM)

NUMBER	CHORD DIRECTION	CHORD LENGTH	RADIUS	ARC LENGTH
C8	S 62°23' E	100.90	920.82	100.95
C9	S 59°16' E	80.33	3090.61	80.33
C10	S 67°31' E	89.71	257.05	90.18
C11	N 79°30' E	79.23	97.91	81.57
C12	N 30°24' E	86.27	124.46	88.09
C13	N 01°54' E	125.47	373.57	126.07
C14	N 15°11' W	258.39	976.27	259.15
C15	N 25°34' W	179.73	1460.25	179.84

FILE NUMBER \_\_\_\_\_

DRAWING NUMBER LACKAWANNA\_WP\_1H

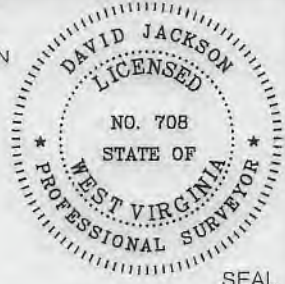
SCALE 1" = 2000'

MINIMUM DEGREE OF ACCURACY 1/200

PROVEN SOURCE OF ELEVATION SUBMETER MAPPING  
GRADE GPS

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

*David L Jackson*



JACKSON SURVEYING INC.  
P.O. Box 1460  
Clarksburg, WV 26302  
304-823-5851

WVDEP  
OFFICE OF OIL & GAS  
801 57TH STREET, SE  
CHARLESTON, WV 25304

DATE: AUGUST 2, 2018

OPERATORS WELL NO. LACKAWANNA 1H

API WELL NO. 47-103-02982HGA

STATE WV COUNTY WETZEL PERMIT \_\_\_\_\_

LOCATION ELEVATION 1306.26' WATERSHED (HUC 10) OUTLET MIDDLE ISLAND CREEK

DISTRICT MAGNOLIA COUNTY WETZEL

QUADRANGLE PORTER FALLS 7.5' LEASE NUMBER SEE WW-6A1 Form

SURFACE OWNER M. B. INVESTMENTS ACREAGE 88.09

OIL & GAS ROYALTY OWNER M. B. INVESTMENTS, ET AL LEASE ACREAGE 88.09

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION   
PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE (SPECIFY) \_\_\_\_\_

TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD 6,937' TMD: 16,732'

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER  
CT CORPORATION SYSTEM

ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5400 D BIG TYLER ROAD  
FORT WORTH, TX 76107 CHARLESTON, WV 25313

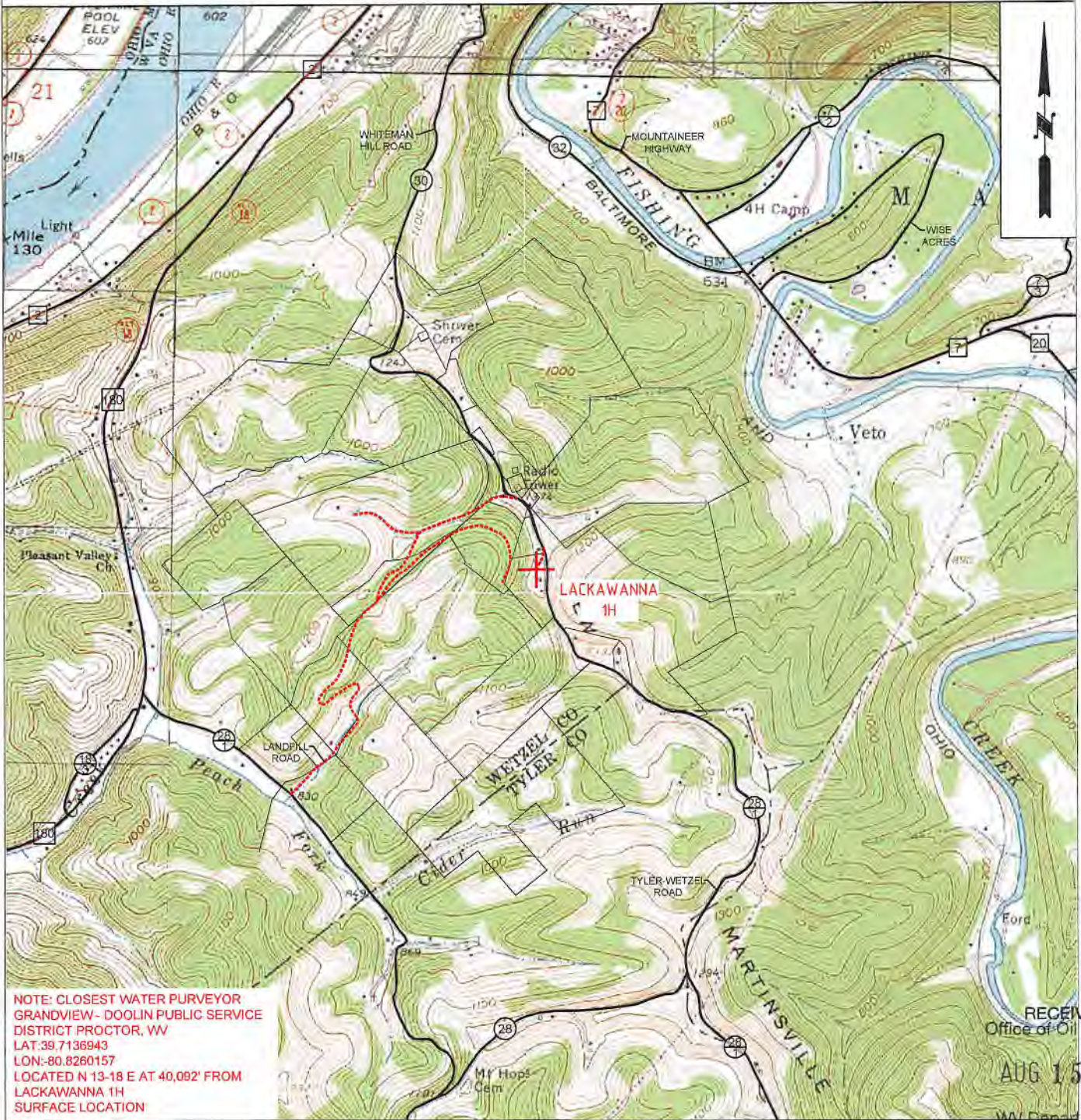
COUNTY NAME  
PERMIT



WW-9

# PROPOSED LACKAWANNA 1H


SUPPLEMENT PG 2



NOTE: CLOSEST WATER PURVEYOR  
 GRANDVIEW - DOOLIN PUBLIC SERVICE  
 DISTRICT PROCTOR, WV  
 LAT: 39.7136943  
 LON: -80.8260157  
 LOCATED N 13-18 E AT 40.092' FROM  
 LACKAWANNA 1H  
 SURFACE LOCATION

RECEIVED  
 Office of Oil and Gas  
 AUG 15 2018

WV Department of  
 Environmental Protection

 <b>TUG HILL OPERATING</b>	<b>OPERATOR</b> 494510851 TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317	<b>TOPO SECTION</b> PORTERS FALLS 7.5' <b>SCALE:</b> 1" = 2000'	<b>LEASE NAME</b> LACKAWANNA <b>DATE:</b> DATE: 08-01-2018
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