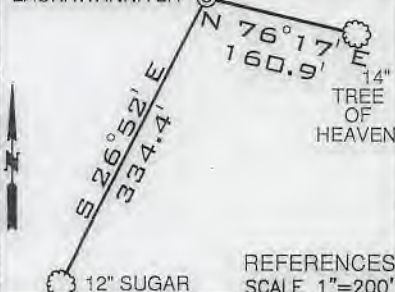


LACKAWANNA LEASE WELL 2H

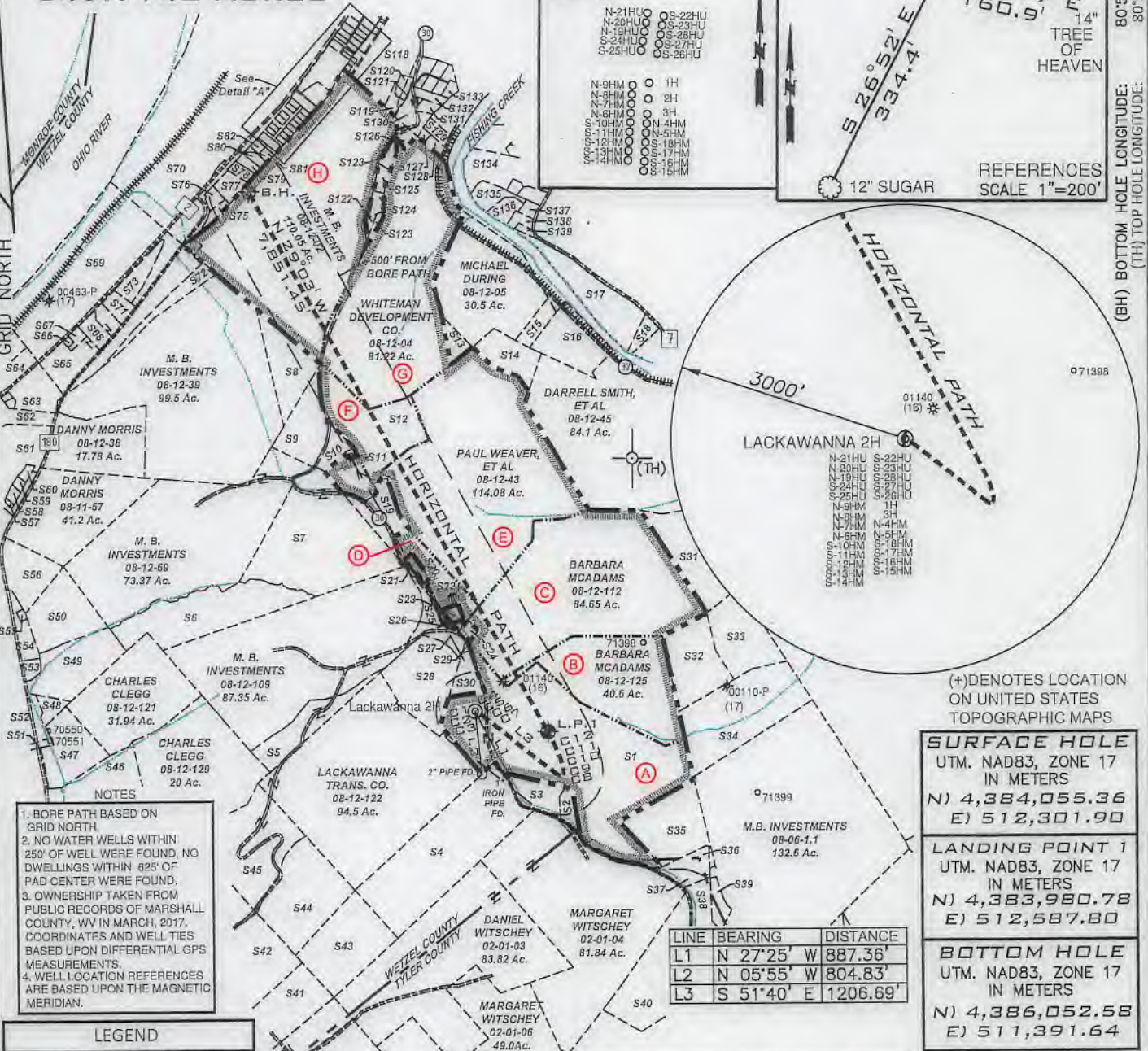
549.714± ACRES

DETAIL SCALE 1"=100'
SKETCH "A"

LACKAWANNA 2H



- N-21HU
- N-20HU
- N-19HU
- S-21HU
- S-25HU
- S-22HU
- S-23HU
- S-28HU
- S-27HU
- S-26HU
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- N-99HM
- N-100HM



(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

SURFACE HOLE	
UTM. NAD83, ZONE 17 IN METERS	
N) 4,384,055.36	E) 512,301.90
LANDING POINT 1	
UTM. NAD83, ZONE 17 IN METERS	
N) 4,383,980.78	E) 512,587.80
BOTTOM HOLE	
UTM. NAD83, ZONE 17 IN METERS	
N) 4,386,052.58	E) 511,391.64

LINE	BEARING	DISTANCE
L1	N 27°25' W	887.36'
L2	N 05°55' W	804.83'
L3	S 51°40' E	1206.69'

NUMBER	CHORD DIRECTION	CHORD LENGTH	RADIUS	ARC LENGTH	NUMBER	CHORD DIRECTION	CHORD LENGTH	RADIUS	ARC LENGTH
C1	S 06°33' W	2.82	2.00	3.12	C7	S 54°02' E	76.57	705.49	76.61
C2	S 55°47' E	5.89	87.19	5.89	C8	S 64°27' E	64.37	102.27	65.49
C3	S 24°39' W	1.97	0.99	2.82	C9	N 40°56' E	42.24	30.95	46.49
C4	N 41°37' W	3.60	3.36	3.80	C10	N 04°54' W	89.31	293.08	89.78
C5	N 46°54' E	13.58	7.56	16.88	C11	N 19°53' W	273.88	1437.30	274.30
C6	S 53°52' E	28.71	114.80	28.79	C12	N 26°51' W	213.79	2716.97	213.95

LEGEND

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

NOTES

- BORE PATH BASED ON GRID NORTH.
- NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 825' OF PAD CENTER WERE FOUND.
- OWNERSHIP TAKEN FROM PUBLIC RECORDS OF MARSHALL COUNTY, WV IN MARCH, 2017. COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS.
- WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.

FILE NUMBER _____

DRAWING NUMBER LACKAWANNA_WP_2H

SCALE 1" = 2000'

MINIMUM DEGREE OF ACCURACY 1/200

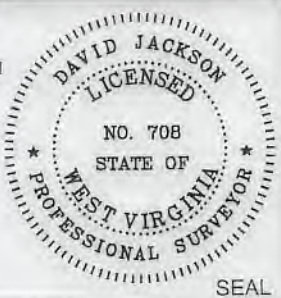
PROVEN SOURCE OF ELEVATION SUBMETER MAPPING GRADE GPS

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

P.S. 708

David L Jackson

JACKSON SURVEYING INC.
P.O. Box 1460
Clarksburg, WV 26302
304-623-5851



WVDEP
OFFICE OF OIL & GAS
601 57TH STREET, SE
CHARLESTON, WV 25304

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

DATE: AUGUST 2, 2018

OPERATORS WELL NO. LACKAWANNA 2H

API WELL NO. 47-103-02983

STATE WV COUNTY WETZEL PERMIT SEE WW-6A1 FORM

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 X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___
PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) _____

TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD 6,932' TMD: 15,318'

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

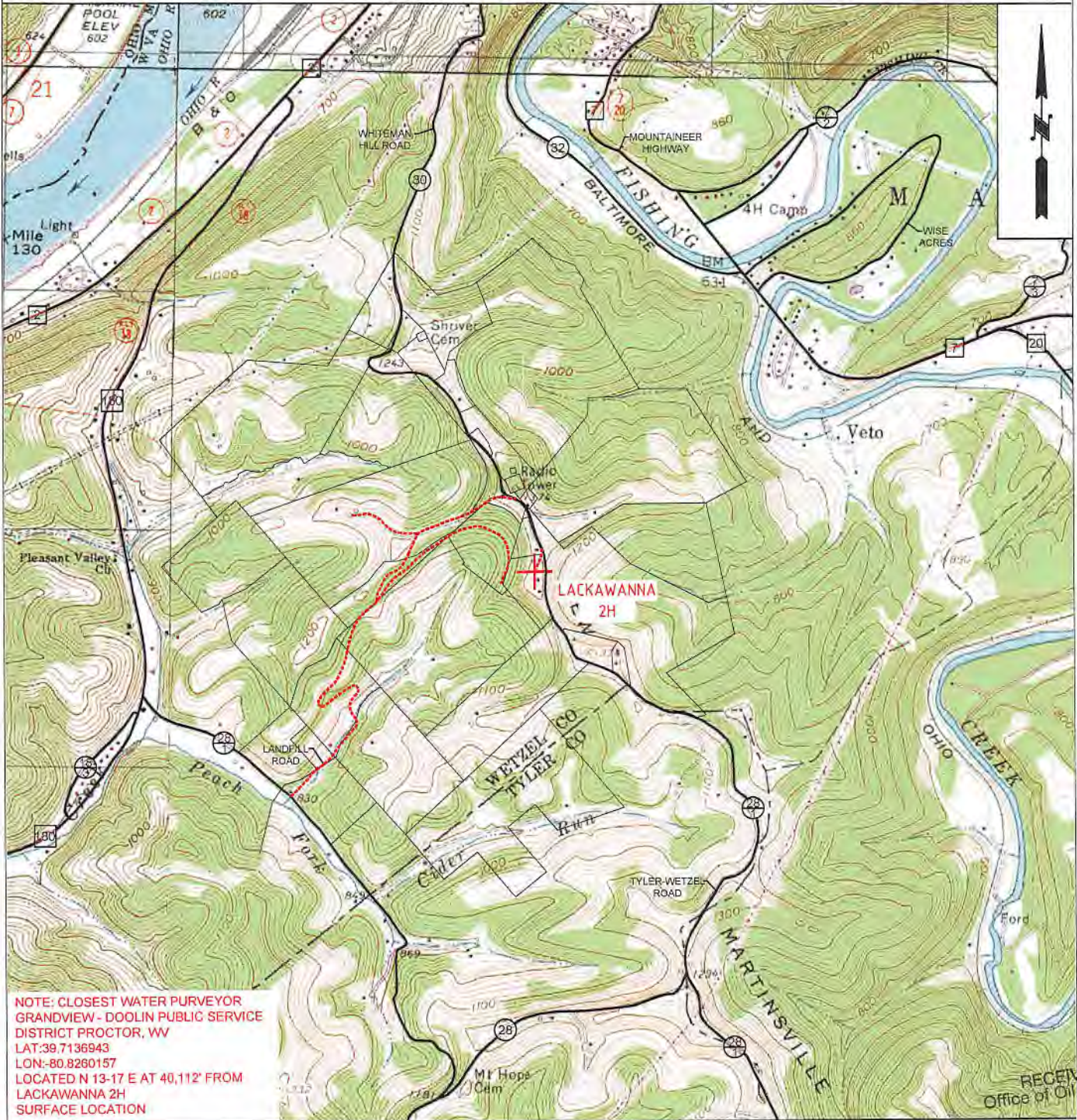
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

COUNTY NAME PERMIT

WW-9

PROPOSED LACKAWANNA 2H

SUPPLEMENT PG 2



NOTE: CLOSEST WATER PURVEYOR
 GRANDVIEW - DOOLIN PUBLIC SERVICE
 DISTRICT PROCTOR, WV
 LAT: 39.7136943
 LON: -80.8260157
 LOCATED N 13-17 E AT 40,112' FROM
 LACKAWANNA 2H
 SURFACE LOCATION

RECEIVED
 Office of Oil and Gas

AUG 15 2018



TUG HILL
 OPERATING

OPERATOR 494510851
 TUG HILL OPERATING, LLC
 380 SOUTHPOINTE BLVD
 SUITE 200
 CANONSBURG, PA 15317

TOPO SECTION
 PORTERS FALLS 7.5'
SCALE:
 1" = 2000'

LEASE NAME LACKAWANNA
DATE: 08-01-2018
 WV Department of Environmental Protection