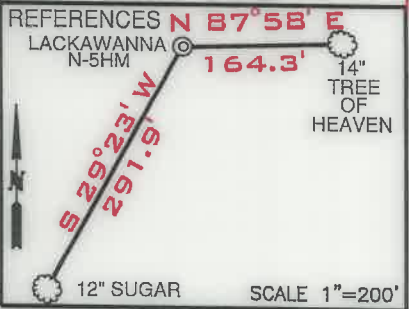


LACKAWANNA LEASE WELL N-5HM
695.4329± ACRES

ASDRILLED LEG
 PERMITTED LEG

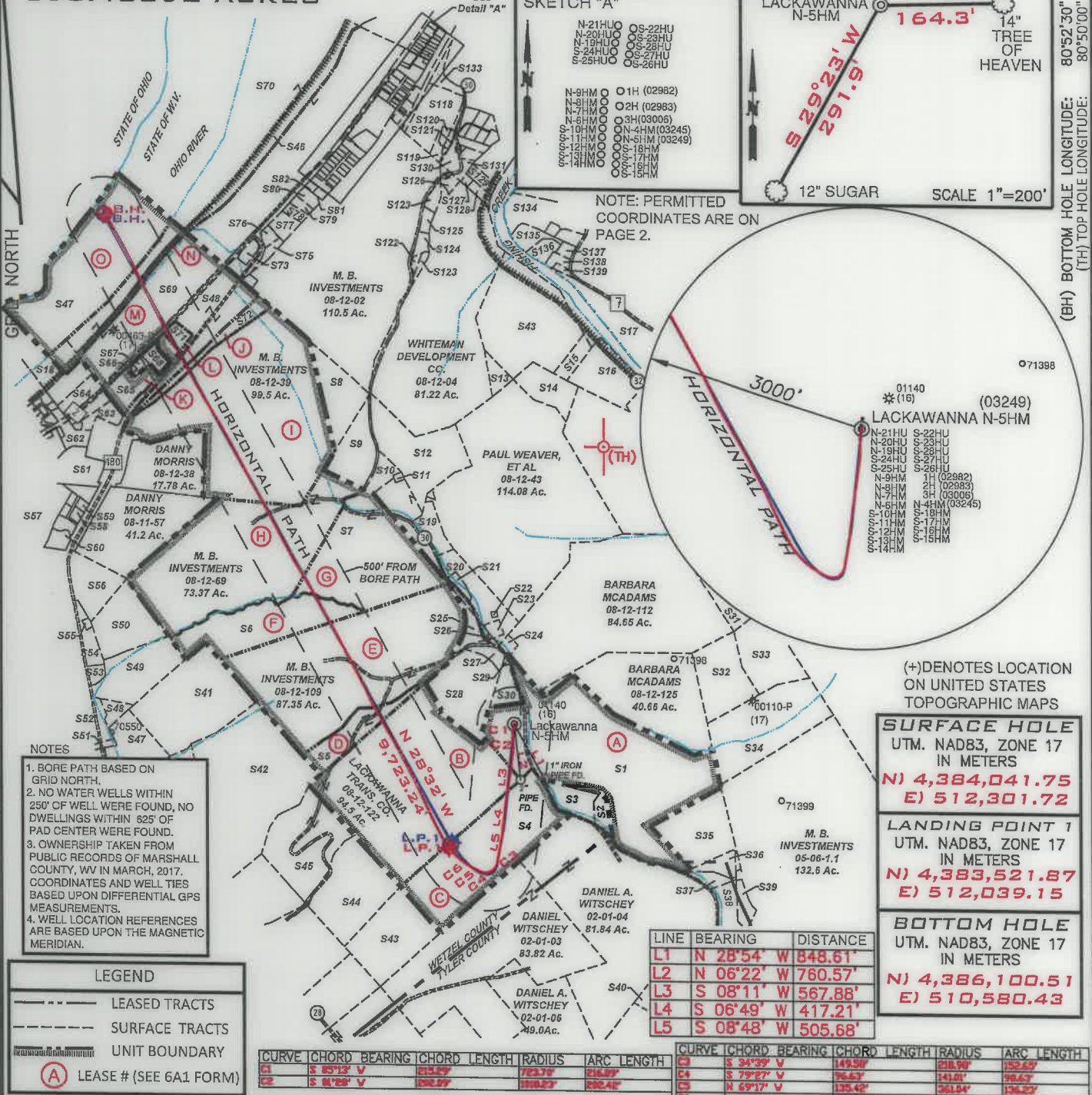
TOP HOLE LATITUDE: 39°37'30"
 BOTTOM HOLE LATITUDE: 39°37'30"

DETAIL SKETCH "A"
 SCALE 1"=100'



- N-21HU OS-22HU
- N-20HU OS-23HU
- N-19HU OS-24HU
- N-18HU OS-25HU
- N-17HU OS-26HU
- N-16HU OS-27HU
- N-15HU OS-28HU
- N-14HU OS-29HU
- N-13HU OS-30HU
- N-12HU OS-31HU
- N-11HU OS-32HU
- N-10HU OS-33HU
- N-9HU OS-34HU
- N-8HU OS-35HU
- N-7HU OS-36HU
- N-6HU OS-37HU
- N-5HU OS-38HU
- N-4HU OS-39HU
- N-3HU OS-40HU
- N-2HU OS-41HU
- N-1HU OS-42HU

NOTE: PERMITTED COORDINATES ARE ON PAGE 2.



- 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.

LEGEND

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

(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

SURFACE HOLE	
UTM. NAD83, ZONE 17	IN METERS
N) 4,384,041.75	E) 512,301.72
LANDING POINT 1	
UTM. NAD83, ZONE 17	IN METERS
N) 4,383,521.87	E) 512,039.15
BOTTOM HOLE	
UTM. NAD83, ZONE 17	IN METERS
N) 4,386,100.51	E) 510,580.43

LINE	BEARING	DISTANCE
L1	N 28°54' W	848.61'
L2	N 06°22' W	760.57'
L3	S 08°11' W	567.88'
L4	S 06°49' W	417.21'
L5	S 08°48' W	505.68'

CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	S 15°13' W	813.77'	783.79'	216.87'
C2	S 11°28' W	108.77'	108.23'	88.24'
C3	S 34°39' V	149.50'	218.90'	152.62'
C4	S 79°27' V	96.43'	141.01'	98.63'
C5	N 69°17' V	135.42'	261.04'	128.22'
C6	N 30°04' W	457.52'	1100.72'	460.99'

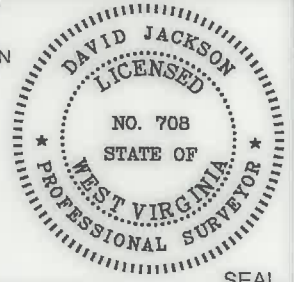
FILE NUMBER _____
 DRAWING NUMBER:
 LACKAWANNA_N-5HM_REV 1
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION SUBMETER MAPPING GRADE GPS

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
 304-623-5851



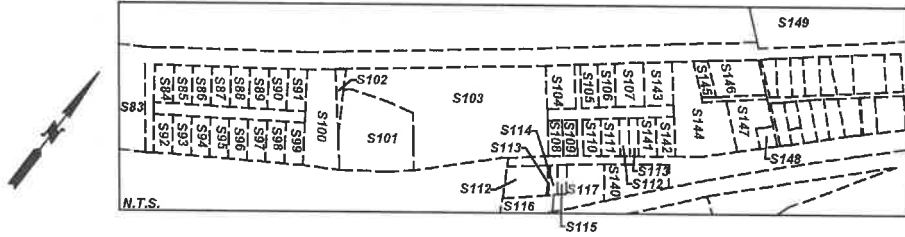
WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET, SE
 CHARLESTON, WV 25304

DATE: MAY 26, 2021
 OPERATORS WELL NO. LACKAWANNA N-5HM
 API WELL NO. 47-103-03249
 STATE COUNTY PERMIT
 LOCATION ELEVATION 1305.75' WATERSHED (HUC 10) OUTLET MIDDLE ISLAND CREEK
 DISTRICT MAGNOLIA COUNTY WETZEL
 QUADRANGLE PORTER FALL 7.5' LEASE NUMBER SEE WW-6A1 Form

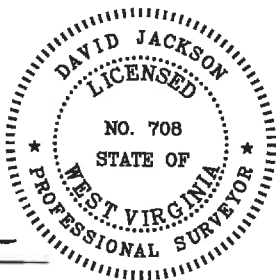
SURFACE OWNER M. B. INVESTMENTS ACREAGE 88.10/14/2022
 OIL & GAS ROYALTY OWNER M. B. INVESTMENTS, ET AL LEASE ACREAGE 88.09
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) ASDRILLED
 PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD: 6,637' TMD: 17,378'
 WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

form wwg

**LACKAWANNA LEASE
WELL N-5HM
695.4329± ACRES**



SURFACE HOLE UTM. NAD83, ZONE 17 IN METERS N) 4,384,042.03 E) 512,301.27
LANDING POINT 1 UTM. NAD83, ZONE 17 IN METERS N) 4,383,542.91 E) 512,048.79
BOTTOM HOLE UTM. NAD83, ZONE 17 IN METERS N) 4,386,101.98 E) 510,571.36



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10/14/2022



TUG HILL
OPERATING

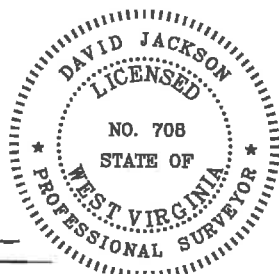
OPERATOR'S
WELL #: LACKAWANNA N-5HM
DISTRICT: Maqnoia
COUNTY: Wetzel
STATE: wv
API #: 47-103-03249

WELL PLAT
PAGE 2 OF 3
DATE: 05/26/2021

**LACKAWANNA LEASE
WELL N-5HM
695.4329± ACRES**

Number	TAX MAP-PARCEL	SURFACE OWNER	ACRES
S1	08-12-134	M. B. Investments	88.09
S2	08-12-134.1	Raymond L. & Elizabeth Pibble	2.14
S3	08-12-134.3	M. B. Investments	5.55
S4	08-17-04	M. B. Investments	46.75
S5	08-12-109.1	M. B. Investments	10.0019
S6	08-12-108	M. B. Investments	24.0
S7	08-12-70	M. B. Investments	50.37
S8	08-12-14	Thomas & Helena McLaughlin	10.5
S9	08-12-40	Timothy Doty & Helena McLaughlin	8.83
S10	08-12-41	Michael A. & Annabelle Corbin & Paul E. & Christine Weaver	3.39
S11	08-12-42	Shriver Cemetery	1.0
S12	08-12-43.1	Michael A. & Annabelle Corbin & Paul E. & Christine Weaver	22.25
S13	08-12-15	Michael A. & Annabelle Corbin & Paul E. & Christine Weaver	2.6
S14	08-12-44	Richard L. Armstrong	8.0
S15	08-12-5.1	Michael & Joyce Durig	4.0
S16	08-12-16	Russell Dalrymple, et al	11.87
S17	08-12-08	Calvin Dean Cross	14.96
S18	08-12-17	Virgie E. Kuhns	1.25
S19	08-12-43.2	Michael A. & Annabelle Corbin & Paul E. & Christine Weaver	7.25
S20	08-12-43.5	M. B. Investments	8.774
S21	08-12-43.4	Michael A. & Annabelle Corbin & Paul E. & Christine Weaver	0.996
S22	08-12-43.3	Geraldine C. Cross	0.13
S23	08-12-111	WV Conservation Comm.	1.0
S24	08-12-112.1	M. B. Investments	0.82
S25	08-12-110	Lackawanna Transport Company	3.59
S26	08-12-72	Paul E. & Christine Weaver	0.50
S27	08-12-124	M. B. Investments	2.23
S28	08-12-123	Lackawanna Transport Company	18.55
S29	08-12-134.2	M. B. Investments	0.23
S30	08-12-134.4	M. B. Investments	3.51
S31	08-12-113	Jacob Presley Morgan III	16.30
S32	08-12-126	Jacob Presley Morgan III	16.06
S33	08-12-127	Jacob Presley Morgan III	10.0
S34	08-12-136	Jacob Presley Morgan III	28.25
S35	08-12-135	Timothy J. Haynes & Gary W. Woofter	21.0
S36	02-01-5.2	Mark K. & Teresa J. Loy	2.945
S37	02-01-5.3	Mark K. & Teresa J. Loy	1.939
S38	02-01-5.1	Mark K. & Teresa J. Loy	4.56
S39	05-06-01	Mark K. & Teresa J. Loy	2.37
S40	02-01-05	Daniel A. Witschey	21.5
S41	08-12-121	Charles E. & Mary Elizabeth Clegg	31.94
S42	08-12-129	Charles E. & Mary Elizabeth Clegg	20.0
S43	08-12-05	Michael Lloyd & Joyce Diana Durig	30.5
S44	08-17-07	Lackawanna Transport Company	21.37
S45	08-17-7.1	Lackawanna Transport Company	25.64
S46		CSX Railroad	
S47	Ohio River	State of WV, Department of Commerce, Division of Natural Resources	
S48	Rt 180	State Road Commission	15.96
S49	08-12-106	Thomas C. Pennell	15.96
S50	08-12-106.1	Thomas R. & Tamera D. Pennell	14.04
S56	08-11-61	Hunter B. McAdams & Doug McAdams	7.61
S61	08-11-19	Lisa Straight & Edwin Rial	6.3
S62	08-11-39.1	William L. & Beulah Talkington	1.83
S63	08-11-41	A+A Supply, LLC	1.63
S64	08-11-35	Lisa Straight & Edwin Rial	5.9
S65	08-12-11	Calvin T. Hedrick	6.64
S66	08-12-11.1	Larry D. McCaman	0.25
S67	08-12-11.3	Larry McCaman	0.807
S68	08-12-11.4	Paul Andrew James Simmons, Jr.	1.94
S69	08-12-01	Mount Clare Properties, Inc	50.71
S70	08-07-105	Mount Clare Properties, Inc	116.08
S71	08-12-11.2	Ascent Resources Marcellus Minerals, LLC	1.811
S72	08-12-13	M. B. Investments	8.18
S73	08-12-139	Department of Public Safety	1.37
S75	08-07-87.2	H. Lee Scott Jr.	1.110
S76	08-07-87.1	H. Lee Scott Jr.	0.95
S77	08-07-87	H. Lee Scott Jr. & Stephen A. & Betty A. Davis	2.221

Number	TAX MAP-PARCEL	SURFACE OWNER	ACRES
S78	08-07-88	Living Quarters, LLC	1.08
S79	08-07-89.3	Living Quarters, LLC	0.94
S80	08-07-89.2	Barbara S. Nice	0.89
S81	08-07-89	Barbara S. Nice	0.40
S82	08-07-89.1	Barbara S. Nice	0.40
S83	08-07-90	Barbara Shank	0.70
S84	08-07-91	Dennis Phillips	0.20
S85	08-07-92	Karen D. Pugh	0.20
S86	08-07-93	Darrell S. & Diana Lynn Hartwig	0.20
S87	08-07-94	Ronald D. & Carole Dawson	0.21
S88	08-07-95	Debra Barrille, (Leslie L. Debolt, land contract)	0.21
S89	08-07-96	Rita E. Barrick	0.21
S90	08-07-102	Michael Vaughn Skeen & Patricia Ann Sawyer	0.22
S91	08-07-103.1	Charlotte M. Adams	0.22
S92	08-07-97	David Ray Christian	0.20
S93	08-07-98	David Ray Christian	0.20
S94	08-07-98.1	Lionel Kent, Helen A. Potts & Deloris Potts (Life)	0.20
S95	08-07-99	Lionel Kent, Helen A. Potts & Deloris Potts (Life)	0.20
S96	08-07-100	James J. & Carol Clark	0.21
S97	08-07-101	Doris A. Fannin & Richard S. Williamson	0.21
S98	08-07-102.1	Ronald E. Jr. & Lori J McCoy	0.21
S99	08-07-103	Michael L. & Joyce D. Durig	0.21
S100	08-07-104	Lisa Denise Bridge	0.12
S101	08-07-106.1	Tiona Henthorn	1.49
S102	08-07-104.1	Lisa Denise Bridge	0.06
S103	08-07-106	Route 2 South, LLC	4.33
S104	08-07-107	Route 2 South, LLC	0.36
S105	08-07-108	Donald W. Owens, Jr.	0.21
S106	08-07-109	Douglas E. & Amber L. Straight	0.21
S107	08-07-110	Allen R. & Malinda J. Laugh	0.34
S108	08-07-114	William & Ruth Leek	0.14
S109	08-07-115	William J. Leek	0.14
S110	08-07-116	Betty J. Yoho (Life), Sandra M. Hardman	0.20
S111	08-07-117	Jerry W. & Elizabeth Southerly	0.21
S112	08-07-123.1	William & Ruth Ann Leek	0.23
S113	08-07-123.2	William & Ruth Ann Leek	0.01
S114	08-07-124	William & Ruth Ann Leek	0.08
S115	08-07-125	William & Ruth Ann Leek	0.07
S116	08-07-129	Mary Burton, et al	1.10
S117	08-07-127	William Sherman & Ruth Ann Leek	0.49
S118	08-07-131.3	Nancy J. Todd	9.726
S119	08-07-131.1	Edgar W. Whiteman, Jr.	1.25
S120	08-07-131.4	Nancy J. Todd	0.989
S121			
S122	08-12-03	O. Terrell Coffield Family Trust	0.98
S123	08-12-4.1	Whiteman Development Co., LLC & PRN, LLC	2.59
S124	08-07-142	Pamela E. Weisenbarger	1.35
S125	08-07-142.1	Thomas W, II & Teena B. Emch	1.35
S126	08-07-160	Frank L. Price, Jr.	1.28
S127	08-07-144	Roger Hall, et al	5.58
S128	08-07-143	Dominic D. Yost	1.0
S129	08-07-144.1	Donald J. & Debby J. Powell	2.25
S130	08-07-137	462 Properties, LLC	1.836
S131	08-07-137.1	Anna E. McPeak	0.94
S134	08-07-145	Lois J. Day	8.008
S135	08-07-145.5	Jodi Forni	3.65
S136	08-07-145.3	Jodi Forni	2.641
S137	08-07-145.2	David J. Jackson,(Life), James & Ruth Jackson	0.813
S138	08-12-06	David J. Jackson,(Life), James & Ruth Jackson	1.74
S139	08-12-07	David J. Jackson,(Life), James & Ruth Jackson	0.35
S140	08-07-126	William Sherman & Ruth Ann Leek	0.30
S141	08-07-117.1	Donald L. Larsen, Jr.	0.21
S142	08-07-119	Joshua D. Larsen, Jr.	0.22
S143	08-07-111	Allen R. & Malinda J. Laugh	0.34
S144	08-07-120	William D. Lawrence	1.51
S145	08-07-112	Charles D. & Shirley L. White	0.17
S146	08-07-113	Joe's Tire III, LLC	0.60
S147	08-07-122	Moser & Moser Associates, Inc.	0.50
S148	08-07-121	Moser & Moser Associates, Inc.	0.10
S149	08-07-123	M.B. Investments	8.50



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OPERATOR'S
WELL #: LACKAWANNA N-5HM
DISTRICT: Maqnoia
COUNTY: Wetzel
STATE: WV
API #: 47-103-03249

WELL PLAT
PAGE 3 OF 3
DATE: 05/26/2021