

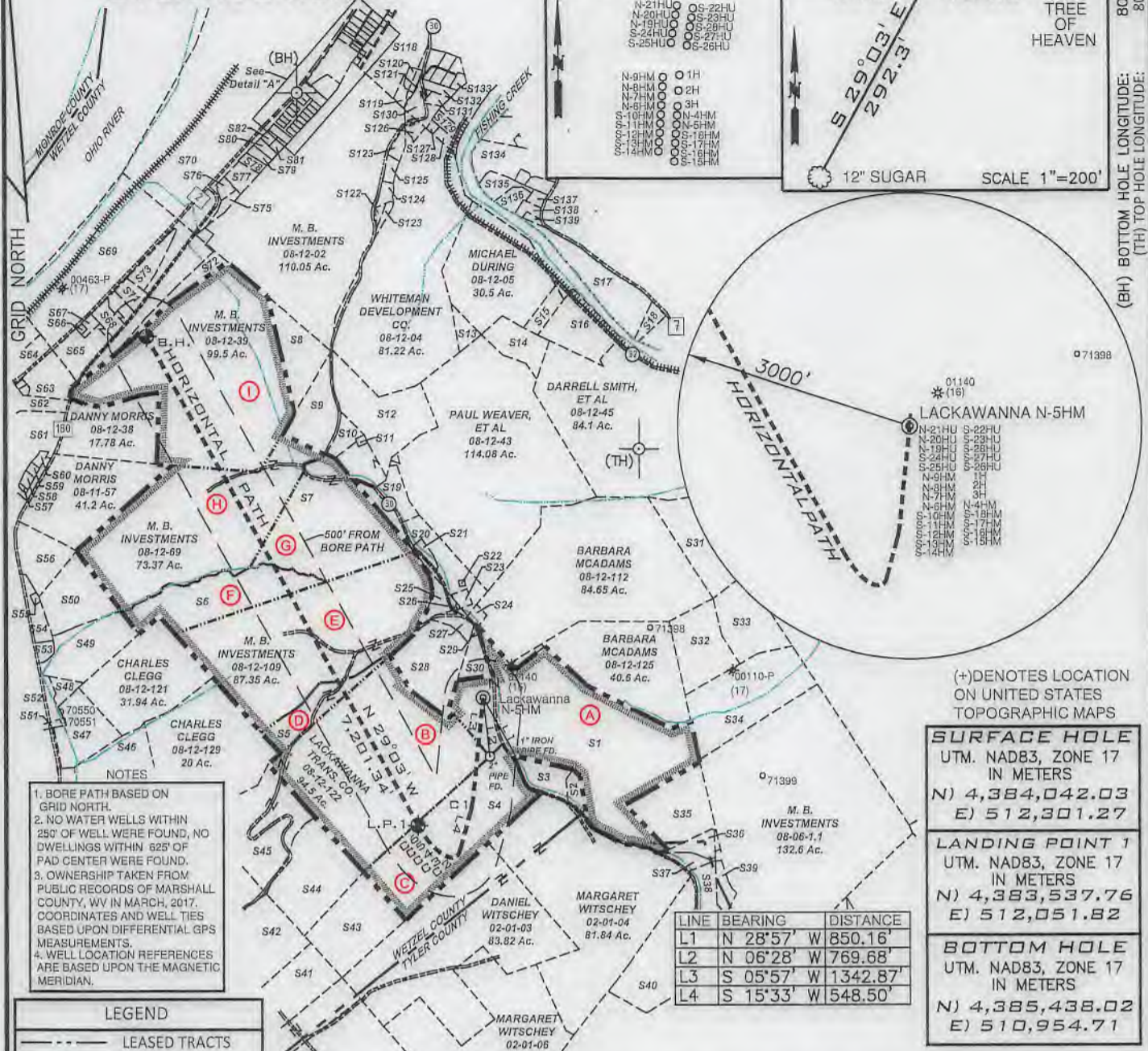
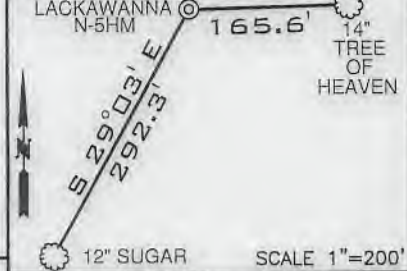
# LACKAWANNA LEASE WELL N-5HM 573.949± ACRES

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

DETAIL SCALE 1"=100'  
SKETCH "A"

REFERENCES

N 88°23' E



- NOTES**
- BORE PATH BASED ON GRID NORTH.
  - NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 625' 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.

**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) 4,384,042.03	E) 512,301.27
LANDING POINT 1	
UTM. NAD83, ZONE 17	IN METERS
N) 4,383,537.76	E) 512,051.82
BOTTOM HOLE	
UTM. NAD83, ZONE 17	IN METERS
N) 4,385,438.02	E) 510,954.71

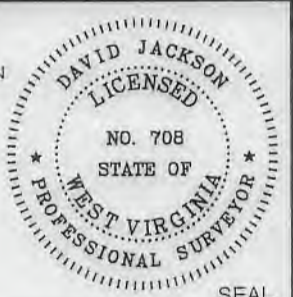
LINE	BEARING	DISTANCE
L1	N 28°57' W	850.16'
L2	N 06°28' W	769.68'
L3	S 05°57' W	1342.87'
L4	S 15°33' W	548.50'

NUMBER	CHORD DIRECTION	CHORD LENGTH	RADIUS	ARC LENGTH	NUMBER	CHORD DIRECTION	CHORD LENGTH	RADIUS	ARC LENGTH
C1	S 10°59' W	96.48	575.26	96.59	C4	N 65°51' W	118.16	297.44	118.95
C2	S 33°20' W	89.46	125.08	91.48	C5	N 47°26' W	202.83	751.43	203.45
C3	S 81°05' W	84.25	111.39	86.40	C6	N 34°38' W	267.25	1309.93	267.72

FILE NUMBER \_\_\_\_\_  
 DRAWING NUMBER LACKAWANNA\_WP\_N-5HM  
 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*



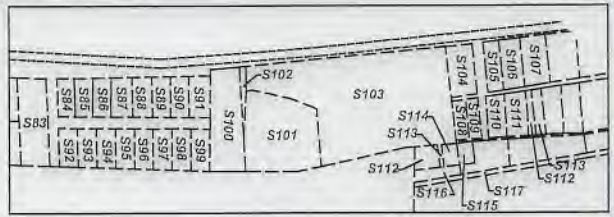
JACKSON SURVEYING INC.  
P.O. Box 1460  
Clarksburg, WV 26302  
304-623-5851

DATE: AUGUST 2, 2018  
 OPERATORS WELL NO. LACKAWANNA N-5HM  
 API WELL NO. \_\_\_\_\_  
 WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION ELEVATION 1306.26' 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 88.09  
 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 TYD 6,902' TMD: 14,875'  
 WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER  
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5400 D BIG TYLER ROAD  
FORT WORTH, TX 76107 CHARLESTON, WV 25313

COUNTY NAME  
PERMIT

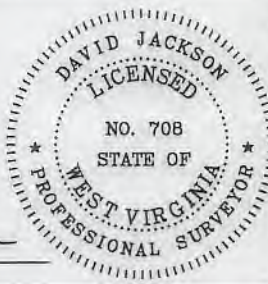


**LACKAWANNA LEASE  
WELL N-5HM  
573.949± ACRES**



Number	TAX MAP-PARCEL	SURFACE OWNER	ACRES
S1	08-12-134	M. B. Investments	88.09
S2	08-12-134.1	Raymond L. & Elizabeth Pribble	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	10.019
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, et al	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	M. B. Investments	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	Michael A. & Annabelle Corbin & 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. Wofter	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	08-17-14	Sharon Manion	16.12
S42	08-17-10.1	Lackawanna Transport Company	13.0
S43	08-17-07	Daniel A. Witschey	21.375
S44	08-17-7.1	Lackawanna Transport Company	21.37
S45	08-12-130	Lackawanna Transport Company	25.64
S46	08-17-02	M. B. Investments	74.0
S47	08-12-120	Charles E. & Mary E. Clegg	12.61
S48	08-11-82	Mary Elizabeth Clegg	3.24
S49	08-12-106	Thomas C. Pennell	15.96
S50	08-12-106.1	Thomas R. & Tamara D. Pennell	14.04
S51	08-11-82.1	Pleasant Valley Church of Christ	0.77
S52	08-11-81	Timothy M. Clegg	0.75
S53	08-11-79	Floyd E. Lewis, Jr. & Floyd E. Lewis, Sr.	0.67
S54	08-11-73.2	Floyd E. Lewis, Jr. & Floyd E. Lewis, Sr.	3.88
S55	08-11-74	Vada Hart Est., et al	0.31
S56	08-11-61	Hunter B. McAdams & Doug McAdams	7.61
S57	08-11-57.2	Erick L. & Jessica Kibbey	28.51
S58	08-11-57.4	Ralph & Velinda Phillips	0.61
S59	08-11-57.1	Ralph & Velinda Phillips	0.48
S60	08-11-57.3	Martha L. Graham	1.8
S61	08-11-42	Martha L. Graham	5.0
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	0.23

Number	TAX MAP-PARCEL	SURFACE OWNER	ACRES
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	105.08
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	3.86
S75	08-07-87.2	H. Lee Scott Jr.	1.110
S76	08-07-87.1	H. Lee Scott Jr.	0.955
S77	08-07-87	H. Lee Scott Jr. & Colleen D., Stephen A. & Betty A. Davis	2.221
S78	08-07-88	Living Quarters, LLC	1.08
S79	08-07-89.3	Living Quarters, LLC	0.87
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	0.35
S83	08-07-90	Barbara Shank	0.69
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	0.21
S87	08-07-94	Ronald D. & Carole Dawson	0.21
S88	08-07-95	Debra Barrile	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	Ray H. Booher	0.20
S93	08-07-98	Ray H. Booher	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	Ruth Leek	0.14
S109	08-07-115	William J. Leek	0.14
S110	08-07-116	Betty J. Yaho (Life), Sandra M. Hardman	0.20
S111	08-07-117	Jerry W. & Elizabeth Southerly	0.21
S112	08-07-123.1	Ruth Ann Leek	0.23
S113	08-07-123.2	Ruth Ann Leek	0.07
S114	08-07-124	Ruth Ann Leek	0.08
S115	08-07-125	Ruth Ann Leek	0.07
S116	08-07-126	Ruth Ann Leek	0.30
S117	08-07-129	John William Burton, et al	1.10
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	08-07-137.4	Nancy J. Todd	0.06
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	Bennie D. Lewis, 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	08-07-137.2	Steven D. Folmar	1.0
S132	08-07-138	Frederick W. & Leslie M. Emch	1.11
S133	08-07-137.1	Steven D. Folmar	0.94
S134	08-07-145	Lois J. Day	8.008
S135	08-07-145.5	Jodi Forni	3.85
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



P.S. 708 *David L Jackson*

**OPERATOR'S**  
WELL #1 LACKAWANNA N-5HM  
DISTRICT: Magnolia  
COUNTY: Wetzel  
STATE: WV

**WELL PLAT**  
*PAGE 2 OF 2*  
**DATE: 08/02/2018**