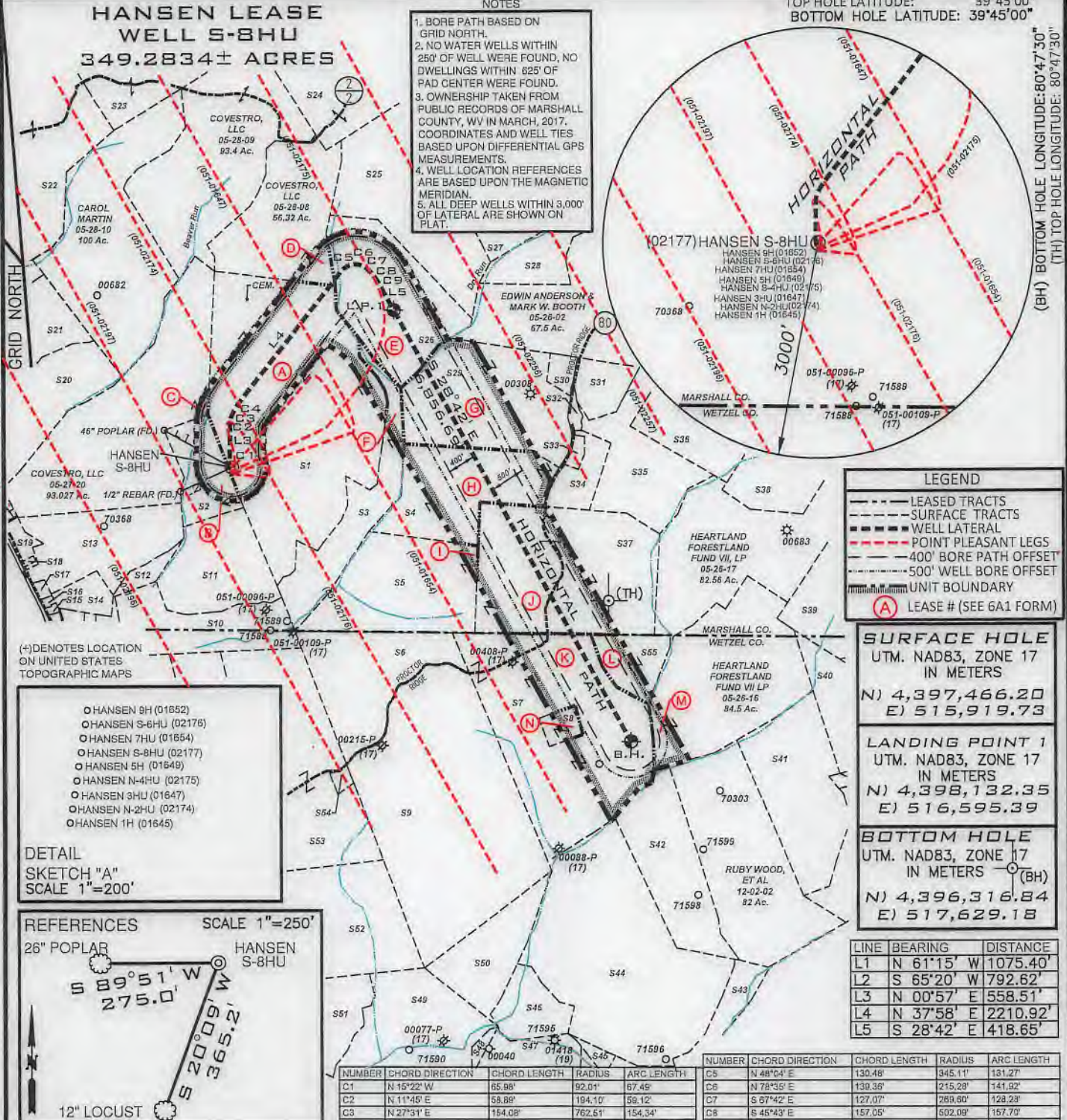


**HANSEN LEASE
WELL S-8HU
349.2834± ACRES**

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.
 5. ALL DEEP WELLS WITHIN 3,000' OF LATERAL ARE SHOWN ON PLAT.

TOP HOLE LATITUDE: 39°45'00"
 BOTTOM HOLE LATITUDE: 39°45'00"

(TH) TOP HOLE LONGITUDE: 80°47'30"
 (BH) BOTTOM HOLE LONGITUDE: 80°47'30"



LEGEND

- LEASED TRACTS
- SURFACE TRACTS
- WELL LATERAL
- POINT PLEASANT LEGS
- 400' BORE PATH OFFSET
- 500' WELL BORE OFFSET
- UNIT BOUNDARY
- (A) LEASE # (SEE 6A1 FORM)

SURFACE HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,397,466.20
 E) 515,919.73

LANDING POINT 1
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,398,132.35
 E) 516,595.39

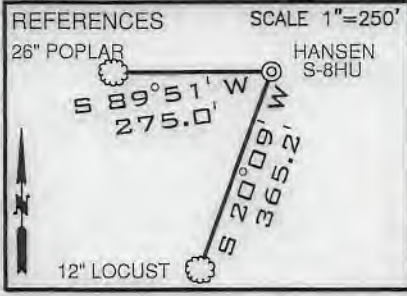
BOTTOM HOLE
 UTM. NAD83, ZONE 17
 IN METERS (BH)
 N) 4,396,316.84
 E) 517,629.18

LINE	BEARING	DISTANCE
L1	N 61°15' W	1075.40'
L2	S 65°20' W	792.62'
L3	N 00°57' E	558.51'
L4	N 37°58' E	2210.92'
L5	S 28°42' E	418.65'

NUMBER	CHORD DIRECTION	CHORD LENGTH	RADIUS	ARC LENGTH
C1	N 16°22' W	85.88'	92.01'	87.45'
C2	N 11°45' E	58.89'	194.10'	59.12'
C3	N 27°31' E	154.08'	762.51'	154.34'
C4	N 35°41' E	171.42'	1960.27'	171.47'
C5	N 48°04' E	130.48'	245.11'	131.27'
C6	N 78°35' E	138.36'	215.28'	141.92'
C7	S 67°42' E	127.07'	269.60'	128.23'
C8	S 45°43' E	157.05'	502.09'	157.70'
C9	S 32°57' E	137.09'	871.52'	137.24'

- HANSEN 9H (01652)
- HANSEN S-6HU (02176)
- HANSEN 7HU (01654)
- HANSEN S-8HU (02177)
- HANSEN 5H (01649)
- HANSEN N-4HU (02175)
- HANSEN 3HU (01647)
- HANSEN N-2HU (02174)
- HANSEN 1H (01645)

DETAIL SKETCH "A" SCALE 1"=200'

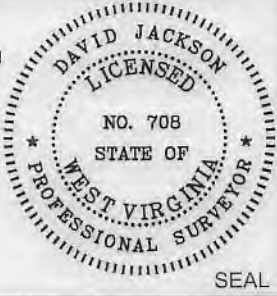


FILE NUMBER _____
 DRAWING NUMBER HANSEN_S-8HU_REV5
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION SUBMETER MAPPING GRADE GPS

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 5TH STREET, SE
 CHARLESTON, WV 25304

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS") PRODUCTION X STORAGE ___ DEEP X SHALLOW ___
 LOCATION ELEVATION 1247.0' WATERSHED (HUC 10) FRENCH CREEK - OHIO CREEK
 DISTRICT FRANKLIN COUNTY MARSHALL
 QUADRANGLE NEW MARTINSVILLE 7.5' LEASE NUMBER SEE WW-6A1 FORM

SURFACE OWNER COVESTRO, LLC ACREAGE 172.79
 OIL & GAS ROYALTY OWNER PPG INDUSTRIES, INC. LEASE ACREAGE 172.79
 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 POINT PLEASANT PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
 ESTIMATED DEPTH TVD: 11,415' TMD: 19,488'
 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

**HANSEN LEASE
WELL S-8HU
349.2834± ACRES**

Number	TAX MAP -PARCEL	SURFACE OWNER	ACRES
S1	A 05-27-22	COVESTRO, LLC.	172.79
S2	B 05-27-21	COVESTRO, LLC.	22.67
S3	F 05-27-23	ROBERT F. ROTHLSBERGER	35.77
S4	H 05-26-19	ERIC JAY & KARROLL S. BOOTH	50.0
S5	I 05-27-24	ROBERT F. ROTHLSBERGER	60.10
S6	12-1-8.1	ROBERT F. ROTHLSBERGER	50.33
S7	K 12-1-40	MARK W. BOOTH, ETAL	117.0
S8	N 12-1-41	MARK W. BOOTH, ETAL	5.0
S9	12-1-8	BENJAMIN J. KOCHER	168.67
S10	05-27-25	JAMES RICHMOND	41.35
S11	05-27-26	COVESTRO, LLC	39.32
S12	05-27-27	JAMES ANDREW & KAREN LYNNE RICHMOND	8.9353
S13	05-27-20.1	APPALACHIAN POWER CO.	43.973
S14	05-27-28	COVESTRO, LLC.	8.0
S15	05-27-42	COVESTRO, LLC.	0.52
S16	05-27-42.1	COVESTRO, LLC.	0.52
S17	12-27-41	MARTHA JEAN ARRICK	0.99
S18	05-27-30	COVESTRO, LLC.	0.371
S19	05-27-31.1	COVESTRO, LLC.	3.0
S20	05-27-19	COVESTRO, LLC.	33.786
S21	05-28-11	CAROL A. MARTIN	24.681
S22	05-28-2	COVESTRO, LLC.	99.5
S23	05-28-3	TH EXPLORATION III, LLC	53.44
S24	05-28-4	TH EXPLORATION III, LLC	48.44
S25	05-28-6	ULA F. NELSON	70.0
S26	E 05-28-7	CARL L. COFFIELD, SR. & LANA R. COFFIELD	64.0
S27	05-28-5	TH EXPLORATION III, LLC	105.9
S28	05-26-1	EDWIN BOOTH ANDERSON & MARK W. ANDERSON	12.94
S29	G 05-26-4.5	ERIC JAY BOOTH	74.388
S30	05-26-4	JAMES R. & MELODY A. ANDERSON	3.887
S31	05-26-4.6	OTIS F. RUSH, JR.	12.268
S32	05-26-4.2	OTIS S. & GLENDA RUSH	1.58
S33	05-26-4.3	CRYSTAL & RANDOLPH F. MATASK	2.253
S34	05-26-4.1	OTIS S. RUSH, ETUX	12.188
S35	05-26-4.4	OTIS F. & GLENDA M. RUSH	39.436
S36	05-26-5	MICHAEL J. WILEY, ETAL	65.0
S37	J 05-26-18	ERIC JAY BOOTH	94.0
S38	05-26-6	HEARTWOOD FORESTLAND FUND VII LP.	36.17
S39	05-26-15	ROBERT D. OLIVER, ET UX	69.0
S40	12-2-5	CLIFFORD W. & ALBERTA B. JOHNSON	75.96
S41	12-2-3	NELSON M. & MARY D. MILLER	51.75
S42	12-2-1	NELSON M. & MARY D. MILLER	49.0
S43	12-2-7	JOHN D. AMNAH	44.5
S44	12-1-20	CHARLES E. FROHNAPFEL, TRUSTEE OF THE CHARLES E. FROHNAPFEL LIVING TRUST DATED OCTOBER 3, 2017	126.0
S45	12-1-34.1	HERBERT PARSONS & VIRGINIA YOHO ROY	2.0
S46	12-1-31	STEVEN JACK & SUSAN LOUISE HAFER	20.0
S47	12-1-32	BAXTER FARM, LLC.	78.74
S48	12-1-29	BAXTER FARM, LLC.	2.0
S49	12-1-28	STEVEN J. & SUSAN L. HAFER	88.39
S50	12-1-19	STEVEN J. & SUSAN L. HAFER	36.5
S51	12-1-18	TRAVIS DARRELL BLAKE & ANGELA DAWN MITCHELL	48.4
S52	12-1-17	VIVIAN A. PARSONS, ETAL	112.0
S53	12-1-7	KEITH ACKER, ETAL	101.0
S54	12-1-7.1	HARRY WAYMAN ESTATE	2.0
S55	L 12-2-24	MARK W. BOOTH, MAGGIE ANN ROCKWELL & GEORGE E. BOOTH, JR.	13.1



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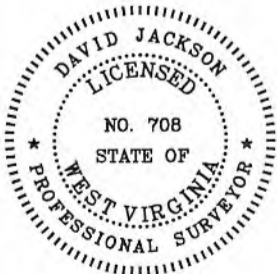
**TUG HILL
OPERATING**

OPERATOR'S
WELL #: HANSEN S-8HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV
API #: 47-051-02177

WELL PLAT
PAGE 2 OF 3
DATE: 08/07/2019

**HANSEN LEASE
WELL S-8HU
349.2834± ACRES**

Lease ID	Tags	Parcel	Grantor, Lessor, Etc.	Deed Book	Page
10*14418	A	5-27-22	PPG INDUSTRIES, INC.	878	610
10*27022	B	5-27-21	COVESTRO LLC	1046	431
10*14493	C	5-27-20	BETTY JEAN NEELY	748	468
10*14494	C	5-27-20	MARY LOU WILSON	748	471
10*14495	C	5-27-20	PATRICIA HARTMAN	752	197
10*14496	C	5-27-20	STEPHANIE L HALL	752	215
10*14497	C	5-27-20	CAROL DEEN GARDNER	752	212
10*27022	C	5-27-20	COVESTRO LLC	1046	431
10*14418	D	5-28-8	PPG INDUSTRIES, INC.	878	610
10*14065	E	5-28-7	CARL L COFFIELD SR	665	363
10*14609	F	5-27-23	PATRICIA HADDIX	700	113
10*14610	F	5-27-23	SUZANNE HILL	699	45
10*14611	F	5-27-23	LILLIAN PRISCILLA GRIMM	699	41
10*17137	G	5-26-4.5	MARK E SMITH AND VALERIE SMITH LIFE TENANT	685	521
10*17153	G	5-26-4.5	ALLEN SMITH AND BARBARA SMITH REMAINDERMAN	687	46
10*19908	H	5-26-19	GOLDA K ANDERSON	945	434
10*21935	H	5-26-19	KARROLL S BOOTH AND LOIS E BOOTH	940	493
10*22015	H	5-26-19	ERIC JAY BOOTH	942	217
10*14504	I	5-27-24	GEORGE A. STICKLER	756	83
10*19733	J	5-26-18	GEORGE E BOOTH SR AND MARGARET E BOOTH	944	575
10*19910	J	5-26-18	GOLDA K ANDERSON	945	440
10*21450	J	5-26-18	ERIC JAY BOOTH	953	258
10*15088	K	12-1-40	MARK W BOOTH	154A	122
10*15089	K	12-1-40	MAGGIE ANN ROCKWELL	152A	437
10*15090	K	12-1-40	GEORGE E BOOTH JR	152A	440
10*21151	K	12-1-40	RICHARD K REYNOLDS & SHIRLEY REYNOLDS	198A	347
10*21165	K	12-1-40	GARNETT IRENE ROBINSON	198A	349
10*15088	L	12-2-24	MARK W BOOTH	154A	122
10*15089	L	12-2-24	MAGGIE ANN ROCKWELL	152A	437
10*15090	L	12-2-24	GEORGE E BOOTH JR	152A	440
10*21151	L	12-2-24	RICHARD K REYNOLDS & SHIRLEY REYNOLDS	198A	347
10*21165	L	12-2-24	GARNETT IRENE ROBINSON	198A	349
10*22286	M	5-26-16	VENABLE ROYALTY LTD, ET AL	923	572
10*23093	M	5-26-16	PURPLEBURGH VENTURES, LLC	950	125
10*23094	M	5-26-16	WILDES MINERAL INTERESTS LLC	950	134
10*23096	M	5-26-16	APPALACHIAN BASIN MINERALS LP	950	128
10*23097	M	5-26-16	PENNMARC RESOURCES II LP	950	137
10*23098	M	5-26-16	MCCROW ENERGY PARTNERS II LLC	950	122
10*23099	M	5-26-16	MARCELLUS TX MINERAL PARTNERS LTD	950	131
10*15088	N	12-1-41	MARK W BOOTH	154A	122
10*15089	N	12-1-41	MAGGIE ANN ROCKWELL	152A	437
10*15090	N	12-1-41	GEORGE E BOOTH JR	152A	440



P.S.
708

David L Jackson

4705102177 HUA



**TUG HILL
OPERATING**

OPERATOR'S
WELL #: HANSEN S-8HU
DISTRICT: Franklin
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WELL PLAT
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DATE: 08/07/2019