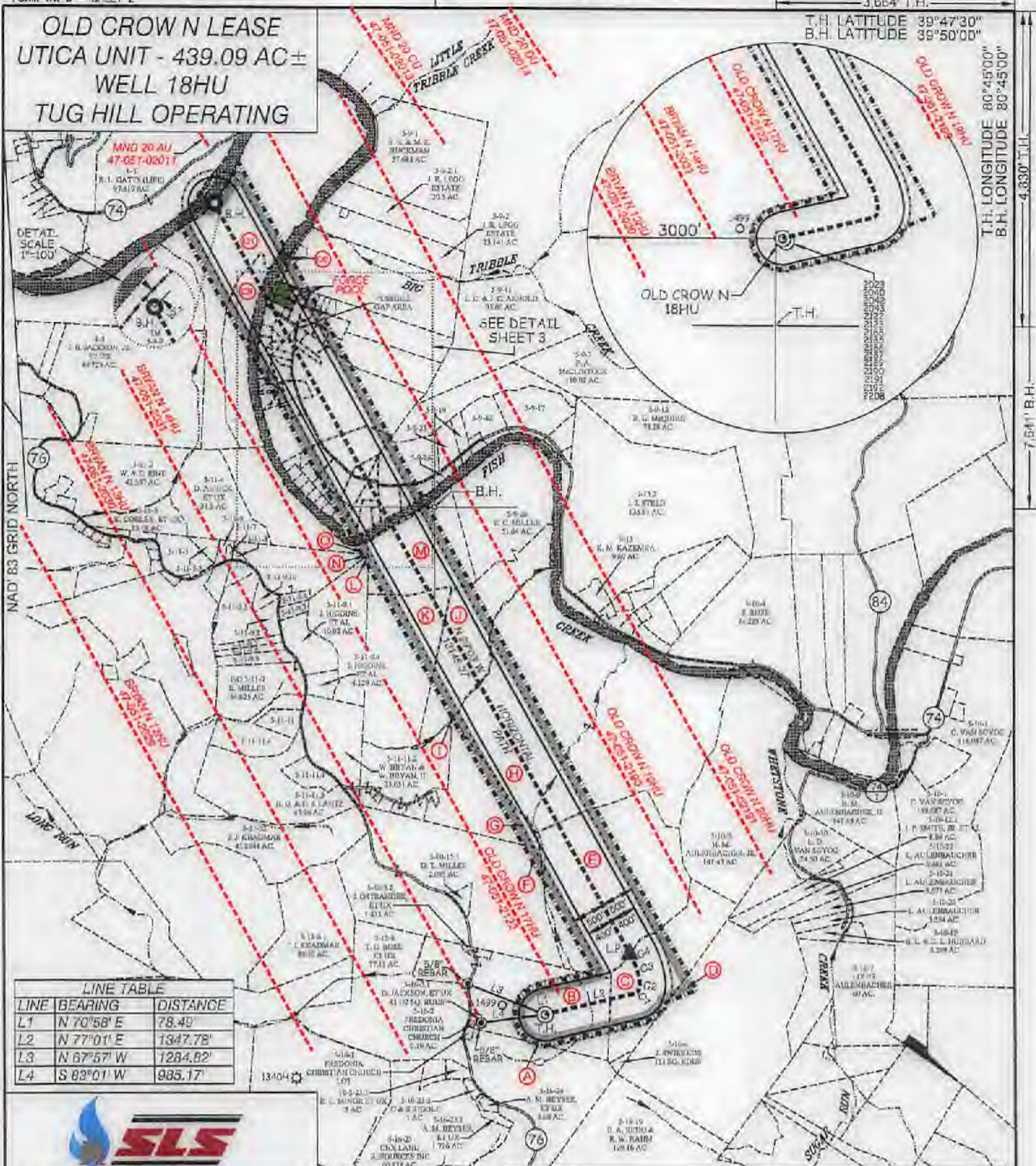


**OLD CROW N LEASE
UTICA UNIT - 439.09 AC ±
WELL 18HU
TUG HILL OPERATING**

T.H. LATITUDE 39°47'30"
B.H. LATITUDE 39°50'00"

T.H. LONGITUDE 80°45'00"
B.H. LONGITUDE 80°45'00"



LINE TABLE

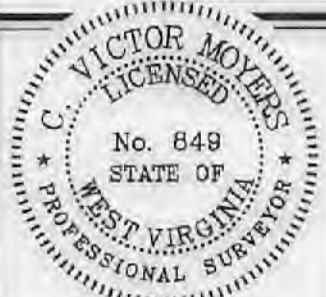
| LINE | BEARING | DISTANCE |
|------|------------|----------|
| L1 | N 70°58' E | 78.49' |
| L2 | N 77°01' E | 1347.78' |
| L3 | N 67°57' W | 1284.82' |
| L4 | S 89°01' W | 985.17' |

CURVE TABLE

| CURVE | ARC LENGTH | RADIUS | CHORD BEARING | CHORD LENGTH |
|-------|------------|----------|---------------|--------------|
| C1 | 84.95' | 86.17' | N 47°08' E | 81.02' |
| C2 | 143.98' | 315.71' | N 04°40' E | 142.72' |
| C3 | 351.75' | 1126.17' | N 17°28' W | 350.32' |
| C4 | 98.16' | 1591.33' | N 27°16' W | 98.15' |

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(*) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

LEGEND

- UNIT BOUNDARY: [Symbol]
- LEASED TRACTS INSIDE: [Symbol]
- UNIT BOUNDARY: [Symbol]
- SURFACE LINE: [Symbol]
- PROPOSED UTICA: [Symbol]
- WELL LATERAL: [Symbol]
- 400' OFFSET LINE: [Symbol]
- 500' OFFSET LINE: [Symbol]
- TIE LINE: [Symbol]
- CREEK: [Symbol]
- ROAD: [Symbol]
- COUNTY ROUTE: [Symbol]
- PROPOSED WELL: [Symbol]
- EXISTING WELL: [Symbol]
- PERMITTED WELL: [Symbol]
- SURFACE OWNER (SEE TABLE): [Symbol]
- LEASE # (SEE ADDITIONAL SHEETS): [Symbol]

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

| | | |
|----------------------|-------------------|--------------------|
| NAD'83 S.P.C.(FT) | N. 468,181.25 | E. 1,613,634.59 |
| NAD'83 GEO. | LAT-(N) 39.778408 | LONG-(W) 80.763035 |
| NAD'83 UTM (M) | N. 4,403,190.04 | E. 520,292.48 |
| LANDING POINT | | |
| NAD'83 S.P.C.(FT) | N. 469,078.3 | E. 1,614,643.1 |
| NAD'83 GEO. | LAT-(N) 39.781058 | LONG-(W) 80.758427 |
| NAD'83 UTM (M) | N. 4,403,485.2 | E. 520,686.3 |
| BOTTOM HOLE | | |
| NAD'83 S.P.C.(FT) | N. 480,570.6 | E. 1,603,461.3 |
| NAD'83 GEO. | LAT-(N) 39.812358 | LONG-(W) 80.781716 |
| NAD'83 UTM (M) | N. 4,406,953.9 | E. 516,633.6 |

SCALE 1" = 2000' FILE NO. 0796P18HJR3.dwg
 DATE SEPTEMBER 26 20 18
 REVISED APRIL 25, MAY 14, JUNE 18, 20 19
 OPERATORS WELL NO. OLD CROW N-18HU
 API WELL NO. 47 - 051 - 02123 HGA
 NO. STATE COUNTY PERMIT MOD

STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS

| | | | |
|---------------|--|------------------|-----------------------|
| 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

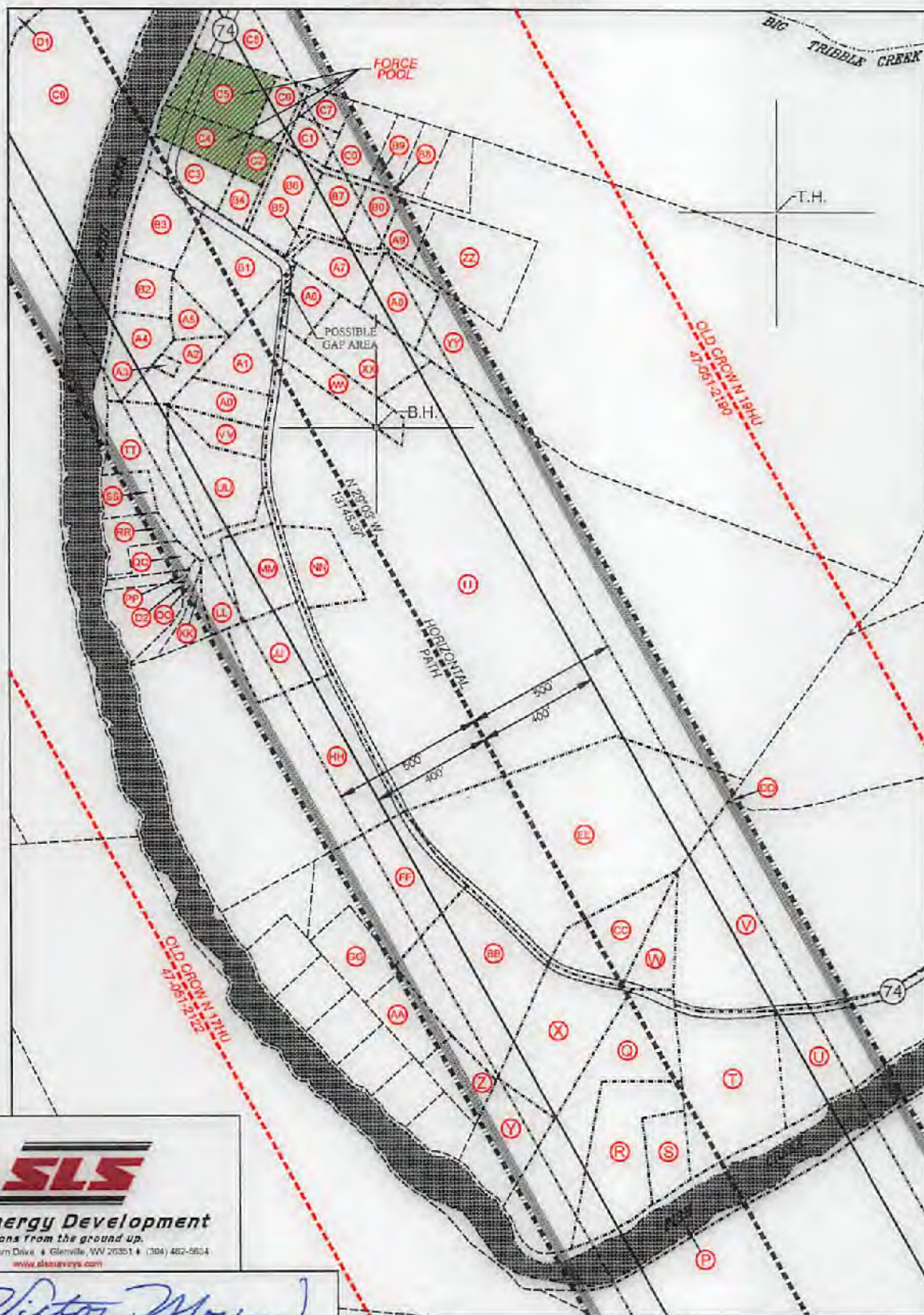
OLD CROW N LEASE
UTICA UNIT - 439.09 AC ±
WELL 18HU
TUG HILL OPERATING

T.H. LATITUDE 39°47'30"
 B.H. LATITUDE 39°50'00"

T.H. LONGITUDE 80°45'00"
 B.H. LONGITUDE 80°45'00"

SHEET 2 DETAIL
SCALE - 1" = 500'

NAD '83 GRID NORTH



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(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

LEGEND

- UNIT BOUNDARY
- LEASED TRACTS INSIDE
- UNIT BOUNDARY
- SURFACE LINE
- PROPOSED UTICA
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- PROPOSED WELL
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- PERMITTED WELL
- SURFACE OWNER (SEE TABLE)
- LEASE # (SEE ADDITIONAL SHEETS)

COUNTY NAME

PERMIT

| | | | |
|--|-------------------|--------------------|--|
| (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH) | | | |
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| NAD'83 GEO. | LAT-(N) 39.773408 | LONG-(W) 80.783035 | |
| NAD'83 UTM (M) | N. 4,409,190.04 | E. 520,292.49 | |
| LANDING POINT | | | |
| NAD'83 S.P.C.(FT) | N. 469,078.3 | E. 1,614,643.1 | |
| NAD'83 GEO. | LAT-(N) 39.781058 | LONG-(W) 80.78427 | |
| NAD'83 UTM (M) | N. 4,403,485.2 | E. 520,686.3 | |
| BOTTOM HOLE | | | |
| NAD'83 S.P.C.(FT) | N. 480,570.6 | E. 1,608,461.3 | |
| NAD'83 GEO. | LAT-(N) 39.812353 | LONG-(W) 80.781716 | |
| NAD'83 UTM (M) | N. 4,406,953.9 | E. 518,683.6 | |

| | | | |
|--------------------|---------------------------|----------|--------------------------|
| SCALE | 1" = 500' | FILE NO. | 8796P18HUR3.dwg |
| | | | OLD CROW NORTH 18HU_REV3 |
| DATE | SEPTEMBER 26 | | 20 18 |
| REVISED | APRIL 25, MAY 14, JUNE 18 | | 20 19 |
| OPERATORS WELL NO. | OLD CROW N-18HU | | |
| API WELL NO. | 47 | 051 | 02123 #6A |
| | STATE | COUNTY | PERMIT |
| | | | MDD |

STATE OF WEST VIRGINIA
 DIVISION OF
 ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS



WELL OPERATOR TUG HILL OPERATING, LLC
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500
 FORT WORTH, TX 76107

DESIGNATED AGENT DIANNA STAMPER
 ADDRESS 5400 D BIG TYLER ROAD
 CHARLESTON, WV 25313

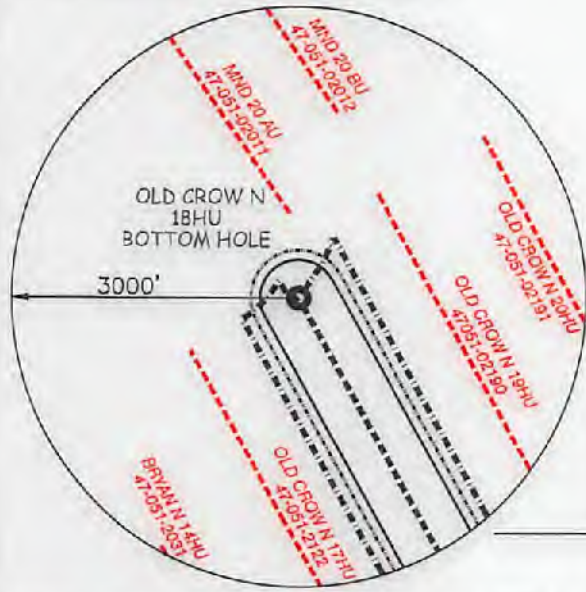
**OLD CROW N LEASE
UTICA UNIT - 439.09 AC±
WELL 18HU
TUG HILL OPERATING**

T.H. LATITUDE 39°47'30"
B.H. LATITUDE 39°50'00"

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

| | | |
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| NAD'83 S.P.C. (FT) | N. 488,131.25 | E. 1,813,534.59 |
| NAD'83 GEO. | LAT-(N) 39.778406 | LONG-(W) 80.783035 |
| NAD'83 UTM (M) | N. 4,403,180.04 | E. 520,292.49 |
| LANDING POINT | | |
| NAD'83 S.P.C. (FT) | N. 489,078.3 | E. 1,814,843.1 |
| NAD'83 GEO. | LAT-(N) 39.781056 | LONG-(W) 80.758427 |
| NAD'83 UTM (M) | N. 4,403,485.2 | E. 520,686.3 |
| BOTTOM HOLE | | |
| NAD'83 S.P.C. (FT) | N. 480,570.6 | E. 1,806,461.3 |
| NAD'83 GEO. | LAT-(N) 39.812358 | LONG-(W) 80.781716 |
| NAD'83 UTM (M) | N. 4,406,953.9 | E. 518,683.6 |

T.H. LONGITUDE 80°45'00"
B.H. LONGITUDE 80°45'00"

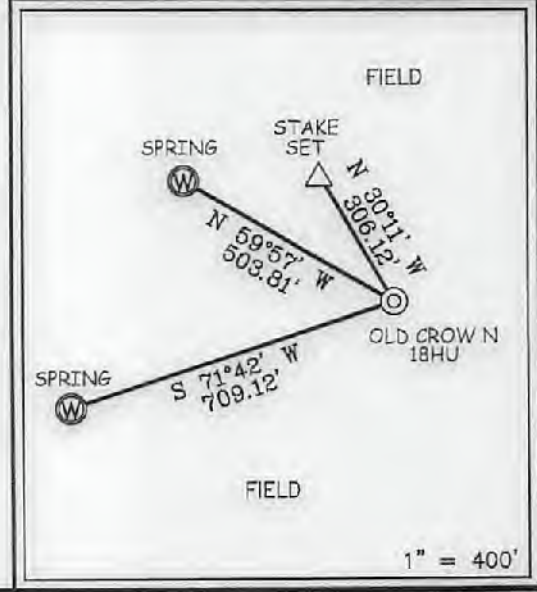


| MAP/PARCEL | ADJOINING SURFACE OWNER LIST | ACRES |
|------------|--------------------------------------|-------------|
| 5-9-17 | DENNIS P. CADMUS | 28.063 |
| 5-9-19 | MARK STEPHEN STOCKLASK | 2.38 |
| 5-9-23 | DELBERT K. & LINDA K. MYERS | 7.00 |
| 5-9-26 | EDWIN C. MILLER | 1.00 |
| 5-9-29.2 | JAMES E. & AMY L. MCDONOUGH | 2.807 |
| 5-9-30.1 | DAVID JR., & MELISA LOVE | 2.518 |
| 5-9-40 | SHIRLEY A. HILL EST | 368' X 425' |
| 5-9-42 | DENNIS P. CADMUS | 5.42 |
| 5-11-5 | KEVIN R. CORLEY, ET UX | 10.36 |
| 5-11-5.3 | ROBERT HARRIS ARRICK, ET UX | 3.00 |
| 5-11-6 | ROBERT & REBECCA ARRICK | 1.29 |
| 5-11-7 | MT. HOBART MISSIONARY BAPTIST CHURCH | 0.25 |
| 5-11-8 | MT. HOBART MISSIONARY BAPTIST CHURCH | LOT |
| 5-11-9.2 | MICHAEL R. BRYAN | 3.143 |
| 5-11-9.3 | JOSEPHIM & STEVEN HAUGIT | 16.3 |
| 5-11-9.5 | SOUTHERN COUNTRY FARMS INC. | 2.559 |
| 5-11-9.6 | SOUTHERN COUNTRY FARMS INC. | 2.488 |
| 5-11-9.7 | SEAN F. MOORE | 2.026 |
| 5-11-9.8 | SEAN F. MOORE | 2.070 |
| 5-11-9.9 | LEONARD L. PARSONS, ET UX | 5.89 |
| 5-11-9.10 | JOHN A. & JANET L. BEUCKE | 2.348 |
| 5-11-11 | BRAD M. & AMANDA J. BLAKE | 5.00 |
| 5-11-11.1 | NELLIE MARIE & ROBERT SPENCER | 5.813 |
| 5-11-11.4 | BRAD M. & AMANDA J. BLAKE | 15.193 |

NOTES ON SURVEY

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS > 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 525' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOP MARK SCALE ARE 1"=2000'
- PROPOSED LATERAL OR TOP HOLE OF OLD CROW N-18HU IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF EXISTING WELLS BRYAN N 13HU (47-051-02030), BRYAN N 14HU (47-051-02031), OLD CROW N-17HU (47-051-02122), OLD CROW N-18HU (47-051-02123), OLD CROW N-19HU (47-051-02190), MND20 AU (47-051-02011), MND20 BU (47-051-02012), MND20 CU (47-051-02013), MND20 DU (47-051-02014) & PROPOSED OLD CROW N-20HU (47-051-02191).

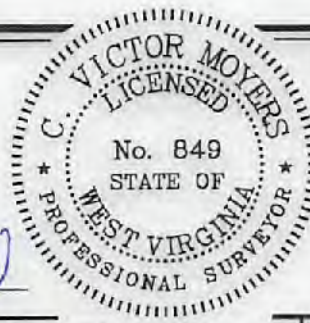
REFERENCES



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www.slsurveyors.com

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 849 *C. Victor Moyers*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE SEPTEMBER 26, 20 18
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 OPERATORS WELL NO. OLD CROW N-18HU
 API WELL NO. 47 - 051 - 02123
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8796P18HUR3.dwg
OLD CROW NORTH 18HU_REV3
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: GROUND = 1286.70' ELEVATION PROPOSED = 1264.89' WATERSHED TRIBUTARY OF FISH CREEK (HUC-10)
 DISTRICT FRANKLIN COUNTY MARSHALL QUADRANGLE POWHATAN POINT 7.5'

SURFACE OWNER DONNA VIVIAN YOHO (TOD) GARY LANGE YOHO ACREAGE 71.205±
 ROYALTY OWNER DONNA VIVIAN YOHO, ET AL - SEE ADDITIONAL SHEETS ACREAGE 71.205±
 PROPOSED WORK: LEASE NO. SEE ADDITIONAL SHEETS

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION POINT PLEASANT
 ESTIMATED DEPTH TVD: 11,531' / TMD: 25,091'

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