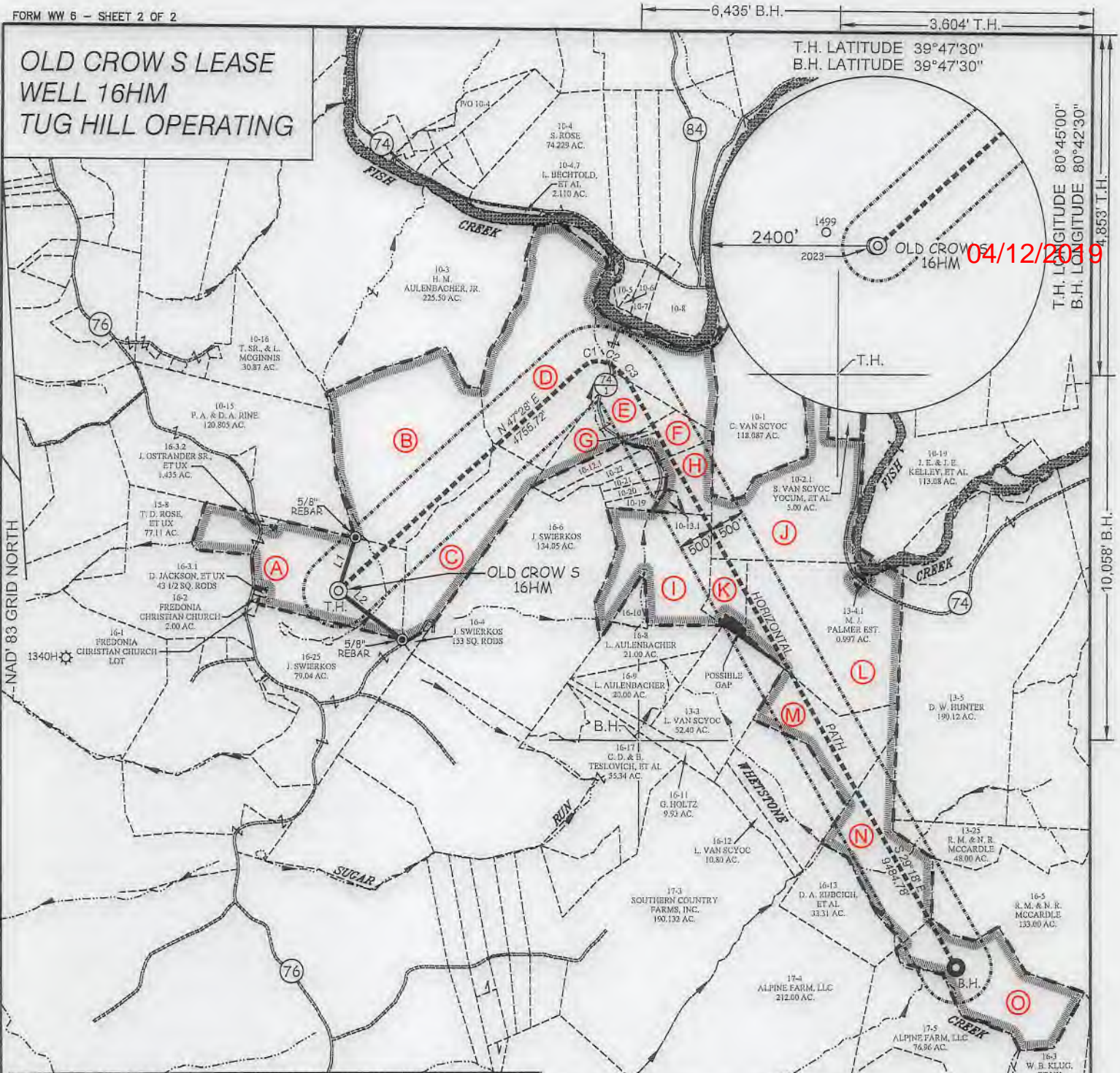


**OLD CROW S LEASE
WELL 16HM
TUG HILL OPERATING**



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

T.H. LONGITUDE 80°45'00"
B.H. LONGITUDE 80°42'30"

04/12/2019

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	247.47'	294.06'	N 74°20' E	240.23'
C2	251.38'	498.99'	S 66°25' E	248.73'
C3	314.87'	739.81'	S 40°35' E	312.50'

TAG	SURFACE OWNER	PARCEL	ACRES
A	DONNA VIVIAN YOHO (TOD) GARY LANCE YOHO	5-16-3	71.205
B	JOHN SWIERKOS	5-10-14	100.00
C	JOHN SWIERKOS	5-16-5	52.07
D	HERBERT M. AULENBACHER, JR.	5-10-9	141.43
E	LOUIS DELBERT VAN SCYOC	5-10-10	24.50
F	JOSEPH LEE CROW	5-10-12	11.279
G	JOSEPH LEE CROW	5-10-11	130'x310'
H	JOSEPH LEE CROW	5-10-13	12.18
I	LOUIS AULENBACHER	5-16-7	50.00
J	CAROL VAN SCYOC	9-10-2	207.988
K	SYLVIA I. VAN SCYOC, ET AL.	P/O 9-13-2	41.5
L	LOUIS AULENBACHER	9-13-4	100.191
M	SYLVIA I. VAN SCYOC, ET AL.	9-13-2	41.5
N	ROBERT N. & NANCY R. MCCARDLE	9-16-1	46.80
O	ROBERT N. & NANCY R. MCCARDLE	9-16-2	53.40

LINE	BEARING	DISTANCE
L1	N 17°49' E	788.08'
L2	S 53°12' E	1132.36'

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

NAD'83 S.P.C.(FT)	N. 468,106.97	E. 1,613,593.34
NAD'83 GEO.	LAT-(N) 39.778344	LONG-(W) 80.762825
NAD'83 UTM (M)	N. 4,403,182.94	E. 520,310.51
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 471,050.2	E. 1,617,760.0
NAD'83 GEO.	LAT-(N) 39.786583	LONG-(W) 80.748147
NAD'83 UTM (M)	N. 4,404,100.8	E. 521,564.9
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 462,779.2	E. 1,622,402.3
NAD'83 GEO.	LAT-(N) 39.764054	LONG-(W) 80.731225
NAD'83 UTM (M)	N. 4,401,604.6	E. 523,021.3



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

P.S. 849 *C. Victor Moyers*

LEGEND

- LEASE LINE
- SURFACE LINE
- WELL LATERAL
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- TAX MAP-PARCEL
- SURFACE OWNER (SEE TABLE)
- LEASE # (SEE WW-6A1)

SCALE 1" = 2000' FILE NO. 8796P16HMR.dwg
OLD CROW NORTH 16HM REV0
DATE JUNE 22, 20 18
REVISED OCTOBER 23, 20 18
OPERATORS WELL NO. OLD CROW S-16HM
API WELL NO. 47 — 051 — 02187
STATE COUNTY PERMIT

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

COUNTY NAME PERMIT

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

**OLD CROW S LEASE
WELL 16HM
TUG HILL OPERATING**

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
5-10-5	WILLIAM F. RULONG, ET AL	27.50
5-10-6	WILLIAM F. RULONG, ET AL	P/O ACRE
5-10-7	WILLIAM F. RULONG, ET AL	22.872
5-10-8	WILLIAM F. RULONG, ET AL	70.6672
5-10-12.1	JOHN PAUL SMITH, JR., ET AL	8.86
5-10-13.1	DAVID LEE QUIGLEY, JR.	2.88
5-10-19	BRADLEY L. & CONNIE L. HUBBARD	3.209
5-10-20	LOUIS AULENBACHER	3.554
5-10-21	LOUIS AULENBACHER	3.677
5-10-22	LOUIS AULENBACHER	6.461
5-16-10	FRANK P. LAUTAR EST.	5.00

6,435' B.H. 3,604' T.H.

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

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

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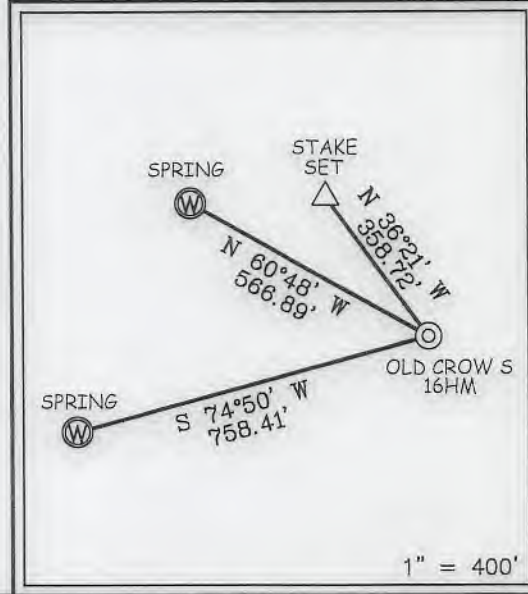
T.H. LENGTH 80°45'00"
B.H. LENGTH 80°42'30"

04/12/2019

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 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE ARE 1"=2000'

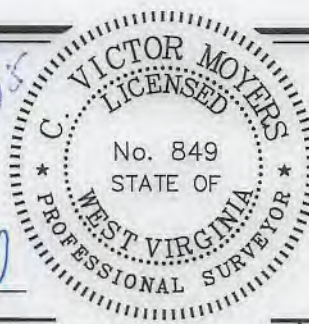
REFERENCES



1" = 400'

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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 JUNE 22, 20 18
REVISED OCTOBER 23, 20 18
OPERATORS WELL NO. OLD CROW S-16HM
API WELL NO. 47 - 051 - 02187
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8796P16HMR.dwg
OLD CROW NORTH 16HM REV0
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 = 1,285.40' ELEVATION PROPOSED = 1,264.99' WATERSHED TRIBUTARY OF FISH CREEK (HUC-10)
DISTRICT FRANKLIN COUNTY MARSHALL QUADRANGLE POWHATAN POINT 7.5'

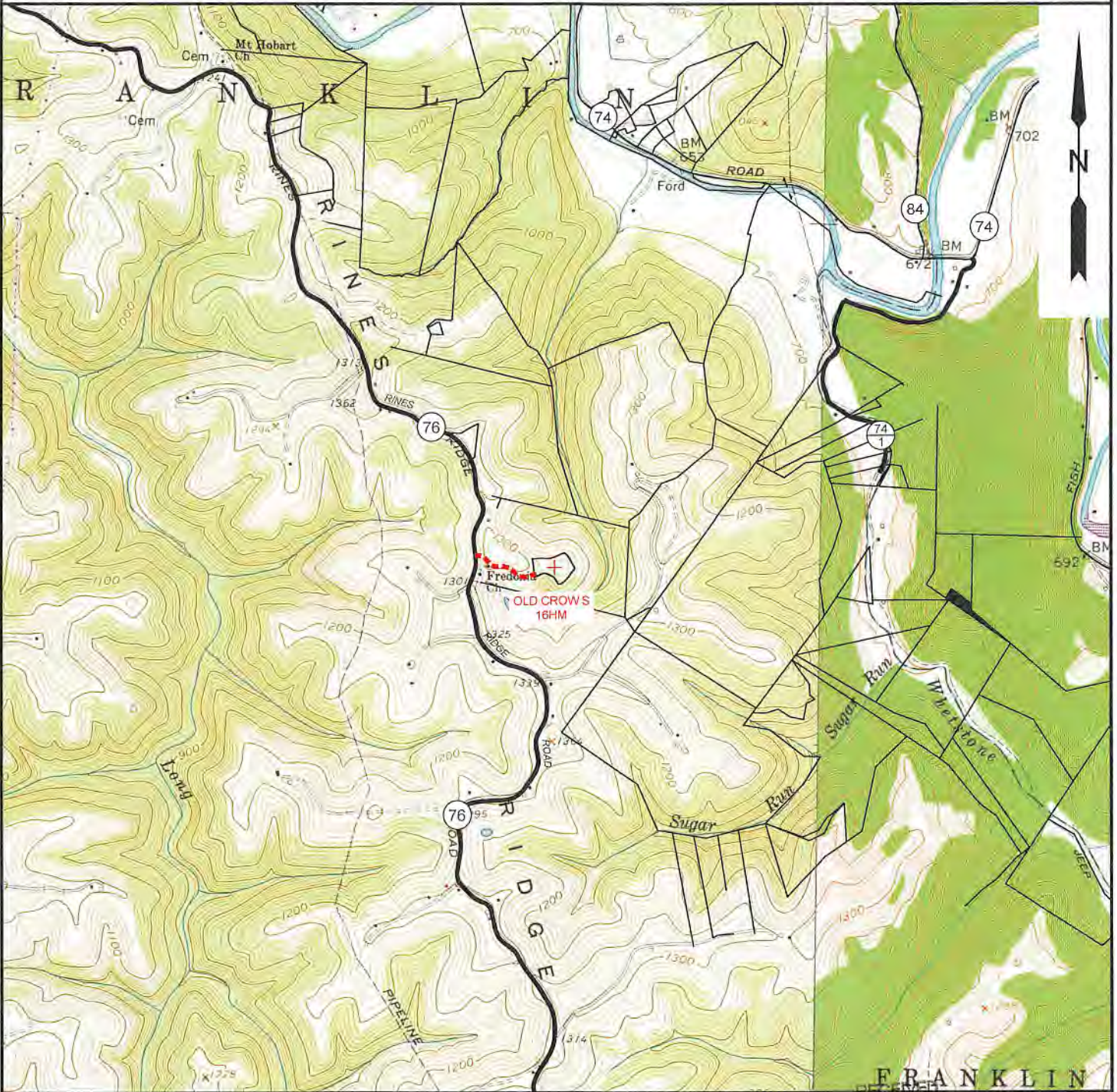
SURFACE OWNER DONNA VIVIAN YOHO (TOD) GARY LANCE YOHO ACREAGE 71.205±
ROYALTY OWNER DONNA VIVIAN YOHO, ET AL ACREAGE 71.205±

PROPOSED WORK: LEASE NO. SEE WW-6A1
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 MARCELLUS
ESTIMATED DEPTH TVD: 6,730' / TMD: 18,460'

WELL OPERATOR TUG HILL OPERATING, LLC ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107
DESIGNATED AGENT DIANNA STAMPER CT CORPORATION SYSTEM ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

COUNTY NAME PERMIT

PROPOSED OLD CROW S - 16HM



NOTE: CLOSEST WATER PURVEYOR
GRANDVIEW - DOOLIN PUBLIC SERVICE DISTRICT
PROCTOR, WV

LAT: 39.7137712
LON: -80.8258327
LOCATED: S 37°39'00" W AT 29,404.13' FROM OLD CROW S - 16HM SURFACE LOCATION

FRANKLIN
Office of Oil and Gas

FEB 12 2019

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TOPO SECTION:		OPERATOR:	
GLEN EASTON & POWHATAN POINT 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	FRANKLIN	380 SOUTHPOINTE BLVD	
		SUITE 200	
		CANONSBURG, PA 15317	
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	8796	06/22/18	1" = 2000'

WV Department of Environmental Protection
TUG HILL
OPERATING