

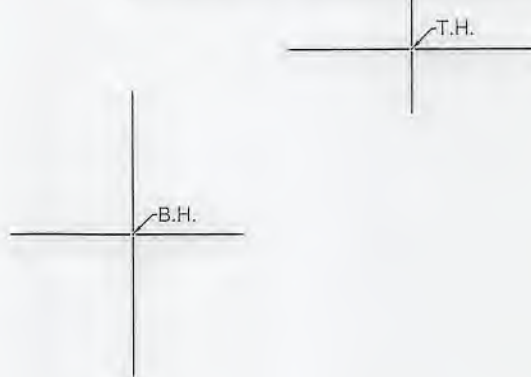
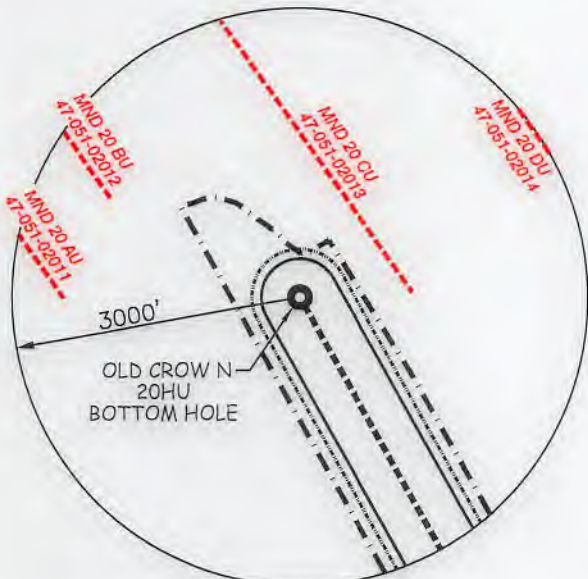
**OLD CROW N LEASE
UTICA UNIT - 503.48 AC±
WELL 20HU
TUG HILL OPERATING**

6,550' B.H. 3,641' T.H.

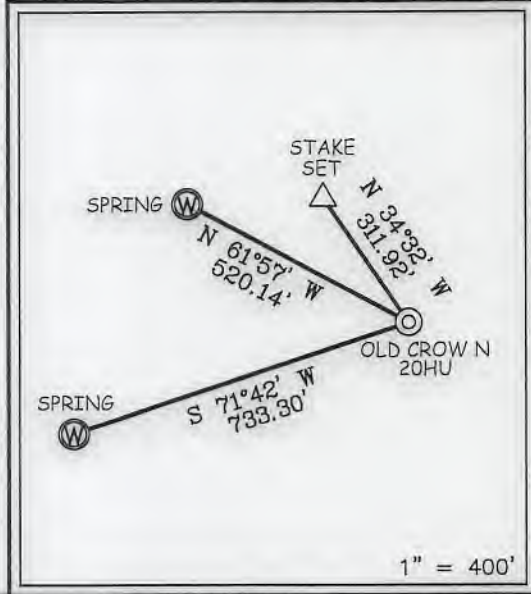
T.H. LATITUDE 39°47'30"
B.H. LATITUDE 39°50'00"

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)		
NAD'83 S.P.C.(FT)	N. 468,138.92	E. 1,613,557.53
NAD'83 GEO.	LAT-(N) 39.778430	LONG-(W) 80.762954
NAD'83 UTM (M)	N. 4,403,192.49	E. 520,299.44
<u>LANDING POINT</u>		
NAD'83 S.P.C.(FT)	N. 470,292.2	E. 1,617,029.2
NAD'83 GEO.	LAT-(N) 39.784475	LONG-(W) 80.750709
NAD'83 UTM (M)	N. 4,403,866.2	E. 521,346.1
<u>BOTTOM HOLE</u>		
NAD'83 S.P.C.(FT)	N. 481,449.4	E. 1,610,833.1
NAD'83 GEO.	LAT-(N) 39.814863	LONG-(W) 80.773318
NAD'83 UTM (M)	N. 4,407,233.7	E. 519,401.7

T.H. LONGITUDE 80°45'00"
B.H. LONGITUDE 80°45'00"
4,822' T.H.
6,729' B.H.



REFERENCES

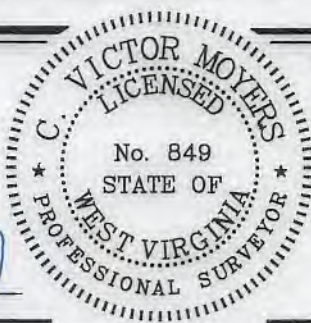


NOTES ON SURVEY

- 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'
- PROPOSED LATERAL OR TOP HOLE OF OLD CROW N-20HU 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),
MND20 AU (47-051-02011),
MND20 BU (47-051-02012),
MND20 CU (47-051-02013),
MND20 DU (47-051-02014) &
PROPOSED OLD CROW N-19HU.
- THE ASSESSMENT OF THE 1/10 ACRE LOT, OWNED BY JASON J. STEED AND DESCRIBED AS THE SECOND PARCEL IN DEED BOOK 643 PAGE 319 AND CORRECTIVE DEED 843 PAGE 300, IS NOT CURRENTLY ACCOUNTED FOR WITHIN THE 135.61 ACRE ASSESSMENT OF SURFACE TAX MAP 5-9-13.2

P.O. Box 190 ♦ 12 Vanhorn Drive ♦ Glenville, WV 26351 ♦ (304) 482-5634
www.slewy.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.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE FEBRUARY 22, 20 19
REVISED 03-08-19, 03-14-19 & 04-05-19
OPERATORS WELL NO. OLD CROW N-20HU
API WELL NO. 47-051-02191 HGA
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8796P20HUR4.dwg
OLD CROW NORTH 20HU REV4
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 = 1,288.00' 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 - 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: 11,561' / TMD: 25,369'

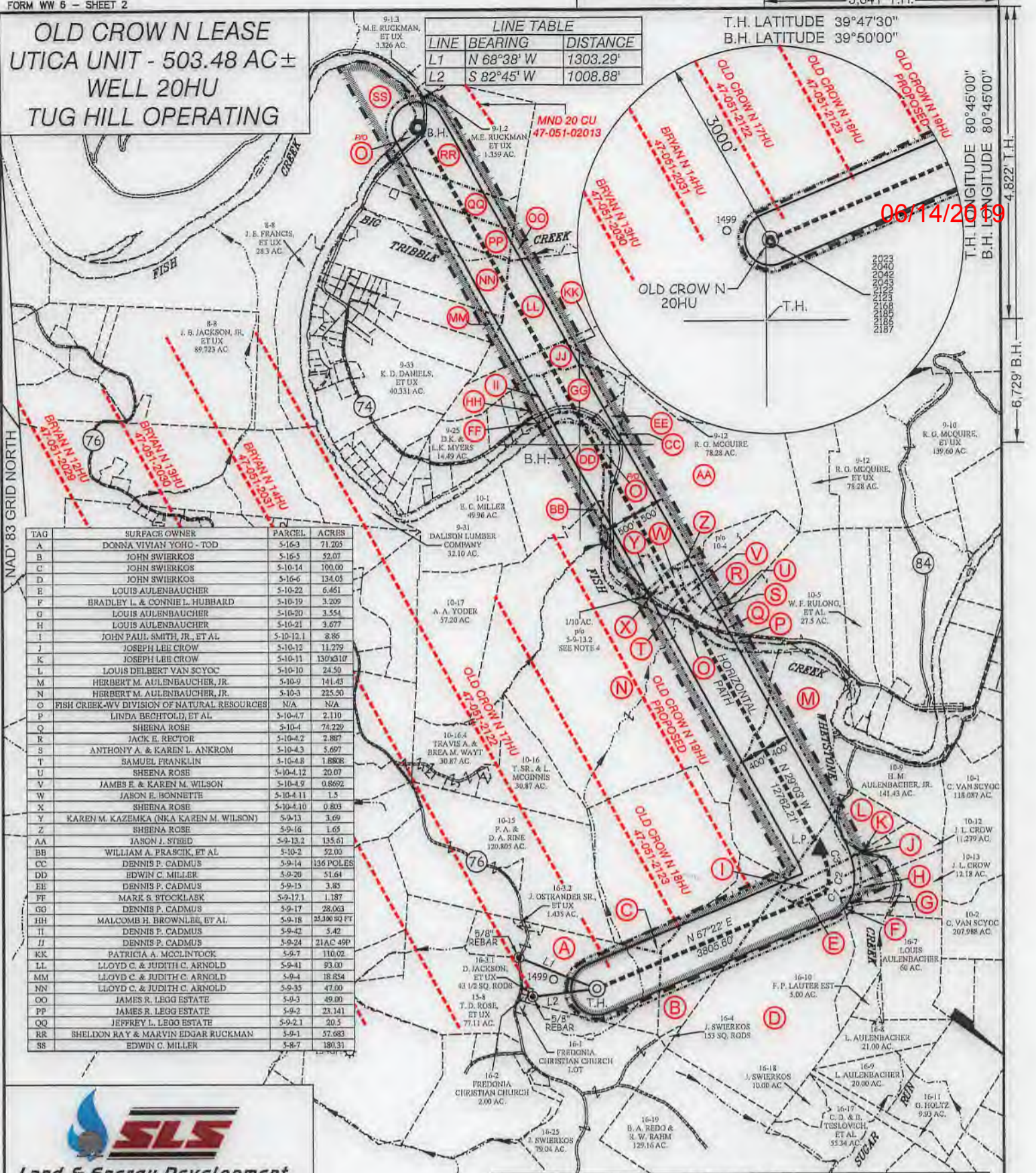
WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS CT CORPORATION SYSTEM
FORT WORTH, TX 76107 ADDRESS 5400 D BIG TYLER ROAD
CHARLESTON, WV 25313

COUNTY NAME
PERMIT

**OLD CROW N LEASE
UTICA UNIT - 503.48 AC ±
WELL 20HU
TUG HILL OPERATING**

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 68°38' W	1303.29'
L2	S 82°45' W	1008.88'

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



TAG	SURFACE OWNER	PARCEL	ACRES
A	DONNA VIVIAN YOHG - TOD	5-16-3	71.205
B	JOHN SWIERKOS	5-16-5	52.07
C	JOHN SWIERKOS	5-10-14	100.00
D	JOHN SWIERKOS	5-16-6	134.03
E	LOUIS AULENBAUCHER	5-10-22	6.461
F	BRADLEY L. & CONNIE L. HUBBARD	5-10-19	3.209
G	LOUIS AULENBAUCHER	5-10-20	3.554
H	LOUIS AULENBAUCHER	5-10-21	3.677
I	JOHN PAUL SMITH, JR., ET AL	5-10-12.1	2.86
J	JOSEPH LEE CROW	5-10-12	11.279
K	JOSEPH LEE CROW	5-10-11	130x310'
L	LOUIS DELBERT VAN SOYOC	5-10-10	24.50
M	HERBERT M. AULENBAUCHER, JR.	5-10-9	141.43
N	HERBERT M. AULENBAUCHER, JR.	5-10-3	225.50
O	FISH CREEK-WV DIVISION OF NATURAL RESOURCES	N/A	N/A
P	LINDA BECHTOLD, ET AL	5-10-4.7	2.110
Q	SHEENA ROSE	5-10-4	74.229
R	JACK E. RECTOR	5-10-4.2	2.887
S	ANTHONY A. & KAREN L. ANKROM	5-10-4.3	5.697
T	SAMUEL FRANKLIN	5-10-4.8	1.8808
U	SHEENA ROSE	5-10-4.12	20.07
V	JAMES E. & KAREN M. WILSON	5-10-4.9	0.8692
W	JASON E. BONNETT	5-10-4.11	1.5
X	SHEENA ROSE	5-10-4.10	0.803
Y	KAREN M. KAZEMKA (NKA KAREN M. WILSON)	5-9-13	3.69
Z	SHEENA ROSE	5-9-16	1.65
AA	JASON J. STREB	5-9-13.2	135.61
BB	WILLIAM A. PRASCIK, ET AL	5-10-2	52.03
CC	DENNIS P. CADMUS	5-9-14	136 POLES
DD	EDWIN C. MILLER	5-9-20	51.64
EE	DENNIS P. CADMUS	5-9-15	3.85
FF	MARK S. STOCKLASK	5-9-17.1	1.187
GG	DENNIS P. CADMUS	5-9-17	28.003
HH	MALCOMB H. BROWNLEE, ET AL	5-9-18	25,100 SQ FT
II	DENNIS P. CADMUS	5-9-42	5.42
JJ	DENNIS P. CADMUS	5-9-24	21AC 49P
KK	PATRICIA A. MCCLINTOCK	5-5-7	110.02
LL	LLOYD C. & JUDITH C. ARNOLD	5-9-41	93.00
MM	LLOYD C. & JUDITH C. ARNOLD	5-9-4	18.854
NN	LLOYD C. & JUDITH C. ARNOLD	5-9-35	47.00
OO	JAMES R. LEGG ESTATE	5-9-3	49.00
PP	JAMES R. LEGG ESTATE	5-9-2	23.141
QQ	JEFFREY L. LEGG ESTATE	5-9-2.1	20.5
RR	SHELDON RAY & MARVIN EDGAR RUCKMAN	5-9-1	57.683
SS	EDWIN C. MILLER	5-8-7	180.31

CURVE TABLE				
CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	210.52'	235.33'	N 26°54' E	203.57'
C2	155.72'	907.18'	N 02°02' W	155.53'
C3	375.71'	1234.94'	N 19°55' W	374.26'

SLS
Land & Energy Development
Solutions from the ground up.
P.O. Box 150 ♦ 12 Vanhorn Drive ♦ Glenview, WV 26351 ♦ (304) 482-5834
www.slsww.com

P.S. 849 *C. Victor Moyers*



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

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

SCALE 1" = 2000' FILE NO. 8796P20HUR4.dwg
OLD CROW NORTH 20HU REV 4
DATE FEBRUARY 22, 2019
REVISED 03-08-19, 03-14-19 & 04-05-19
OPERATORS WELL NO. OLD CROW N-20HU
API WELL 47-051-02191 H6A
NO. STATE COUNTY PERMIT

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 CT CORPORATION SYSTEM 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

COUNTY NAME PERMIT

**OLD CROW N LEASE
UTICA UNIT - 503.48 AC ±
WELL 20HU
TUG HILL OPERATING**



06/14/2019

No.	Lease Name or No.	Tag	Parcel	Oil & Gas Royalty Owners	Deed Book/Page
1	10*19340	A	5-16-3	DONNA V YOHO	665 407
2	10*14919	B	5-16-5	CHESTNUT HOLDINGS INC	836 117
3	10*14920	C	5-10-14	CHESTNUT HOLDINGS INC	836 119
4	10*21468	D	5-16-6	JOHN A SWIERKOS	953 317
5	10*18396	E	5-10-22	LOUIS AULENBACHER	932 468
6	10*21468	E	5-10-22	JOHN A SWIERKOS	953 317
7	10*21468	F	5-10-19	JOHN A SWIERKOS	953 317
8	10*47051.261.4	F	5-10-19	BRADLEY L HUBBARD AND CONNIE L HUBBARD	898 573
9	10*18396	G	5-10-20	LOUIS AULENBACHER	932 468
10	10*21468	G	5-10-20	JOHN A SWIERKOS	953 317
11	10*18396	H	5-10-21	LOUIS AULENBACHER	932 468
12	10*21468	H	5-10-21	JOHN A SWIERKOS	953 317
13	10*21468	I	5-10-12.1	JOHN A SWIERKOS	953 317
14	10*47051.261.1	I	5-10-12.1	WILLIAM HUBBARD	882 536
15	10*47051.261.2	I	5-10-12.1	BONNIE G ZELIC	882 539
16	10*47051.261.3	I	5-10-12.1	JOHN P SMITH JR	882 542
17	10*47051.261.4	J	5-10-12.1	BRADLEY L HUBBARD AND CONNIE L HUBBARD	898 573
18	10*18892	J	5-10-12	JOSEPH LEE CROW	966 88
19	10*18302	K	5-10-11	JOSEPH L CROW, R AND LORRY CROW	929 316
20	10*21468	L	5-10-10	JOHN A SWIERKOS	953 317
21	PENDING	L	5-10-10	LOUIS VAN SCYOC AND PATRICIA VAN SCYOC	697 461
22	10*22295	L	5-10-10	RACHEL B OSTRANDER	822 210
23	10*22319	L	5-10-10	SHARON G VAN SCYOC	822 204
24	10*19249	M	5-10-9	HERBERT M AULENBACHER	914 551
25	10*14918	N	5-10-3	CHESTNUT HOLDINGS INC	836 115
26	Q091960000	O	FISH CREEK	STATE OF WEST VIRGINIA DIVISION OF NATURAL RESOURCES	865 558
27	10*18594	P	5-10-4.7	LEE JONATHAN BECHTOLD	934 646
28	10*18594	P	5-10-4.7	LINDA L & THOMAS G MCCORMICK	934 645
29	10*18594	P	5-10-4.7	LW BECHTOLD	934 641
30	10*19248	Q	5-10-4	ALBERT F KAZEMKA	848 419
31	10*21571	R	5-10-4.2	JACK E RECTOR	957 476
32	10*19163	S	5-10-4.3	ANTHONY A ANKROM KAREN L ANKROM	711 468
33	10*18158	T	5-10-4.8	SAMUEL D FRANKLIN AND RHONDA K FRANKLIN	938 462
34	10*19248	U	5-10-4.12	ALBERT F KAZEMKA	848 419
35	10*19131	V	5-10-4.9	USA D ELSON	764 16
36	10*19108	W	5-10-4.11	JASON E BONNETTE	848 438
37	10*19107	X	5-10-4.10	ALBERT F KAZEMKA	853 73
38	10*47051.162.0	Y	5-9-13	KAREN M WILSON	873 150
39	10*19107	Z	5-9-16	ALBERT F KAZEMKA	853 73
40	10*47051.170.0	AA	5-9-13.2	JASON J STEED	865 344
41	10*47051.260.0	BB	5-10-2	WILLIAM A PRASCIC, CATHERINE A PRASCIC, LORI J PRASCIC, FRANCIS C PRASCIC	879 302
42	Q078672000	CC	5-9-14	DENNIS P CADMUS	808 311
43	10*47051.127.1	DD	5-9-20	EDWIN C MILLER AND KIMBERLY ANN MILLER	885 61
44	10*18796	EE	5-9-15	DWG OIL & GAS ACQUISITIONS LLC	938 475
45	10*21424	EE	5-9-15	CHARLES R STOCKTON AND BETTY M HUDSON STOCKTON	959 310
46	10*21473	EE	5-9-15	MARY E BISHOP	957 232
47	10*21475	EE	5-9-15	WOODROW N WARD AND HILDA A WARD	957 124
48	10*21478	EE	5-9-15	CHILDRENS HOME SOCIETY OF WEST VIRGINIA	960 173
49	10*21547	EE	5-9-15	GARY A MILLER AND MARCELLE T MILLER	952 370
50	10*21548	EE	5-9-15	JEANNE M MILLER	952 386
51	10*21608	EE	5-9-15	BONNIE LOU POSTLEWAIT	959 313
52	10*21719	EE	5-9-15	ROBERT A MILLER	952 389
53	10*21835	EE	5-9-15	KENNETH ALLEN AND CARLA JO ALLEN	962 572
54	10*21937	EE	5-9-15	WHEELING SOCIETY FOR CRIPPLED CHILDREN JAY E PRAGER PRESIDENT	960 33
55	10*22044	EE	5-9-15	MICHAEL A BISHOP	960 421
56	10*22045	EE	5-9-15	DOUGLAS R BISHOP	961 417
57	10*22296	EE	5-9-15	NOAH BAKER AND AUSA BAKER	962 200
58	10*22326	EE	5-9-15	RACHEL SONDA AND SCOTT SONDA	962 532
59	10*22407	EE	5-9-15	BRADLEY MURPHY	962 575
60	10*22430	EE	5-9-15	DEBORAH VANVRANKEN	964 510
61	10*22451	EE	5-9-15	GERALD L BISHOP III	964 31
62	10*22492	EE	5-9-15	FAITH MARIE FREESTONE AND ERIC FREESTONE	972 50
63	10*22547	EE	5-9-15	LAWRENCE EDWARD MURPHY AND JOAN MARIE MURPHY	966 628
64	10*22566	EE	5-9-15	KENNETH A MILLER	964 233
65	10*22606	EE	5-9-15	ROBERT B MURPHY AND LINDA MURPHY	966 469
66	10*22636	EE	5-9-15	CHANDA WILSON AND DANIEL WILSON	968 226
67	10*23035	EE	5-9-15	DEAN S CARR	977 364
68	10*23508	EE	5-9-15	MICHAEL A MURPHY	1009 98
69	10*24888	EE	5-9-15	ARTHUR LEE MILLER ET AL	1027 187
70	10*24984	EE	5-9-15	JONATHAN BAKER	1027 558
71	Q090332002	EE	5-9-15	LORETTA JEAN RIGGLE ET VIR	860 538
72	Q090332003	EE	5-9-15	PATTY BERISFORD ET VIR	860 555
73	Q090332007	EE	5-9-15	ROBERT RANDOLPH WOODBURN ET UX	860 568
74	Q090332001	EE	5-9-15	WILLIAM E MILLER AND KAREN S MILLER	858 256
75	PENDING	EE	5-9-15	SANDRA PARDINI AKA KATHERINE S PARDINI AND ALLEN F PARDINI	1031 544
76	10*18796	FF	5-9-17.1	DWG OIL & GAS ACQUISITIONS LLC	938 476
77	10*21414	FF	5-9-17.1	CHARLES R STOCKTON AND BETTY M HUDSON	959 310
78	10*21473	FF	5-9-17.1	MARY E BISHOP	957 232
79	10*21475	FF	5-9-17.1	WOODROW N WARD AND HILDA A WARD	957 124
80	10*21478	FF	5-9-17.1	CHILDRENS HOME SOCIETY OF WEST VIRGINIA	960 173
81	10*21547	FF	5-9-17.1	GARY A MILLER AND MARCELLE T MILLER	952 370
82	10*21548	FF	5-9-17.1	JEANNE M MILLER	952 386
83	10*21608	FF	5-9-17.1	BONNIE LOU POSTLEWAIT	959 313
84	10*21719	FF	5-9-17.1	ROBERT A MILLER	952 389
85	10*21835	FF	5-9-17.1	KENNETH ALLEN AND CARLA JO ALLEN	962 572
86	10*21937	FF	5-9-17.1	WHEELING SOCIETY FOR CRIPPLED CHILDREN JAY E PRAGER PRESIDENT	960 33
87	10*22044	FF	5-9-17.1	MICHAEL A BISHOP	960 421
88	10*22045	FF	5-9-17.1	DOUGLAS R BISHOP	961 417
89	10*22296	FF	5-9-17.1	NOAH BAKER AND AUSA BAKER	962 200
90	10*22326	FF	5-9-17.1	RACHEL SONDA AND SCOTT SONDA	962 532
91	10*22407	FF	5-9-17.1	BRADLEY MURPHY	962 575
92	10*22430	FF	5-9-17.1	DEBORAH VANVRANKEN	964 510
93	10*22451	FF	5-9-17.1	GERALD L BISHOP III	964 31
94	10*22492	FF	5-9-17.1	FAITH MARIE FREESTONE AND ERIC FREESTONE	972 50
95	10*22547	FF	5-9-17.1	LAWRENCE EDWARD MURPHY AND JOAN MARIE MURPHY	966 628
96	10*22566	FF	5-9-17.1	KENNETH A MILLER	964 233
97	10*22606	FF	5-9-17.1	ROBERT B MURPHY AND LINDA MURPHY	966 469
98	10*22636	FF	5-9-17.1	CHANDA WILSON AND DANIEL WILSON	968 226
99	10*23035	FF	5-9-17.1	DEAN S CARR	977 364
100	10*23508	FF	5-9-17.1	MICHAEL A MURPHY	1009 98

FILE NO. 8796P20HUR4.dwg
OLD CROW NORTH 20HU REV 4

DATE FEBRUARY 22, 20 19

REVISED 03-08-19, 03-14-19 & 04-05-19

OPERATORS WELL NO. OLD CROW N-20HU

API WELL NO. 47 — DS1 — 02191 H6A
STATE COUNTY PERMIT



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



P.S. 849 *C. Victor Moyers*

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

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

COUNTY NAME
PERMIT

**OLD CROW N LEASE
UTICA UNIT - 503.48 AC ±
WELL 20HU
TUG HILL OPERATING**



06/14/2019

No.	Lease Name or No.	Tag	Parcel	Oil & Gas Royalty Owners	Deed Book/Page
101	10*24868	FF	5-9-17.1	ARTHUR LEE MILLER ET AL	1027 187
102	10*24984	FF	5-9-17.1	JONATHAN BAKER	1027 558
103	Q090332002	FF	5-9-17.1	LORETTA JEAN RIGGLE ET VIR	860 538
104	Q090332003	FF	5-9-17.1	PATTY BERISFORD ET VIR	860 555
105	Q090332007	FF	5-9-17.1	ROBERT RANDOLPH WOODBURN ET UX	860 568
106	Q090332001	FF	5-9-17.1	WILLIAM E MILLER AND KAREN S MILLER	858 256
107	PENDING	FF	5-9-17.1	SANDRA PARDINI AKA KATHERINE S PARDINI AND ALLEN F PARDINI	1031 544
108	10*18796	GG	5-9-17	DWG OIL & GAS ACQUISITIONS LLC	938 476
109	10*21414	GG	5-9-17	CHARLES R STOCKTON AND BETTY M HUDSON	959 310
110	10*21473	GG	5-9-17	MARY E BISHOP	957 232
111	10*21475	GG	5-9-17	WOODROW N WARD AND HILDA A WARD	957 124
112	10*21478	GG	5-9-17	CHILDRENS HOME SOCIETY OF WEST VIRGINIA	960 173
113	10*21547	GG	5-9-17	GARY A MILLER AND MARCELLE T MILLER	952 370
114	10*21548	GG	5-9-17	JEANNE M MILLER	952 386
115	10*21606	GG	5-9-17	BONNIE LOU POSTLEWAIT	959 313
116	10*21719	GG	5-9-17	ROBERT A MILLER	952 389
117	10*21835	GG	5-9-17	KENNETH ALLEN AND CARLA JO ALLEN	962 572
118	10*21937	GG	5-9-17	WHEELING SOCIETY FOR CRIPPLED CHILDREN JAY E PRAGER PRESIDENT	960 33
119	10*22044	GG	5-9-17	MICHAEL A BISHOP	960 421
120	10*22045	GG	5-9-17	DOUGLAS R BISHOP	961 417
121	10*22296	GG	5-9-17	NOAH BAKER AND ALISA BAKER	962 200
122	10*22326	GG	5-9-17	RACHEL SONDA AND SCOTT SONDA	962 532
123	10*22407	GG	5-9-17	BRADLEY MURPHY	962 575
124	10*22430	GG	5-9-17	DEBORAH VANVRANKEN	964 510
125	10*22451	GG	5-9-17	GERALD L BISHOP III	964 31
126	10*22492	GG	5-9-17	FAITH MARIE FREESTONE AND ERIC FREESTONE	972 50
127	10*22547	GG	5-9-17	LAWRENCE EDWARD MURPHY AND JOAN MARIE MURPHY	966 628
128	10*22566	GG	5-9-17	KENNETH A MILLER	964 233
129	10*22606	GG	5-9-17	ROBERT B MURPHY AND LINDA MURPHY	966 469
130	10*22636	GG	5-9-17	CHANDA WILSON AND DANIEL WILSON	968 226
131	10*23035	GG	5-9-17	DEAN S CARR	977 364
132	10*23508	GG	5-9-17	MICHAEL A MURPHY	1009 96
133	10*24888	GG	5-9-17	ARTHUR LEE MILLER ET AL	1027 187
134	10*24984	GG	5-9-17	JONATHAN BAKER	1027 558
135	Q090332002	GG	5-9-17	LORETTA JEAN RIGGLE ET VIR	860 538
136	Q090332003	GG	5-9-17	PATTY BERISFORD ET VIR	860 555
137	Q090332007	GG	5-9-17	ROBERT RANDOLPH WOODBURN ET UX	860 568
138	Q090332001	GG	5-9-17	WILLIAM E MILLER AND KAREN S MILLER	858 256
139	PENDING	GG	5-9-17	SANDRA PARDINI AKA KATHERINE S PARDINI AND ALLEN F PARDINI	1031 544
140	10*18796	HH	5-9-18	DWG OIL & GAS ACQUISITIONS LLC	938 476
141	10*21414	HH	5-9-18	CHARLES R STOCKTON AND BETTY M HUDSON	959 310
142	10*21473	HH	5-9-18	MARY E BISHOP	957 232
143	10*21475	HH	5-9-18	WOODROW N WARD AND HILDA A WARD	957 124
144	10*21478	HH	5-9-18	CHILDRENS HOME SOCIETY OF WEST VIRGINIA	960 173
145	10*21547	HH	5-9-18	GARY A MILLER AND MARCELLE T MILLER	952 370
146	10*21548	HH	5-9-18	JEANNE M MILLER	952 386
147	10*21606	HH	5-9-18	BONNIE LOU POSTLEWAIT	959 313
148	10*21719	HH	5-9-18	ROBERT A MILLER	952 389
149	10*21835	HH	5-9-18	KENNETH ALLEN AND CARLA JO ALLEN	962 572
150	10*21937	HH	5-9-18	WHEELING SOCIETY FOR CRIPPLED CHILDREN JAY E PRAGER PRESIDENT	960 33
151	10*22044	HH	5-9-18	MICHAEL A BISHOP	960 421
152	10*22045	HH	5-9-18	DOUGLAS R BISHOP	961 417
153	10*22296	HH	5-9-18	NOAH BAKER AND ALISA BAKER	962 200
154	10*22326	HH	5-9-18	RACHEL SONDA AND SCOTT SONDA	962 532
155	10*22407	HH	5-9-18	BRADLEY MURPHY	962 575
156	10*22430	HH	5-9-18	DEBORAH VANVRANKEN	964 510
157	10*22451	HH	5-9-18	GERALD L BISHOP III	964 31
158	10*22492	HH	5-9-18	FAITH MARIE FREESTONE AND ERIC FREESTONE	972 50
159	10*22547	HH	5-9-18	LAWRENCE EDWARD MURPHY AND JOAN MARIE MURPHY	966 628
160	10*22566	HH	5-9-18	KENNETH A MILLER	964 233
161	10*22606	HH	5-9-18	ROBERT B MURPHY AND LINDA MURPHY	966 469
162	10*22636	HH	5-9-18	CHANDA WILSON AND DANIEL WILSON	968 226
163	10*23035	HH	5-9-18	DEAN S CARR	977 364
164	10*23508	HH	5-9-18	MICHAEL A MURPHY	1009 96
165	10*24888	HH	5-9-18	ARTHUR LEE MILLER ET AL	1027 187
166	10*24984	HH	5-9-18	JONATHAN BAKER	1027 558
167	Q090332002	HH	5-9-18	LORETTA JEAN RIGGLE ET VIR	860 538
168	Q090332003	HH	5-9-18	PATTY BERISFORD ET VIR	860 555
169	Q090332007	HH	5-9-18	ROBERT RANDOLPH WOODBURN ET UX	860 568
170	Q090332001	HH	5-9-18	WILLIAM E MILLER AND KAREN S MILLER	858 256
171	PENDING	HH	5-9-18	SANDRA PARDINI AKA KATHERINE S PARDINI AND ALLEN F PARDINI	1031 544
172	10*18796	II	5-9-42	DWG OIL & GAS ACQUISITIONS LLC	938 476
173	10*21414	II	5-9-42	CHARLES R STOCKTON AND BETTY M HUDSON	959 310
174	10*21473	II	5-9-42	MARY E BISHOP	957 232
175	10*21475	II	5-9-42	WOODROW N WARD AND HILDA A WARD	957 124
176	10*21478	II	5-9-42	CHILDRENS HOME SOCIETY OF WEST VIRGINIA	960 173
177	10*21547	II	5-9-42	GARY A MILLER AND MARCELLE T MILLER	952 370
178	10*21548	II	5-9-42	JEANNE M MILLER	952 386
179	10*21606	II	5-9-42	BONNIE LOU POSTLEWAIT	959 313
180	10*21719	II	5-9-42	ROBERT A MILLER	952 389
181	10*21835	II	5-9-42	KENNETH ALLEN AND CARLA JO ALLEN	962 572
182	10*21937	II	5-9-42	WHEELING SOCIETY FOR CRIPPLED CHILDREN JAY E PRAGER PRESIDENT	960 33
183	10*22043	II	5-9-42	CHILDRENS HOME SOCIETY OF WV	957 235
184	10*22044	II	5-9-42	MICHAEL A BISHOP	960 421
185	10*22045	II	5-9-42	DOUGLAS R BISHOP	961 417
186	10*22296	II	5-9-42	NOAH BAKER AND ALISA BAKER	962 200
187	10*22326	II	5-9-42	RACHEL SONDA AND SCOTT SONDA	962 532
188	10*22407	II	5-9-42	BRADLEY MURPHY	962 575
189	10*22430	II	5-9-42	DEBORAH VANVRANKEN	964 510
190	10*22451	II	5-9-42	GERALD L BISHOP III	964 31
191	10*22492	II	5-9-42	FAITH MARIE FREESTONE AND ERIC FREESTONE	972 50
192	10*22547	II	5-9-42	LAWRENCE EDWARD MURPHY AND JOAN MARIE MURPHY	966 628
193	10*22566	II	5-9-42	KENNETH A MILLER	964 233
194	10*22606	II	5-9-42	ROBERT B MURPHY AND LINDA MURPHY	966 469
195	10*22636	II	5-9-42	CHANDA WILSON AND DANIEL WILSON	968 226
196	10*23035	II	5-9-42	DEAN S CARR	977 364
197	10*23508	II	5-9-42	MICHAEL A MURPHY	1009 96
198	10*24888	II	5-9-42	ARTHUR LEE MILLER ET AL	1027 187
199	10*24984	II	5-9-42	JONATHAN BAKER	1027 558
200	Q090332002	II	5-9-42	LORETTA JEAN RIGGLE ET VIR	860 538

FILE NO. 8796P20HUR4.dwg
OLD CROW NORTH 20HU REV 4

DATE FEBRUARY 22, 20 19
REVISED 03-08-19, 03-14-19 & 04-05-19

OPERATORS WELL NO. OLD CROW N-20HU

API WELL NO. 47 — 051 — 02191
STATE COUNTY PERMIT
HoA



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



P.S. 849 *C. Victor Moyers*

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

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

COUNTY NAME
PERMIT

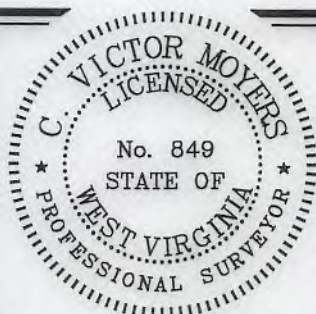
**OLD CROW N LEASE
UTICA UNIT - 503.48 AC ±
WELL 20HU
TUG HILL OPERATING**



06/14/2019

No.	Lease Name or No.	Tag	Parcel	Grantor, Lessor, etc.	Deed Book/Page
201	Q09032003	II	5-9-42	PATTY BERISFORD ET VIR	860 555
202	Q09032007	II	5-9-42	ROBERT RANDOLPH WOODBURN ET UX	860 568
203	Q09032001	II	5-9-42	WILLIAM E MILLER AND KAREN S MILLER	858 256
204	PENDING	II	5-9-42	SANDRA PARDINI AKA KATHERINE S PARDINI AND ALLEN F PARDINI	1031 544
205	CVX866958	JJ	5-9-24	ANITA L SLOUGH ET AL	696 7
206	CVX866959	JJ	5-9-24	PAUL SCHEIBELHOOD ET AL	595 629
207	CVX935271	JJ	5-9-24	CHARLES W. MILLER	853 59
208	CVX936061	JJ	5-9-24	CLARA MAE CLIFTON	853 426
209	CVX936112	JJ	5-9-24	DONNA FAE KYLE	853 449
210	CVX936062	JJ	5-9-24	GEORGE EDWARDS ET UX	853 418
211	CVX936113	JJ	5-9-24	JUDITH MAY CONNER	853 445
212	CVX936053	JJ	5-9-24	LLOYD C. ARNOLD ET UX	864 39
213	CVX936054	JJ	5-9-24	MARY JO CRONIN	864 43
214	CVX935273	JJ	5-9-24	PAUL PARSONS ET UX	853 430
215	CVX936058	JJ	5-9-24	RICHARD KURPILE ET UX	863 594
216	CVX935276	JJ	5-9-24	SHARON LYN RUSSELL	853 422
217	CVX935969	JJ	5-9-24	TIMOTHY HUFF ET UX	864 47
218	10*47051.097.0	KK	5-9-7	P, R, D REALTY	859 434
219	PENDING	LL	5-9-41	LLOYD C ARNOLD AND JUDITH C ARNOLD	915 625
220	CVX939752	MM	5-9-4	LLOYD C ARNOLD AND JUDITH C ARNOLD	915 582
221	CVX866959	NN	5-9-35	ANITA L SLOUGH ET AL	696 7
222	CVX866958	NN	5-9-35	PAUL SCHEIBELHOOD ET AL	695 629
223	CVX936061	NN	5-9-35	CLARA MAE CLIFTON	853 426
224	CVX936112	NN	5-9-35	DONNA FAE KYLE	853 449
225	CVX936062	NN	5-9-35	GEORGE EDWARDS ET UX	853 418
226	CVX936113	NN	5-9-35	JUDITH MAY CONNER	853 445
227	CVX936053	NN	5-9-35	LLOYD C. ARNOLD ET UX	864 39
228	CVX936054	NN	5-9-35	MARY JO CRONIN	864 43
229	CVX935273	NN	5-9-35	PAUL PARSONS ET UX	853 430
230	CVX936058	NN	5-9-35	RICHARD KURPILE ET UX	863 594
231	CVX935276	NN	5-9-35	SHARON LYN RUSSELL	853 422
232	CVX935969	NN	5-9-35	TIMOTHY HUFF ET UX	864 47
233	Q081124002	OO	5-9-3	JAMES REDMAN LEGG II ET AL	879 580
234	Q081124002	PP	5-9-2	JAMES REDMAN LEGG II ET AL	879 580
235	Q081123002	QQ	5-9-2.1	JEFFREY L LEGG	879 575
236	Q083757000	RR	5-9-1	JESSIE GLADYS RUCKMAN ET AL	831 58
237	10*21546	SS	5-8-7	EDWIN C MILLER AND KIMBERLY ANN MILLER	957 257

FILE NO. 8796P20HUR4.dwg
OLD CROW NORTH 20HU REV 4
 DATE FEBRUARY 22, 20 19
 REVISED 03-08-19, 03-14-19 & 04-05-19
 OPERATORS WELL NO. OLD CROW N-20HU
 API WELL NO. 47 — 051 — 02191
 STATE COUNTY PERMIT H6A



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



P.S. 849 *C. Victor Moyers*

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

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

COUNTY NAME
 PERMIT