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Surveying • handa-inc.com

NOTES ON SURVEY

1. COORDINATE SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
3. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. NO OCCUPIED DWELLINGS AND AGRICULTURE BUILDINGS GREATER THAN 2500 SQ FT. WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
5. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
6. NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
7. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
8. NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

SURFACE HOLE LOCATION (SHL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,426,806.691
EASTING: 531,109.858

LANDING POINT LOCATION (LPL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,427,119.864
EASTING: 531,360.460

BOTTOM HOLE LOCATION (BHL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,430,366.615
EASTING: 529,834.842

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 72°33'25" W	813.34'	SHL TO LANDMARK	FOUND 5/8" REBAR
L2	S 64°36'25" E	3880.14'	SHL TO LANDMARK	FOUND 1/2" REBAR
L3	N 11°17'23" W	310.85'	SHL TO REF. PNT.	1/2" REBAR SET
L4	S 04°03'00" W	269.73'	SHL TO REF. PNT.	1/2" REBAR SET
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L5	N 38°40'01" E	1315.93'		SHL TO LP
L6	N 25°10'06" W	11,769.42'		LP TO BHL

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	BETTY JANE SCHAFER, LIFE ESTATE ROY ALVIN SCHAFER JR., REMAINDERMAN & EDWARD J. SCHAFER, REMAINDERMAN (S/R)	12-9-22	205.06
2	JOHN ALVIN GRAY (S/R) & JUDY C GRAY (R)	13-3-14	128.24
3	BEVERLY JILL ANITA SMITH (S/R)	12-9-5.5	1.67
4	RAYMOND J LANGMYER (S/R)	12-9-4	5.10
5	DANIEL J MANNERS (S/R) & GINA M MANNERS (R)	12-9-5	24.58
6	DANIEL J MANNERS (S/R) & GINA M MANNERS (R)	12-9-5.4	4.71
7	JAY M TEACOCK (S/R) & PAULA J TEACOCK (R)	12-9-5.3	4.86
8	DANIEL J MANNERS (S/R) & GINA M MANNERS (R)	12-9-2.2	2.22
9	WILLIAM R DYE (S/R)	12-9-1	3.94
10	DANIEL J MANNERS (S/R) & GINA M MANNERS (R)	12-9-2.3	1.36
11	BRIAN J MAAS & AMY C MAAS, TRUSTEES UNDER THE BRIAN & AMY MAAS LIVING TRUST (S/R)	13-3-9	1.00
12	BRIAN MAAS (S) BRIAN J MAAS & AMY C MAAS, TRUSTEES UNDER THE BRIAN & AMY MAAS LIVING TRUST (R)	13-3-10	27.13
13	GEORGE R ADASE (S/R) & LAURIE ADASE (R) AMERICAN FOUNDATION FOR THE BLIND (R) CHILDREN'S HOSPITAL FOUNDATION & HEALTHCARE SERVICES (R)	12-1-29	37.60
14	DOUGLAS J ESTEP & LINDA R ESTEP (S/R) ALBERT B COOK & EILEEN F COOK (R)	12-1-33.1	9.61
15	WILLIAM J KUNTZ (S/R)	12-1-32	51.07
16	MICHAEL L COFFIELD & TYLENE R COFFIELD (S/R)	12-1-10	179.50
17	KAREN SCHENK SLIGAR (S/R) & TERRY B SLIGAR (R)	12-1-5	55.65
18	MARY SCHENK HAMILTON & GARY P HAMILTON (S/R)	12-1-5.4	12.03
19	MARY SCHENK HAMILTON & GARY P HAMILTON (S/R)	12-1-5.1	86.70

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2315



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)

COMPANY: **SWN** Production Company, LLC
SWN Production Company™

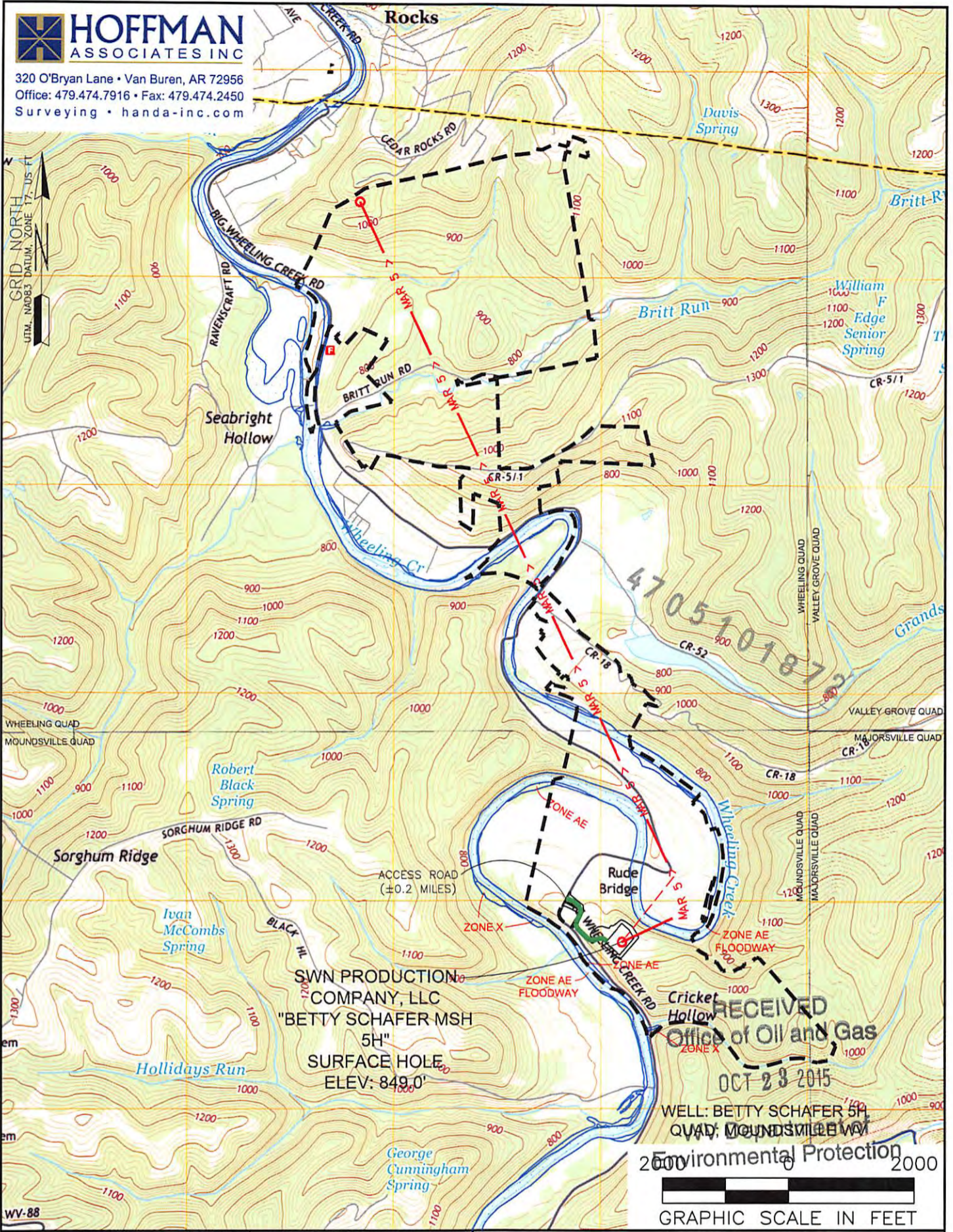
BETTY SCHAFER MSH
OPERATOR'S WELL #: 5H
API WELL #: 47 51 0187216A
STATE COUNTY PERMIT

WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW
WATERSHED: LITTLE WHEELING CREEK ELEVATION: 849.0'
DISTRICT: SAND HILL COUNTY: MARSHALL QUADRANGLE: MOUNDSVILLE, WV
SURFACE OWNER: BETTY JANE SCHAFER ACREAGE: ±205.06'
OIL & GAS ROYALTY OWNER: BETTY JANE SCHAFER, LE, ROY ALVIN SCHAFER, EDWARD J SCHAFER ACREAGE: ±205.06'
DRILL DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY)
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 5,994' TVD 18,272' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: DEE SOUTHALL
ADDRESS: P.O. BOX 1300 ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378 CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:	REVISIONS:	DATE:
○ PROPOSED SURFACE HOLE / BOTTOM HOLE		10-12-2015
⊙ EXISTING / PRODUCING WELLHEAD		
⊘ ABANDONED WELL		
⊙ PLUGGED & ABANDONED WELL		
△ CUT CONDUCTOR		
○ EXISTING SPRING		
○ EXISTING WATER WELL		
--- LEASE BOUNDARY		
--- 500' DHP BUFFER		
--- MARCELLUS DHP		
--- ABANDONED PATH		
		DRAWN BY: C. BROWN
		SCALE: 1" = 2000'
		DRAWING NO: 59115
		WELL LOCATION PLAT

GRID NORTH
 UTM, NAD83 DATUM, ZONE 17, US FT



RECEIVED
 Office of Oil and Gas
 OCT 23 2015

WELL: BETTY SCHAFER 5H
 QUAD: MAJORSVILLE WV
 Environmental Protection
 GRAPHIC SCALE IN FEET

NAME AND DISTANCE TO THE NEAREST STREAM: BIG WHEELING CREEK IS LOCATED ±0.1 MILES NORTHEAST OF THE CENTER OF THE DRILL PAD.		STREAM CROSSING COORDINATES (NAD 83): NO NEW CROSSINGS.		COMPANY: 	
WELL RESTRICTIONS: WELL PAD, LOD, & E & S CONTROL FEATURES TO PERENNIAL STREAM, LAKE, POND, RESERVOIR OR WETLAND: >100 FEET WELL PAD, LOD, & E & S CONTROL FEATURES TO NATURALLY PRODUCING TROUT STREAM: >300 FEET WELL PAD, LOD, & E & S CONTROL FEATURES TO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY: >1000 FEET WELL SHL TO EXISTING WATER WELL OR DEVELOPED SPRING: >250 FEET CENTER OF PAD TO OCCUPIED DWELLING STRUCTURE: >625 FEET CENTER OF PAD TO AGRICULTURAL BUILDINGS LARGER THAN 2500 SQ FT: >625 FEET		FEMA FLOOD INFORMATION: BY GRAPHIC PLOTTING ONLY FEMA FIRM INCORPORATED AREA OF MARSHALL COUNTY, WEST VIRGINIA; MAP NUMBER 54051C00B5E, 5451C0019E, 54051C0018E; EFFECTIVE DATE: SEPTEMBER 25, 2009.		OPERATOR'S BETTY SCHAFER MSH WELL #: 5H LOCATION: SAND HILL DISTRICT, MARSHALL COUNTY, WEST VIRGINIA SURFACE HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 39.990863° LONGITUDE: -80.635593° BOTTOM HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.022983° LONGITUDE: -80.650364°	
LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ☼ EXISTING / PRODUCING WELLHEAD ⊗ ABANDONED WELL ⊗ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR (S) EXISTING SPRING (W) EXISTING WATER WELL — ACCESS ROAD — ACCESS ROAD TO PREV. SITE — HIGHWAY/INTERSTATE — COUNTY ROAD		REVISIONS:		DATE: 10-12-2015 DRAWN BY: C. BROWN SCALE: 1" = 2000' DRAWING NO: 59115 TOPOGRAPHIC MAP	

11/27/2015