

Via Federal Express

February 11, 2016

Ms. Laura Cooper  
Office of Oil & Gas  
601 57<sup>th</sup> Street  
Charleston WV 25304

RECEIVED  
Office of Oil and Gas  
FEB 12 2016  
WV Department of  
Environmental Protection

**RE:** Form WR-35 and WR-36 Filing

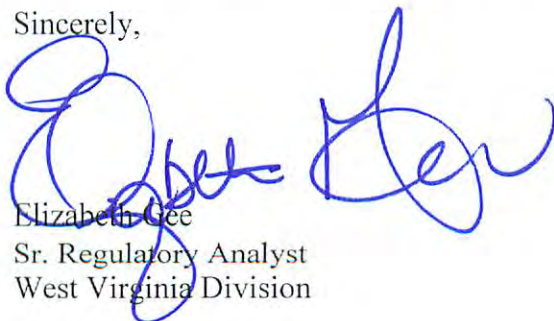
Well: Glenn Didriksen OHI 6	API: 47-069-00188
Well: Glenn Didriksen OHI 10	API: 47-069-00191
Well: Glenn Didriksen OHI 205	API: 47-069-00189
Well: Glenn Didriksen OHI 6210	API: 47-069-00190

Dear Ms. Cooper:

Please find enclosed form WR-35 Well Operator's Report of Well Work and WR-36 Well Operator's Report of Initial Gas-Oil Ratio, with supporting documentation for the subject wells referenced above.

If you have any questions or require additional information, please contact me via email at [liz\\_gee@swn.com](mailto:liz_gee@swn.com) or telephone at (832) 796-7632.

Sincerely,



Elizabeth Gee  
Sr. Regulatory Analyst  
West Virginia Division

/lg  
Encl.

WS  
AX 02/29/16



2-22-16

$\frac{R^2}{A} \rightarrow V^+$

03/04/2016

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Well Operator's Report of Well Work

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API 47 - 069 - 00188 County OHIO District LIBERTY  
Quad VALLEY GROVE Pad Name GLENN DIDRIKSEN-OHI-PAD1 Field/Pool Name PANHANDLE  
Farm name GLENN DIDRIKSEN Well Number GLENN DIDRIKSEN OHI 6  
Operator (as registered with the OOG) SWN PRODUCTION COMPANY LLC  
Address PO BOX 12359 City SPRING State TX Zip 77397-2359

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4440482.184 Easting 534509.575  
Landing Point of Curve Northing 4440190.645 Easting 534316.490  
Bottom Hole Northing 4438569.864 Easting 535308.220

Elevation (ft) 1382.2 GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine  
Mud Type(s) and Additive(s)  
SOBM

Date permit issued 05/04/2015 Date drilling commenced 06/12/2015 Date drilling ceased 07/19/2015  
Date completion activities began 10/21/2015 Date completion activities ceased 11/22/2015  
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 194' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1055' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 663' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
SB 3-22-16  
**03/04/2016**

API 47- 069 - 00188 Farm name GLENN DIDRIKSEN Well number GLENN DIDRIKSEN OHI 6

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24	20	126'	N	J-55/ 94#		Y
Surface	17.5	13.375	755'	N	H-40/48#		Y
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	2330'	N	J-55/ 36#		Y
Intermediate 2							
Intermediate 3							
Production	8.75 TO 8.50	5.5	13139'	N	HCP-110/20#		Y
Tubing		2.375	6724'	N	P-110/4.70#		N
Packer type and depth set		N/A					

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	A	24	15.6	1.18	28	GROUT TO SURFACE	24
Surface	A	800	15.6	1.19	952	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	A	868	15.6	1.19	1032.92	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	A	1002/1570	15.6	1.24/1.19	1242/1868	SURFACE	24
Tubing							

Drillers TD (ft) 13139'

Loggers TD (ft) 13139'

Deepest formation penetrated MARCELLUS

Plug back to (ft) NA

Plug back procedure NA

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Kick off depth (ft) 5894'

Check all wireline logs run

- caliper   
  density   
  deviated/directional   
  induction  
 neutron   
  resistivity   
  gamma ray   
  temperature   
  sonic

Well cored  Yes  No

Conventional    Sidewall

Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_

ALL CASING STRINGS RAN WITH A CENTRALIZER AT A MINIMUM OF 1 PER EVERY 3RD JOINT OF CASING

WAS WELL COMPLETED AS SHOT HOLE  Yes  No    DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE?  Yes  No    DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No    TYPE OF TRACER(S) USED \_\_\_\_\_

API 47-069-00188 Farm name GLENN DIDRIKSEN Well number GLENN DIDRIKSEN OHI 6

**PERFORATION RECORD**

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ATTACHED			

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Please insert additional pages as applicable.

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**STIMULATION INFORMATION PER STAGE**

Complete a separate record for each stimulation stage.

WV Department of Environmental Protection

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
		SEE	ATTACHED					

Please insert additional pages as applicable.

03/04/2016

API 47-069-00188 Farm name GLENN DIDRIKSEN Well number GLENN DIDRIKSEN OHI 6

PRODUCING FORMATION(S) DEPTHS  
MARCELLUS 6393' TVD 6666' MD  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface \_\_\_\_\_ psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST NO TEST PERFORM \_\_\_\_\_ hrs

OPEN FLOW Gas 2471 mcfpd Oil 220 bpd NGL \_\_\_\_\_ bpd Water 101 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION TOP DEPTH IN FT BOTTOM DEPTH IN FT TOP DEPTH IN FT BOTTOM DEPTH IN FT DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H<sub>2</sub>S, ETC)

LITHOLOGY/ FORMATION	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	0		0		
		SEE ATTACHED			

Please insert additional pages as applicable.

Drilling Contractor SWN DRILLING COMPANY  
 Address PO BOX 12359 City SPRING State TX Zip 77391-2359  
 Logging Company JW WIRELINE COMPANY  
 Address 515 N SAM HOUSTON PKWY EAST STE 640 City HOUSTON State TX Zip 77060  
 Cementing Company SCHLUMBERGER  
 Address 110 SCHLUMBERGER DRIVE City SUGAR LAND State TX Zip 77478  
 Stimulating Company DOWELL SCHLUMBERGER  
 Address 1121 BUSCHONG ST City HOUSTON State TX Zip 77039

Please insert additional pages as applicable.

Completed by ELIZABETH GEE Telephone 832-796-7632  
 Signature  Title SR. REGULATORY ANALYST Date 02/11/2016

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

03/04/2016

**GLENN DIDRIKSEN OHI 6 - PERFORATION RECORD**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	10/21/2015	12,780	12,983	42
2	10/22/2015	12,519	12,722	42
3	10/22/2015	12,257	12,460	42
4	10/22/2015	11,995	12,198	42
5	10/22/2015	11,734	11,937	42
6	10/22/2015	11,472	11,675	42
7	10/22/2015	11,210	11,413	42
8	10/23/2015	10,948	11,151	42
9	10/23/2015	10,687	10,890	42
10	10/23/2015	10,425	10,628	42
11	10/23/2015	10,163	10,366	42
12	10/23/2015	9,902	10,105	42
13	10/24/2015	9,640	9,843	42
14	10/24/2015	9,378	9,581	42
15	10/24/2015	9,117	9,320	42
16	10/24/2015	8,855	9,058	42
17	10/24/2015	8,593	8,796	42
18	10/24/2015	8,331	8,534	42
19	10/24/2015	8,070	8,273	42
20	10/25/2015	7,808	8,011	42
21	10/25/2015	7,546	7,749	42
22	10/25/2015	7,285	7,488	42
23	10/25/2015	7,023	7,226	42
24	10/25/2015	6,761	6,964	42

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**GLENN DIDRIKSEN OHI 6 - STIMULATION INFORMATION**

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/ other
1	10/21/2015	2	7,841	8,421	4,311	500,660	7,198	
2	10/22/2015	2	7,911	8,516	4,610	503,520	7,097	
3	10/22/2015	2	7,739	8,705	4,576	500,800	7,509	
4	10/22/2015	2	7,977	9,069	4,666	499,100	7,046	
5	10/22/2015	2	8,105	9,141	4,576	500,340	7,156	
6	10/22/2015	2	7,237	9,140	4,437	501,120	7,132	
7	10/22/2015	2	7,825	9,179	4,195	501,600	7,015	
8	10/23/2015	2	7,605	8,476	4,403	500,240	6,917	
9	10/23/2015	2	7,524	7,867	4,458	500,000	7,433	
10	10/23/2015	2	7,541	8,303	4,567	500,120	7,026	
11	10/23/2015	2	7,415	8,045	4,337	494,880	6,989	
12	10/23/2015	2	7,342	8,700	4,288	500,540	6,930	
13	10/24/2015	2	7,313	8,596	4,405	501,240	6,921	
14	10/24/2015	2	7,143	8,190	4,148	502,840	6,949	
15	10/24/2015	2	7,360	8,850	4,933	490,620	6,975	
16	10/24/2015	2	7,177	8,049	5,141	455,000	6,584	
17	10/24/2015	2	7,312	8,643	4,337	500,060	6,817	
18	10/24/2015	2	6,926	8,209	4,541	501,040	6,922	
19	10/24/2015	2	6,984	7,593	4,282	501,460	7,270	
20	10/25/2015	2	7,183	7,942	4,042	500,780	7,037	
21	10/25/2015	2	7,031	8,382	4,307	501,460	6,553	
22	10/25/2015	2	6,962	8,443	4,427	497,040	6,251	
23	10/25/2015	2	6,960	7,633	4,367	500,340	7,265	
24	10/25/2015	2	7,052	9,157	4,368	500,400	6,895	
Grand total		2	7,394	9,179	4,447	11,955,200	167,887	

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**GLENN DIDRIKSEN OHI 6H**

LITHOLOGY/FORMATION	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, TVD (FT)	TOP DEPTH, MD (FT)	BOTTOM DEPTH, MD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	N.A.	194.00	N.A.	194.00	
Top of Salt Water	1055.00	N.A.	1055.00	N.A.	
Pittsburgh Coal	663.00	671.00	663.00	671.00	
Big Injun (ss)	1884.72	2369.66	1885.00	2370.00	
Berea (siltstone)	2369.66	5794.49	2370.00	5881.00	
Rhinestreet (shale)	5794.49	6049.31	5881.00	6151.24	
Cashaqua (shale)	6049.31	6122.94	6151.24	6235.84	
Middlesex (shale)	6122.94	6195.87	6235.84	6324.21	
Burket (shale)	6195.87	6219.58	6324.21	6354.71	
Tully (ls)	6219.58	6264.58	6354.71	6416.58	
Mahantango (shale)	6264.58	6393.12	6416.58	6666.16	
Marcellus (shale)	6393.12	N.A.	6666.16	N.A.	

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/21/2015
Job End Date:	10/25/2015
State:	West Virginia
County:	Ohio
API Number:	47-069-00188-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Glen Didriksen 6H
Longitude:	-80.59504000
Latitude:	40.11394000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,543
Total Base Water Volume (gal):	7,051,254
Total Base Non Water Volume:	0

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## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Proppant Transport	Schlumberger	Acid Corrosion Inhibitor, Acid, Friction Reducer, Propping Agent, Fluid Loss Additive					
			Water (Including Mix Water Supplied by Client)*	NA		83.02198	
			Quartz, Crystalline silica	14808-60-7	98.74068	16.76422	
			Hydrochloric acid	7647-01-0	0.97204	0.16503	
			Ammonium sulfate	7783-20-2	0.14967	0.02541	
			Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer	38193-60-1	0.11047	0.01876	
			Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate	136793-29-8	0.01184	0.00201	
			Urea	57-13-6	0.00727	0.00123	
			Propan-2-ol	67-63-0	0.00182	0.00031	
			Sodium sulfate	7757-82-6	0.00170	0.00029	
			Silicon Dioxide	7631-86-9	0.00151	0.00026	
			Fatty acid, tall-oil reaction products with acetophenone	68188-40-9	0.00071	0.00012	
			Alcohols, C12-C16, ethoxylated	68551-12-2	0.00059	0.00010	

			Isodecanol w/6-7 Moles Ethylene Oxide	26183-52-8	0.00040	0.00007
			2-Propenamid (impurity)	79-06-1	0.00036	0.00006
			Cinnamaldehyde	104-55-2	0.00026	0.00004
			Tetrasodium ethylenediaminetetraacetate	64-02-8	0.00019	0.00003
			Dimethyl siloxanes and silicones	63148-62-9	0.00010	0.00002
			Amines, tallow alkyl, ethoxylated	61791-26-2	0.00008	0.00001
			Dodecyl poly(oxyethylene) ether	9002-92-0	0.00003	0.00001
			Glycols, polyethylene, monotetradecyl ether	27306-79-2	0.00002	
			Copper(II) sulfate	7758-98-7		
			Octamethylcyclotetrasiloxane	556-67-2	0.00001	
			Siloxanes and silicones, dimethyl, reaction products with silica	67762-90-7	0.00001	
			Decamethyl cyclopentasiloxane	541-02-6	0.00001	
			Dodecamethylcyclohexasiloxane	540-97-6		

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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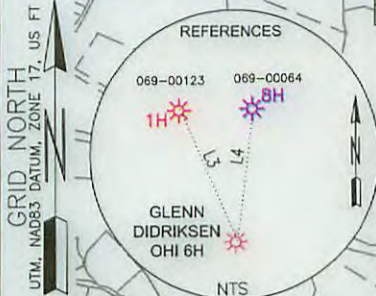


320 O'Bryan Lane • Van Buren, AR 72956  
Office: 479.474.7916 • Fax: 479.474.2450  
Surveying • handa-inc.com

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 19°16'52" E	294.54'	SHL TO LANDMARK	FOUND POST
L2	N 50°41'21" E	1094.73'	SHL TO LANDMARK	FOUND REBAR
L3	N 23°04'24" W	49.53'	SHL TO REF. PNT.	GLENN DIDRIKSEN OHI 1H WELLHEAD (069-00123)
L4	N 07°17'08" E	46.57'	SHL TO REF. PNT.	GLENN DIDRIKSEN OHI 8H WELLHEAD (069-00064)
LINE	CHORD BEARING	CHORD DIST.	CURVE LENGTH	DESCRIPTION
L5	S 33°30'59" W	1147.24'		SHL TO LP
L6	S 31°27'42" E	6233.98'		LP TO BHL

Latitude: 40°07'30"

Longitude: 80°35'00"

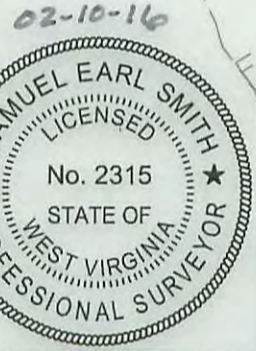
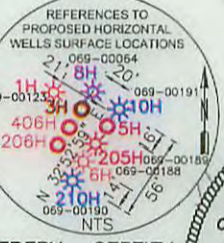


TRACT	SURFACE OWNER (S) ROYALTY OWNER (R)	TAX PARCEL	ACRES	LEASE NUMBER
1	GLENN DIDRIKSEN (S) D&D FAST FOOD, INC. (R)	3-L7-42	47.93	
2	ROBERT WALTER & DONNA JEAN LASCH (S/R)	3-L10-39	75.00	1-268336-000
3	J. MILTON GUTMAN & CAROLYN L. GUTMAN (S/R)	3-L10-39.1	24.00	1-31594-001
4	J. MATHEW PADDEN & JUDITH M. PADDEN (S/R)	3-L10-38	96.00	1-313595-001
5	LARRY R. HARRIS (S)	3-L10-37.1	10.804	
	LAURA HICKMAN (R)	3-L10-37.1	10.804	1-385458-001
	DON P. HARRIS (R)	3-L10-37.1	10.804	1-385456-001
	LARRY HARRIS II (R)	3-L10-37.1	10.804	1-385457-001
	JERRY LEE HARRIS (S/R)	3-L10-37	115.6	1-324182-000

SHL TO "S" #1	N 58°25'38" E	1489.08'
SHL TO "S" #2	N 75°48'51" E	1346.02'
SHL TO WATER WELL	N 82°28'07" E	1346.01'

- NOTES ON SURVEY**
- COORDINATE SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
  - 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.
  - THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
  - NO OCCUPIED DWELLINGS AND AGRICULTURE BUILDINGS GREATER THAN 2500 SQ FT. WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
  - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
  - NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
  - NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
  - NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

<b>SURFACE HOLE LOCATION (SHL):</b>
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,440,482.184
EASTING: 534,509.575
<b>LANDING POINT (LP):</b>
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,440,190.645
EASTING: 534,316.490
<b>BOTTOM HOLE LOCATION (BHL):</b>
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,438,569.864
EASTING: 535,308.220



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

GLENN DIDRIKSEN OHI  
OPERATOR'S WELL #: 6H  
API WELL #: 47 69 00188  
STATE COUNTY PERMIT

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

WATERSHED: LITTLE WHEELING CREEK ELEVATION: 1382.2'

DISTRICT: LIBERTY COUNTY: OHIO QUADRANGLE: VALLEY GROVE, WV

SURFACE OWNER: GLENN DIDRIKSEN ACREAGE: ±47.93

OIL & GAS ROYALTY OWNER: D&D FAST FOOD, INC. ACREAGE: ±47.93

DRILL  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION

CONVERT  PLUG & ABANDON  CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY) AS-DRILLED

TARGET FORMATION: MARCELLUS DEPTH: 6,424 IMD 13,159 IMD

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

DESIGNATED AGENT: DEE SOUTHALL ADDRESS: P.O. BOX 1300 CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:	REVISIONS:	DATE:
○ PROPOSED SURFACE HOLE / BOTTOM HOLE	△ UPDATED DHP, 05/28/2015	07-21-2015
⊗ EXISTING / PRODUCING WELLHEAD	△ REVISED SHL, LP, & BHL FOR ASDRILLED	
⊘ ABANDONED WELL	— DIRECTIONAL PATH, 11-16-2015	DRAWN BY: J. HARNISS
⊙ PLUGGED & ABANDONED WELL	△ REVISED ASDRILLED & PERMITTED DIRECTIONAL	SCALE: 1" = 2000'
△ CUT CONDUCTOR	PATH COLOR, ADD LP COORDINATES 02-09-2016	DRAWING NO: 59387
		WELL LOCATION PLAT



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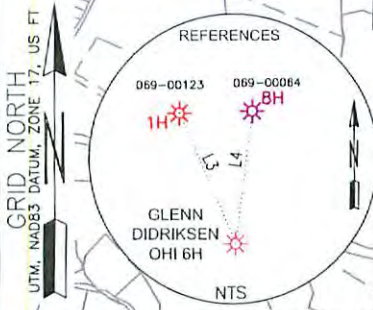
LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 19°16'52" E	294.54'	SHL TO LANDMARK	FOUND POST
L2	N 50°41'21" E	1094.73'	SHL TO LANDMARK	FOUND REBAR
L3	N 23°04'24" W	49.53'	SHL TO REF. PNT.	GLENN DIDRIKSEN OHI 1H WELLHEAD (069-00123)
L4	N 07°17'08" E	46.57'	SHL TO REF. PNT.	GLENN DIDRIKSEN OHI 8H WELLHEAD (069-00064)
LINE	CHORD BEARING	CHORD DIST.	CURVE LENGTH	DESCRIPTION
L5	S 33°30'59" W	1147.24'		SHL TO LP
L6	S 31°27'42" E	6233.98'		LP TO BHL

Latitude: 40°07'30"

Longitude: 80°35'00"

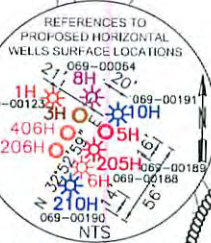
SHL TO "S" #1	N 58°25'38" E	1489.08'
SHL TO "S" #2	N 75°48'51" E	1346.02'
SHL TO WATER WELL	N 82°28'07" E	1346.01'

TRACT	SURFACE OWNER (S)	ROYALTY OWNER (R)	TAX PARCEL	ACRES	LEASE NUMBER
1	GLENN DIDRIKSEN (S)	D&D FAST FOOD, INC. (R)	3-L7-42	47.93	1-268336-000
2	ROBERT WALTER & DONNA JEAN LASCH (S/R)		3-L10-39	75.00	1-313594-001
3	J. MILTON GUTMAN & CAROLYN L. GUTMAN (S/R)		3-L10-39.1	24.00	1-385459-000
4	J. MATHEW PADDEN & JUDITH M. PADDEN (S/R)		3-L10-38	96.00	1-313595-001
5	LARRY R. HARRIS (S)		3-L10-37.1	10.804	
	LAURA HICKMAN (R)		3-L10-37.1	10.804	1-385458-001
	DON P. HARRIS (R)		3-L10-37.1	10.804	1-385456-001
	LARRY HARRIS II (R)		3-L10-37.1	10.804	1-385457-001
6	JERRY LEE HARRIS (S/R)		3-L10-37	115.6	1-324182-000



- NOTES ON SURVEY**
- COORDINATE SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
  - 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.
  - THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
  - NO OCCUPIED DWELLINGS AND AGRICULTURE BUILDINGS GREATER THAN 2500 SQ. FT. WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
  - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
  - NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
  - NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
  - NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

<b>SURFACE HOLE LOCATION (SHL):</b>
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,440,482.184
EASTING: 534,509.575
<b>LANDING POINT (LP)</b>
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,440,190.645
EASTING: 534,316.490
<b>BOTTOM HOLE LOCATION (BHL):</b>
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,438,569.864
EASTING: 535,308.220



02-10-16



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 *[Signature]*



(+) 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

GLENN DIDRIKSEN OHI  
OPERATOR'S WELL #: 6H  
API WELL #: 47 69 00188  
STATE COUNTY PERMIT

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

WATERSHED: LITTLE WHEELING CREEK ELEVATION: 1382.2'

DISTRICT: LIBERTY COUNTY: OHIO QUADRANGLE: VALLEY GROVE, WV

SURFACE OWNER: GLENN DIDRIKSEN ACREAGE: ±47.93

OIL & GAS ROYALTY OWNER: D&D FAST FOOD, INC. ACREAGE: ±47.93

DRILL  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION

CONVERT  PLUG & ABANDON  CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY) AS-DRILLED

TARGET FORMATION: MARCELLUS DEPTH: 6,424' TVD 13,139' TMD

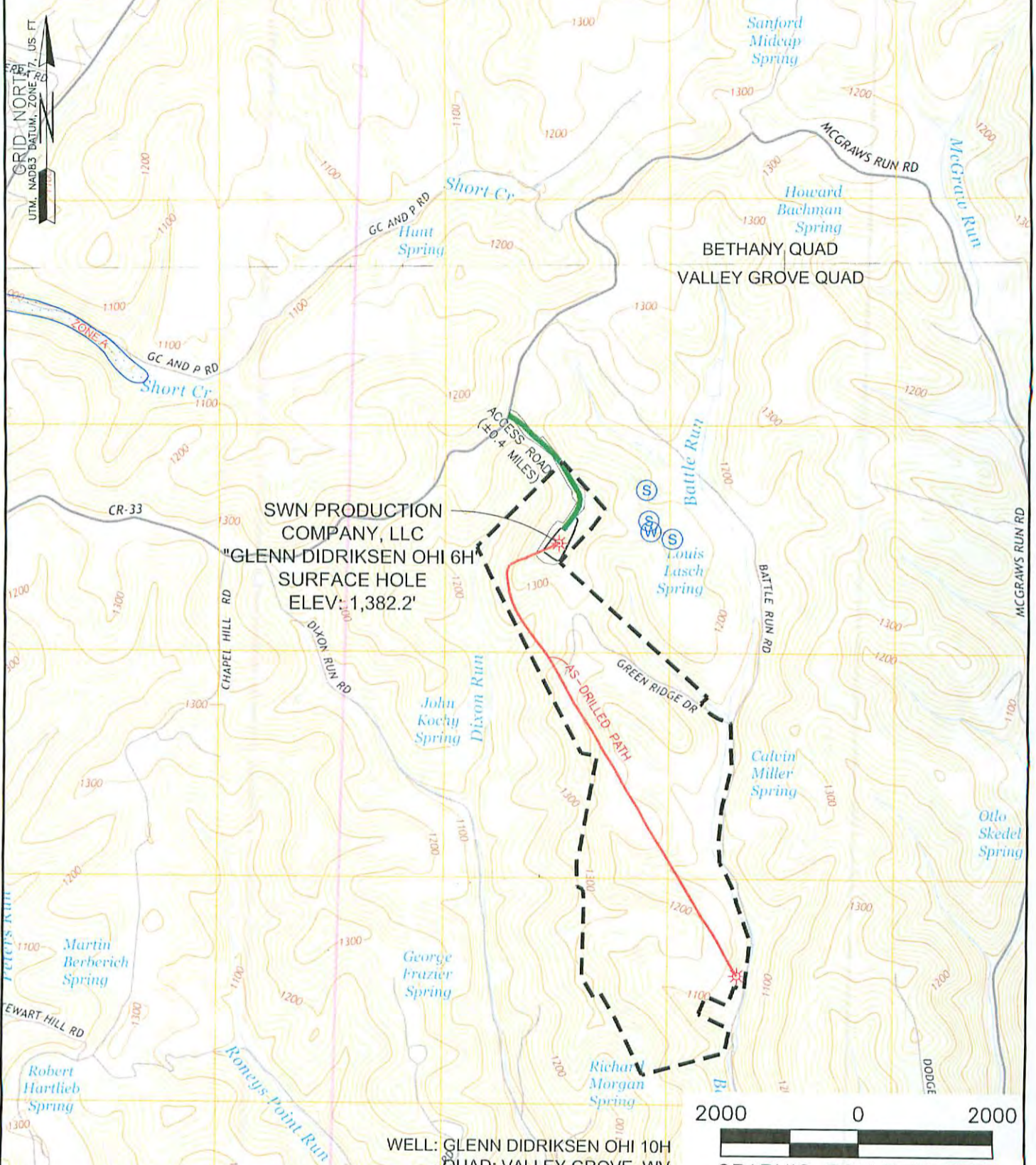
03/04/2016

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	AS-DRILLED PATH	07-21-2015
⊗ EXISTING / PRODUCING WELLHEAD	PERMITTED DIRECTIONAL PATH	
⊗ ABANDONED WELL	ABANDONED PATH	
⊗ PLUGGED & ABANDONED WELL		
△ CUT CONDUCTOR		



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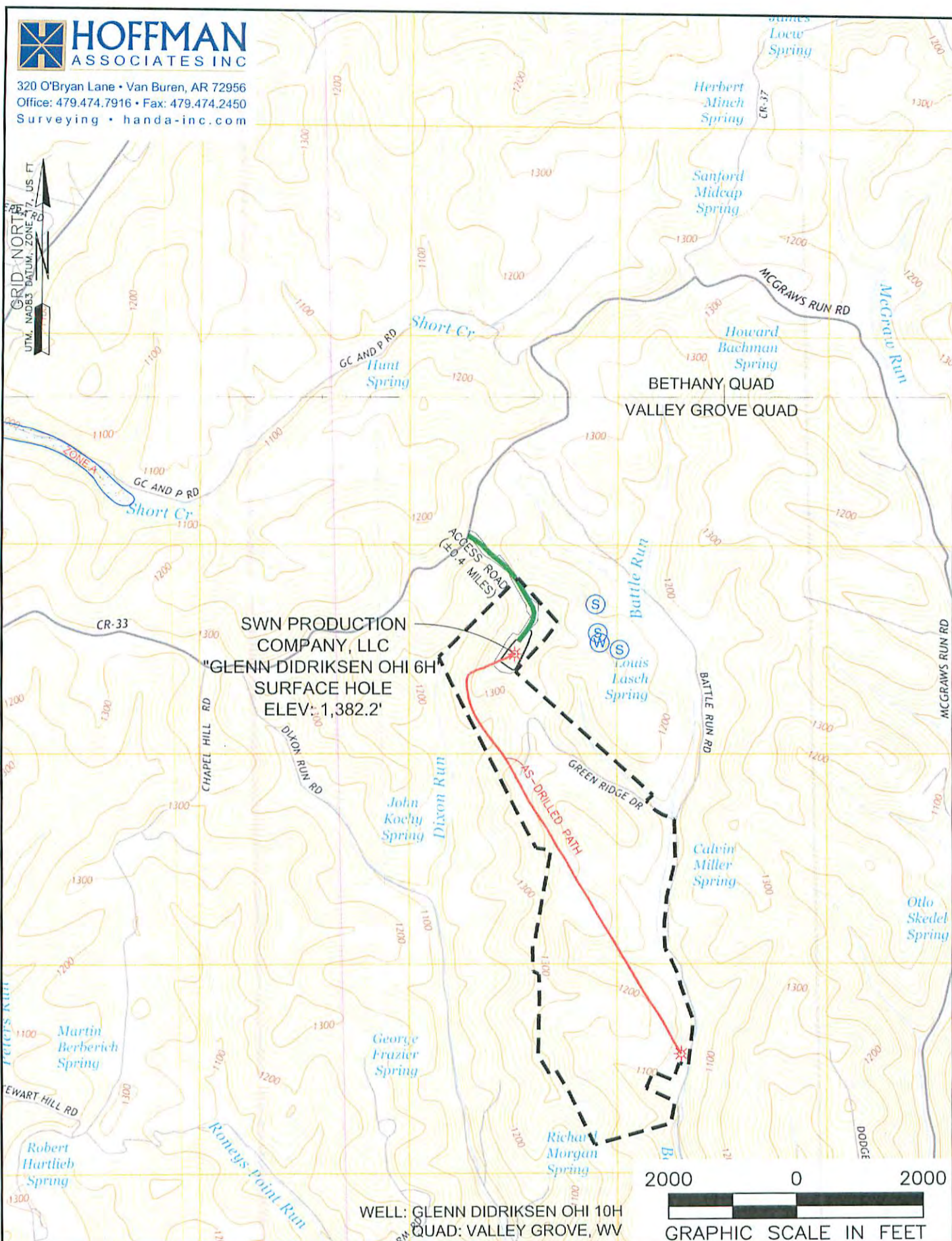
WELL: GLENN DIDRIKSEN OHI 10H  
QUAD: VALLEY GROVE, WV

GRAPHIC SCALE IN FEET

NAME AND DISTANCE TO THE NEAREST STREAM: DIXON RUN IS LOCATED ±0.17 MILES NORTHWEST 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 LAGER THAN 2500 SQ FT: >625 FEET		OPERATOR'S GLENN DIDRIKSEN OHI		WELL #: 6H	
FEMA FLOOD INFORMATION: BY GRAPHIC PLOTTING ONLY FEMA FIRM INCORPORATED AREA OF OHIO COUNTY, WEST VIRGINIA; MAP NUMBER 54069C0080D; EFFECTIVE DATE JULY 17, 2006.		LOCATION: LIBERTY DISTRICT, OHIO COUNTY, WEST VIRGINIA		SURFACE HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.113940' LONGITUDE: -80.595043' BOTTOM HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.096678' LONGITUDE: -80.585775'	
LEGEND: 		REVISIONS: ▲ UPDATED DHP, 05/28/2015 ▲ REVISED SHL, LP, & BHL FOR ASDRILLED DIRECTIONAL PATH, 11-16-2015		DATE: 07-21-2015 DRAWN BY: J. HARNESS SCALE: 1" = 2000' DRAWING NO: 59387 TOPOGRAPHIC MAP	

03/04/2016

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



WELL: GLENN DIDRIKSEN OHI 10H  
QUAD: VALLEY GROVE, WV

NAME AND DISTANCE TO THE NEAREST STREAM: DIXON RUN IS LOCATED ±0.17 MILES NORTHWEST OF THE CENTER OF THE DRILL PAD.		STREAM CROSSING COORDINATES (NAD 83): NO NEW CROSSINGS.		COMPANY: <b>SWN</b> Production Company, LLC		<b>SWN</b> Production 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				OPERATOR'S GLENN DIDRIKSEN OHI		WELL #: 6H	
FEMA FLOOD INFORMATION: BY GRAPHIC PLOTTING ONLY FEMA FIRM INCORPORATED AREA OF OHIO COUNTY, WEST VIRGINIA; MAP NUMBER 54069C0080D; EFFECTIVE DATE JULY 17, 2006.				LOCATION: LIBERTY DISTRICT, OHIO COUNTY, WEST VIRGINIA		SURFACE HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.11394° LONGITUDE: -80.595043°	
LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ★ EXISTING / PRODUCING WELLHEAD ⊗ ABANDONED WELL ⊗ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR				BOTTOM HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.096678° LONGITUDE: -80.585775°		REVISIONS: △ UPDATED DHP, 05/28/2015 △ REVISED SHL, LP, & BHL FOR ASDRILLED DIRECTIONAL PATH, 11-16-2015	
<ul style="list-style-type: none"> <li>○ EXISTING SPRING</li> <li>○ EXISTING WATER WELL</li> <li>— ACCESS ROAD</li> <li>— ACCESS ROAD TO PREV. SITE</li> <li>— HIGHWAY/INTERSTATE</li> <li>— COUNTY ROAD</li> </ul>				DATE: 07-21-2015		DRAWN BY: J. HARNESS SCALE: 1" = 2000' DRAWING NO: 59387 TOPOGRAPHIC MAP	

03/04/2016