

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

API 47-069-00186 County OHIO District LIBERTY
Quad VALLEY GROVE Pad Name ALICE EDGE-OHI-PAD1 Field/Pool Name PANHANDLE
Farm name ALICE MAE EDGE Well Number ALICE EDGE OHI 10H
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 4438940.39 Easting 537472.25
Landing Point of Curve Northing 4438826.11 Easting 537881.07
Bottom Hole Northing 4435389.90 Easting 539147.94

Elevation (ft) 1199' 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 11/20/2014 Date drilling commenced 04/08/2015 Date drilling ceased 06/02/2015
Date completion activities began 08/10/2015 Date completion activities ceased 10/23/2015
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 400' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 737' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 589' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) Y

Reviewed by:
GB 2-22-16

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API 47-069 - 00186 Farm name ALICE MAE EDGE Well number ALICE EDGE OHI 10H

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	671'	N	J-55/ 54.50#		Y, 28 BBL RETURN
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	2134'	N	J-55/ 40#		Y, 44 BBL RETURN
Intermediate 2							
Intermediate 3							
Production	8.75 TO 8.50	5.5	19220'	N	HCP-110/ 23#		Y
Tubing		2.375	6848'	N	L-80/4.70#		N
Packer type and depth set		N/A					

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	A	GROUT	19.3	1.19		SURFACE	24
Surface	A	579	15.6	1.19	687	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	D901	793	15.6	1.19	944	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	A	960/2886	15.6	1.20/1.19	1152/3434	SURFACE	24
Tubing							

Drillers TD (ft) 19,218 Loggers TD (ft) 19,218
 Deepest formation penetrated MARCELLUS Plug back to (ft) NA
 Plug back procedure NA

Kick off depth (ft) 5876'

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 _____

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Alice Edge OHI 10 - Perforation Record

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG	FORMATIONS
1	8/9/2015	18,887	18,981	33	MARCELLUS
2	8/10/2015	18,785	18,855	33	MARCELLUS
3	8/10/2015	18,619	18,750	33	MARCELLUS
4	8/10/2015	18,426	18,557	33	MARCELLUS
5	8/11/2015	18,232	18,363	33	MARCELLUS
6	8/11/2015	18,038	18,169	33	MARCELLUS
7	8/12/2015	17,828	17,975	33	MARCELLUS
8	8/14/2015	17,576	17,782	42	MARCELLUS
9	8/14/2015	17,308	17,511	42	MARCELLUS
10	8/14/2015	17,040	17,243	42	MARCELLUS
11	8/15/2015	16,773	16,975	42	MARCELLUS
12	8/15/2015	16,505	16,708	42	MARCELLUS
13	8/16/2015	16,233	16,440	42	MARCELLUS
14	8/16/2015	15,969	16,172	42	MARCELLUS
15	8/17/2015	15,701	15,904	42	MARCELLUS
16	8/17/2015	15,434	15,636	42	MARCELLUS
17	8/19/2015	15,166	15,369	42	MARCELLUS
18	8/19/2015	14,898	15,101	42	MARCELLUS
19	8/19/2015	14,630	14,833	42	MARCELLUS
20	8/20/2015	14,362	14,565	42	MARCELLUS
21	8/20/2015	14,095	14,297	42	MARCELLUS
22	8/20/2015	13,827	14,030	42	MARCELLUS
23	8/21/2015	13,559	13,762	42	MARCELLUS
24	8/21/2015	13,291	13,494	42	MARCELLUS
25	8/22/2015	13,023	13,226	42	MARCELLUS
26	8/22/2015	12,756	12,958	42	MARCELLUS
27	8/23/2015	12,488	12,691	42	MARCELLUS
28	8/23/2015	12,220	12,423	42	MARCELLUS
29	10/3/2015	11,952	12,155	42	MARCELLUS
30	10/3/2015	11,491	11,686	42	MARCELLUS
31	10/4/2015	11,234	11,429	42	MARCELLUS
32	10/4/2015	10,977	11,172	42	MARCELLUS
33	10/4/2015	10,720	10,915	42	MARCELLUS
34	10/4/2015	10,463	10,658	42	MARCELLUS
35	10/4/2015	10,206	10,401	42	MARCELLUS
36	10/4/2015	9,949	10,144	42	MARCELLUS
37	10/5/2015	9,687	9,887	42	MARCELLUS
38	10/5/2015	9,435	9,624	42	MARCELLUS
39	10/5/2015	9,178	9,372	42	MARCELLUS
40	10/5/2015	8,921	9,115	42	MARCELLUS
41	10/5/2015	8,663	8,858	42	MARCELLUS
42	10/5/2015	8,406	8,601	42	MARCELLUS
43	10/6/2015	8,149	8,344	42	MARCELLUS

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ALICE EDGE OHI 10 - PERFORATION RECORD

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG	FORMATIONS
44	10/6/2015	7,892	8,087	42	MARCELLUS
45	10/6/2015	7,635	7,830	42	MARCELLUS
46	10/6/2015	7,378	7,573	42	MARCELLUS
47	10/6/2015	7,121	7,316	42	MARCELLUS
48	10/6/2015	6,860	7,059	42	MARCELLUS

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ALICE EDGE OHI 10H - STIMULATION INFORMATION

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant	Amount of water bbls	Amount of nitrogen/other
1	8/9/2015	2	8,387	9,160	4,362	276,260	5,610	N/A
2	8/10/2015	2	8,576	9,077	4,481	375,240	6,598	N/A
3	8/10/2015	2	8,498	9,045	4,488	372,440	6,088	N/A
4	8/10/2015	2	8,238	9,105	4,320	375,180	5,913	N/A
5	8/11/2015	2	8,299	9,163	4,490	375,380	6,069	N/A
6	8/11/2015	2	8,341	9,246	4,440	372,900	6,706	N/A
7	8/12/2015	2	8,107	9,299	4,444	378,080	7,726	N/A
8	8/14/2015	2	8,569	8,872	4,343	502,320	7,547	N/A
9	8/14/2015	2	8,541	9,266	4,621	500,800	8,040	N/A
10	8/14/2015	2	8,715	8,937	4,685	502,740	7,302	N/A
11	8/15/2015	2	8,672	9,258	4,685	500,960	7,884	N/A
12	8/15/2015	2	8,644	9,040	4,585	499,560	7,260	N/A
13	8/16/2015	2	8,550	9,153	4,641	504,740	7,285	N/A
14	8/16/2015	2	8,564	9,198	4,859	501,000	7,227	N/A
15	8/17/2015	2	8,681	9,111	4,505	500,680	7,121	N/A
16	8/17/2015	2	8,357	9,246	4,642	500,680	7,660	N/A
17	8/19/2015	2	8,602	8,828	4,487	499,420	7,327	N/A
18	8/19/2015	2	8,509	9,263	4,657	500,480	7,365	N/A
19	8/19/2015	2	8,616	9,196	4,526	498,440	7,703	N/A
20	8/20/2015	2	8,443	9,151	4,789	500,900	7,591	N/A
21	8/20/2015	2	8,481	9,173	4,562	478,490	9,120	N/A
22	8/20/2015	2	8,628	9,196	4,632	475,120	7,195	N/A
23	8/21/2015	2	8,156	9,161	4,604	502,480	7,570	N/A
24	8/21/2015	2	8,647	9,166	4,559	500,480	8,207	N/A
25	8/22/2015	2	8,522	9,231	5,170	500,260	7,177	N/A
26	8/22/2015	2	8,412	9,253	4,486	320,780	6,586	N/A
27	8/23/2015	2	8,120	9,295	4,685	500,840	7,856	N/A
28	8/23/2015	2	8,252	9,629	8,690	427,100	7,141	N/A
29	10/3/2015	2	8,152	9,033	4,650	500,300	7,502	N/A
30	10/3/2015	2	8,261	9,012	4,685	502,000	7,036	N/A
31	10/4/2015	2	8,134	9,064	4,508	503,160	7,156	N/A
32	10/4/2015	2	8,228	9,156	4,438	500,600	7,482	N/A
33	10/4/2015	2	8,161	9,205	4,662	500,800	7,137	N/A
34	10/4/2015	2	8,015	9,006	4,887	499,820	7,168	N/A
35	10/4/2015	2	7,991	9,061	4,435	496,680	7,094	N/A
36	10/4/2015	2	7,630	8,658	4,649	499,880	6,958	N/A
37	10/5/2015	2	7,581	8,549	4,577	501,160	6,893	N/A
38	10/5/2015	2	7,425	8,869	4,660	501,240	6,812	N/A
39	10/5/2015	2	7,492	8,895	4,686	498,720	6,841	N/A
40	10/5/2015	2	7,704	8,885	4,556	499,700	6,854	N/A
41	10/5/2015	2	7,675	8,652	4,649	501,180	6,953	N/A
42	10/5/2015	2	7,656	8,704	4,685	499,220	6,854	N/A
43	10/6/2015	2	7,450	8,637	4,586	504,600	6,958	N/A
44	10/6/2015	2	7,482	8,773	4,684	500,700	7,139	N/A

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ALICE EDGE OHI 10H - STIMULATION INFORMATION

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant	Amount of water bbls	Amount of nitrogen/other
45	10/6/2015	2	7,315	9,089	4,482	403,600	6,377	N/A
46	10/6/2015	2	7,587	8,936	4,426	500,400	7,000	N/A
47	10/6/2015	2	7,562	8,913	4,696	485,860	6,815	N/A
48	10/6/2015	2	7,389	9,026	4,727	528,660	7,832	N/A
GRAND TOTAL	8/9/2015	2	8,167	9,629	4,683	22,672,030	344,177	N/A

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ALICE EDGE OHI 10H – LITHOLOGY INFORMATION

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.	400.00	N.A.	400.00	
Top of Salt Water	737.00	N.A.	737.00	N.A.	
Pittsburgh Coal	588.99	594.99	589.00	595.00	
Big Injun (ss)	1822.50	2276.55	1835.00	2295.00	
Berea (siltstone)	2276.55	5784.86	2295.00	5859.37	
Rhinstreet (shale)	5784.86	6066.25	5859.37	6151.85	
Cashaqua (shale)	6066.25	6137.59	6151.85	6232.81	
Middlesex (shale)	6137.59	6221.52	6232.81	6338.98	
Burket (shale)	6221.52	6241.62	6338.98	6367.49	
Tully (ls)	6241.62	6277.90	6367.49	6422.48	
Mahantango (shale)	6277.90	6415.20	6422.48	6840.09	
Marcellus (shale)	6415.20	N.A.	6840.09	N.A.	

Hydraulic Fracturing Fluid Product Component Information Disclosure



Job Start Date:	8/9/2015
Job End Date:	10/6/2015
State:	West Virginia
County:	Ohio
API Number:	47-069-00186-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	ALICE EDGE OHI 10H
Longitude:	-80.56036600
Latitude:	40.09992200
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,566
Total Base Water Volume (gal):	14,455,434
Total Base Non Water Volume:	0

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	Corrosion Inhibitor, Acid Corrosion Inhibitor, Acid Breaker, Gelling Agent, Friction Reducer, Propping Agent, Fluid Loss Additive	Water (including Mix Water Supplied by Client)* Quartz, Crystalline silica Hydrochloric acid Ammonium sulfate Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate Guar gum Urea Sodium sulfate Non-crystalline silica (impurity)	NA 14808-60-7 7647-01-0 7783-20-2 38193-60-1 136793-29-8 9000-30-0 57-13-6 7757-82-6 7631-86-9	0.01607 0.01047 0.00988 0.00230 0.00208	83.92581 15.79966 0.21000 0.03266 0.02411 0.00258	

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Latitude: N 40°07'30"

5320'

THRASHER

SWN PRODUCTION COMPANY, LLC

THE THRASHER GROUP, INC.
600 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE 304-624-4108

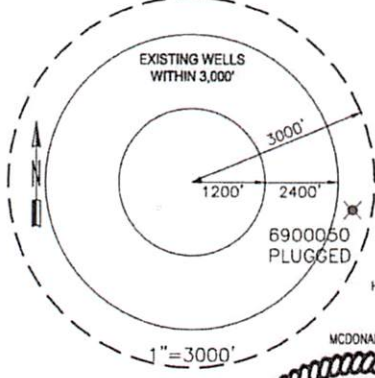
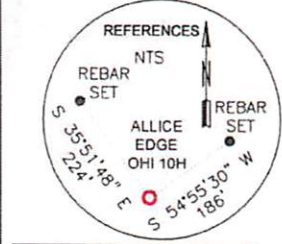
"ALICE EDGE OHI 10H"
SURFACE HOLE
ELEV: 1199.4' (AS-DRILLED)

AS-DRILLED

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

- NOTES ON SURVEY**
- COORDINATES 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 FIELD LOCATIONS.
 - THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
 - NO DWELLINGS AND BUILDINGS 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, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
 - NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	LEASE NUMBER	ACRES
1	ALICE MAE EDGE	03-L11-23	1-292590-000	103.0
2	W W S & MARG E PATTERSON	08-VG2-3	N/A	N/A
3	JOSEPH L & S R REED	08-VG2-2	47-000240-000	0.51
4	FLORENCE CROFT	08-VG2-57	1-313856-000	N/A
5	JOSEPH KLUISKY	08-VG5-24	47-000315-000	1.54
6	N/A	08-VG5-9999.9999	N/A	N/A
7	CARL J & GRACE A ROTTER	03-L11-64	1-265462-000	43.5
8	WILLIAM C III & D B LADERER	03-L11-34.1	47-0000562-000	3.88
9	WILLIAM C III & D B LADERER	03-L11-35.1	47-003335-000	1.33
10	WILLIAM C III & D B LADERER	03-L11-35	47-003335-000	4.89
11	ROSEMARY GRIFFITH	03-L11-59	47-002716-000	1.928
12	CHRISTOPHER E NEIDHARDT	03-L11-38.2	1-268382-000	32.365
13	CHARLES H GUTHOERL JR	03-L14-50	47-000785-000	48.816
14	SCOTT C & ALICIA PEKUNSKY	03-L14-52.5	03-L14-52.5	12.809
15	CHARLES H & SHELLY L GUTHOERL	03-L14-27.1	47-000785-000	4.602
16	CHRIS BESCHNER	03-L14-27.35	47-000241-000	5.18
17	JULIE MANNING	03-L14-27.4	47-000986-000	2.00
18	RICHARD HESTER	03-L14-27.28	47-000986-000	0.864
19	JANE W & RICHARD HESTER	03-L14-27.14	47-001452-000	1.474
20	SCOTT A BLACK	06-14-7	1-385579-000	36.707
21	FREDRICK W DAGUE	06-14-11	1-385595-001	13.354
22	JAMES F & ANN C ROSE	06-14-12	1-385577-000	1.0
23	JOHN A & JAMES E KOZIK	06-T9-49	1-292592-000	128.09



AS-DRILLED
SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,438,940.392
EASTING: 537,472.247
AS-DRILLED
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,438,826.110
EASTING: 537,881.067
AS-DRILLED
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,435,389.895
EASTING: 539,147.940

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. 2270 *M.S.W.* 1/14/16



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

(+) 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 SOURCE OF SURVEY: GRADE GPS
ELEVATION: (NAVD 88, US FT)

ALICE EDGE
OPERATOR'S WELL #: OHI 10H
API WELL #: 47 069 00186
STATE COUNTY PERMIT

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

WATERSHED: UPPER OHIO SOUTH
DISTRICT: LIBERTY COUNTY: OHIO
SURFACE OWNER: ALICE MAE EDGE
OIL & GAS ROYALTY OWNER: ALICE MAE EDGE
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: 6,400 TVD 19,675 TMD

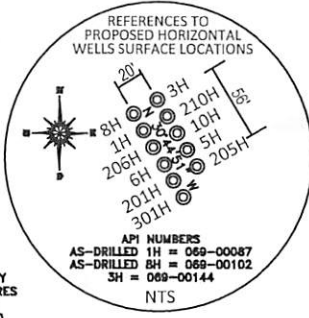
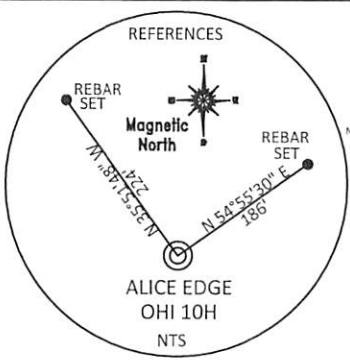
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC
ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378

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

LEGEND:
 PROPOSED SURFACE HOLE / BOTTOM HOLE
 EXISTING / PRODUCING WELLHEAD
 ABANDONED WELL
 PLUGGED & ABANDONED WELL
 CUT CONDUCTOR
 LEASE BOUNDARY
 DESIGN DHP
 AS-DRILLED DHP
 ABANDONED PATH

REVISIONS:
DATE: 01-11-2016
DRAWN BY: KJP
SCALE: 1" = 2000'
DRAWING NO: 030-2725
WELL LOCATION PLAT

SWN
Production Co., LLC.
 Proposed
Alice Edge OHI 10H
 Liberty District
 Ohio County, WV

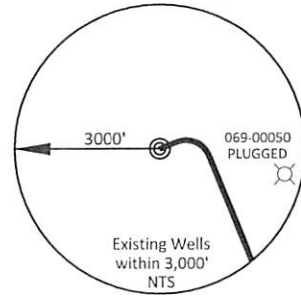


LESSOR	PARCEL	ACREAGE	LEASE NUMBER
A JOSEPH L. & S.R. REED	V62-2	0.51 ACRES	47-000240-000
B JOHN J. MOSA	V62-1	1.01 ACRES	47-000332-000
C NANCY LOUISE FREEMAN	V65-1	0.23 ACRES	47-000158-000
D FLORENCE CROFT	V62-57	2.018 ACRES	01-313856-000
E JOSEPH KLUSKEY	V65-24	1.54 ACRES	47-000315-000
F WILLIAM C. III, & D.B. LADERER	L11-34.1	3.68 ACRES	47-0000562-000
G WILLIAM C. III, & D.B. LADERER	L11-35.1	1.33 ACRES	47-003335-000
H WILLIAM C. III, & D.B. LADERER	L11-35	4.99 ACRES	47-003335-000
I ROSEMARY E. GRIFFITH	L11-59	1.93 ACRES	47-000363-000
J PAUL ROBERT LESHUK	L11-38.1	1.32 ACRES	47-002716-000
K CHARLES H. & SHELLY L. GUTHOERL	L14-27.10	4.60 ACRES	47-000785-000
L CHRIS BEISWENGER	L14-27.35	5.18 ACRES	47-000241-000
M JULIE MANNING	L14-27.40	2.00 ACRES	47-000988-000
N KATHLEEN K. CROCKARD	L14-27.30	0.763 ACRES	47-001364-000
O JUNE M. & RICHARD HESTER	L14-27.14	1.474 ACRES	47-001452-000
P FREDERICK E. & DELLA E. WISENHELDER	L14-27.12	0.432 ACRES	47-000785-000
Q ANDREW & CONNIE BURRIS	L14-27.13	2.55 ACRES	UNLEASED
R JAMES F. & ANH C. ROSE	T4-12	1.00 ACRES	01-385577-000
S RICHARD HESTER	L14-27.28	.505 ACRES	47-000988-000
T WEST VIGNIA D.O.H.	RT. 40	N/A	01-357838-000

TOP HOLE (NAD 83) N) 584503.4 E) 1671871.9 LAT.) 40°05'59.7" LONG.) 80°33'37.3" DEC. LAT.) 40.099922 DEC. LONG.) 80.560368	KOP (NAD 83) N) 584785.8 E) 1672964.6 LAT.) 40°06'02.6" LONG.) 80°33'23.3" DEC. LAT.) 40.100733 DEC. LONG.) 80.556474
TOP HOLE (NAD 27) N) 584466.4 E) 1703306.3 LAT.) 40°05'59.5" LONG.) 80°33'38.1" DEC. LAT.) 40.099849 DEC. LONG.) 80.560573	KOP (NAD 27) N) 584748.8 E) 1704399.0 LAT.) 40°06'02.4" LONG.) 80°33'24.0" DEC. LAT.) 40.100660 DEC. LONG.) 80.556680
TP (NAD 83) N) 584312.5 E) 1673125.8 LAT.) 40°05'58.0" LONG.) 80°33'21.2" DEC. LAT.) 40.099439 DEC. LONG.) 80.555878	WAY POINT 1 (NAD 83) N) 580147.9 E) 1674544.2 LAT.) 40°05'17.0" LONG.) 80°33'02.3" DEC. LAT.) 40.088053 DEC. LONG.) 80.550634
TP (NAD 27) N) 584275.5 E) 1704560.2 LAT.) 40°05'57.7" LONG.) 80°33'21.9" DEC. LAT.) 40.099366 DEC. LONG.) 80.556084	WAY POINT 1 (NAD 27) N) 580110.7 E) 1705978.5 LAT.) 40°05'16.7" LONG.) 80°33'03.0" DEC. LAT.) 40.087980 DEC. LONG.) 80.550840
WAY POINT 2 (NAD 83) N) 577672.6 E) 1675185.6 LAT.) 40°04'52.6" LONG.) 80°32'53.7" DEC. LAT.) 40.081279 DEC. LONG.) 80.548239	BOTTOM HOLE (NAD 83) N) 572758.8 E) 1677164.4 LAT.) 40°04'04.3" LONG.) 80°32'27.5" DEC. LAT.) 40.067854 DEC. LONG.) 80.540964
WAY POINT 2 (NAD 27) N) 577635.6 E) 1706619.9 LAT.) 40°04'52.3" LONG.) 80°32'54.4" DEC. LAT.) 40.081206 DEC. LONG.) 80.548445	BOTTOM HOLE (NAD 27) N) 572721.8 E) 1708598.7 LAT.) 40°04'04.0" LONG.) 80°32'28.2" DEC. LAT.) 40.067780 DEC. LONG.) 80.541170

TOP HOLE (UTM NAD 83) METER N) 4438940.3 E) 537472.2
BOTTOM HOLE (UTM NAD 83) METER N) 4435389.3 E) 539144.4
TOP HOLE (UTM NAD 83) FEET N) 14563423.4 E) 1763356.6
BOTTOM HOLE (UTM NAD 83) FEET N) 14551773.2 E) 1768843.0

REFERENCE LINES RL #1 S 81°20'44" E 1,268'
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REFERENCE NOTES
 Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records OHIO County, West Virginia JUNE 2013
 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
 Drafted by: E.A.H.

BOORD, BENCHEK and ASSOC., INC.
 Engineering, Surveying, Construction,
 and Mining Services
 Southpointe, PA 15317 Phone: 724-746-1055

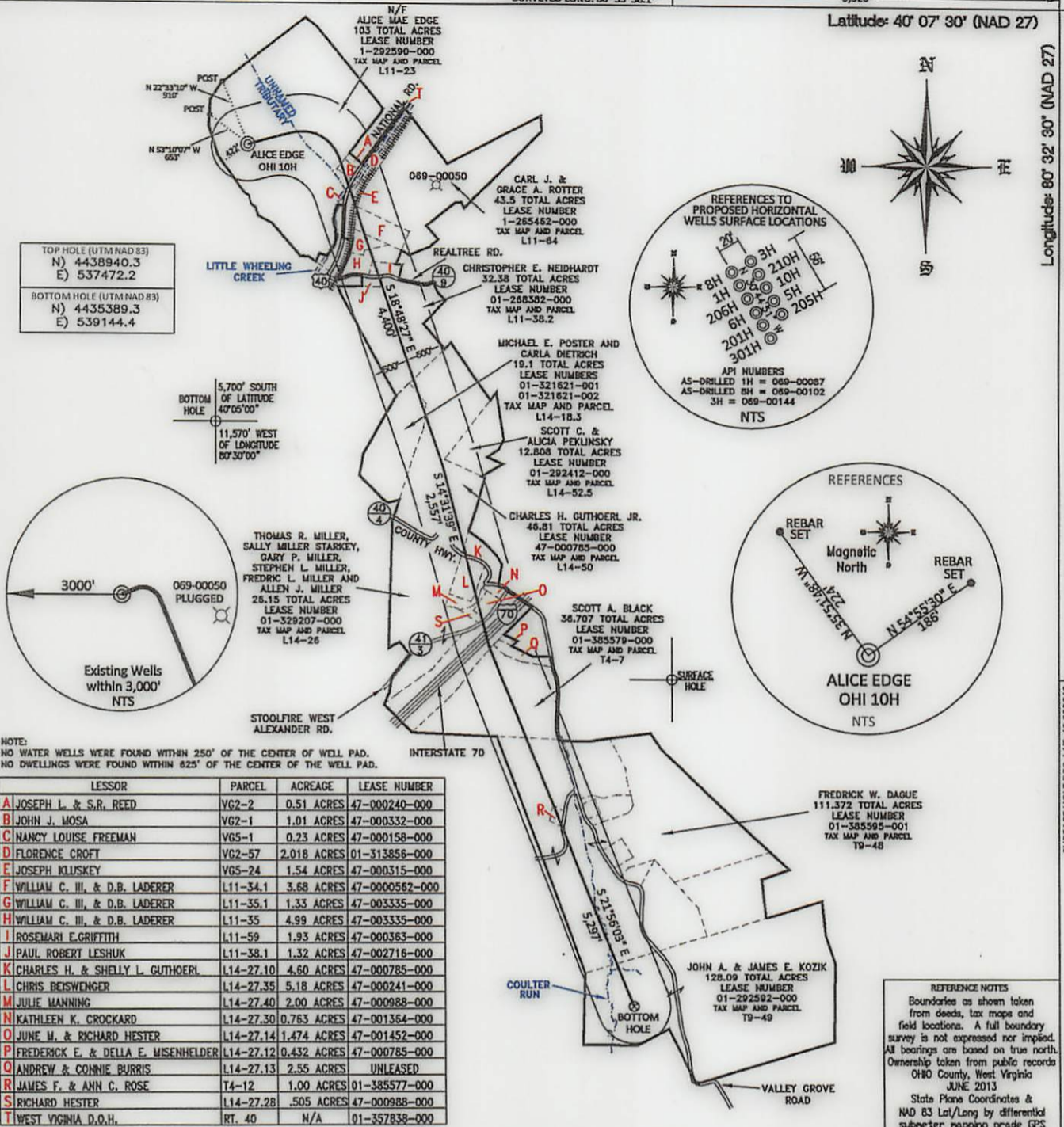
NOTE:
 NO WATER WELLS WERE FOUND WITHIN 250' OF THE CENTER OF WELL PAD.
 NO DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF THE WELL PAD.

FEBRUARY 26, 2015
SCALE 1"=2,000'

SURFACE HOLE DEC. LONG: 80.560573
SURVEYED LONG: 80° 33' 38.1"

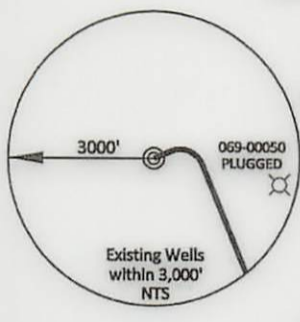
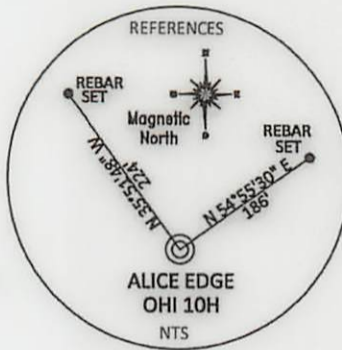
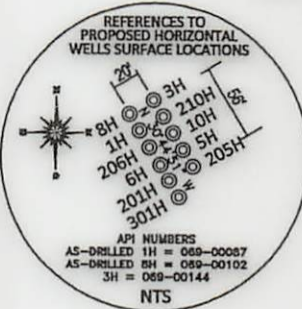
Latitude: 40° 07' 30" (NAD 27)

Longitude: 80° 32' 30" (NAD 27)



TOP HOLE (UTM NAD 83)
N) 4438940.3
E) 537472.2

BOTTOM HOLE (UTM NAD 83)
N) 4435389.3
E) 539144.4



NOTE:
NO WATER WELLS WERE FOUND WITHIN 250' OF THE CENTER OF WELL PAD.
NO DWELLINGS WERE FOUND WITHIN 825' OF THE CENTER OF THE WELL PAD.

LESSOR	PARCEL	ACREAGE	LEASE NUMBER
A JOSEPH L. & S.R. REED	VG2-2	0.51 ACRES	47-000240-000
B JOHN J. MOSA	VG2-1	1.01 ACRES	47-000332-000
C NANCY LOUISE FREEMAN	VG5-1	0.23 ACRES	47-000158-000
D FLORENCE CROFT	VG2-57	2.018 ACRES	01-313856-000
E JOSEPH KLUSKEY	VG5-24	1.54 ACRES	47-000315-000
F WILLIAM C. III, & D.B. LADERER	L11-34.1	3.68 ACRES	47-0000562-000
G WILLIAM C. III, & D.B. LADERER	L11-35.1	1.33 ACRES	47-0003335-000
H WILLIAM C. III, & D.B. LADERER	L11-35	4.99 ACRES	47-0003335-000
I ROSEMARY E. GRIFFITH	L11-59	1.93 ACRES	47-000363-000
J PAUL ROBERT LESHUK	L11-38.1	1.32 ACRES	47-002716-000
K CHARLES H. & SHELLY L. GUTHOERL	L14-27.10	4.80 ACRES	47-000785-000
L CHRIS BEISWENGER	L14-27.35	5.18 ACRES	47-000241-000
M JULIE MANNING	L14-27.40	2.00 ACRES	47-000988-000
N KATHLEEN K. CROCKARD	L14-27.30	0.763 ACRES	47-001364-000
O JUNE H. & RICHARD HESTER	L14-27.14	1.474 ACRES	47-001452-000
P FREDERICK E. & DELLA E. WISENHOLDER	L14-27.12	0.432 ACRES	47-000785-000
Q ANDREW & CONNIE BURRIS	L14-27.13	2.55 ACRES	UNLEASED
R JAMES F. & ANN C. ROSE	T4-12	1.00 ACRES	01-385577-000
S RICHARD HESTER	L14-27.28	.505 ACRES	47-000988-000
T WEST VIRGINIA D.O.H.	RT. 40	N/A	01-357838-000

REFERENCE NOTES
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records OHIO County, West Virginia JUNE 2013
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
Drafted by: EJM

FILE #: CHE 036
DRAWING #: 1657
SCALE: PLAT: 1" = 2000'
TICK MARK: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE: SUBMETER MAPPING GRADE GPS

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 DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: *[Signature]*
L.L.S. #2124: Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

Well Type: Oil Waste Diposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: UPPER OHIO SOUTH
COUNTY/DISTRICT: OHIO / LIBERTY
SURFACE OWNER: ALICE MAE EDGE
OIL & GAS ROYALTY OWNER: ALICE MAE EDGE
LEASE NUMBERS:

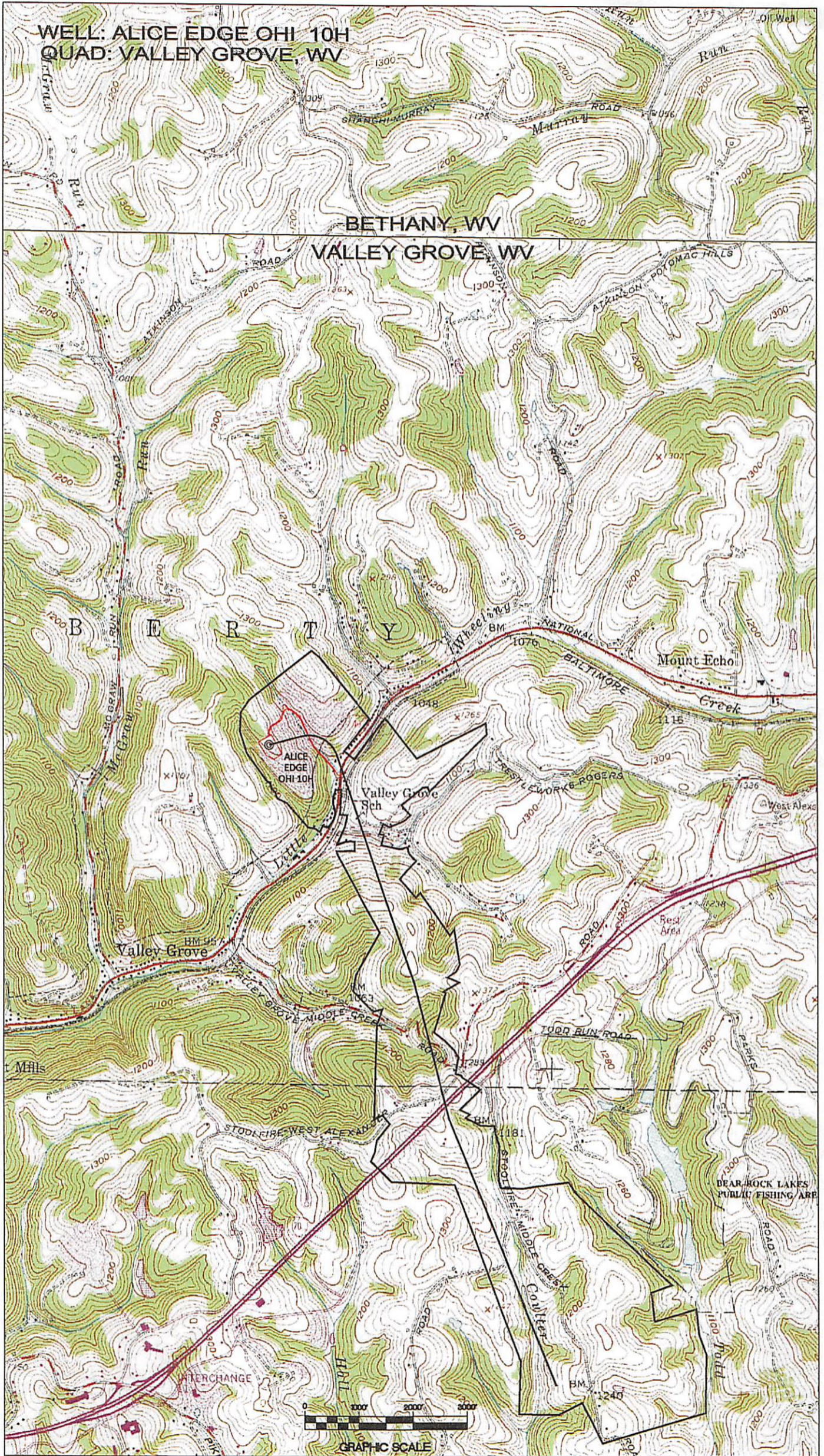
DATE: JANUARY 16, 2015
OPERATOR'S WELL #: ALICE EDGE OHI 10H
API WELL #: 47 69
STATE COUNTY PERMIT

ELEVATION: 1,198'
QUADRANGLE: VALLEY GROVE, WV
ACREAGE: 103 +/-
ACREAGE: 498.478 +/-

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY):

TARGET FORMATION: MARCELLUS
ESTIMATED DEPTH: TVD: 6,400' TMD: 19,675'
WELL OPERATOR: SWN Production Co., LLC.
DESIGNATED AGENT: Dee Southall
ADDRESS: PO BOX 1300
ADDRESS: PO BOX 6070
CITY: Jane Lew STATE: WV ZIP CODE: 26378
CITY: Jane Lew STATE: WV ZIP CODE: 26378

WELL: ALICE EDGE OHI 10H
QUAD: VALLEY GROVE, WV

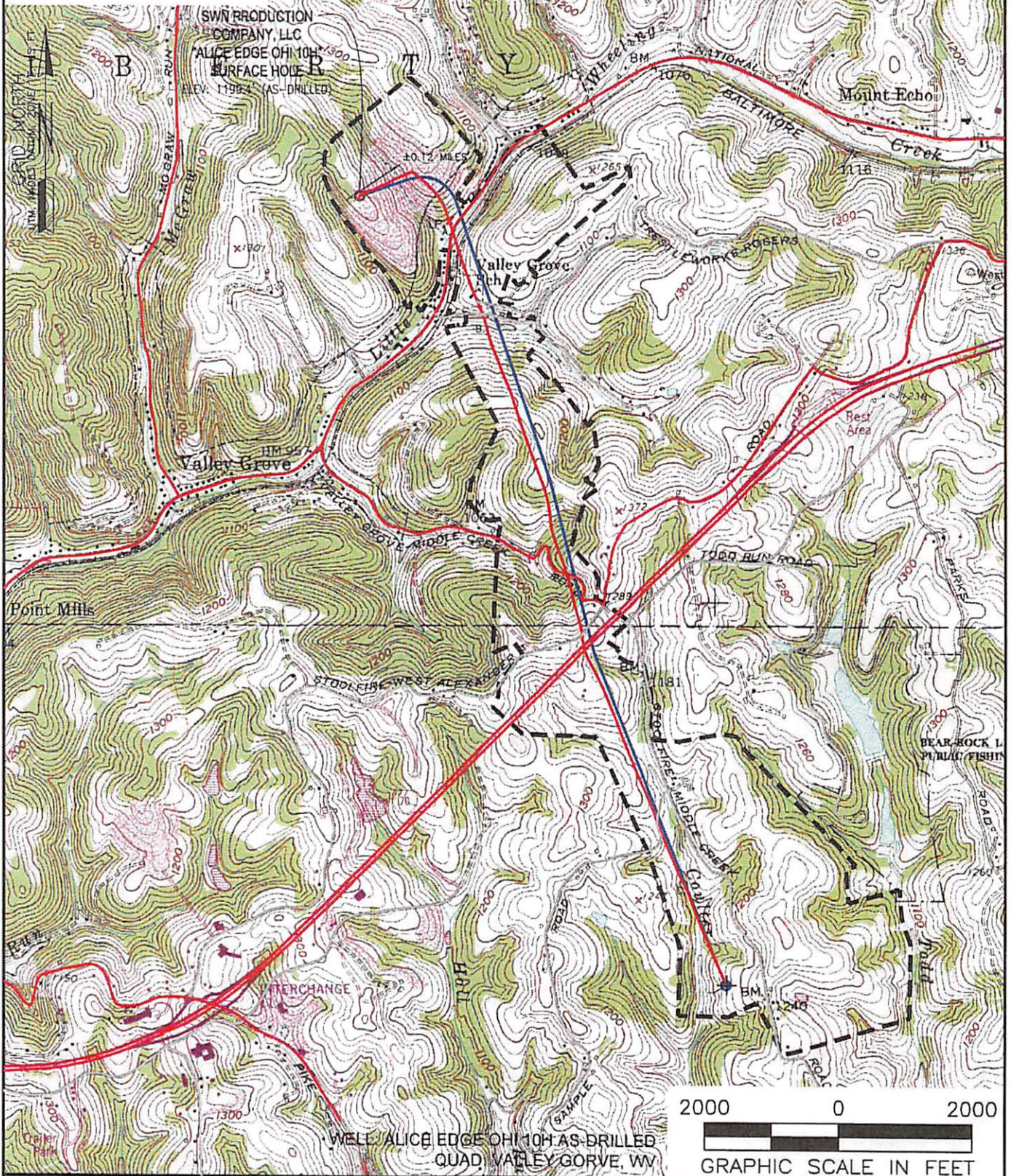


GRAPHIC SCALE

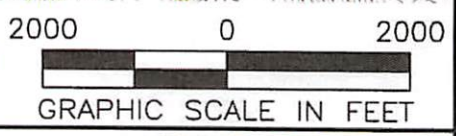
THRASHER

THE THRASHER GROUP, INC.
600 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE 304-624-4108

AS-DRILLED



WELL ALICE EDGE OHI 10H AS-DRILLED
QUAD, VALLEY GROVE, WV



NAME AND DISTANCE TO THE NEAREST STREAM: AN UNNAMED TRIBUTARY TO LITTLE WHEELING CREEK IS LOCATED ±0.12 MILES (NE) OF THE CENTER OF THE DRILL PAD.		STREAM CROSSING COORDINATES (NAD 83): A. LAT: 40.098413' / LONG: -80.555387' B. LAT: 40.094740' / LONG: -80.553675' C. LAT: 40.070751' / LONG: -80.542518'		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 ALICE EDGE			
FEMA FLOOD INFORMATION: NO FLOOD ZONES.		WELL #: OHI 10H		LOCATION: LIBERTY DISTRICT, OHIO, WEST VIRGINIA	
LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ⊙ EXISTING / PRODUCING WELLHEAD ⊗ ABANDONED WELL ⊕ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR ○ EXISTING SPRING ○ EXISTING WATER WELL — ACCESS ROAD — ACCESS ROAD TO PREV. SITE — HIGHWAY/INTERSTATE — COUNTY ROAD		AS-DRILLED SURFACE HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.099923' LONGITUDE: -80.560367'		AS-DRILLED BOTTOM HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.067859' LONGITUDE: -80.540923'	
REVISIONS:		DATE: 01-11-2016		DRAWN BY: KJP SCALE: 1" = 2000' DRAWING NO: 030-2725 TOPOGRAPHIC MAP	