



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

March 30, 2016

WELL WORK PERMIT

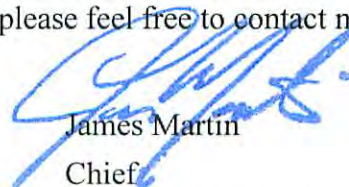
Horizontal 6A Well

This permit, API Well Number: 47-5101877, issued to SWN PRODUCTION COMPANY, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: CRAIG STROPE UP MSH 2H
Farm Name: STROPE, CRAIG D & RUSSELL W

API Well Number: 47-5101877

Permit Type: Horizontal 6A Well

Date Issued: 03/30/2016

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
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March 30, 2016

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Chief

Operator's Well No: CRAIG STROPE UP MSH 2H
Farm Name: STROPE, CRAIG D & RUSSELL W
API Well Number: 47-5101877
Permit Type: Horizontal 6A Well
Date Issued: 03/30/2016

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March 30, 2016

WELL WORK PERMIT

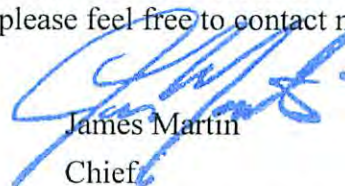
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Chief

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Farm Name: STROPE, CRAIG D & RUSSELL W

API Well Number: 47-5101877

Permit Type: Horizontal 6A Well

Date Issued: 03/30/2016

Promoting a healthy environment.

04/01/2016

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west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
dep.wv.org

March 24, 2016

Department of Environmental Protection
Office of Oil and Gas
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-051-01877

COMPANY: SWN PRODUCTION COMPANY, LLC

FARM: CRAIG STROPE UP MSH 2H

COUNTY: MARSHALL DISTRICT: WEBSTER QUAD: MAJORSVILLE, WV-PA

The deep well review of the application for the above company is **APPROVED FOR TRENTON BLACK RIVER UTICA COMPLETION.**

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Comments to Notice of Deviation filed? none
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners; yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells, well name, and the name and address of the operator; none
4. Provided a plat showing that the proposed location is a distance of 400+ feet from the nearest lease line or unit boundary and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

Cindy Raines
Administrator

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: SWN Production Co., LLC 494512924 51-Marshall 9-Webster 453-Majorsville
Operator ID County District Quadrangle

2) Operator's Well Number: Craig Strope UP MSH 2H Well Pad Name: Craig Strope MSH Pad

3) Farm Name/Surface Owner: Craig D. & Russell W. Strope Public Road Access: Dry Ridge Lone Oak Rd

4) Elevation, current ground: 1278' Elevation, proposed post-construction: 1278'

5) Well Type (a) Gas Oil Underground Storage

Other _____

(b) If Gas Shallow _____ Deep

Horizontal

6) Existing Pad: Yes or No yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Target Formation- Utica, Target Top TVD- 11,678', Target Base TVD- 11,799', Anticipated Thickness- 121', Associated Pressure-7060

8) Proposed Total Vertical Depth: 11,767'

9) Formation at Total Vertical Depth: Trenton Black River

10) Proposed Total Measured Depth: 19,682'

11) Proposed Horizontal Leg Length: 7497.11'

12) Approximate Fresh Water Strata Depths: 306'

13) Method to Determine Fresh Water Depths: nearby water wells and interpretation of wireline logs

14) Approximate Saltwater Depths: 1107'

15) Approximate Coal Seam Depths: 800'

16) Approximate Depth to Possible Void (coal mine, karst, other): None that we are aware of.

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

18) **CASING AND TUBING PROGRAM**

| TYPE | Size (in) | New or Used | Grade | Weight per ft. (lb/ft) | FOOTAGE: For Drilling (ft) | INTERVALS: Left in Well (ft) | CEMENT: Fill-up (Cu. Ft.)/CTS |
|--------------|-----------|-------------|---------|------------------------|----------------------------|------------------------------|-------------------------------|
| Conductor | 30" | New | X-70 | 157# | 100' | 100' | CTS |
| Fresh Water | 20" | New | J-55 | 94# | 356' | 356' | 331 sx/CTS |
| Coal | 13 3/8" | New | L-80 | 68# | 2300' | 2300' | 891 sx/CTS |
| Intermediate | 9 5/8" | New | P-110 | 53.5# | 10,176 | 10,176' | 1100 sx/ |
| Production | 5 1/2" | New | HCP-110 | 23# | 19,682' | 19,682' | Lead 157 ax 1001 100' Insto |
| Tubing | 2 3/8" | New | P-110 | 4.7# | Approx. 11,767' | Approx. 11,767' | |
| Liners | | | | | | | |

| TYPE | Size (in) | Wellbore Diameter (in) | Wall Thickness (in) | Burst Pressure (psi) | Max. Associated Surface Pressure (psi) | Cement Type | Cement Yield (cu. ft./k) |
|--------------|-----------|------------------------|---------------------|----------------------|--|-------------|--------------------------|
| Conductor | 30" | 36" | 0.50 | 2100 | 57 | Class A | 1.19/50% Excess |
| Fresh Water | 20" | 26" | 0.438 | 2110 | 635 | Class A | 1.19/50% Excess |
| Coal | 13 3/8" | 17.5" | 0.480 | 5020 | 1480 | Class A | 1.19/50% Excess |
| Intermediate | 9 5/8" | 12 1/4" | 0.545 | 10900 | 4435 | Class A | 1.20/15% Excess |
| Production | 5 1/2" | 8 3/4" | 0.415 | 16240 | 12992 | Class A | 1.20/15% Excess |
| Tubing | 2 3/8" | 4.778" | 0.190 | | | | |
| Liners | | | | | | | |

PACKERS

| | | | | |
|-------------|--------------------|--|--|--|
| Kind: | 10K Arrowset AS1-X | | | |
| Sizes: | 5 1/2" | | | |
| Depths Set: | | | | |

18)

CASING AND TUBING PROGRAM

| TYPE | Size (in) | New or Used | Grade | Weight per ft. (lb/ft) | FOOTAGE: For Drilling (ft) | INTERVALS: Left in Well (ft) | CEMENT: Fill-up (Cu. Ft.)/CTS |
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| Conductor | 30" | New | X-70 | 157# | 100' | 100' | CTS ✓ |
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| Production | 5 1/2" | New | HCP-110 | 23# | 19,683' | 19,683' | Lead 157 cu ft 1001 cu/100' inside |
| Tubing | 2 3/8" | New | P-110 | 4.7# | Approx. 11,767' | Approx. 11,767' | |
| Liners | | | | | | | |

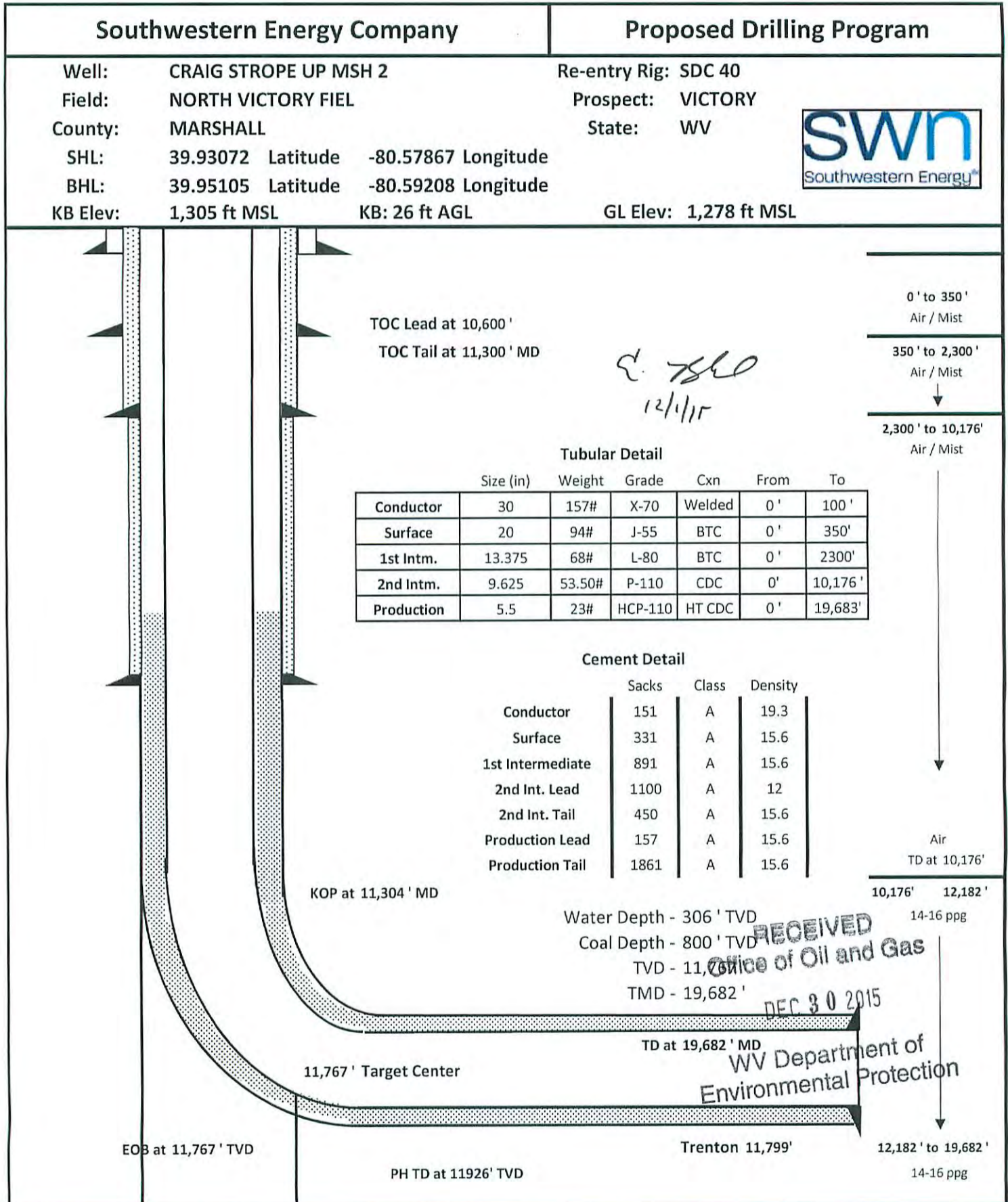
C. 782 12/1/15

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 Office of Oil and Gas
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 WV Department of
 Environmental Protection
 Page 2 of 3
 2016



19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill to 150' below into Trenton Black River formation and then plug back with solid cement from TD to the kick off point and then drill horizontally into the Utica.. **If we should encounter a void place basket above and below void area- balance cement to bottom of void and grout from basket to surface. Run casing not less than 20' below void nor more than 50'-75' below void. (*If freshwater is encountered deeper than anticipated it must be protected, set casing 50'-75' below and cts.)

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. The well is produced through surface facilities consisting of high pressure production units, vertical separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 80 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 19.84

22) Area to be disturbed for well pad only, less access road (acres): 11.44

23) Describe centralizer placement for each casing string:

All casing strings will be ran with a centralizer at a minimum of 1 per every 3 joints of casing.

24) Describe all cement additives associated with each cement type:

See Attachment ***

25) Proposed borehole conditioning procedures:

All boreholes will be conditioned with circulation and rotation for a minimum of one bottoms up and continuing until operator is satisfied with borehole conditions.

*Note: Attach additional sheets as needed.

Schlumberger Cement Additives

| | Product Name | Product Use | Chemical Name | CAS Number |
|-----------------|---------------|-------------------------------|----------------------------------|-------------|
| Surface | S001 | accelerator | calcium chloride | 10043-52-4 |
| Intermediate | S001 | accelerator | calcium chloride | 10043-52-4 |
| Kick Off Plug | D080 | dispersant | sodium polynaphthalene sulfonate | 9008-63-3 |
| | D801 | retarder | aromatic polymer derivative | proprietary |
| | D047 | antifoam | polypropylene glycol | 25322-69-4 |
| Production-Lead | D167 | fluid loss | aliphatic amide polymer | proprietary |
| | D154 | extender | non-crystalline silica | 7631-86-9 |
| | D400 | gas migration | boric acid | 10043-35-3 |
| | D046 | antifoam | polypropylene glycol | 25322-69-4 |
| | | | fullers earth (attapulgate) | 8031-18-3 |
| | D201 | retarder | chrySTALLine silica | 14808-60-7 |
| | | | metal oxide | proprietary |
| D202 | dispersant | sulphonated synthetic polymer | proprietary | |
| | | formaldehyde (impurity) | proprietary | |
| Production-Tail | D046 | antifoam | polypropylene glycol | 25322-69-4 |
| | | | fullers earth (attapulgate) | 8031-18-3 |
| | D167 | fluid loss | aliphatic amide polymer | proprietary |
| | D065 | dispersant | sodium polynaphthalene sulfonate | 9008-63-3 |
| | | | sodium sulfate | 7757-82-6 |
| | D201 | retarder | chrySTALLine silica | 14808-60-7 |
| | | | metal oxide | proprietary |
| D153 | anti-settling | chrySTALLine silica | 14808-60-7 | |

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Office of Oil and Gas

DEC 30 2015

WV Department of
Environmental Protection 04/01/2016

WW-9
(9/13)

API Number 47 - 9 - 01877
Operator's Well No. Craig Strope MSH 2H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Co., LLC OP Code 494512924

Watershed (HUC 10) Upper Wheeling Creek Quadrangle 453-Majorsville

Elevation 1278' County 51-Marshall District 9-Webster

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No

Will a pit be used? Yes No

If so, please describe anticipated pit waste: closed loop system in place at this time- cuttings will be taken to a permitted landfill.

Will a synthetic liner be used in the pit? Yes No If so, what ml.? _____

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number 2D0072539/ 2D0413175/ 2D0610306/ 2D0610317)
- Reuse (at API Number at next anticipated well, API# will be included with the WR-34/DDMR &/or permit addendum.)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain flow back fluids will be put in steel tanks and reused or taken to a permitted disposal facility.)

Will closed loop system be used? If so, describe: Yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. air drill to KOP, fluid drill with SOBM from KOP to TD

-If oil based, what type? Synthetic, petroleum, etc. Synthetic Oil Base

Additives to be used in drilling medium? see attached sheets

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. landfill

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust)

-Landfill or offsite name/permit number? meadow SWF- 1032, SS Gracing SWF- 4902, Northwestern SWF- 1025, Short Creek 1034/WV0105517/CID28726, Carbon Limestone 28726/CID28726
Arden Landfill 10072, American U2-12954, Country Wide 38390/CID38390, Pine Grove 13688

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature [Signature]

Company Official (Typed Name) Dee Southall

Company Official Title Regulatory Supervisor

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Subscribed and sworn before me this 9th day of November, 20 15

Brittany R Woody
My commission expires 11/27/22



Form WW-9

Operator's Well No. Craig Strobe MSH 2H

SWN Production Co., LLC

Proposed Revegetation Treatment: Acres Disturbed 19.84 Prevegetation pH _____

Lime as determined by pH test min. 2 _____ Tons/acre or to correct to pH _____

Fertilizer type 10-20-20 _____

Fertilizer amount 600 _____ lbs/acre

Mulch Hay/Straw 2.5 _____ Tons/acre

Seed Mixtures

Temporary

Permanent

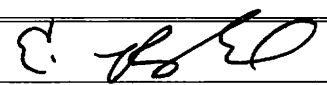
| Seed Type | lbs/acre |
|---------------|----------|
| White Grove | 15 |
| Red Top | 15 |
| Orchard Grass | 20 |

| Seed Type | lbs/acre |
|---------------|----------|
| White Grove | 15 |
| Red Top | 15 |
| Orchard Grass | 20 |

Attach:

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by:  12/1/15

Comments: _____

Title: Oil and Gas Inspector Date: 12/1/15

Field Reviewed? Yes No

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**Marcellus Well Drilling Procedures
And Site Safety Plan**

SWN Production Co., LLC

47 - 051 - 01877
Well name: Craig Strope MSH 2H
Majorsville, Quad
Webster, District
Marshall County, West Virginia

Submitted by



Danielle Southall


11-9-2015

Date:

Title Regulatory Supervisor

SWN Production Co., LLC

Approved by:



Date:

12/1/15

Title: Oil & Gas Inspector

Approved by:

Date:

Title:

SWN Production Co., LLC – Confidential

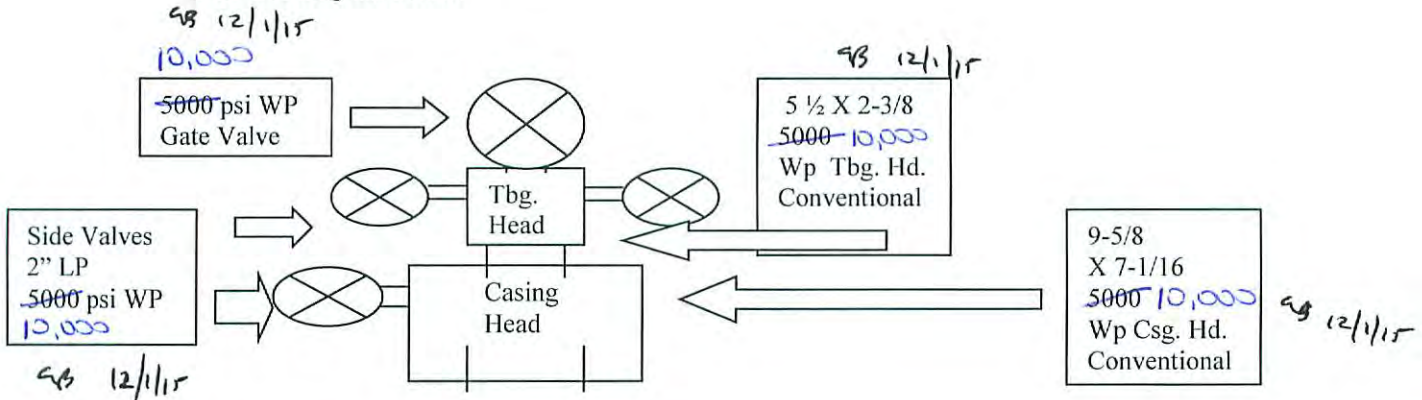
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04/01/2016

D. The following persons that will be involved in the drilling operations are BOP certified:

- Rig Toolpusher
- Rig Morning Tour Driller
- Rig Evening Tour Driller

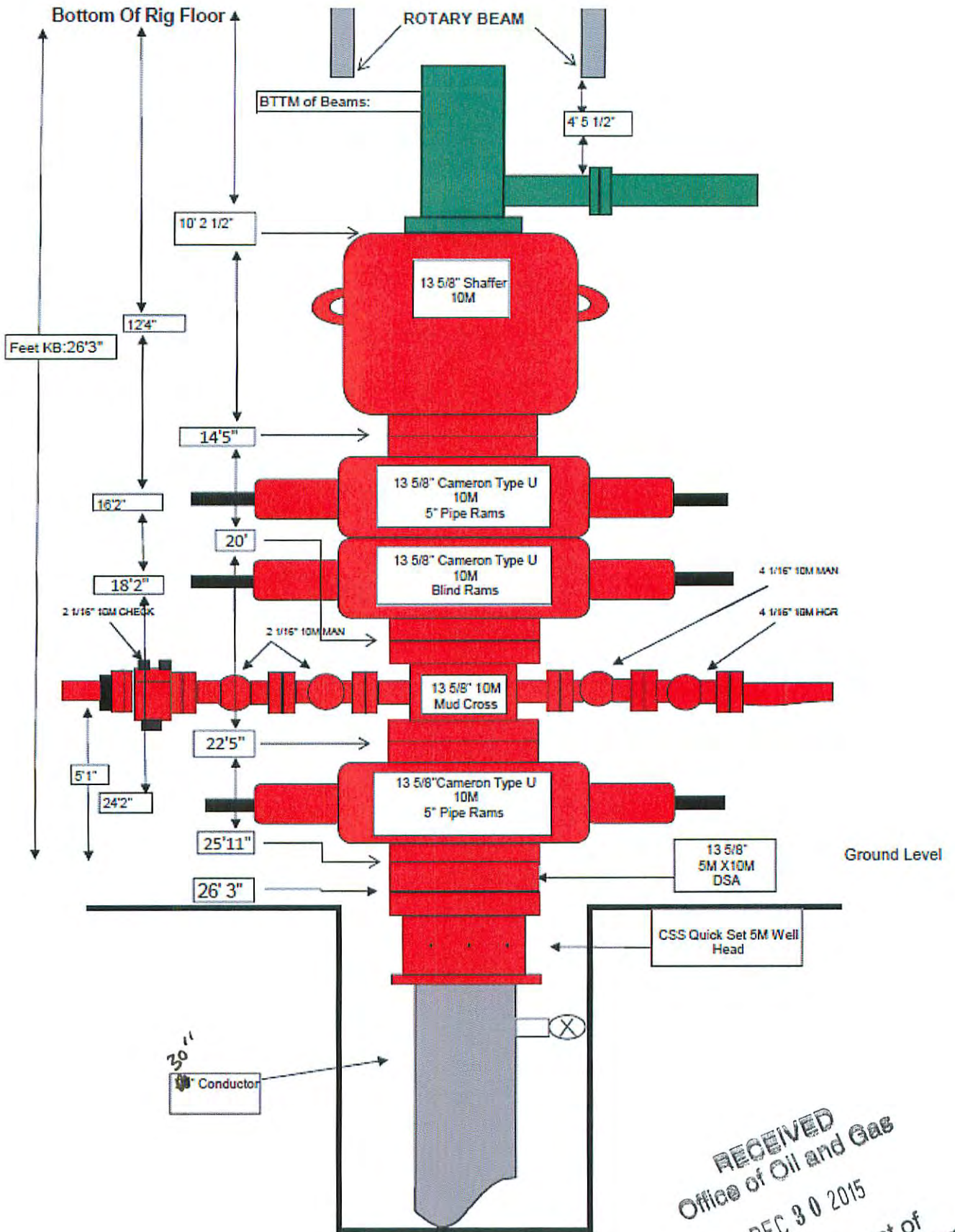
E-G. See diagram below:



H. Well Killing Operations Method and Type

1. Barite and saturated brine will be available if necessary to weight up beyond the proposed compositions.
2. Once it is confirmed that a significant gas flow has occurred, the appropriate kill procedure will be employed. The mud weight required to kill the well will be calculated and the surface mud system density will be increased to the required weight. A pumping schedule to circulate the kick out of the well will be calculated and followed once the surface mud system is of proper density.

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 04/01/2016

#5



NORTH

LEGEND

EVACUATION ROUTE

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EVACUATION ROUTE/PREVAILING WINDS
FOR
CRAIG STROPE MSH PAD A
WEBSTER DISTRICT MARSHALL COUNTY, WV

RETTEW
RETTEW Associates, Inc.
One Robinson Plaza, 6600 Steubenville Pike, Suite 200,
Pittsburgh, PA 15205
Phone (412) 446-1728 · Fax (412) 446-1733
Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

DRAWN BY: _____ MEB
DATE: _____ 11/20/2015
SCALE: _____ 1"=600'
DWG. NO. _____ 087569037

04/01/2016

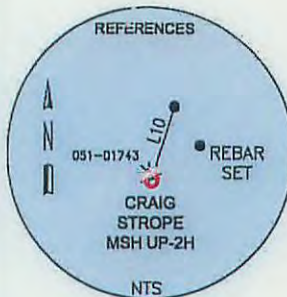
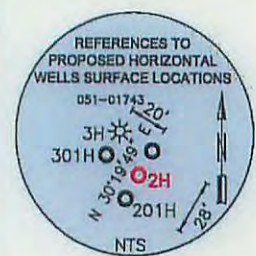
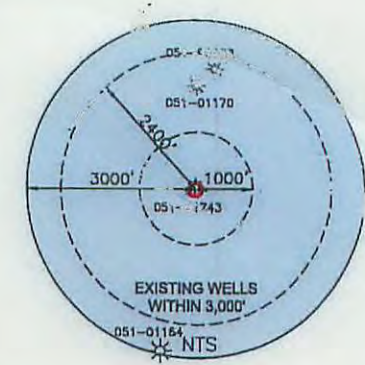
RETTEW

RETTEW Associates, Inc.
 27 Travato Street, Suite 101
 Bridgeport, WV 26330
 Phone (800) 738-8395
 Email: rettew@rettew.com
 Website: www.rettew.com

| |
|--|
| SURFACE HOLE LOCATION: |
| UTM (NAD83, ZONE 17, METERS): NORTHING: 4,20,152.381 EASTING: 536,000.812 |
| LANDING POINT LOCATION (LPL): |
| UTM (NAD83, ZONE 17, METERS): NORTHING: 4,420,263.283 EASTING: 535,645.497 |
| BOTTOM HOLE LOCATION (BHL): |
| UTM (NAD83, ZONE 17, METERS): NORTHING: 4,422,403.635 EASTING: 534,845.072 |

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

| LINE | BEARING | DISTANCE | DESCR'PT | MONUMENT |
|------|---------------|----------|-------------------|-------------------|
| L1 | S 67°03'00" E | 738.82' | SHL TO GIS BNDY. | |
| L2 | S 38°18'08" E | 1120.83' | SHL TO GIS BNDY. | |
| L3 | N 71°56'07" E | 593.56' | SHL TO UNIT BNDY. | |
| L4 | S 28°05'01" W | 996.18' | LP TO UNIT BNDY. | |
| L5 | N 47°39'56" E | 150.26' | BHL TO UNIT BNDY. | |
| L6 | S 69°07'28" W | 1499.78' | BHL TO UNIT BNDY. | |
| L7 | N 72°39'57" W | 1221.19' | SHL TO 1" P | |
| L8 | N 20°30'15" W | 7497.11' | LP TO BHL | |
| L9 | N 55°22'01" E | 241.66' | SHL TO REF. PNT. | 1/2" #4 REBAR SET |
| L10 | N 17°22'22" E | 311.21' | SHL TO REF. PNT. | 1/2" #6 REBAR SET |



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.

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. 2313



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

COMPANY: **SWN** Production Company, LLC

CRAIG STROPE UP MSH

OPERATOR'S WELL #: 2H

API WELL #: **47** STATE **51** COUNTY **01877H6A** PERMIT

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

WATERSHED: UPPER WHEELING CREEK ELEVATION: ±1278.80

DISTRICT: WEBSTER COUNTY: MARSHALL COUNTY QUADRANGLE: MAJORSVILLE, WV-PA

SURFACE OWNER: RUSSELL W. STROPE ACREAGE: ±53.00

OIL & GAS ROYALTY OWNER: CRAIG D. & RUSSELL W. STROPE ACREAGE: ±622.16

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

CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) **04/01/2016**

TARGET FORMATION: UPPER POINT PLEASANT, UTICA ESTIMATED DEPTH: 11,767'TVD 19,683' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: DEE SOUTHALL

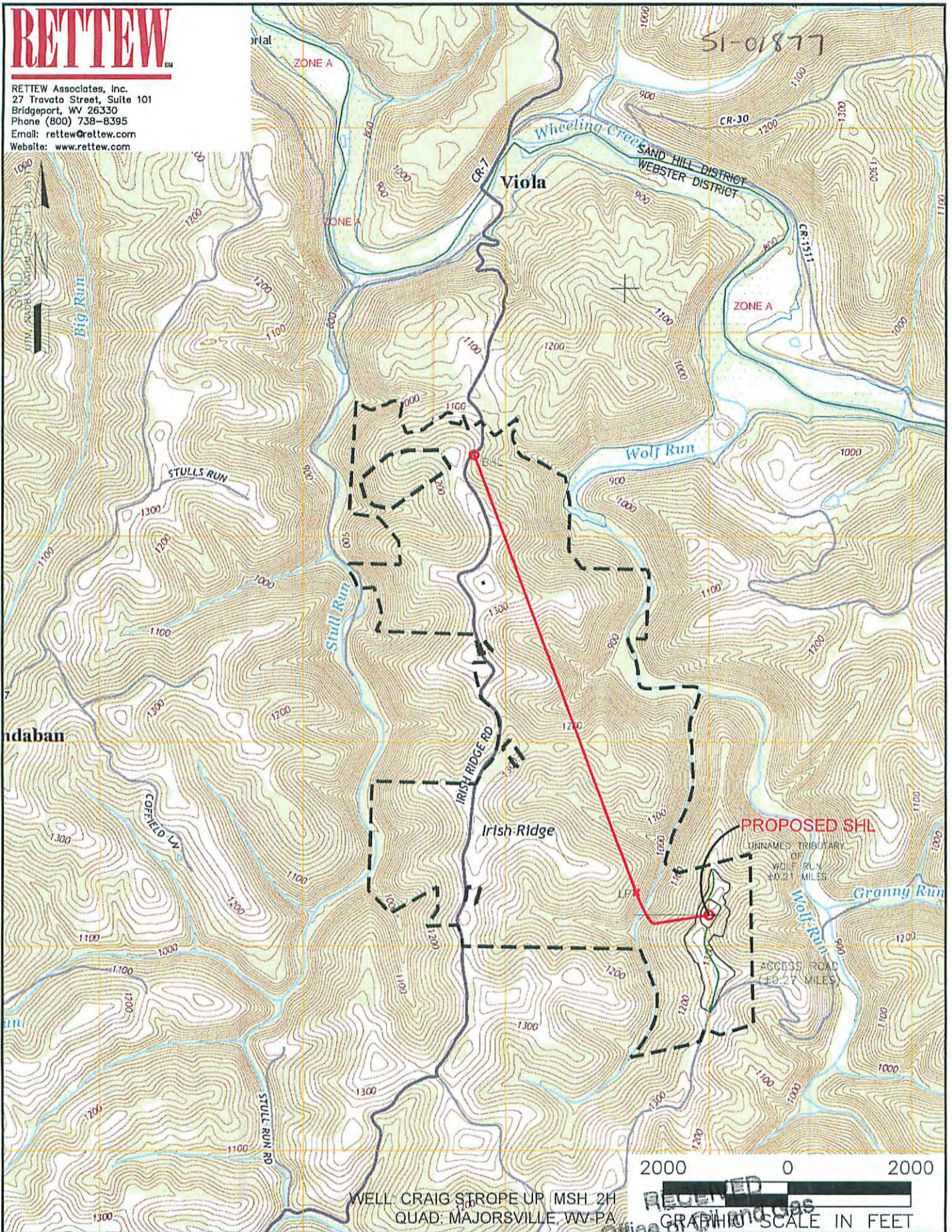
ADDRESS: P.O. BOX 1300 ADDRESS: P.O. BOX 1300

CITY: JANE LEW STATE: WV ZIP CODE: 26378 CITY: JANE LEW STATE: WV ZIP CODE: 26378

| | | | |
|---------------------------------------|--------------------|------------|------------------|
| LEGEND: | ----- TIE LINE | REVISIONS: | DATE: 12-22-2015 |
| ⊙ PROPOSED SURFACE HOLE / BOTTOM HOLE | --- DRILLING UNIT | | |
| ⊙ EXISTING / PRODUCING WELLHEAD | --- LEASE BOUNDARY | | |
| ⊙ ABANDONED WELL | --- DHP BUFFER | | |
| ⊙ PLUGGED & ABANDONED WELL | --- UTICA DHP | | |
| ⊙ CUT CONDUCTOR | | | |
| | | | |
| | | | |
| | | | |
| | | | |

RETTEW

RETTEW Associates, Inc.
27 Travato Street, Suite 101
Bridgeport, WV 26330
Phone (800) 738-8395
Email: rettetw@rettetw.com
Website: www.rettetw.com



| | | | | | |
|---|--|---|--|--|--|
| NAME AND DISTANCE TO THE NEAREST STREAM: UN NAMED TRIBUTARY OF WOLF RUN IS LOCATED ±0.21 MILES WEST 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 | | OPERATOR'S: CRAIG STROPE UP MSH | | WELL #: 087569037 | |
| FEMA FLOOD INFORMATION: BY GRAPHIC PLOTTING ONLY FEMA FIRM INCORPORATED AREA OF MARSHALL COUNTY, WEST VIRGINIA; MAP NUMBER 54051C0125E; EFFECTIVE DATE: SEPTEMBER 25, 2009. NO FLOOD ZONES. | | LOCATION: WEBSTER DISTRICT, MARSHALL COUNTY, WEST VIRGINIA | | SURFACE HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 39.930716° LONGITUDE: -80.578672° | |
| LEGEND: ● PROPOSED SURFACE HOLE / BOTTOM HOLE ⊙ EXISTING / PRODUCING WELLHEAD ⊙ ABANDONED WELL ⊙ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR --- LEASE BOUNDARY --- UT/CA DHP --- ACCESS ROAD --- COUNTY ROAD | | BOTTOM HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 39.951047° LONGITUDE: -80.592077° | | REVISIONS: DATE: 12-22-2015 DRAWN BY: B.HERMAN SCALE: 1" = 2000' DRAWING NO: 087569037 TOPOGRAPHIC MAP | |

Craig Strobe 2H Plat 6A1

| Tract # | TMP | Surface Owner | Deeded Acreage | Vesting BK/PG | Mineral Deed | Lease # | Lessor | Lessee | Royalty | BK/PG |
|---------|---------|---|----------------|---------------|--------------------------|--------------|---|---|---------|-------------------|
| 1) | 15-6-19 | Russell W Strobe | 53.0020 | DB 779/625 | | 1-324236-001 | Russell W Strobe | Great Lakes Energy Partners, LLC Chesapeake Appalachia, LLC; | 12.50% | 657/052 |
| | | | | | | | Range Resources-Appalachia, LLC Chesapeake Appalachia, LLC | Statoil USA Onshore Properties, Inc. SWN Production Company, LLC | | 23/368 33/110 |
| | | | | | | 1-324236-002 | Craig D Strobe | Great Lakes Energy Partners, LLC Chesapeake Appalachia, LLC; | 12.50% | 657/54 |
| | | | | | | | Range Resources-Appalachia, LLC Chesapeake Appalachia, LLC | Statoil USA Onshore Properties, Inc. SWN Production Company, LLC | | 23/368 33/110 |
| | | | | | | 1-324236-003 | Donna J Strobe | Great Lakes Energy Partners, LLC Chesapeake Appalachia, LLC; | 12.50% | 657/86 |
| | | | | | | | Range Resources-Appalachia, LLC Chesapeake Appalachia, LLC | Statoil USA Onshore Properties, Inc. SWN Production Company, LLC | | 23/368 33/110 |
| 2) | 15-9-14 | Charles B Strobe | 37.1530 | DB 664/304 | | 1-324660-000 | Donna J Strobe Range Resources-Appalachia, LLC | Great Lakes Energy Partners, LLC Chesapeake Appalachia, LLC; Statoil USA Onshore Properties, Inc. | 12.50% | 657/93 23/368 |
| | | | | | | | Chesapeake Appalachia, LLC | SWN Production Company, LLC | | 33/110 |
| 3) | 15-6-17 | Joe M Kaiser and Shirley A. Kaiser Family Revocable Trust | 170.2210 | DB 646/340 | 149/123 mineral owner | 1-342556-000 | Sheri Evraets Chesapeake Appalachia, LLC | Chesapeake Appalachia, LLC SWN Production Company, LLC | 18.00% | 426/427 33/110 |
| 4) | 15-6-15 | Mark Brent Fitzsimmons | 60.0000 | DB 625/507 | | 1-288719-000 | Mark B Fitzsimmons and Deborah A Fitzsimmons Chesapeake Appalachia, LLC | Chesapeake Appalachia, LLC SWN Production Company, LLC | 12.50% | 690/320 33/110 |
| 5) | 15-6-14 | Michael J. and Linda V. Burkey | 78.1750 | DB 448/585 | 448/235 | 1-120166-001 | Michael J. Burkey and Linda V. Burkey | SWN Production Company, LLC | 18.00% | 883/456 |
| | | mineral owner | | | 163/517 | 1-287172-023 | Rose L Riley | Chesapeake Appalachia, LLC | 18.00% | 730/65 |
| | | mineral owner | | | 163/517 | 1-287172-024 | Vicki F Riley | Chesapeake Appalachia, LLC | 18.00% | 730/70 |
| | | mineral owner | | | 163/517 | 1-287172-025 | Robert J Riley III and Tammy J Riley | Chesapeake Appalachia, LLC | 18.00% | 730/76 |
| | | mineral owner | | | 163/517 | 1-287172-026 | Timothy G Riley and Judy W Riley | Chesapeake Appalachia, LLC | 18.00% | 730/81 |
| | | mineral owner | | | 163/517 | 1-287172-027 | David B Riley and Kelly R Riley | Chesapeake Appalachia, LLC | 18.00% | 730/86 |
| | | mineral owner | | | 163/517 | 1-287172-029 | Ellen W Riley; Mark D Flower | Chesapeake Appalachia, LLC | 18.00% | 734/370 |
| | | mineral owner | | | 163/517 | 1-287172-030 | Wendy Maxim | Chesapeake Appalachia, LLC | 18.00% | 736/500 |
| | | mineral owner | | | 163/517 | 1-287172-031 | Brent M Ruffner | Chesapeake Appalachia, LLC | 18.00% | 736/510 |
| | | mineral owner | | | 163/517 | 1-287172-032 | James B Riley Jr. and Catalina Riley | Chesapeake Appalachia, LLC | 18.00% | 736/515 |
| | | mineral owner | | | 163/517 | 1-287172-033 | Wendy Rosian, Guardian and Mother of Daniel D Rufner, a minor child Chesapeake Appalachia, LLC | Chesapeake Appalachia, LLC SWN Production Company, LLC | 18.00% | 782/403 33/110 |
| 6) | 15-6-6 | Rickee Jo Strobe | 54.2930 | WB 82/479 | | 1-288720-001 | Rickee Jo Strobe | Chesapeake Appalachia, LLC | 12.50% | 690/323 |
| | | Mark Brent Fitzsimmons | | | | 1-288720-002 | Mark Brent Fitzsimmons Chesapeake Appalachia, LLC | Chesapeake Appalachia, LLC SWN Production Company, LLC | 12.50% | 690/371 33/110 |
| 7) | 15-6-5 | Gary W Strobe, et al | 56.2280 | DB 647/103 | | 1-287170-001 | Gary W Strobe and Rickee J Fitzsimmons | Chesapeake Appalachia, LLC | 12.50% | 690/308 |
| | | mineral owner | | | | 1-287170-002 | Joshua Wayne Strobe | Chesapeake Appalachia, LLC | 12.50% | 690/353 |
| | | mineral owner | | | | 1-287170-003 | Gary Anthony Strobe | Chesapeake Appalachia, LLC | 12.50% | 690/356 |

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SI-01877

Craig Strobe 2H Plat 6A1

| Tract # | TMP | Surface Owner | Deeded Acreage | Vesting BK/PG | Mineral Deed | Lease # | Lessor | Lessee | Royalty | BK/PG |
|---------|-----------|---|----------------|---------------|--------------|----------------|--|--|---------|----------------------------|
| | | mineral owner | | | | 1-287170-004 | Kylea Jo Reed Chesapeake Appalachia, LLC | Chesapeake Appalachia, LLC SWN Production Company, LLC | 12.50% | 690/359 33/110 |
| 8) | 15-6-3 | Joyce E Grimm | 51.0700 | DB 567/600 | | 1-274393-000 | Joyce E Grimm Chesapeake Appalachia, LLC | Chesapeake Appalachia, LLC SWN Production Company, LLC | 14.00% | 682/129 33/110 |
| 9) | 15-3-21 | Renee Lynn Grimm Ebert | 68.0000 | DB 632/524 | | 1-274394-000 | Renee Lynn Grimm | Chesapeake Appalachia, LLC | 14.00% | 682/130 |
| | | mineral owner | | | 398/463 | 47-0000660-001 | Nellie M Bilyeu and Willard E Bilyeu | Chesapeake Appalachia, LLC | 18.00% | 828/40 |
| | | mineral owner | | | 398/463 | 47-0000661-001 | Russell M Earliwine Jr | Chesapeake Appalachia, LLC | 18.00% | 828/46 |
| | | mineral owner | | | 398/463 | 47-0000662-001 | Harold F Earliwine and Flora M Earliwine | Chesapeake Appalachia, LLC | 18.00% | 828/52 |
| | | mineral owner | | | 398/463 | 47-0000663-001 | Homer D Earliwine | Chesapeake Appalachia, LLC | 18.00% | 828/66 |
| | | mineral owner | | | 398/463 | 47-0000664-001 | Larry Mark Jochum and Betty L Jochum | Chesapeake Appalachia, LLC | 18.00% | 828/72 |
| | | mineral owner | | | 398/463 | 47-0000665-001 | Gregory Dean Jochum and Deborah L Jochum | Chesapeake Appalachia, LLC | 18.00% | 828/77 |
| | | mineral owner | | | 398/463 | 47-0000668-001 | Ralph E Earliwine | Chesapeake Appalachia, LLC | 18.00% | 828/98 |
| | | mineral owner | | | 398/463 | 47-0000717-001 | James K Earliwine | Chesapeake Appalachia, LLC | | 830/82 |
| | | mineral owner | | | 398/463 | 47-0000720-001 | Rhonda Kay Williams and Charles E Williams Jr. | Chesapeake Appalachia, LLC | 18.00% | 830/144 |
| | | mineral owner | | | 398/463 | 47-0000725-001 | John R Earliwine | Chesapeake Appalachia, LLC | 18.00% | 830/207 |
| | | mineral owner | | | 398/463 | 47-0000726-001 | Gladys L Wade, aka Gladys V Wade Chesapeake Appalachia, LLC | Chesapeake Appalachia, LLC SWN Production Company, LLC | 18.00% | 830/217 33/110 |
| 10) | 15-6-20 | John S. and Sylvia M. Kutis | 19.8700 | DB 638/574 | | WV0000435-001 | John S. Kutis and Sylvia M. Kutis Chevron USA Chesapeake Appalachia, LLC | Chevron USA Chesapeake Appalachia, LLC SWN Production Company, LLC | 16.00% | 772/457 32/235 35/32 |
| 11) | 15-3-24 | Joyce E. Grimm | 39.1100 | DB 419/422 | | 1-274395-000 | Joyce E. Grimm Chesapeake Appalachia, LLC | Chesapeake Appalachia, LLC SWN Production Company, LLC | 14.00% | 682/131 33/110 |
| 12) | 15-3-24.1 | Joyce E. Grimm | 0.9740 | WB 74/593 | | 47-0000210-000 | Joyce E. Grimm Chesapeake Appalachia, LLC | Chesapeake Appalachia, LLC SWN Production Company, LLC | 18.00% | 805/198 33/110 |
| 13) | 15-3-23 | Lonnie R. Pethtel and Gloria J. Wambles | 1.9150 | DB 630/337 | | 1-120132-001 | Lonnie R. Pethtel | SWN Production Company, LLC | 18.00% | 868/001 |
| | | | | | | 1-120132-002 | Gloria J. Wambles | SWN Production Company, LLC | 18.00% | 868/006 |
| 14) | 15-3-25.2 | Bonnie L. Strautman | 5.0000 | DB 454/406 | | 1-298764-001 | Bonnie L. Strautman and Jeffrey A. Strautman | Chesapeake Appalachia, LLC | 18.75% | 700/626 |
| | | mineral owner | | | DB 448/215 | 1-298764-002 | Joyce A. Ewing and Fred A. Ewing | Chesapeake Appalachia, LLC | 18.75% | 701/90 |
| | | mineral owner | | | DB 448/215 | 1-298764-003 | Edward F. Thacker and Linda M. Thacker | Chesapeake Appalachia, LLC | 18.75% | 700/630 |
| | | mineral owner | | | DB 448/215 | 1-298764-004 | Donald P. Thacker | Chesapeake Appalachia, LLC | 18.75% | 702/53 |
| | | mineral owner | | | DB 448/215 | 1-298764-005 | James W. Thacker and Linda L. Thacker | Chesapeake Appalachia, LLC | 18.75% | 703/169 |
| | | mineral owner | | | DB 448/215 | 1-298764-008 | Charles C. Thacker | Chesapeake Appalachia, LLC | 18.75% | 704/199 |
| | | mineral owner | | | DB 448/215 | 47-0000667-001 | Charles V. Eller Chesapeake Appalachia, LLC | Chesapeake Appalachia, LLC SWN Production Company, LLC | 18.00% | 805-93 33/110 |
| 15) | 15-3-25.1 | Ohio Valley Heart Institute | 1.1180 | DB 455/383 | DB 448/215 | 1-298764-001 | Bonnie L. Strautman and Jeffrey A. Strautman | Chesapeake Appalachia, LLC | 18.75% | 700/626 |
| | | mineral owner | | | DB 448/215 | 1-298764-002 | Joyce A. Ewing and Fred A. Ewing | Chesapeake Appalachia, LLC | 18.75% | 701/90 |
| | | mineral owner | | | DB 448/215 | 1-298764-003 | Edward F. Thacker and Linda M. Thacker | Chesapeake Appalachia, LLC | 18.75% | 700/630 |
| | | mineral owner | | | DB 448/215 | 1-298764-004 | Donald P. Thacker | Chesapeake Appalachia, LLC | 18.75% | 702/53 |
| | | mineral owner | | | DB 448/215 | 1-298764-005 | James W. Thacker and Linda L. Thacker | Chesapeake Appalachia, LLC | 18.75% | 703/169 |
| | | mineral owner | | | DB 448/215 | 1-298764-008 | Charles C. Thacker | Chesapeake Appalachia, LLC | 18.75% | 704/199 |
| | | mineral owner | | | DB 448/215 | 47-0000667-001 | Charles V. Eller | Chesapeake Appalachia, LLC | 18.00% | 805-93 |

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 Environmental Protection
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 Office of Oil and Gas
 DEC 30 2015

51-01877

Craig Strobe 2H Plat 6A1

| Tract # | TMP | Surface Owner | Deeded Acreage | Vesting BK/PG | Mineral Deed | Lease # | Lessor | Lessee | Royalty | BK/PG |
|------------------|-----------|-------------------------|----------------|---------------|--------------|----------------|--|---|---------|---|
| 16) | 15-6-24 | Kerry Glenn Foster | 50.0000 | DB 570/559 | | 1-385352-000 | Chesapeake Appalachia, LLC Kerry G. Foster and TriEnergy Holdings, LLC NPAR, LLC Chevron USA Chesapeake Appalachia, LLC | SWN Production Company, LLC TriEnergy Holdings, LLC NPAR, LLC Chevron USA Chesapeake Appalachia, LLC SWN Production Company, LLC | | 33/110 18.00% 711/264 24/430 756/332 30/532 33/110 |
| | | mineral owner | | | DB 261/197 | 1-342925-001 | Bernard F. Plants and Doris J. Plants | Chesapeake Appalachia, LLC | 18.00% | 748/25 |
| | | mineral owner | | | | 1-342925-002 | Elizabeth J. Plants | Chesapeake Appalachia, LLC | 18.00% | 749/551 |
| | | mineral owner | | | | 1-342925-003 | Richard L. Plants | Chesapeake Appalachia, LLC | 18.00% | 749/557 |
| | | mineral owner | | | | 1-342925-004 | Terry J. Gardner | Chesapeake Appalachia, LLC | 18.00% | 749/562 |
| | | mineral owner | | | | 1-342925-005 | Mitchell W. Plants, Sr. aka Mitchell Wayne Plants, Sr. | Chesapeake Appalachia, LLC | 18.00% | 750/439 |
| | | mineral owner | | | | 1-342925-006 | Beverly L. Lewis and Virgil A. Lewis | Chesapeake Appalachia, LLC | 18.00% | 781/399 |
| | | mineral owner | | | | 1-342925-007 | Catherine Lee Grady and Roger D. Grady | Chesapeake Appalachia, LLC | 18.00% | 750/362 |
| | | mineral owner | | | | 1-342925-008 | Nathan S. Huston and Caren R. Huston | Chesapeake Appalachia, LLC | 18.00% | 750/367 |
| | | mineral owner | | | | 1-342925-009 | Joyce Walsh | Chesapeake Appalachia, LLC | 18.00% | 750/372 |
| | | mineral owner | | | | 1-342925-010 | Caroline J. Simmons | Chesapeake Appalachia, LLC | 18.00% | 750/378 |
| | | mineral owner | | | | 1-342925-011 | Mary J. Roberts | Chesapeake Appalachia, LLC | 18.00% | 752/37 |
| | | mineral owner | | | | 1-342925-012 | Deborah L. Ortega and Joe H. Ortega | Chesapeake Appalachia, LLC | 18.00% | 752/43 |
| | | mineral owner | | | | 1-342925-013 | Paulette I. Plants | Chesapeake Appalachia, LLC | 18.00% | 752/48 |
| | | mineral owner | | | | 1-342925-014 | Virginia L. Day | Chesapeake Appalachia, LLC | 18.00% | 752/53 |
| | | mineral owner | | | | 1-342925-015 | Laura Lee Nugent and Denzil Ray Nugent | Chesapeake Appalachia, LLC | 18.00% | 752/462 |
| | | mineral owner | | | | 1-342925-016 | Sheila N. Whittington and Justin S Whittington | Chesapeake Appalachia, LLC | 18.00% | 753/500 |
| | | mineral owner | | | | 1-342925-017 | Carolyn Sue Plants | Chesapeake Appalachia, LLC | 18.00% | 753/505 |
| | | mineral owner | | | | 1-342925-018 | Mary Penelope Bird | Chesapeake Appalachia, LLC | 18.00% | 754/287 |
| | | mineral owner | | | | 1-342925-019 | Lawrence E. Plants and Madonna C. Plants | Chesapeake Appalachia, LLC | 18.00% | 754/536 |
| | | mineral owner | | | | 1-342925-020 | Melissa S. Dunn | Chesapeake Appalachia, LLC | 18.00% | 761/191 |
| | | mineral owner | | | | 1-342925-021 | Jacqueline Elaine Raker | Chesapeake Appalachia, LLC | 18.00% | 761/196 |
| | | mineral owner | | | | 1-342925-022 | Queen Lovie Statham Brannigan | Chesapeake Appalachia, LLC | 18.00% | 761/201 |
| | | mineral owner | | | | 1-342925-023 | James Dennis Roberts and Jo Ann Roberts | Chesapeake Appalachia, LLC | 18.00% | 761/615 |
| | | mineral owner | | | | 1-342925-024 | Linda G. Munroe, aka Linda Gale Munroe | Chesapeake Appalachia, LLC | 18.00% | 766/437 |
| | | | | | | | Chesapeake Appalachia, LLC | SWN Production Company, LLC | | 33/110 |
| 17) | 15-3-25.5 | Robert A. Bennett et ux | 35.1520 | DB 597/494 | DB 448/215 | 1-298764-001 | Bonnie L. Strautman and Jeffrey A. Strautman | Chesapeake Appalachia, LLC | 18.75% | 700/626 |
| | | mineral owner | | | DB 448/215 | 1-298764-002 | Joyce A. Ewing and Fred A. Ewing | Chesapeake Appalachia, LLC | 18.75% | 701/90 |
| | | mineral owner | | | DB 448/215 | 1-298764-003 | Edward F. Thacker and Linda M. Thacker | Chesapeake Appalachia, LLC | 18.75% | 700/630 |
| | | mineral owner | | | DB 448/215 | 1-298764-004 | Donald P. Thacker | Chesapeake Appalachia, LLC | 18.75% | 702/53 |
| | | mineral owner | | | DB 448/215 | 1-298764-005 | James W. Thacker and Linda L. Thacker | Chesapeake Appalachia, LLC | 18.75% | 703/169 |
| | | mineral owner | | | DB 448/215 | 1-298764-008 | Charles C. Thacker | Chesapeake Appalachia, LLC | 18.75% | 704/199 |
| | | mineral owner | | | DB 448/215 | 47-0000667-001 | Charles V. Eller | Chesapeake Appalachia, LLC | 18.00% | 805-93 |
| | | | | | | | Chesapeake Appalachia, LLC | SWN Production Company, LLC | | 33/110 |
| Adjoining Tracts | | | | | | | | | | |
| A | 15-10-1 | John S Kutis | 53.0800 | 638/574 | | | | | | |

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 Environmental Protection

SI-01877

Craig Strope 2H Plat 6A1

| Tract # | TMP | Surface Owner | Deeded Acreage | Vesting BK/PG | Mineral Deed | Lease # | Lessor | Lessee | Royalty | BK/PG |
|---------|-----------|---|----------------|---------------|--------------|---------|--------|--------|---------|-------|
| B | 15-9-15 | Russell W Strope; Craig D Strope; | 61.8764 | 779/625 | | | | | | |
| C | 15-9-18 | Harold E. and Linda K. Aston | 59.5410 | 626/248 | | | | | | |
| D | 15-9-13 | Ronald Lee Yoho | 30.0000 | 538/462 | | | | | | |
| E | 15-9-12 | Ronald Lee Yoho | 75.9120 | WB 101/213 | | | | | | |
| F | 15-9-12.2 | Donald R Yoho | 9.3050 | 538/246 | | | | | | |
| G | 15-9-11.2 | Donna Lou McMillan | 1.0160 | 595/660 | | | | | | |
| H | 15-6-17.1 | Harry W Lilley | 19.4970 | 452/387 | | | | | | |
| I | 15-6-16 | William E Coffield | 77.4000 | 660/136 | | | | | | |
| J | 15-6-11 | Craig R. and Donita D. Miller | 40.0000 | 628/619 | | | | | | |
| K | 15-6-12 | Mark Brent Fitzsimmons | 20.0000 | 600/213 | | | | | | |
| L | 15-6-13 | Katie Fitzsimmons | 28.3000 | 678/624 | | | | | | |
| M | 15-6-7 | Katie Fitzsimmons | 2.0000 | 678/624 | | | | | | |
| N | 15-6-8 | Mark Brent Fitzsimmons | 15.0000 | WB 82/479 | | | | | | |
| O | 15-6-6.1 | Gary W Strope | 1.0000 | 647/103 | | | | | | |
| P | 15-6-9.1 | Larry W Dunlap | 0.6270 | 466/507 | | | | | | |
| Q | 15-6-9.2 | Larry W Dunlap | 5.9230 | 662/115 | | | | | | |
| R | 15-6-9 | Mark Fitzsimmons and Rickee Jo Strope | 27.1270 | 247/479 | | | | | | |
| S | 15-6-2 | Mark Brent Fitzsimmons | 4.0000 | WB 82/471 | | | | | | |
| T | 15-6-1 | Edna S Gall and Frank P Lautar | 5.0000 | WB 28/203 | | | | | | |
| U | 15-3-28 | Jasper N Givens | 7.6800 | 76/511 | | | | | | |
| V | 15-3-26 | James S Shipley | 8.0000 | 356/421 | | | | | | |
| W | 15-3-27 | James S Shipley | 17.0000 | 356/421 | | | | | | |
| X | 15-3-3 | Sharon Hupp and Richard Markonich | 105.0800 | 618/269 | | | | | | |
| Y | 15-3-20 | Ohio Valley Heart Institute, Inc. | 41.1200 | 595/383 | | | | | | |
| Z | 15-3-19 | Wheeling Creek Watershed Commission | 9.0000 | 420/306 | | | | | | |
| AA | 15-3-18 | Wheeling Creek Watershed Commission | 53.0000 | 420/302 | | | | | | |
| BB | 15-3-17 | Betty Sue Paczewski and Albert J. Paczewski | 21.0000 | 574/167 | | | | | | |
| CC | 15-6-27 | Betty Sue Paczewski | 72.1300 | 574/167 | | | | | | |
| DD | 15-6-6.2 | Wheeling Creek Watershed Commission | 3.0000 | 548/419 | | | | | | |
| EE | 15-6-23 | Russell W Strope; Craig D Strope; | 30.0000 | 779/625 | | | | | | |
| FF | 15-6-22 | Christine A Bernier | 3.2600 | 609/146 | | | | | | |
| GG | 15-6-33 | Christine A Bernier | 30.0000 | 609/146 | | | | | | |
| HH | 15-6-14.1 | Michael J. Burkey and Linda Burkey | 1.5200 | 661/129 | | | | | | |
| II | 15-6-17.2 | Herman D. Estel | 1.1620 | 661/85 | | | | | | |
| JJ | 15-9-15.2 | Craig D Strope | 5.0070 | 788/362 | | | | | | |
| KK | 15-6-5.1 | Julie A. Anderson | 0.8720 | 687/365 | | | | | | |
| LL | 15-6-4 | Mark Brent Fitzsimmons | 0.25 | WB 82/479 | | | | | | |
| MM | 15-6-6.3 | Kylea J. Reed | 0.9200 | 746/356 | | | | | | |
| NN | 15-6-3.1 | Renee Lynn Grimm Ebert | 0.0600 | 632/527 | | | | | | |

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 DIVISION OF WATER RESOURCES
 DECEMBER 9, 2015
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SI-01877

Craig Strobe 2H Plat 6A1

| Tract # | TMP | Surface Owner | Deeded Acreage | Vesting BK/PG | Mineral Deed | Lease # | Lessor | Lessee | Royalty | BK/PG |
|---------|-----|---------------|----------------|---------------|--------------|---------|--------|--------|---------|-------|
|---------|-----|---------------|----------------|---------------|--------------|---------|--------|--------|---------|-------|

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Department of
Environmental Protection



RETTEW Associates, Inc.
 27 Travato Street, Suite 101
 Bridgeport, WV 26330
 Phone (800) 738-8395
 Email: rettew@rettew.com
 Website: www.rettew.com

| TRACT | SURFACE OWNER | TAX PARCEL | ACRES |
|-------|--|---------------|---------|
| 1 | RUSSELL W STROPE | 15-6-00190000 | ±53.00 |
| 2 | CHARLES B STROPE | 15-9-00140000 | ±37.15 |
| 3 | JOE M KAISER AND SHIRLEY A KAISER FAMILY REVOCABLE TRUST | 15-6-00170000 | ±170.22 |
| 4 | MARK BRENT FITZSIMMONS | 15-6-00150000 | ±60.00 |
| 5 | MICHAEL J AND LINDA V BURKEY | 15-6-00140000 | ±78.18 |
| 6 | RICKEE JO STROPE MARK BRENT FITZSIMMONS | 15-6-00060000 | ±64.29 |
| 7 | GARY W STROPE, ET AL | 15-6-00050000 | ±56.13 |
| 8 | JOYCE E GRIMM | 15-6-00030000 | ±51.07 |
| 9 | RENEE LYNN GRIMM EBERT | 15-3-00210000 | ±68.00 |
| 10 | JOHN S. AND SYLVIA M. KUTIS | 15-6-00200000 | ±19.87 |
| 11 | JOYCE E. GRIMM | 15-3-00240000 | ±39.11 |
| 12 | JOYCE E. GRIMM | 15-3-00240001 | ±0.97 |
| 13 | LONNIE R. PETHTEL AND GLORIA J. WAMBLES | 15-3-00230000 | ±1.92 |
| 14 | BONNIE L. STRAUTMAN | 15-3-00250002 | ±5.00 |
| 15 | OHIO VALLEY HEART INSTITUTE | 15-3-00250001 | ±1.12 |
| 16 | KERRY GLENN FOSTER | 15-6-00240000 | ±50.00 |
| 17 | ROBERT A. BENNETT ET UX | 15-3-00250005 | ±35.15 |

| TRACT | ADJOINING SURFACE OWNERS | TAX PARCEL | ACRES |
|-------|---|----------------|---------|
| A | JOHN S KUTIS | 15-10-00010000 | ±53.08 |
| B | RUSSELL W STROPE; CRAIG D STROPE; | 15-9-00150000 | ±61.88 |
| C | HAROLD E AND LINDA K ASTON | 15-9-00180000 | ±59.54 |
| D | RONALD LEE YOHO | 15-9-00130000 | ±30.00 |
| E | RONALD LEE YOHO | 15-9-00120000 | ±75.91 |
| F | DONALD R. YOHO | 15-9-00120002 | ±9.31 |
| G | DONNA LOU MCMILLAN | 15-9-00110002 | ±1.02 |
| H | HARRY W LILLEY | 15-6-00170001 | ±19.50 |
| I | WILLIAM E COFFIELD | 15-6-00160000 | ±77.40 |
| J | CRAIG R AND DONITA D MILLER | 15-6-00110000 | ±40.00 |
| K | MARK BRENT FITZSIMMONS | 15-6-00120000 | ±20.00 |
| L | KATIE FITZSIMMONS | 15-6-00130000 | ±28.30 |
| M | KATIE FITZSIMMONS | 15-6-00070000 | ±2.00 |
| N | MARK BRENT FITZSIMMONS | 15-6-00080000 | ±15.00 |
| O | GARY W STROPE | 15-6-00060001 | ±1.00 |
| P | LARRY W DUNLAP | 15-6-00090001 | ±0.63 |
| Q | LARRY W DUNLAP | 15-6-00090002 | ±5.92 |
| R | MARK FITZSIMMONS AND RICKEE JO STROPE | 15-6-00090000 | ±27.13 |
| S | MARK BRENT FITZSIMMONS | 15-6-00020000 | ±4.00 |
| T | EDNA S GALL AND FRANK P LAUTAR | 15-6-00010000 | ±5.00 |
| U | JASPER N GIVENS | 15-3-00280000 | ±7.68 |
| V | JAMES S SHIPLEY | 15-3-00260000 | ±8.00 |
| W | JAMES S SHIPLEY | 15-3-00270000 | ±17.00 |
| X | SHARON HUPP AND RICHARD MARKONICH | 15-3-00030000 | ±105.08 |
| Y | OHIO VALLEY HEART INSTITUTE, INC. | 15-3-00200000 | ±41.12 |
| Z | WHEELING CREEK WATERSHED COMMISSION | 15-3-00190000 | ±9.00 |
| AA | WHEELING CREEK WATERSHED COMMISSION | 15-3-00180000 | ±53.00 |
| BB | BETTY SUE PACZEWSKI AND ALBERT J PACZEWSKI | 15-3-00170000 | ±21.00 |
| CC | BETTY SUE PACZEWSKI | 15-6-00270000 | ±72.13 |
| DD | WHEELING CREEK WATERSHED COMMISSION | 15-6-00060002 | ±3.00 |
| EE | RUSSELL W STROPE; CRAIG D STROPE; | 15-6-00230000 | ±30.00 |
| FF | CHRISTINE A BERNIER | 15-6-00220000 | ±3.26 |
| GG | CHRISTINE A BERNIER | 15-6-00330000 | ±30.00 |
| HH | MICHAEL J BURKEY & LINDA BURKEY | 15-6-00140001 | ±1.53 |
| II | HERMAN D ESTEL | 15-6-00170002 | ±1.10 |
| JJ | CRAIG D STROPE | 15-9-00150002 | ±5.01 |
| KK | JULIE A ANDERSON | 15-6-00050001 | ±0.87 |
| LL | MARK BRENT FITZSIMMONS | 15-6-00040000 | ±0.25 |
| MM | KYLEA J REED | 15-6-00060003 | ±0.93 |
| NN | RENEE LYNN GRIMM EBERT | 15-6-00030001 | ±0.06 |

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 Department of

| | | | | |
|------------|------------|---|-----------------------------------|----------------------|
| REVISIONS: | COMPANY: | SWN Production Company, LLC | SWN Production Company™ | 04/01/2016 |
| | OPERATOR'S | CRAIG STROPE UP MSH | | DATE: 12-22-2015 |
| | WELL #: | 2H | | DRAWN BY: B.HERMAN |
| | LOCATION: | WEBSTER DISTRICT, MARSHALL COUNTY, WEST VIRGINIA | | SCALE: N/A |
| | | | | DRAWING NO:087569037 |
| | | | | ADJOINING OWNERS |



SWN Production Company, LLC
P O Box 12359
Spring, Texas 77391-2359
www.swn.com

December 1, 2015

Ms. Laura Cooper
WV DEP Office of Oil & Gas
601 57th St., SE
Charleston, WV 25304

RE: SWN's proposed Craig Strobe MSH 2H
Marshall County, West Virginia

Dear Ms. Cooper:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill under Irish Ridge Road. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

If you have any questions, please feel free to contact me at 832-796-2959 or via email at Jeremy.Martin@swn.com.

Regards,

A handwritten signature in blue ink, appearing to read "J. Martin".

Jeremy Martin, CPL
Staff Landman

R^L → V⁺
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Office of Oil and Gas
The Right People doing the Right Things,
Wisely Investing the cash flow from our
underlying Assets. (M. Wright, V. P. C.)
DEC 30 4 01 / 2016
WV Department of
Protection

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION

Date of Notice Certification: 12/29/15

API No. 47- 68 - 01877
Operator's Well No. Craig Strope UP MSH 2H
Well Pad Name: Craig Strope MSH Pad

Notice has been given:

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

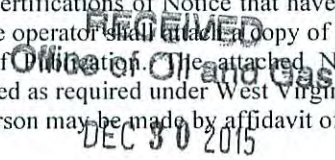
| | |
|--|--|
| State: <u>WV</u> | UTM NAD 83 Easting: <u>536000.812</u> |
| County: <u>51-Marshall</u> | Northing: <u>4420152.381</u> |
| District: <u>9-Webster</u> | Public Road Access: <u>Dry Ridge Lone Oak Rd</u> |
| Quadrangle: <u>453-Majorsville</u> | Generally used farm name: <u>Craig Strope</u> |
| Watershed: <u>Upper Wheeling Creek</u> | |

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

| | |
|---|---|
| <p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 40px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p> | <p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> |
|---|---|

Required Attachments:

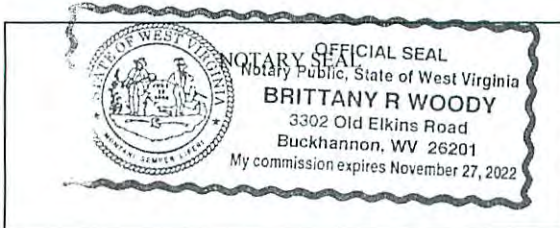
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.


 WV Department of
 Environmental Protection **04/01/2016**

Certification of Notice is hereby given:

THEREFORE, I _____, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

| | | | |
|----------------|--------------------------------|------------|-----------------------------|
| Well Operator: | <u>SWN Production Co., LLC</u> | Address: | <u>P.O. Box 1300</u> |
| By: | <u>Dee Southall</u> | | <u>Jane Lew, WV 26378</u> |
| Its: | <u>Regulatory Supervisor</u> | Facsimile: | _____ |
| Telephone: | <u>832-796-1610</u> | Email: | <u>Dee_Southall@swn.com</u> |



Subscribed and sworn before me this 9th day of November, 2015
Brittany R Woody Notary Public
 My Commission Expires 11/27/22

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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 Office of Oil and Gas
 DEC 30 2015
 WV Department of
 Environmental Protection
 04/01/2016

**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION**

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 12/29/15 **Date Permit Application Filed:** 12/29/15

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice WSSP Notice E&S Plan Notice Well Plat Notice is hereby provided to:

SURFACE OWNER(s)
 Name: Craig D. Strope & Russell W. Strope ✓
 Address: 2878 Lone Oak Rd
Cameron, WV 26033
 Name: _____
 Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
 Name: _____
 Address: _____
 Name: _____
 Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
 Name: _____
 Address: _____

COAL OWNER OR LESSEE
 Name: CNX Center %Leatherwood ✓
 Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

COAL OPERATOR
 Name: _____
 Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
 Name: *** See Attachment #1
 Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
 Name: _____
 Address: _____

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*Please attach additional forms if necessary
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Attachment #1

SI-01877

Strope MSH Pad - Water Purveyors w/in 1500'

Landowner

Address

KUTIS, JOHN S. & SYLVIA M.
KAISER, JOE M. & SHIRLEY A.
STROPE, DOUGLAS L. &
RUSSELL W. & CRAIG D. X2
BERNIER, CHRISTINE A.

1440 SUNSET LANE, GLEN DALE, WV 26038 ✓
6509 ST RT 303, RAVENNA, OH, 44266 ✓
RR 4 BOX 290, CAMERON, WV 26033 ✓
11075 PACKARD, WARREN, MI, 48089 ✓

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WV Department of
Environmental Protection

04/01/2016

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Location Restrictions

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

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Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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Environmental Protection

WW-6A
(8-13)

API NO. 47-~~501~~ - 01877
OPERATOR WELL NO. Craig Strope MSH 2H
Well Pad Name: Craig Strope MSH Pad

Notice is hereby given by:

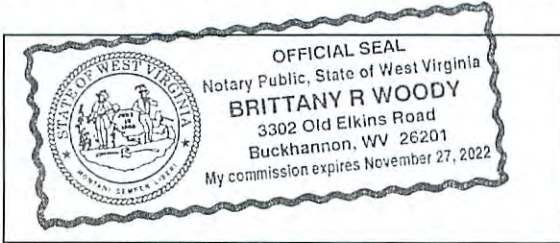
Well Operator: SWN Production Co., LLC
Telephone: 832-796-1610
Email: Dee_Southall@swn.com



Address: P.O. Box 1300
Jane Lew, WV 26378
Facsimile: _____

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.



Subscribed and sworn before me this 9th day of November, 2015
Brittany R Woody Notary Public
My Commission Expires 11/27/22

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04/01/2016

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least **TEN (10)** days prior to filing a permit application.

Date of Notice: 11/05/2015 **Date Permit Application Filed:** 12/19/15

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

HAND DELIVERY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: Craig D. Strope & Russell W. Strope
Address: 2878 Lone Oak Rd.
Cameron, WV 26033

Name: _____
Address: _____

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

| | | | | |
|-------------|-----------------------------|---------------------------|------------------------------|----------------------|
| State: | <u>West Virginia</u> | UTM NAD 83 | Easting: | <u>536,000.812</u> |
| County: | <u>Marshall</u> | | Northing: | <u>4,420,152.381</u> |
| District: | <u>Webster</u> | Public Road Access: | <u>Dry Ridge Lone Oak Rd</u> | |
| Quadrangle: | <u>Majorsville</u> | Generally used farm name: | <u>Strope</u> | |
| Watershed: | <u>Upper Wheeling Creek</u> | | | |

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: SWN Production Company, LLC
Address: PO Box 1300, 179 Innovation Drive
Jane Lew, WV 26378
Telephone: 304-884-1611
Email: micah_feather@swn.com
Facsimile: _____

Authorized Representative: Micah Feather
Address: PO Box 1300, 179 Innovation Drive
Jane Lew, WV 26378
Telephone: 304-884-1611
Email: micah_feather@swn.com
Facsimile: _____

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requirements. The Office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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WW-6A5
(1/12)

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 11/05/2015 **Date Permit Application Filed:** 12/29/15

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

CERTIFIED MAIL HAND
RETURN RECEIPT REQUESTED DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):

Name: Craig D. Strope & Russell W. Strope Name: _____
Address: 2878 Lone Oak Rd. Address: _____
Cameron, WV 26033 _____

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

| | | |
|--|---|--------------------------------|
| State: <u>West Virginia</u> | UTM NAD 83 | Easting: <u>536,000.812</u> |
| County: <u>Marshall</u> | | Northing: <u>4,420,152.381</u> |
| District: <u>Webster</u> | Public Road Access: <u>Dry Ridge Lone Oak Rd.</u> | |
| Quadrangle: <u>Majorsville</u> | Generally used farm name: <u>Strope</u> | |
| Watershed: <u>Upper Wheeling Creek</u> | | |

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

| | |
|---|---|
| Well Operator: <u>SWN Production Company, LLC</u> | Address: <u>PO Box 1300, 179 Innovation Drive</u> |
| Telephone: <u>304-884-1611</u> | <u>Jane Lew, WV 26378</u> |
| Email: <u>micah_feather@swn.com</u> | Facsimile: _____ |

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin
Governor

Paul A. Mattox, Jr., P. E.
Secretary of Transportation/
Commissioner of Highways

November 17, 2015

James A. Martin, Chief
Office of Oil and Gas
Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

Subject: DOH Permit for the Craig Strobe Pad MSH 2H Well Site, Marshall County

Dear Mr. Martin,

The West Virginia Division of Highways has assigned #06-2013-0483 to the application for permit to Chesapeake Appalachia, LLC for access to the State Road for the well site located off of Marshall County Route 48 SLS.

The operator has signed an OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton
Regional Maintenance Engineer
Central Office Oil & Gas Coordinator

Cc: Brittany Woody
Southwestern Energy
CH, OM, D-6
File

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04/01/2016

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| Supplier Name | Product Name | Product Use | Chemical Name | CAS Number |
|--------------------|------------------------------------|---------------------------|---|-------------|
| BAKER HUGHES | ALPHA 1427 | Biocide | Didecyl Dimethyl Ammonium Chloride | 007173-51-1 |
| | | | Ethanol | 000064-17-5 |
| | | | Glutaraldehyde (Pentanediol) | 000111-30-8 |
| | | | Quaternary Ammonium Compound | 068424-85-1 |
| | | | Water | 007732-18-5 |
| | BF-7L | Buffer | Potassium Carbonate | 000584-08-7 |
| | ClayCare | Clay Stabilizer | Choline Chloride | 000067-48-1 |
| | | | Water | 007732-18-5 |
| | Enzyme G-I | Breaker | No Hazardous Components | NONE |
| | ENZYME G-NE | Breaker | No Hazardous Components | NONE |
| | FRW-18 | Friction Reducer | Petroleum Distillate Hydrotreated Light | 064742-47-8 |
| | GW-3LDF | Gel | Petroleum Distillate Blend | N/A-014 |
| | | | Polysaccharide Blend | N/A-021 |
| | SCALETROL 720 | Scale Inhibitor | Diethylene Glycol | 000111-46-6 |
| Ethylene Glycol | | | 000107-21-1 | |
| XLW-32 | Crosslinker | Boric Acid | 010043-35-3 | |
| | | Methanol (Methyl Alcohol) | 000067-56-1 | |
| FRAC TECH SERVICES | APB01 (AMMONIUM PERSUFATE BREAKER) | Breaker | Ammonium Persulfate | 007727-54-0 |
| | B05 (LOW PH BUFFER) | Buffer | Acetic acid | 000064-19-7 |
| | BXL03 Borate XL Delayed High Temp | Crosslinker | No Hazardous Components | NONE |
| | FRW-200 | Friction Reducer | No Hazardous Components | NONE |
| | HVG01 (TURQUOISE-1 BULK) | Gelling Agent | Petroleum Distillate Hydrotreated Light | 064742-47-8 |
| | KCLS-4 | Clay Stabilizer | No Hazardous Components | NONE |
| | LTB-1 | Breaker | Ammonium Persulfate | N/A |

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Office of Oil and Gas

DEC 30 2015

WV Department of
Environmental Protection

04/01/2016

51-01877

| Supplier Name | Product Name | Product Use | Chemical Name | CAS Number |
|--------------------|-----------------------------------|------------------|--|---------------------------|
| NALCO ONESOURCE | EC6110A | Biocide | Ethanol | 000064-17-5 |
| | | | Glutaraldehyde (Pentanediol) | 000111-30-8 |
| | | | Quaternary Ammonium Compounds | N/A-063 |
| | EC6629A | Biocide | No Hazardous Components | NONE |
| WEATHERFORD | WBK-133 OXIDIZER | Breaker | Ammonium Persulfate | 007727-54-0 |
| | WBK-134 | Breaker | Ammonium Persulfate | 007727-54-0 |
| | | | Crystalline Silica (Quartz Sand, Silicon Dioxide) | 014808-60-7 |
| | WCS-631LC | Clay Stabilizer | Proprietary Non Hazardous Salt | N/A-229 |
| | | | Water | 007732-18-5 |
| | WFR-55LA | Friction Reducer | No Hazardous Components | NONE |
| | WGA-15L | Gel | Petroleum Distillate Hydrotreated Light | 064742-47-8 |
| | WPB-584-L | Buffer | Potassium Carbonate | 000584-08-7 |
| | | | Potassium Hydroxide | 001310-58-3 |
| | WXL-101LE | Crosslinker | No Hazardous Components | NONE |
| | WXL-101LM | Crosslinker | Petroleum Distillate Hydrotreated Light | 064742-47-8 |
| | | | Water | 007732-18-5 |
| | | | Ethylene Glycol | 000107-21-1 |
| Boric Acid | | | 010043-35-3 | |
| Ethanolamine | | | 000141-43-5 | |
| SCHLUMBERGER | B244 Green-Cide 25G | Biocide | Glutaraldehyde | 111-30-8 |
| | L071 Temporary Clay Stabilizer | Clay Stabilizer | Cholinium Chloride | 67-48-1 |
| | Breaker J218 | Breaker | Diammonium Peroxidisulphate | 7727-54-0 |
| | EB-Clean* J475 Breaker | | Diammonium Peroxidisulphate | 7727-54-0 |
| | Friction Reducer B315 | Friction Reducer | Distillates (petroleum), Hydrotreated light Aliphatic Alcohol Glycol Ether | 64742-47-8 Proprietary |
| | Friction Reducer J609 | | Ammonium Sulfate | 7783-20-2 |
| Supplier Name | Product Name | Product Use | Chemical Name | CAS Number |

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| | | | | |
|--------------|--------------------------|-----------------|--|--------------------------|
| SCHLUMBERGER | Water Gelling Agent J580 | Gel | Carbohydrate Polymer | Proprietary |
| | Scale Inhibitor B317 | Scale Inhibitor | Trisodium ortho phosphate Ethane-1, 2-diol | 7601-54-9 107-21-1 |
| | Borate Crosslinker J532 | Crosslinker | Aliphatic polyol Sodium tetraborate decahydrate | Proprietary 1303 96-4 |
| | Crosslinker J610 | | Aliphatic polyol Potassium hydroxide | Proprietary 1310 58-3 |

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04/01/2016

OPERATOR: SWN Production Co., LLC

WELL NO: Craig Strope UP MSH 2H

PAD NAME: Craig Strope MSH Pad

REVIEWED BY: _____

SIGNATURE: 

WELL RESTRICTIONS CHECKLIST

HORIZONTAL 6A WELL

Well Restrictions

At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland; OR

DEP Waiver and Permit Conditions

At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream; OR

DEP Waiver and Permit Conditions

At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply; OR

DEP Waiver and Permit Conditions

At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

At Least 625 Feet from an Occupied Dwelling Structure to Center of the Pad; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

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Environmental Protection 04/01/2016

**WVDEP OOG
ACCEPTED AS-BUILT**

WJL 2/5/2016

AS-BUILT SITE PLAN

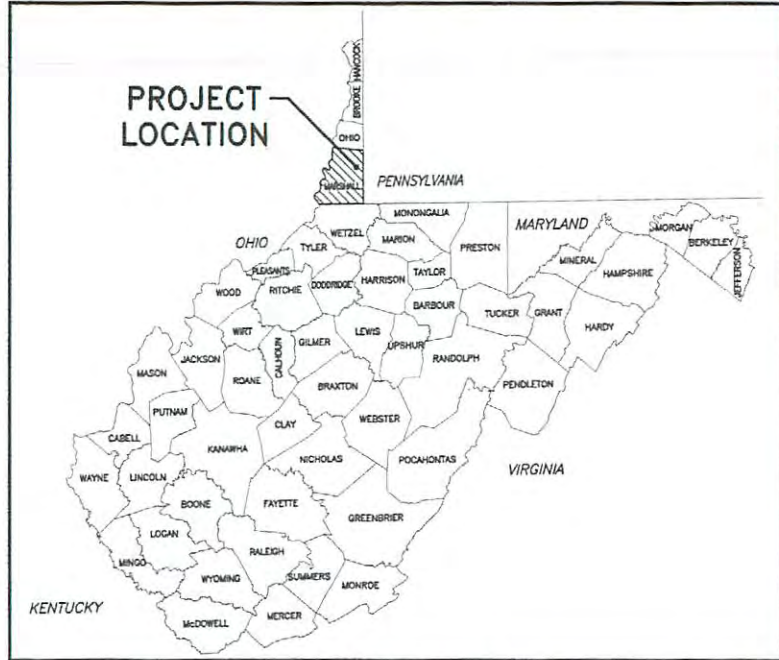
FOR

CRAIG STROPE MSH PAD A

WEBSTER DISTRICT, MARSHALL COUNTY, WV

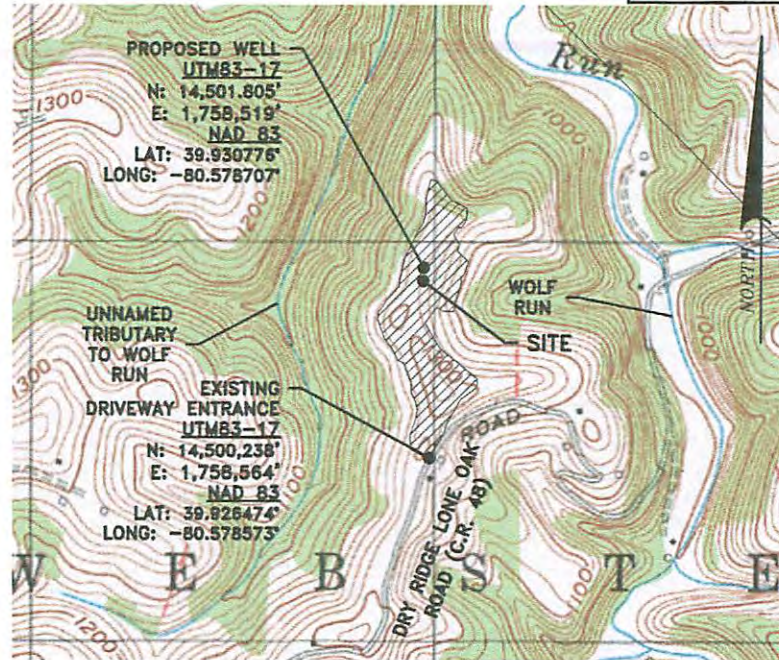


DRAWN BY: MEB
DATE: 11/20/15, Rev. 2/4/16
SCALE: AS SHOWN
DWC. NO. 087569037



COUNTY MAP

N.T.S.



LOCATION MAP

SCALE - 1"=1000'

LIST OF DRAWINGS

- TS1.1 COVER SHEET
- EP2.1 EVACUATION ROUTE/PREVAILING WINDS
- EP2.2 EVACUATION ROUTE/PREVAILING WINDS
- AS3.1 AS-BUILT OVERVIEW
- AS3.2 AS-BUILT SITE PLAN
- AS3.3 AS-BUILT SITE PLAN
- AS3.4 AS-BUILT SITE PLAN
- CRA4.1 ACCESS ROAD PROFILE
- CRA4.2 PAD CROSS SECTIONS
- MRP5.1 RECLAMATION OVERVIEW
- MRP5.2 RECLAMATION PLAN
- MRP5.3 RECLAMATION PLAN
- MRP5.4 RECLAMATION PLAN
- MRD6.1 DETAILS
- MRD6.2 DETAILS
- MRD6.3 DETAILS

WELL API NUMBERS

| WELL NUMBER | API NUMBER | CELLAR DIAMETER | CELLAR DEPTH | CELLAR MATERIAL |
|-------------|---------------|-----------------|--------------|-----------------|
| 1H | N/A | N/A | N/A | N/A |
| 2H | N/A | N/A | N/A | N/A |
| 3H | API 051-01743 | 8 FT | 8 FT | CMP |
| 201H | N/A | N/A | N/A | N/A |
| 301H | N/A | N/A | N/A | N/A |

SITE DATA

TOTAL DISTURBED AREA: 19.84 ACRES
ROAD DISTURBED AREA: 11.44 ACRES
PAD DISTURBED ACRES: 8.40 ACRES
ACCESS ROAD LENGTH: 1,423'
ACCESS ROAD AVERAGE WIDTH: 25'
WELL PAD ELEVATION: 1278.8'

TS1.1

WEST VIRGINIA 811
CALL BEFORE YOU DIG! Dial 811 or 800.245.4848
Miss Utility of West Virginia

SWN
Southwestern Energy®

OPERATOR

SWN PRODUCTION CO., LLC
P.O. BOX 1300
JANIE LEW, WV 26378
(832) 796-1610

AT LEAST 48 HOURS, BUT NOT MORE THAN 10 WORKING DAYS (EXCLUDING WEEKENDS AND HOLIDAYS), PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL CONTACT MISS UTILITY OF WEST VIRGINIA AT 811 OR 1-800-245-4848.

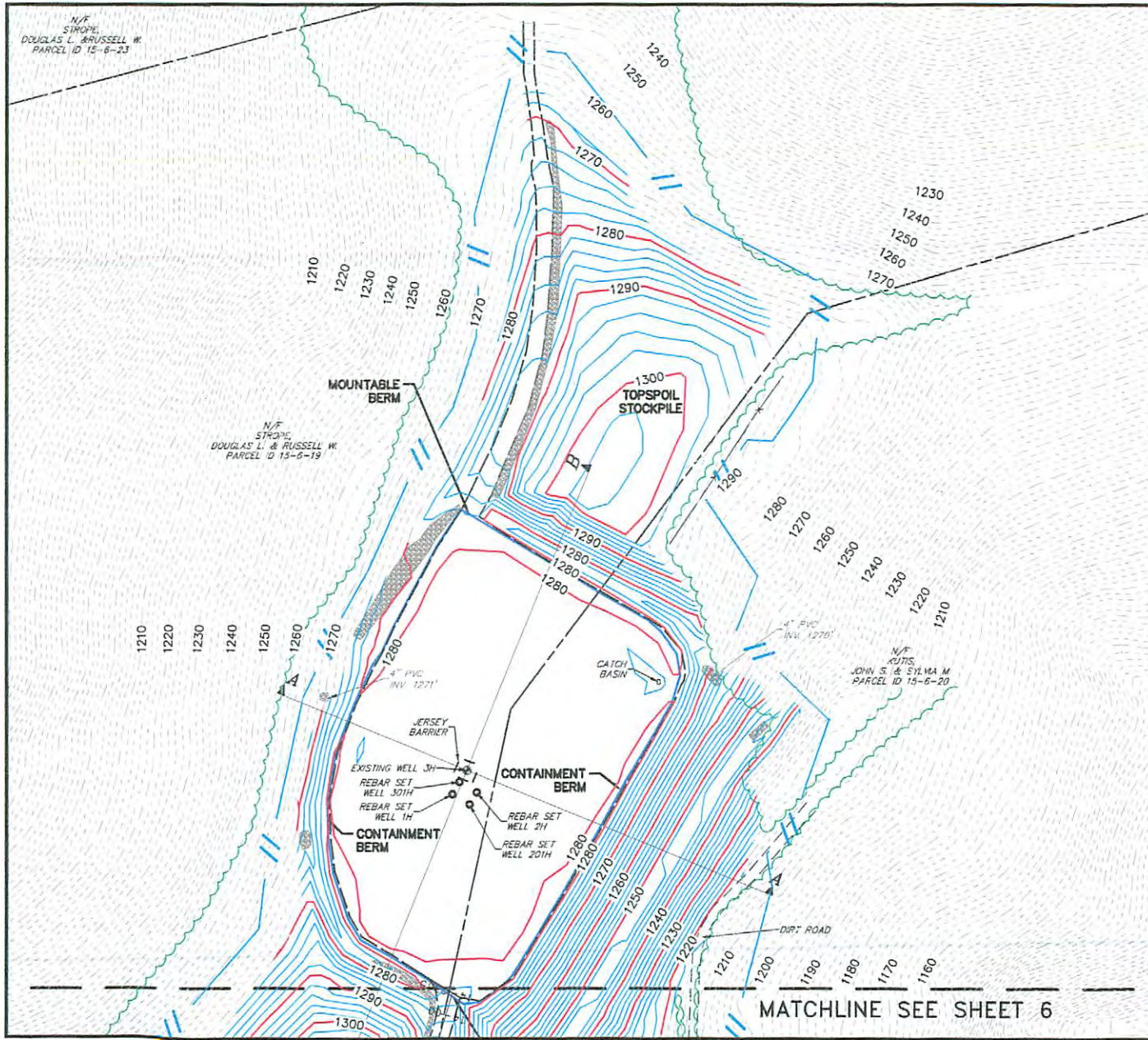
COVER SHEET FOR

CRAIG STROPE MSH PAD A

WEBSTER DISTRICT, MARSHALL COUNTY, WV

RETNEW

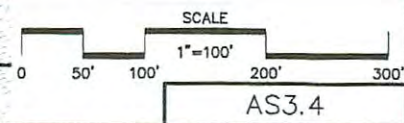
RETNEW Associates, Inc.
One Robinson Plaza, 6600 Steubenville Pike, Suite 200,
Pittsburgh, PA 15205
Phone (412) 846-1728 • Fax (412) 446-1733
Engineers • Planners • Architects
Environmental Consultants



LEGEND

- LIMITS OF DISTURBANCE (19.84 ACRES)
- EXISTING CHAIN-LINK FENCE
- EXISTING CONTOUR LINE
- AS-BUILT MAJOR CONTOUR LINE
- AS-BUILT MINOR CONTOUR LINE
- EXISTING WELL HEAD
- EXISTING TREELINE
- EXISTING RIPRAP

**WVDEP OOG
ACCEPTED AS-BUILT**
WJL 2/5/2015



MATCHLINE SEE SHEET 6

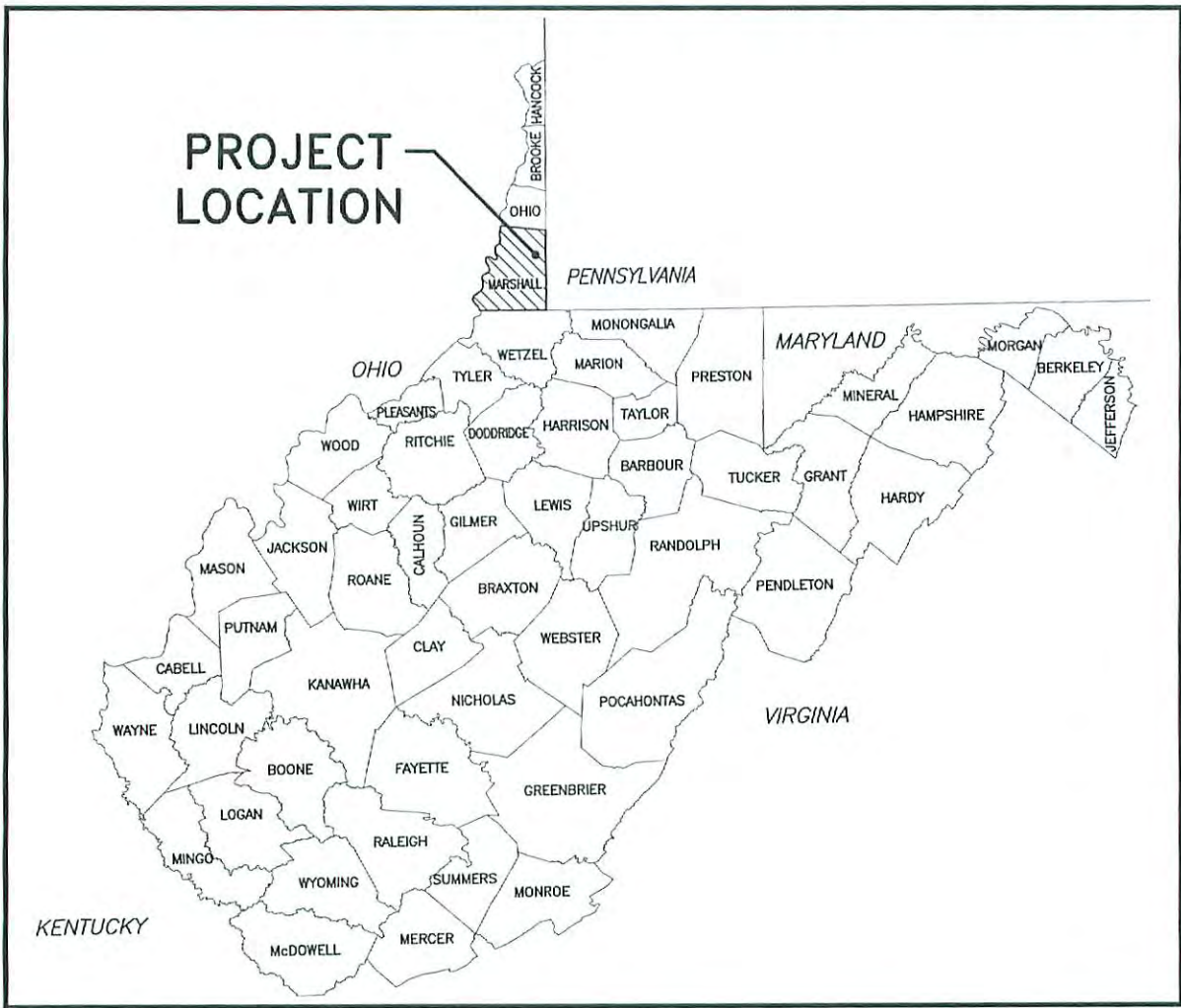
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RETNEW

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Engineers • Professional Corporation

AS-BUILT SITE PLAN
 FOR
CRAIG STROPE MSH PAD A
 WEBSTER DISTRICT MARSHALL COUNTY, WV

AS-BUILT SITE FOR CRAIG STROPE WEBSTER DISTRICT, MARSHALL COUNTY



COUNTY MAP

N.T.S.



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OPERATOR

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JANE LEW, WV 26378
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| | |
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| AS3.1 | AS-BUILT |
| AS3.2 | AS-BUILT |
| AS3.3 | AS-BUILT |
| AS3.4 | AS-BUILT |
| CRA4.1 | ACCESS R |
| CRA4.2 | PAD CROS |
| MRP5.1 | RECLAMAT |
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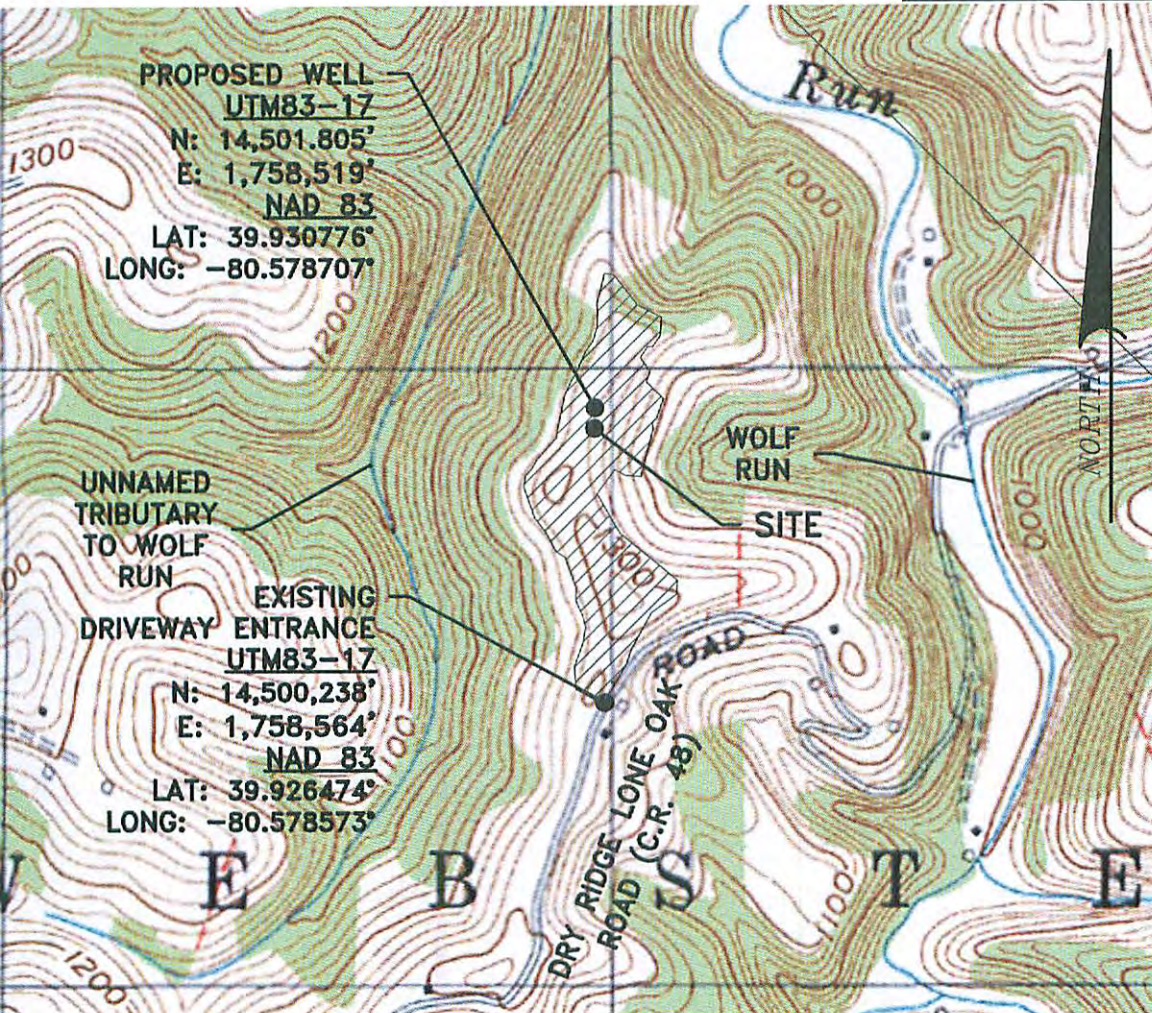
04/01/2016

E PLAN

MSH PAD A MARSHALL COUNTY, WV



DRAWN BY: MEB
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LOCATION MAP

SCALE - 1"=1000'

DRAWINGS

- COVER SHEET
- ON ROUTE/PREVAILING WINDS
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- OVERVIEW
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C. XLO 12/1/15



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 FOR

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 WEBSTER DISTRICT

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