



west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Monday, July 29, 2019
WELL WORK PERMIT
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359
SPRING, TX 77391-4954

Re: Permit approval for GEETA MSH 410H
47-051-02246-00-00

This well work permit 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 any additional specific 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 of 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.

Per 35 CSR 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- 0450.

James A. Martin
Chief

Operator's Well Number: GEETA MSH 410H
Farm Name: GEETA
U.S. WELL NUMBER: 47-051-02246-00-00
Horizontal 6A: New Drill
Date Issued: 7/29/2019

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.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

PERMIT CONDITIONS

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.

OPERATOR: SWN Production Co., LLC

PAD NAME: Geeta MSH Pad WELL: Geeta MSH 410H

PAD BUILT: YES NO DATE REVIEWED: INT.

REVIEWED BY (APPLICANT):

CONTACT PHONE: EMAIL:

APPLICANT SIGNATURE: Brittany Woody

chk
0001044323
\$5150⁰⁰

**CHECKLIST FOR FILING A PERMIT
HORIZONTAL 6A WELL**

Please include these required elements in the Horizontal Well 6A applications, in order listed.
Do not use staples.

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First Well	Subsequent Well
\$10,150.00 <input type="checkbox"/>	\$5,150.00 <input checked="" type="checkbox"/>

- Fees
- Checklist / Cover letter
- WW-6B Notice of Application Field Approved
- Cement Additives
- Well Bore Schematic
- WW-9 Fluids/Cuttings Disposal and Reclamation Plan Field Approved
- Site Safety Plan Field Approved
- Water Management Plan DWWM Approval
- Topographic Map w/water purveyors, showing access road
- Mylar Plat (Signed and sealed) (Surface Owner matches WW-6A)
- WW-6A1 Lease Information
- Road Crossing Letter
- WW-PN Application Notice by Publication
- Public Notice (dated copy of advertisement or affidavit of publication)

- WW-6AC Notice Certifications, notarized
- WW-6A Notice of Application notarized w/ any attachments
- Topographic Map with labeled surrounding water wells
- Certified Mail receipts for WW-6A
- WW-6A3 Notice of Entry for Plat Survey
- Certified Mail receipts for WW-6A3
- WW-6A4 Notice of Intent to Drill
- Certified Mail receipts for WW-6A4
- WW-6A5 Notice of Planned Operation
- Certified Mail receipts for WW-6A5
- NA WW-6RW Well Location Restriction Waiver
- NA WW-6AW Voluntary Statement of No Objection
 - Waiver for Surface Owner at Wellhead
 - Waiver for Surface Owner for Roads or other Disturbances
 - Waiver for Coal Owner, Operator or Lessee
 - Waiver for surface owner for Impoundment or Pit
 - Waiver for Surface Owner or Water Purveyor within 1500 feet of Center of Pad
 - Waiver for Natural gas Storage Field Operator
- Road Bonding Agreement / DOH Certification
- Frac Additives List of Chemical Names & CAS #s
- Site Construction, Reclamation, Erosion & Sediment Control Plans Field Approved
- Copy of To Scale Plans
- NA Inspector packet mailed to inspector (Plat, Topographic Map, WW-6B, WW-9, All Plans)
- Bond (\$250,000)
- Operator is registered with the SOS

Workers Compensation / Unemployment Insurance account is OK

Professional Engineer/Company has COA

Check for Mine Data at proposed coordinates

Check for Floodplain Data at proposed coordinates

IMP-1A Associated Pit or Impoundment

WW-6A7 Well Restrictions Form w/ Signature

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

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

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

DEP Waiver and Permit Conditions

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

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

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

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

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

June 13, 2019

Ms. Laura Adkins
Office of Oil & Gas
601 57th Street
Charleston, WV 25304

RE: Proposed New Well: Geeta MSH 410H.

Dear Ms. Adkins

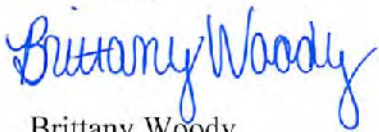
Enclosed please find the Well Work Permit Application for the above captioned well. This well is situated on the Geeta's property, in Webster District, Marshall County, West Virginia.

If you have any questions or desire additional information, please me at 304-884-1613

C

Thank you.

Sincerely,



Brittany Woody
Senior Regulatory Analyst
Southwestern Energy Production Company, LLC

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 051- Marsha 9-Webste 453-Majorsville
Operator ID County District Quadrangle

2) Operator's Well Number: Geeta MSH 410H Well Pad Name: Geeta MSH Pad

3) Farm Name/Surface Owner: Genakhya Seva & Environmental Education Trust of America Public Road Access: Wheeling Creek Road

4) Elevation, current ground: 1073' Elevation, proposed post-construction: 1073'

5) Well Type (a) Gas Oil _____ Underground Storage _____
Other _____

(b) If Gas Shallow Deep _____
Horizontal

Handwritten: 5/15/19

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Target Formation- Marcellus, Down-Dip Well to the South, Target Top- 6457', Target Base- 6509', Anticipated Thickness- 52', Associated Pressure- 4231

8) Proposed Total Vertical Depth: 6484'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 26,159'

11) Proposed Horizontal Leg Length: 18,818.14'

12) Approximate Fresh Water Strata Depths: 517'

13) Method to Determine Fresh Water Depths: Nearby Water Well & Salinity Profile

14) Approximate Saltwater Depths: 1019 Salinity Profile

15) Approximate Coal Seam Depths: 580'

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
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(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____
WV Department of
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WELL PAD: GEETA MSH PAD1

VOID: YES NO

MINE: _____

COMPANY: _____

SEAM: _____

DEPTH: _____

ADJACENT TO ACTIVE MINE: YES NO

MINE: _____

COMPANY: _____

SEAM: _____

DEPTH: _____

Legend

0 225 450 900 Feet

Southwestern Energy®

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WW-6B
(04/15)

API NO. 47- 051 - _____
 OPERATOR WELL NO. Geeta MSH 410H
 Well Pad Name: Geeta MSH Pad

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	20"	New	H-40	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	638'	638'	599 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	2164'	2164'	826 sx/CTS
Production	5 1/2"	New	HP-110	20#	26,159'	26,159'	leac 652sx/Tail 4097sx/ 100' Inside In 
Tubing							
Liners							

Handwritten signature/initials

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	81	Class A	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Coal	See	Surface	Casing				
Intermediate	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/50% Excess
Tubing							
Liners							

PACKERS

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Kind:					JUN 18 2019
Sizes:					
Depths Set:					

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WW-6B
(10/14)

4705102246
API NO. 47-051
OPERATOR WELL NO. Geeta MSH 410H
Well Pad Name: Geeta MSH Pad

Handwritten signature and date: 5/12/19

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

Drill and stimulate any potential zones between and including the Benson to Marcellus. **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 or run external casing packer/cementing stage tool above void interval and perform 2 stage cementing operation dependent upon depth of void. Run casing not less than 20' below void nor more than 75' below void. (*If freshwater is encountered deeper than anticipated it must be protected, set casing 50' 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, horizontal separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 8.9

22) Area to be disturbed for well pad only, less access road (acres): 2.4

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 ***

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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 Intermediate	S001	accelerator	calcium chloride up to 3%	10043-52-4
	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 (attapulgit)	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 (attapulgit)	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	

Rev. 5/18/2018

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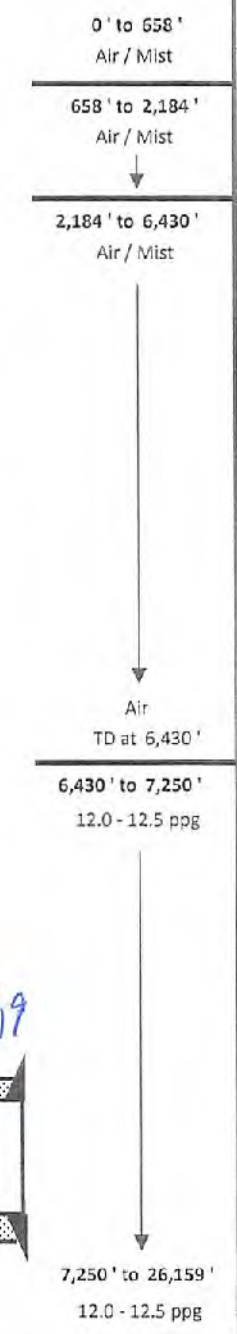
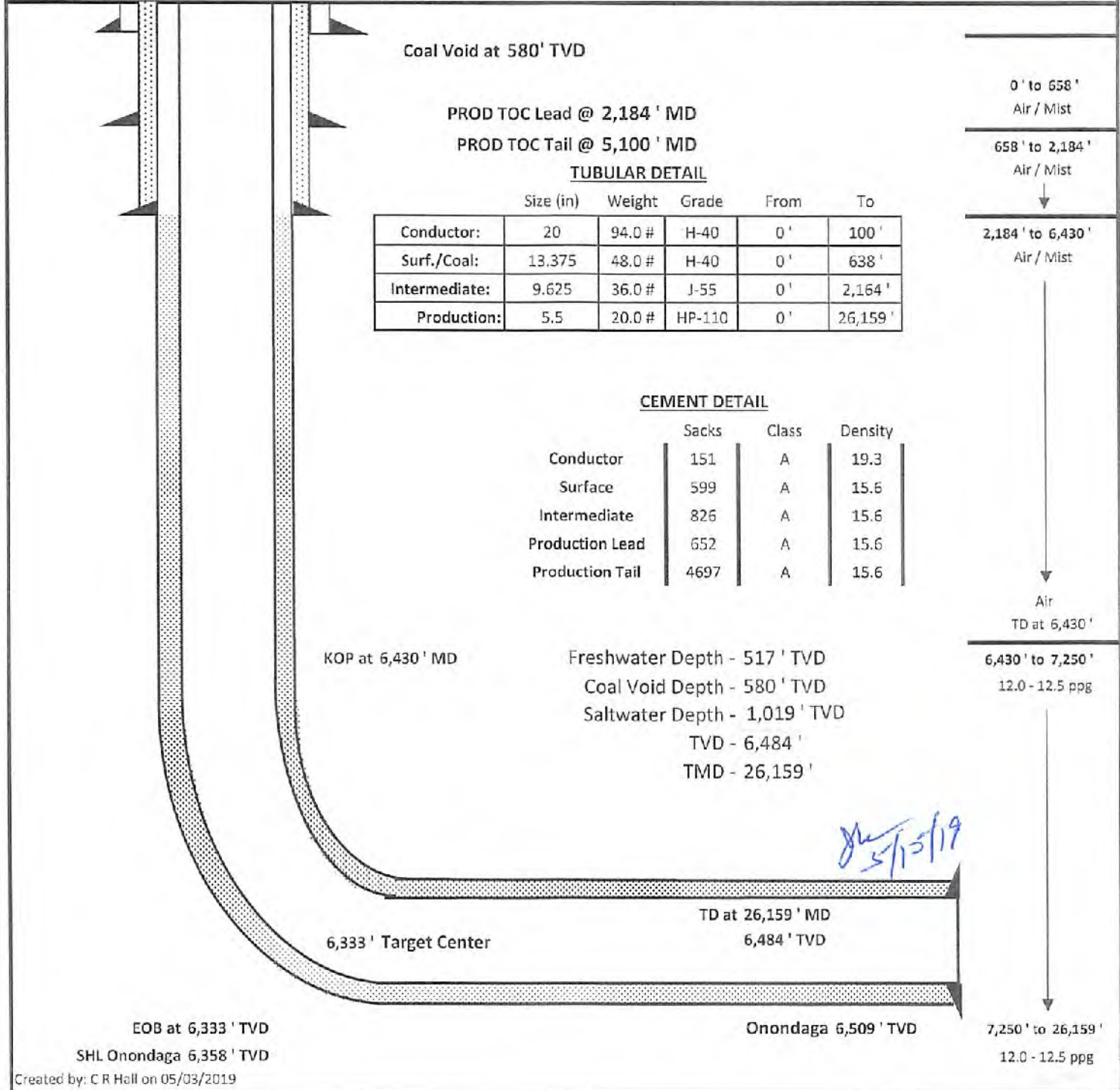
JUN 18 2019

WV Department of
Environmental Protection

Southwestern Energy Company

Proposed Drilling Program

Well: GEETA MSH 410 Re-entry Rig: TBD
 Field: NORTH VICTORY FIELD WET Prospect: VICTORY
 County: MARSHALL State: WV
 SHL: 39.9671 Latitude -80.6140 Longitude
 BHL: 39.9207 Latitude -80.5759 Longitude
 KB Elev: 1,099 ft MSL KB: 26 ft AGL GL Elev: 1,073 ft MSL



Created by: C R Hall on 05/03/2019

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WW-9
(2/15)

API Number 47 - 051
Operator's Well No. Geeta MSH 410H

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) Wheeling Creek Quadrangle Majorsville

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: _____

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 34-15-22403, 34-156-24057, 34-119-25776, 34-157-23852, 34-155-23795, 34-121-23305, 34-155-21853)
- 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)

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Will closed loop system be used? If so, describe: Yes- See Attachment 3A

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

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

Additives to be used in drilling medium? Attachment 3B

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? Meadowfill SWF- 1032, Short Creek SWF-1034, Carbon Limestone MSWL018781, Wetzel County 1021

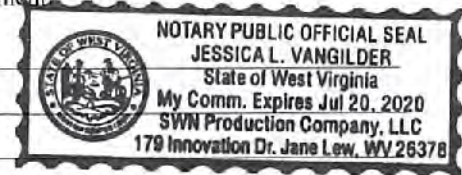
Arden Landfill 10072, Apex Sanitary Landfill 06-08438, Brooke Co SWF-1013, Valley 100280

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

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 *Brittany Woody*
Company Official (Typed Name) Brittany Woody
Company Official Title Senior Regulatory Analyst



Subscribed and sworn before me this 6th day of May, 20 19

Jessica L. Vangilder Notary Public

My commission expires 7-20-20

SWN Production Co., LLC

Proposed Revegetation Treatment: Acres Disturbed 8.9 Prevegetation pH _____

Lime as determined by pH test min. 2 Tons/acre or to correct to pH 2.4

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

Seed Type lbs/acre

Attachment 3C

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: *Jim Walaker*

Comments: _____

Title: Oil and Gas Inspector

Date: 5/15/18

Field Reviewed? () Yes

() No

Attachment 3B

Drilling Mediums

Surface/Coal(if present)/Freshwater Intervals:

Air

Freshwater (if needed based on conditions)

Intermediate/Coal (if present):

Air

Brine (In Gas Storage areas)

Organophilic Bentonite

Production Hole:

Air

Synthetic Oil (Base Fluid for mud system)

Barite

Calcium Chloride

Lime

Organophilic Bentonite

Primary and Secondary Emulsifiers

Gilsonite

Calcium Carbonate

Friction Reducers

Attachment 3C



WVD Seeding Specification



To Order Seed contact Lyndsi Eddy Flippo office 570-996-4271 cell 501-269-5451 lyndsi_eddy@swn.com (please allow 7 to 10 days for delivery)

NON-ORGANIC PROPERTIES

Seed Mixture: ROW Mix	SWN Supplied
Orchardgrass	40%
Timothy	15%
Annual Ryegrass	15%
Brown Top Millet	5%
Red Top	5%
Medium Red Clover	5%
White Clover	5%
Birdsfoot Trefoil	5%
Rough Bluegrass	5%
All legumes are innoculated at 5x normal rate	
Apply @ 100lbs per acre April 16th- Oct. 14th	Apply @ 200lbs per acre Oct. 15th- April 15th PLUS 50lbs per acre of Winter Wheat

SOIL AMENDMENTS

10-20-20 Fertilizer	*Apply @ 500lbs per Acre
Pelletized Lime	Apply @ 2 Tons per Acre
*unless otherwise dictated by soil test results	

Seeding Calculation Information:

1452' of 30' ROW/LOD is One Acre
871' of 50' ROW/LOD is One Acre
622' of 70' ROW/LOD is One Acre

Synopsis:

Every 622 linear feet in a 70' ROW/LOD, you should be using (2) 50lb bags of seed, (4) 50lb bags of fertilizer and (80) 50lb bags of Lime (2x seed in winter months + 50lb Winter Wheat/ac).

Special Considerations:

Landowner Special Considerations including CREP program participants require additional guidance that is not given here. Discuss these requirements with SWN supervision at the beginning of the project to allow time for special seed delivery.

ORGANIC PROPERTIES

Seed Mixture: SWN Production Organic Mix	SWN Supplied
Organic Timothy	50%
Organic Red or White Clover	50%
OR	
Organic Perennial Ryegrass	50%
Organic Red or White Clover	50%
Apply @ 100lbs per acre April 16th- Oct. 14th	Apply @ 200lbs per acre Oct. 15th- April 15th
Organic Fertilizer @ 200lbs per Acre	Pelletized Lime @ 2 Tons per Acre

WETLANDS (delineated as jurisdictional wetlands)

Seed Mixture: Wetland Mix	SWN Supplied
VA Wild Ryegrass	20%
Annual Ryegrass	20%
Fowl Bluegrass	20%
Cosmos 'Sensation'	10%
Redtop	5%
Golden Tickseed	5%
Maryland Senna	5%
Showy Tickseed	5%
Fox Sedge	2.5%
Soft Rush	2.5%
Woolgrass	2.5%
Swamp Verbena	2.5%
Apply @ 25lbs per acre April 16th- Oct. 14th	Apply @ 50lbs per acre Oct. 15th- April 15th
NO FERTILIZER OR LIME INSIDE WETLAND LIMITS	

Attachment 3A

CLOSED LOOP SYSTEM

The closed loop system is designed to eliminate the use of reserve pits by providing a higher level of solids control processing and using steel pits for capture of drill cuttings. The cuttings are then processed to achieve landfill requirements before hauling to approved landfills. The liquids are processed to recycle into the active mud system or to transfer to onsite temporary storage as needed.

The closed loop system consists of several sets of a shale gas separator (often called a 'methana'), several banks of solids shakers, high speed centrifuges (1 or 2) used to process the fluid portion of the mud system to remove low gravity solids, low speed centrifuge used for barite recovery in high weight liquid drilling systems, a dewatering system (for air intervals and if freshwater mud systems are in use) used to further clean liquids by flocculation and additional mechanical separation, associated open top tanks for processing liquids and capturing solids for disposal, and transfer pumps to move fluids through the processes. There is an area adjacent to the cuttings tanks (Red Zone) where a track hole is utilized to recover the processed cuttings for loading into containers for hauloff. (See attached schematic of a generic closed loop system layout)

Below are discussions of the processes used when drilling the air interval or liquids interval.

AIR DRILLING INTERVALS

During air drilling operations, flow from the rig will pass down the flowline to the Shale Gas Separator (sometimes called a methane) where gas and liquids/solids are separated. Gas is sent to the flare scrubber tank and is flared at the flare stack. Solids and fluids pass across a shaker system to separate solids from liquids. Solids pass into the cuttings tanks where they are captured for drying and hauloff to an approved landfill site. Liquids fall into a shaker tank and are collected by a centrifugal pump to be processed by the high speed centrifuge to further separate liquids and solids. Solids are then dumped into the cuttings tank for drying and hauloff. Liquids are further processed to remove additional low gravity solids before being reused or transferred to onsite storage.

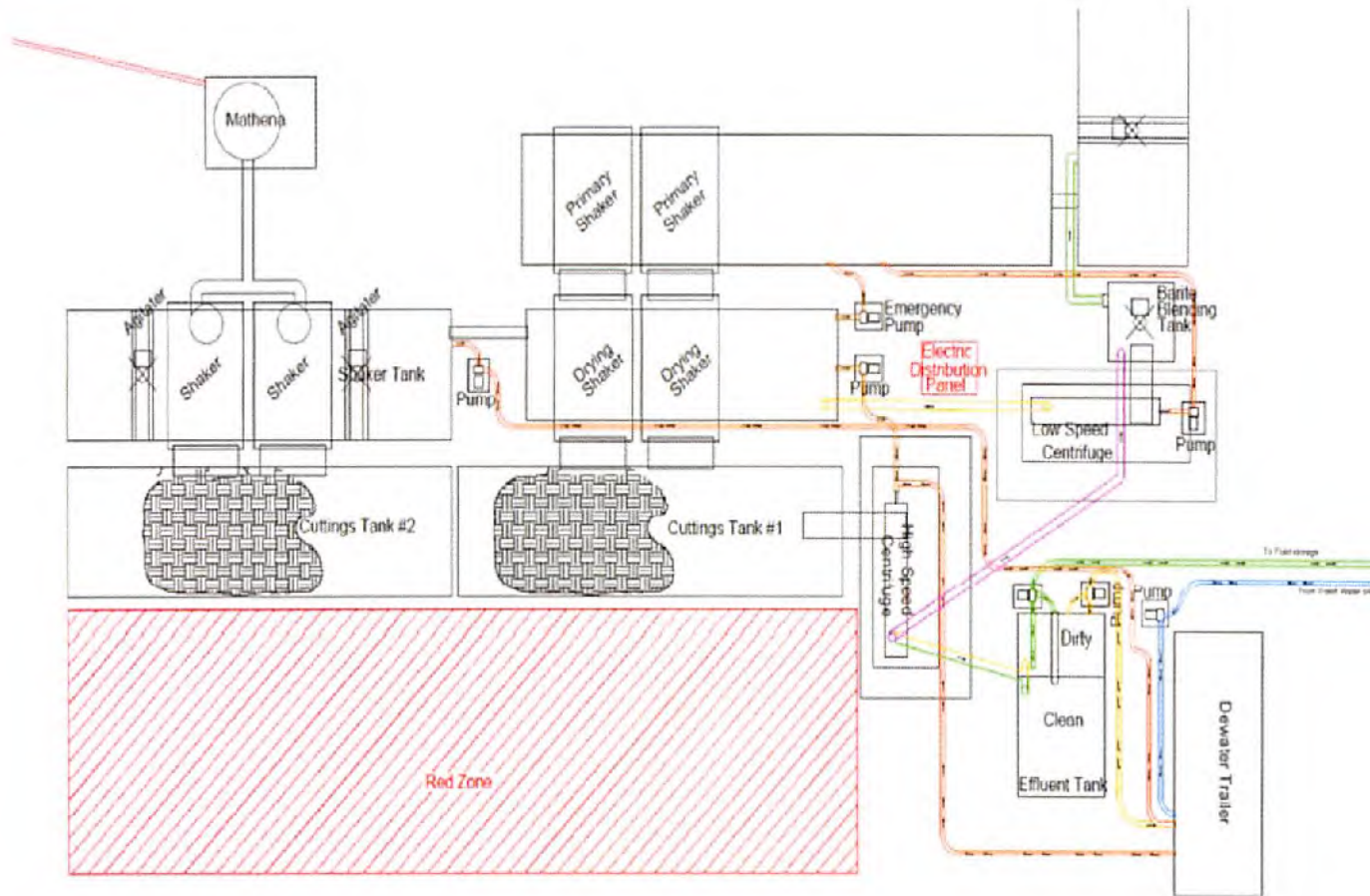
LIQUIDS DRILLING (FRESHWATER, BRINE, SOBM)

When drilling is converted to liquids drilling, the shale gas separator and associated shaker tank are bypassed, and the liquids system is processed over the primary and drying shaker systems. Cuttings drop into the cuttings tank for additional processing. Any recoverable associated liquids attached to the cutting are recovered out the tank and processed through the low gravity (high speed) and barite recovery centrifuges (low speed) to further remove low gravity solids and to recover barite for reuse in the mud systems.

Solids Control Layout



EXAMPLE SCHEMATIC FOR CLOSED LOOP SOLIDS CONTROL SYSTEM



MARCELLUS WELL DRILLING PROCEDURES AND WELL SITE SAFETY PLAN



SWN Production Company, LLC
1300 Fort Pierpont Drive, Suite 201
Morgantown, West Virginia 26508

RECEIVED
Office of Oil and Gas

JUN 18 2019

WV Department of
Environmental Protection

API NO. 47-XXX-XXXXX
WELL NAME: Geeta MSH 410H
Majorsville QUAD
Webster DISTRICT
Marshall COUNTY, WEST VIRGINIA

Submitted by:

Name: Brittany Woody

Date: 4/23/2019

Title: Senior Regulatory Analyst

SWN Production Co., LLC

Approved by:

Name: Jim Mulvaney

Date: 5/15/19

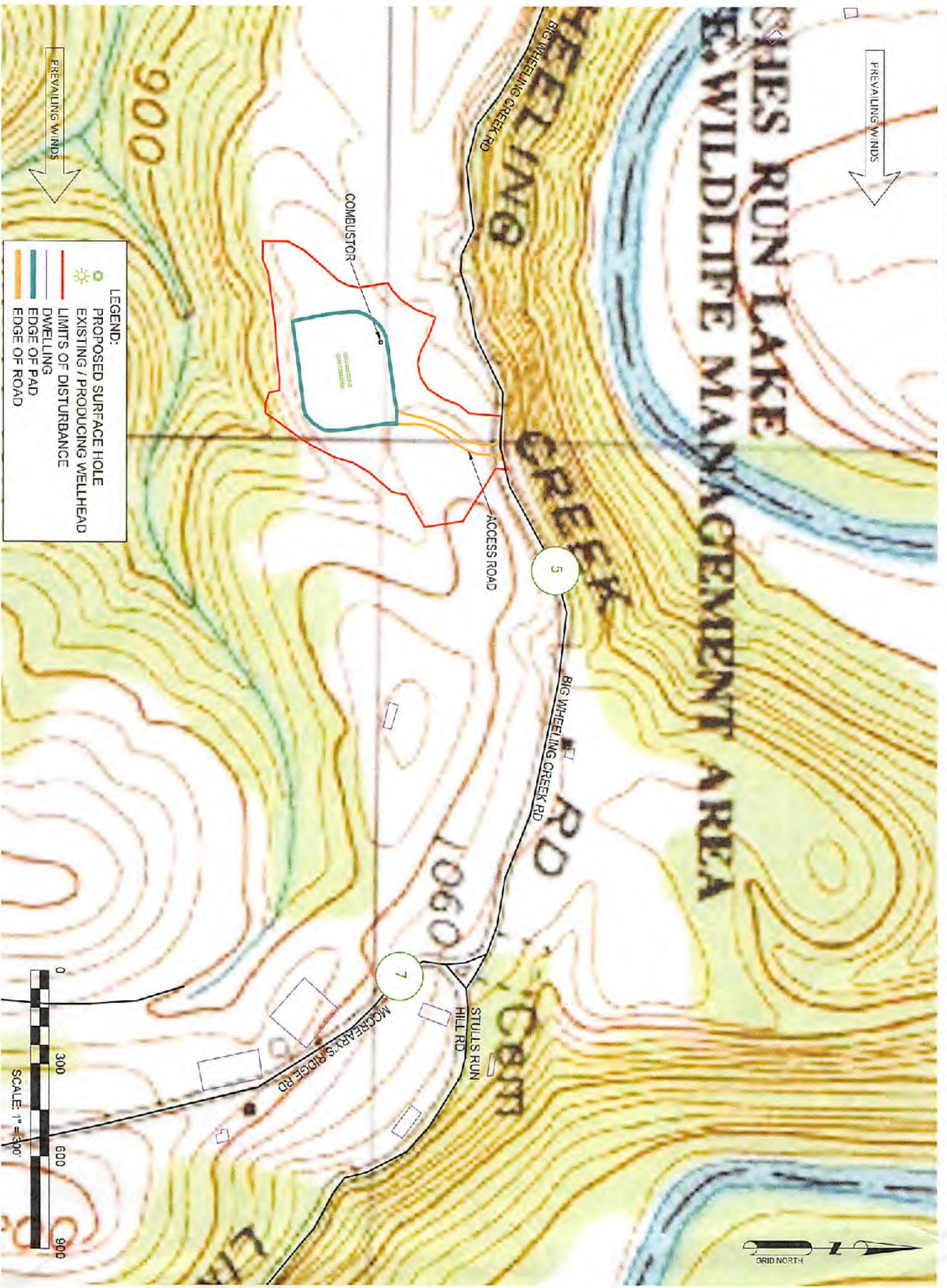
Title: Oil & Gas Inspector

Approved by:

Name: _____

Date: _____

Title: _____



NO.	DATE	DESCRIPTION

PREPARED FOR:
SWM
 Southwestern Energy®

2 WORKING DAYS BEFORE YOU DIG
 CALL TOLL FREE 800-426-4343
 MISS UTILITY OF WEST VIRGINIA

JHA SURVEYORS
JHA ENGINEERS
JHA ENVIRONMENTAL
JHA GIS MAPPING

www.jhacompanies.com


6801 VINEYARD ROAD
 ST. CLAIRSVILLE, OH 43960
 (740) 695-6700
 PA. OH WV NY W.V.

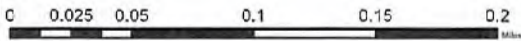
PROJECT NO. 2018-028
 DATE 04/23/2018
 SCALE AS SHOWN
 PROJECTED BY CLW
 CHECKED BY CLW

PROJECT TITLE: GEETA MESH PAD FOR FLARE MAP
 LOCATION: WEST VIRGINIA PROJECT, MARSHALL COUNTY, WEST VIRGINIA
 DRAWING TITLE: FLARE MAP
 DRAWING NO.: FINAL 1

THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF JHA COMPANIES




 1 in = 417 ft



Coordinate System: NAD 1983 UTM Zone 17N
 Units: Meter

- S Spring Parcel
- W Water Well 1500' Buffer
- P Pond

Water Purveyor Map
 Well Pad: Geeta
 County: MSH

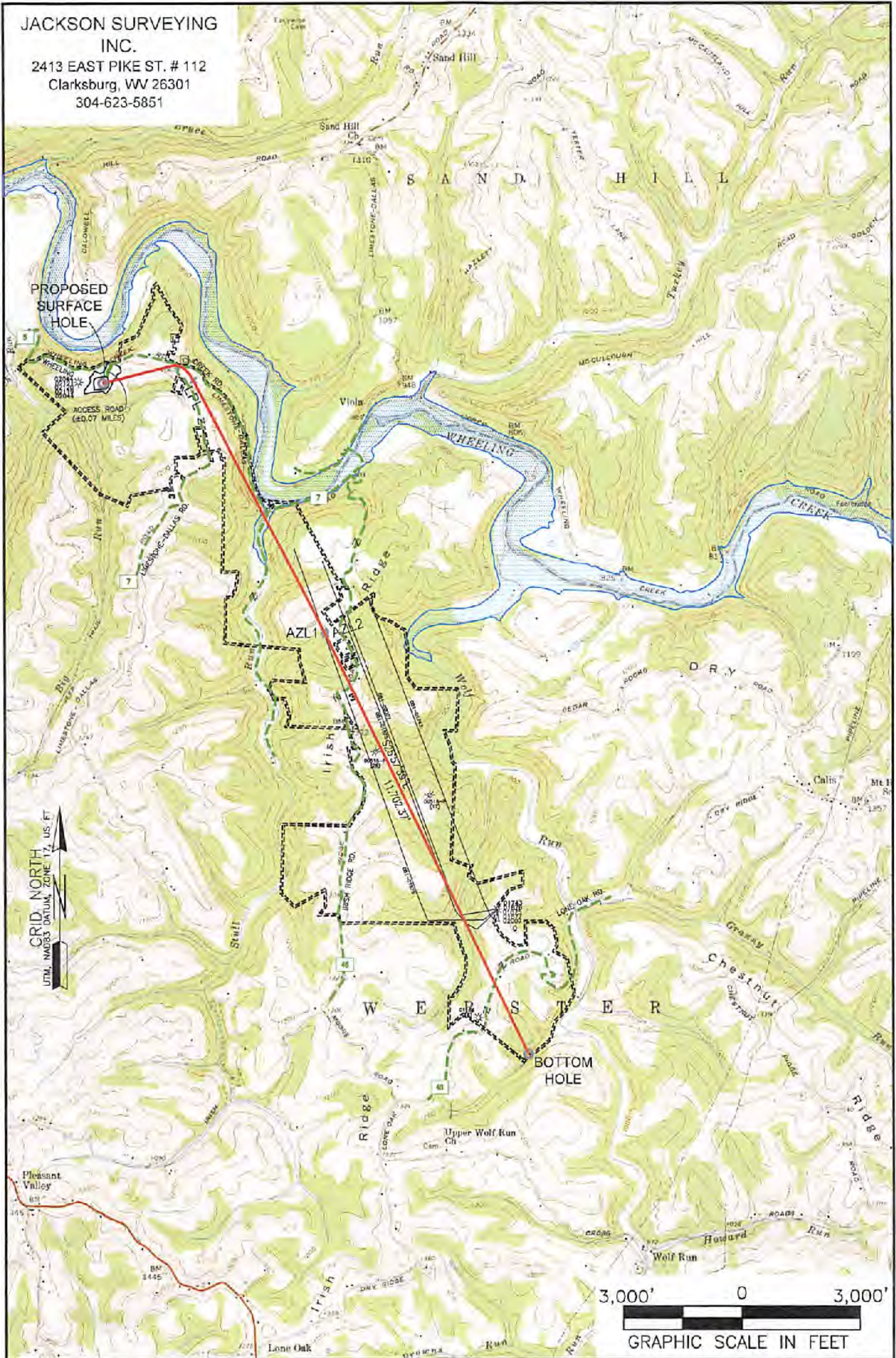


Coordinates: 39.967052, -80.614188

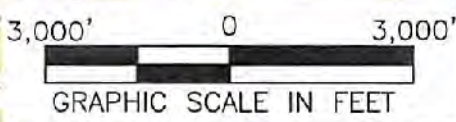
Date: 4/23/2019

Author: willisb

JACKSON SURVEYING
 INC.
 2413 EAST PIKE ST. # 112
 Clarksburg, WV 26301
 304-623-5851



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



NOTES ON SURVEY

1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- LPL* LANDING POINT LOCATION
- FLOOD PLAN
- ACCESS ROAD
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- LEASE BOUNDARY
- PROPOSED PATH

WELL OPERATOR:
 SWN PRODUCTION COMPANY, LLC
 ADDRESS:
 1300 FORT PIERPONT RD. SUITE 200, MORGANTOWN, WV 26508
 SURFACE OWNER:
 GEETA

WELL (FARM) NAME: GEETA MSH	WELL # 410H	SERIAL #
COUNTY - CODE MARSHALL - 051	DISTRICT; WEBSTER	
USGS 7 1/2 QUADRANGLE MAP NAME MAJORSVILLE, WV		

Latitude: 40°00'00" SURFACE HOLE 8602'

Latitude: 39°57'30" BOTTOM HOLE 9,608'

JACKSON SURVEYING INC.
 2413 EAST PIKE ST. # 112
 Clarksburg, WV 26301
 304-623-5851

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 58°04'50" E	2152.28'	SHL TO LANDMARK	5/8" REBAR FOUND
L2	N 74°07'14" E	2148.11'	SHL TO LANDMARK	1/2" REBAR FOUND
L3	N 88°11'23" E	2296.19'	CURVE LENGTH	2612.88'
L4	S 26°47'16" E	82.78'		SHL TO LP
				AZL1 TO AZL2

SURFACE HOLE LOCATION (SHL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,424,175.264
 EASTING: 532,961.733

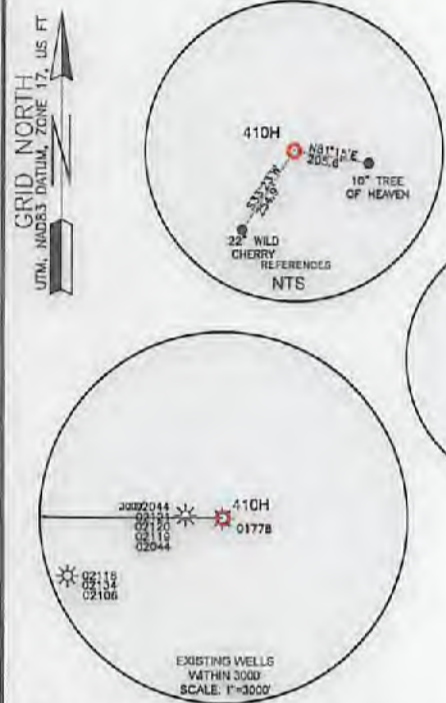
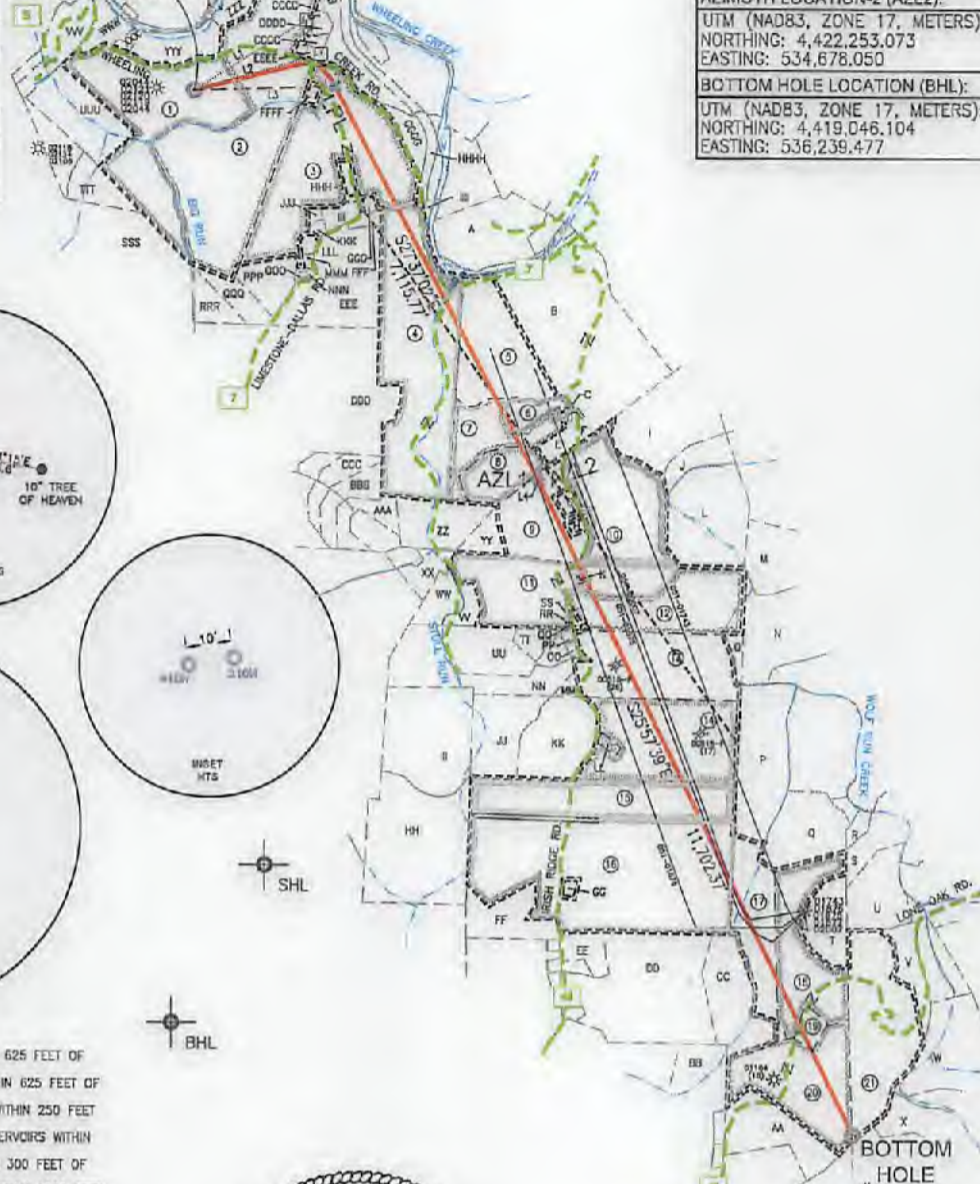
LANDING POINT LOCATION (LPL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,424,197.375
 EASTING: 533,561.263

AZIMUTH LOCATION-1 (AZL1):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,422,275.598
 EASTING: 534,666.678

AZIMUTH LOCATION-2 (AZL2):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,422,253.073
 EASTING: 534,678.050

BOTTOM HOLE LOCATION (BHL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,419,046.104
 EASTING: 536,239.477

PROPOSED SURFACE HOLE



WELL RESTRICTIONS

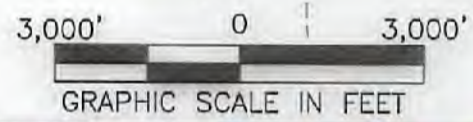
- NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
- NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

NOTES ON SURVEY

- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

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. 708 *David L Jackson*



COMPANY: **SWN** Production Company, LLC

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

WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200

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

OPERATOR'S WELL #: GEETA MSH 410H

API WELL #: 47 051 02246 WVA

STATE COUNTY PERMIT

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

WATERSHED: WHEELING CREEK (HUC-10) ELEVATION: 1072.5' STAKED

DISTRICT: WEBSTER COUNTY: MARSHALL QUADRANGLE: MAJORSVILLE, WV

SURFACE OWNER: GEETA ACREAGE: ±89.017

OIL & GAS ROYALTY OWNER: GEETA ACREAGE: ±89.017

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

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6,484' TVD 26,159' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY

ADDRESS: 1300 FORT PIERPONT RD. SUITE 200 ADDRESS: 1300 FORT PIERPONT RD. SUITE 200

CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- LPL* LANDING POINT LOCATION
- EXISTING WATER WELL
- EXISTING SPRING
- SURVEYED BOUNDARY
- DRILLING UNIT
- LEASE BOUNDARY
- PROPOSED PATH

REVISIONS:

DATE: 06-13-2019

DRAWN BY: N. MANO

SCALE: 1" = 3000'

DRAWING NO:

WELL LOCATION PLAT



**JACKSON SURVEYING
INC.**

2413 EAST PIKE ST. # 112
Clarksburg, WV 26301
304-623-5851

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	GEETA (S/R)	15-01-06
TRACT	SURFACE OWNER	TAX PARCEL
2	TATIA JOSEPHINE ROSE (S)	15-01-19
3	ISKCON-NEW MATHURA VRINDABAN (S)	15-01-18
4	SARA JO ANDERSON (S)	15-02-04
5	RICHARD J. MARKONICH (S)	15-03-02
6	DORA J. CUNNINGHAM & PATRICIA A. BENNETT (S)	15-03-25
7	ROBERT A. BENNETT, ET UX (S)	15-03-25.5
8	BONNIE STRAUTMANN & JEFF STRAUTMANN (S)	15-03-25.4
9	JOYCE E. GRIMM (S)	15-03-24
10	RENEE LYNN GRIMM EBERT (S)	15-03-21
11	JOYCE E. GRIMM (S)	15-06-03
12	GARY W. STROPE, ET UX, ET AL, GARY W. STROPE & RICKEE J. STROPE, TRUSTEE OF THE STROPE FAMILY TRUST DATED MARCH 29, 2017 (S)	15-06-05
13	MARK FITZSIMMONS & RICKEE STROPE (S)	15-06-06
14	MICHAEL J. BURKEY & LINDA BURKEY (S)	15-06-14
15	MARK B. FITZSIMMONS & DEBORAH A. FITZSIMMONS (S)	15-06-15
16	JOE M. KAISER & SHIRLEY A. KAISER FAMILY REVOCABLE TRUST DATED MAY 6, 2005 (S)	15-06-17
17	CHARLES B. STROPE (S)	15-09-14
18	RUSSELL W. STROPE & CRAIG D. STROPE (S)	15-06-19
19	CRAIG D. STROPE & DANYEL STROPE (S)	15-09-15.2
20	RUSSELL W. STROPE & CRAIG D. STROPE (S)	15-09-15
21	JOHN W. KUTIS & SYLVIA M. KUTIS (S)	15-10-01

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	MARIAN MURPHY	12-15-2.2
B	SHARON AUPP & RICHARD MARKOVICH	15-03-03
C	WILLIAM R. LITTLE	15-03-22
D	ROBERT E. BENNETT, ET UX	15-03-25.3
E	BONNIE L. STRAUTMANN & JEFFREY STRAUTMANN	15-03-25.2
F	OHIO VALLEY HEART INSTITUTE, INC.	15-03-25.1
G	LONNIE R. PETHTEL & DANNY L. BELL	15-03-23
H	JOYCE E. GRIMM	15-03-24.1
I	OHIO VALLEY HEART INSTITUTE INC.	15-03-20
J	WHEELING CREEK WATERSHED COMM.	15-03-19
K	RENEE LYNN GRIMM EBERT	15-06-3.1
L	WHEELING CREEK WATERSHED COMM.	15-03-18
M	BETTY SUE PACZEWSKI & ALBERT J. PACZEWSKI	15-03-17
N	BETTY SUE PACZEWSKI & ALBERT J. PACZEWSKI	15-06-27
O	WHEELING CREEK WATERSHED COMM.	15-06-6.2
P	KERRY GLENN FOSTER, ET UX	15-06-24
Q	RUSSELL W. STROPE & CRAIG D. STROPE	15-06-23
R	CHRISTINE A. BERNIER	15-06-22
S	CHRISTINE A. BERNIER	15-06-33
T	JOHN S. KUTIS & SYLVIA M. KUTIS	15-06-20
U	JOHN S. KUTIS & SYLVIA M. KUTIS	15-06-21
V	JOHN S. KUTIS & SYLVIA M. KUTIS	15-06-41
W	ELIZABETH A. MINER	15-06-42
X	ELIZABETH A. MINER	15-10-04
Y	LEO W. NEEHOUSE	15-10-05
Z	LEO W. NEEHOUSE	15-09-25
AA	LEO W. NEEHOUSE & BARBARA NEEHOUSE	15-09-15.1
BB	BONNIE SUE COLLINS & JUNIOR B. COLLINS	15-09-18
CC	RONALD LEE YOHO	15-09-13
DD	BONNIE SUE COLLINS & JUNIOR B. COLLINS	15-09-12
EE	DONALD R. YOHO, ET UX	15-09-12.2
FF	HARRY W. LILLEY, ET UX	15-06-17.1
GG	HERMAN D. ESTEL	15-06-17.2
HH	MARK FITZSIMMONS & RICKEE STROPE	15-06-16
II	R. CRAIG MILLER & DONITA D. MILLER	15-06-11
JJ	MARK B. FITZSIMMONS, ET UX	15-06-12
KK	KATIE L. FITZSIMMONS	15-06-13
LL	MICHAEL J. BURKEY & LINDA BURKEY	15-06-14.1
MM	KATIE L. FITZSIMMONS	15-06-07
NN	MARK FITZSIMMONS & RICKEE STROPE	15-06-08
OO	KYLEA J. REED	15-06-6.3

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
PP	GARY W. STROPE & RICKEE J. STROPE, TRUSTEES OF THE STROPE FAMILY TRUST DATED MARCH 20, 2017	15-06-6.1
QQ	LARRY W. DUNLAP & BARBARA DUNLAP	15-06-9.1
RR	MARK FITZSIMMONS & RICKEE STROPE	15-06-04
SS	JULIE A. ANDERSON	15-06-5.1
TT	LARRY W. DUNLAP & BARBARA E. DUNLAP	15-06-9.2
UU	MARK FITZSIMMONS & RICKEE STROPE	15-06-09
VV	MARK FITZSIMMONS & RICKEE STROPE	15-06-02
WW	EDNA S. GALL, EST. & FRANK P. LAUTAR EST.	15-06-01
XX	JASPER N. GIVENS	15-03-28
YY	JAMES S. SHIPLEY	15-03-26
ZZ	JAMES S. SHIPLEY	15-03-27
AAA	ANANTA RAMKAREE GAFFOOR & VANESSA GAFFOOR	15-02-12.9
BBB	GILDA ORTEGA	15-02-12.6
CCC	VRINDA D. CLOTHIER, ET AL	15-02-12.11
DDD	ISKON-NEW MATHURA VRINDABAN	15-02-05
EEE	GEETA	15-02-3.5
FFF	GEETA	15-02-3.6
GGG	ISKON-NEW MATHURA VRINDABAN	15-01-16.1
HHH	ISKON-NEW MATHURA VRINDABAN	15-01-17
III	ISKON-NEW MATHURA VRINDABAN	15-01-18
JJJ	JOHN H. MOWEN, JR. & SCOTT M. BIRDERMAN	15-01-18.1
KKK	ISKON-NEW MATHURA VRINDABAN	15-01-18.2
LLL	ISKON-NEW MATHURA VRINDABAN	15-01-16.3
MMM	ISKON-NEW MATHURA VRINDABAN	15-02-3.3
NNN	ANDY FRAENKEL & RUTH FRAENKEL	15-02-3.4
OOO	ANDY FRAENKEL & RUTH FRAENKEL	15-02-3.7
PPP	ELICIA N. HELLER	15-02-3.9
QQQ	SHAM SHADEEN GAFFOOR & VIDYA RAMKAREE	15-02-3.8
RRR	ISKON-NEW MATHURA VRINDABAN	15-02-03
SSS	ISKON-NEW MATHURA VRINDABAN	15-02-02
TTT	JAMES A. PLANTS	15-01-23
UUU	GEETA	15-01-20
VVV	STATE OF WVA THE CONSERVATION COMMISSION	15-01-5.1
WWW	THOMAS LORENCE, ET UX	15-01-05
XXX	KENNETH L. MERINAR	15-01-6.2
YYY	KENNETH L. MERINAR, ET AL	15-01-6.3
ZZZ	GLENN M. HICKEY	15-01-6.1
AAAA	ISKON-NEW MATHURA VRINDABAN	15-01-08
BBBB	ISKON-NEW MATHURA VRINDABAN	15-01-12
CCCC	TATIA JOSEPHINE ROSE	15-01-10
DDDD	BETH ANN & JEREMY ALAN PRETTYMAN	15-01-19.1
EEEE	ELEANOR BROWN-CEMETERY	15-01-11
FFFF	ISKON-NEW MATHURA VRINDABAN	15-01-16.2
GGGG	ISKON-NEW MATHURA VRINDABAN	15-01-15
HHHH	ISKON-NEW MATHURA VRINDABAN	15-01-14
IIII	MARKWEST LIBERTY MIDSTREAM & RESOURCES LLC	15-02-3.1

REVISIONS:	COMPANY:	 	
	OPERATOR'S	GEETA MSH	
	WELL #:	47-051-02246 410H	
	DISTRICT:	COUNTY:	STATE:
	WEBSTER	MARSHALL	WV
			DATE: 06-13-2019
			DRAWN BY: N. MANO
			SCALE: N/A
			DRAWING NO:
			WELL LOCATION PLAT 2

WW-6A1
(5/13)

Operator's Well No. Geeta 410H

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
-------------------------	-----------------------	-----------------------	---------	-----------

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

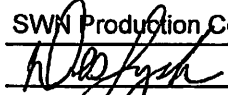
Well Operator: SWN Production Company, LLC.
 By: 
 Its: Staff Landman

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
1	15-0001-0006-0000	Gorakshya-Seva & Environmental Education Trust of America, Inc. (d/b/a GEETA), a non-profit corporation	NPAR, LLC	18.75%	696/100 852/312	0.00000000%
		AB Resources, LLC	Chief Exploration & Development, LLC and Radler 2000 Limited Partnership		24/382	
		AB Resources, LLC & NPAR, LLC	Chief Exploration & Development, LLC & Radler 2000 Limited Partnership		24/490	
		Chief Exploration & Development, LLC; Radler 2000 Limited Partnership; Chief Oil & Gas, LLC; and Enerplus Resources (USA) Corporation	Chevron USA, Inc.		25/1 25/105	
		NPAR, LLC	Chevron U.S.A. Inc.		756/332	
		Chevron U.S.A. Inc.	Statoil USA Onshore Properties Inc.		30/494	
		Chevron U.S.A. Inc. Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, LLC SWN Production Company, LLC SWN Production Company, LLC		30/532 33/110 33/424	
2	15-0001-0019-0000	Tatia Josephine Rose, a single woman	Chevron U.S.A. Inc.	16.00%	820/167	0.00000000%
		Chevron U.S.A. Inc.	Chesapeake Appalachia, LLC and Statoil USA Onshore Properties Inc.		32/235	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
3	15-0001-0016-0000	International Society of Krishna Consciousness - New Mathura Vrindaban, Inc., a West Virginia non-profit corporation	NPAR, LLC	18.75%	696/144 852/232	0.00000000%
		AB Resources, LLC	Chief Exploration & Development, LLC & Radler 2000 Limited Partnership		24/382	

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
		AB Resources, LLC & NPAR, LLC	Chief Exploration & Development, LLC & Radler 2000 Limited Partnership		24/490	
		Chief Exploration & Development, LLC; Radler 2000 Limited Partnership; Chief Oil & Gas, LLC; and Enerplus Resources (USA) Corporation	Chevron USA, Inc.		25/1	
		NPAR, LLC	Chevron U.S.A. Inc.		765/332	
		Chevron U.S.A. Inc.	Statoil USA Onshore Properties Inc.		30/494	
		Chevron U.S.A. Inc.	Chesapeake Appalachia, LLC		30/532	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
4	15-0002-0004-0000	Sara Jo. Anderson, a widow	CNX Gas Company	15.00%	696/242	0.00000000%
		CNX Gas Company	Noble Energy, Inc		25/225	
		Noble Energy, Inc. and CNX Gas Company LLC	Chesapeake Appalachia, LLC and Statoil USA Onshore Properties Inc.		32/113	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		34/582	
					35/32	
5	15-0003-0002-0000	Fredrick W. Dague, a single man dealing in his sole and separate property, and Harriet C. Riggle, a married woman dealing in her sole and separate property	TriEnergy Holdings, LLC	18.75%	699/365	0.00000000%
					842/117	
		AB Resources LLC and NPAR, LLC	Chief Exploration & Development LLC and Radler 2000 Limited Partnership		24/393	
		TriEnergy Holdings, LLC	NPAR, LLC		24/490	
		Chief Exploration & Development, LLC,	Chevron U.S.A. Inc.		24/180	
		Chief Oil & Gas LLC, Radler 2000 Limited Partnership and Enerplus Resources (USA) Corporation			25/1	
					25/105	

EXHIBIT "A"

1705102246

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
 Geeta 410H
 Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC	
		NPAR, LLC TriEnergy Holdings, LLC and TriEnergy, Inc.	Chevron U.S.A. Inc. Chevron U.S.A. Inc.		765/332 28/356		
		Chevron U.S.A Inc. Chevron U.S.A Inc. Chesapeake Appalachia, LLC Statoil USA Onshore Properties, Inc	Statoil USA Onshore Properties, Inc Chesapeake Appalachia, LLC SWN Production Company, LLC SWN Production Company, LLC		30/494 30/532 33/110 33/424		
6	15-0003-0025-0000	Donald P. Thacker, a single man Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	702/53 33/110		0.00000000%
	15-0003-0025-0000	Edward F. Thacker and Linda M. Thacker, his wife Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	700/630 33/110		
	15-0003-0025-0000	James W. Thacker and Linda L. Thacker, his wife Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	703/169 33/110		
	15-0003-0025-0000	Joyce A. Ewing and Fred A. Ewing, her husband Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	701/90 33/110		
	15-0003-0025-0000	Bonnie L. Strautmann and Jeffrey A. Strautmann, her husband Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	700/626 33/110		
	15-0003-0025-0000	Charles C. Thacker, married and doing business in his sole and separate right Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	704/199 33/110		

EXHIBIT "A"

4705102246

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
	15-0003-0025-0000	Charles V. Eller, a widower, appearing herein by and through Charles Walter Eller, his Agent and Attorney in Fact, by Power of Attorney dated May 25, 2006	Chesapeake Appalachia, L.L.C.	18.00%	828/93	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
7	15-0003-0025-0005	Donald P. Thacker, a single man Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	702/53 33/110	0.00000000%
	15-0003-0025-0005	Edward F. Thacker and Linda M. Thacker, his wife Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	700/630 33/110	
	15-0003-0025-0005	James W. Thacker and Linda L. Thacker, his wife Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	703/169 33/110	
	15-0003-0025-0005	Joyce A. Ewing and Fred A. Ewing, her husband Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	701/90 33/110	
	15-0003-0025-0005	Bonnie L. Strautmann and Jeffrey A. Strautmann, her husband Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	700/626 33/110	
	15-0003-0025-0005	Charles C. Thacker, married and doing business in his sole and separate right Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.75%	704/199 33/110	

EXHIBIT "A"

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 Geeta 410H
 Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
	15-0003-0025-0005	Charles V. Eller, a widower, appearing herein by and through Charles Walter Eller, his Agent and Attorney in Fact, by Power of Attorney dated May 25, 2006	Chesapeake Appalachia, L.L.C.	18.00%	828/93	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
8	15-0003-0025-0004	Donald P. Thacker, a single man	Chesapeake Appalachia, L.L.C.	18.75%	702/53	0.00000000%
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
	15-0003-0025-0004	Edward F. Thacker and Linda M. Thacker, his wife	Chesapeake Appalachia, L.L.C.	18.75%	700/630	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
	15-0003-0025-0004	James W. Thacker and Linda L. Thacker, his wife	Chesapeake Appalachia, L.L.C.	18.75%	703/169	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
	15-0003-0025-0004	Joyce A. Ewing and Fred A. Ewing, her husband	Chesapeake Appalachia, L.L.C.	18.75%	701/90	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
	15-0003-0025-0004	Bonnie L. Strautmann and Jeffrey A. Strautmann, her husband	Chesapeake Appalachia, L.L.C.	18.75%	700/626	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
	15-0003-0025-0004	Charles C. Thacker, married and doing business in his sole and separate right	Chesapeake Appalachia, L.L.C.	18.75%	704/199	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	

EXHIBIT "A"

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Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
	15-0003-0025-0004	Charles V. Eller, a widower, appearing herein by and through Charles Walter Eller, his Agent and Attorney in Fact, by Power of Attorney dated May 25, 2006	Chesapeake Appalachia, L.L.C.	18.00%	828/93	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
9	15-0003-0024-0000	Joyce E. Grimm, a widow	Chesapeake Appalachia, L.L.C.	14.00%	682/131	0.00000000%
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties, Inc.		22/290	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties, Inc.	SWN Production Company, LLC		33/424	
10	15-0003-0021-0000	Royalty Owners				10.5555554%
	15-0003-0021-0000	Renee Lynn Grimm Ebert, a married woman doing business in her sole and separate right	Chesapeake Appalachia, LLC	14.00%	682/130	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		22/290	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
	15-0003-0021-0000	Nellie M. Bilyeu and Willard E. Bilyeu, her husband	Chesapeake Appalachia, LLC	18.00%	828/40	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
	15-0003-0021-0000	Russell M. Earliwine, Jr. a single man	Chesapeake Appalachia, LLC	18.00%	828/46	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	

EXHIBIT "A"

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Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0003-0021-0000		Harold F. Earliwine and Flora M. Earliwine, his wife	Chesapeake Appalachia, LLC	18.00%	828/52	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0003-0021-0000		Homer D. Earliwine, a single man	Chesapeake Appalachia, LLC	18.00%	828/66	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0003-0021-0000		Larry Mark Jochum and Betty L. Jochum, his wife	Chesapeake Appalachia, LLC	18.00%	828/72	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0003-0021-0000		Gregory Dean Jochum and Deborah L. Jochum, his wife	Chesapeake Appalachia, LLC	18.00%	828/77	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0003-0021-0000		Ralph E. Earliwine, a single man	Chesapeake Appalachia, LLC	18.00%	828/98	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0003-0021-0000		James K. Earliwine, a single man	Chesapeake Appalachia, LLC	18.00%	830/82	
		Chesapeake Appalachia, LLC	Statoil USA Onshore Properties Inc.		33/47	

EXHIBIT "A"

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Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC	
		Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc.	SWN Production Company, LLC SWN Production Company, LLC		33/110 33/424		
15-0003-0021-0000		Rhonda Kay Williams and Charles E. Williams, Jr., her husband Chesapeake Appalachia, LLC Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	18.00%	830/144 33/47 33/110 33/424		
15-0003-0021-0000		John R. Earliwine, a single man Chesapeake Appalachia, LLC Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	18.00%	830/207 33/47 33/110 33/424		
15-0003-0021-0000		Gladys L. Wade, a/k/a Gladys V. Wade, a widow Chesapeake Appalachia, LLC Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, LLC Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	18.00%	830/217 33/47 33/110 33/424		
11	15-0006-0003-0000	Joyce E. Grimm, widow Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, LLC Statoil USA Onshore Properties, Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	14.00%	682/129 22/290 33/110 33/424		0.00000000%
12	15-0006-0005-0000	Gary W. Strobe and Rickee J. Fitzsimmons Strobe, husband and wife Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	12.50%	690/308 23/132 33/110 33/424		0.00000000%

EXHIBIT "A"

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Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC		
15-0006-0005-0000	15-0006-0005-0000	Joshua Wayne Stope [sic], a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	690/353	0.00000000%		
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		23/132			
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110			
15-0006-0005-0000	15-0006-0005-0000	Gary Anthony Strope, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	690/356		0.00000000%	
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		22/506			
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110			
15-0006-0005-0000	15-0006-0005-0000	Kylea Jo Reed, a.k.a. Kylea Jo Strope, a married women dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	690/359			0.00000000%
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		22/506			
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110			
13	15-0006-0006-0000	Rickee Jo Strope, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	690/323	0.00000000%		
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		22/651			
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110			
15-0006-0006-0000	15-0006-0006-0000	Mark Brent Fitzsimmons, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	690/371		0.00000000%	
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		22/651			
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110			

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Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
14	15-0006-0014-0000	Rose L. Riley, a widow Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	730/65 33/110	0.00000000%
	15-0006-0014-0000	Vicki F. Riley, a widow Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties, Inc. SWN Production Company, LLC SWN Production Company, LLC	18.00%	730/70 27/386 33/110 33/424	
	15-0006-0014-0000	Robert J. Riley, III and Tammy J. Riley, his wife Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	730/76 33/110	
	15-0006-0014-0000	Timothy G. Riley and Judy W. Riley, his wife Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	730/81 33/110	
	15-0006-0014-0000	David B. Riley and Kelly R. Riley, his wife Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	730/86 33/110	
	15-0006-0014-0000	Ellen W. Riley and Mark D. Flower, her husband Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	734/370 33/110	
	15-0006-0014-0000	Wendy Maxim and Corey Maxim, her husband Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	18.00%	736/500 33/110	
	15-0006-0014-0000	Brent M. Ruffner, a single man Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties, Inc. SWN Production Company, LLC	18.00%	736/510 27/50 33/110	

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Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0006-0014-0000		James B. Riley, Jr. and Catalina E. Riley, his wife	Chesapeake Appalachia, L.L.C.	18.00%	736/515	
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties, Inc.		27/50	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0006-0014-0000		Wendy Rosian, Guardian and Mother of Daniel D. Rufner, for and on behalf of Daniel D. Rufner, a minor child	Chesapeake Appalachia, L.L.C.	18.00%	782/403	
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties, Inc.		29/199	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0006-0014-0000		Chester A. Burkey, a widower; and Michael J. Burkey and Linda V. Burkey, his wife	Chesapeake Appalachia, L.L.C.	18.00%	819/127	
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties, Inc.		33/193	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15	15-0006-0015-0000	Mark B. Fitzsimmons and Deborah A. Fitzsimmons, husband and wife	Chesapeake Appalachia, L.L.C.	12.50%	690/320	0.00000000%
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		22/651	
		Statoil USA Onshore Properties Inc.	Chevron U.S.A. Inc.		30/427	
		Chesapeake Appalachia, L.L.C.	Chevron U.S.A. Inc.		30/461	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	

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Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
16	15-0006-0017-0000	Harry W. Lilley, a married man dealing in his sole and separate property	CNX Gas Company	15.00%	696/250	0.00000000%
		CNX Gas Company LLC	Noble Energy Inc.		26/225	
		Noble Energy, Inc. and CNX Gas Company LLC	Chesapeake Appalachia, LLC and Statoil USA		32/113	
		Chesapeake Appalachia, LLC	Onshore Properties Inc.		34/582	
			SWN Production Company, LLC		35/32	
15-0006-0017-0000		James Earl Lilley, a single man	CNX Gas Company	15.00%	696/258	
		CNX Gas Company LLC	Noble Energy Inc.		26/225	
		Noble Energy, Inc. and CNX Gas Company LLC	Chesapeake Appalachia, LLC and Statoil USA		32/113	
		Chesapeake Appalachia, LLC	Onshore Properties Inc.		34/582	
			SWN Production Company, LLC		35/32	
15-0006-0017-0000		Russell Eugene Lilley, a married man dealing in his sole and separate property	CNX Gas Company	15.00%	696/264	
		CNX Gas Company LLC	Noble Energy Inc.		26/225	
		Noble Energy, Inc. and CNX Gas Company LLC	Chesapeake Appalachia, LLC and Statoil USA		32/113	
		Chesapeake Appalachia, LLC	Onshore Properties Inc.		34/582	
			SWN Production Company, LLC		35/32	
15-0006-0017-0000		Virgil Leroy Lilley, a married man dealing in his sole and separate property	CNX Gas Company	15.00%	696/272	
		CNX Gas Company LLC	Noble Energy Inc.		26/225	
		Noble Energy, Inc. and CNX Gas Company LLC	Chesapeake Appalachia, LLC and Statoil USA		32/113	
		Chesapeake Appalachia, LLC	Onshore Properties Inc.		34/582	
			SWN Production Company, LLC		35/32	

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Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
	15-0006-0017-0000	Carl K. Lilley, a single man CNX Gas Company LLC Noble Energy, Inc. and CNX Gas Company LLC Chesapeake Appalachia, LLC	CNX Gas Company Noble Energy Inc. Chesapeake Appalachia, LLC and Statoil USA Onshore Properties Inc. SWN Production Company, LLC	15.00%	696/276 26/225 32/113 34/582 35/32	
	15-0006-0017-0000	Mary Jane Thomas, a widow	SWN Production Company, LLC	15.00%	1034/173	
	15-0006-0017-0000	Sheri L. Everts Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc. Chevron U.S.A., Inc. Chevron U.S.A., Inc. SWN Production Company, LLC SWN Production Company, LLC	18.00%	726/427 26/42 33/427 30/461 33/100 33/424	
	15-0006-0017-0000	Joe M. Kaiser and Shirley A. Kasier Family Revocable Trust, dated May 6, 2005	Chevron U.S.A., Inc.	18.00%	1024/090	
		Chevron U.S.A., Inc.	SWN Production Company, LLC		1047/426	
17	15-0009-0014-0000	Donna J. Strobe, a widow Great Lakes Energy Partners, L.L.C. Range Resources - Appalachia, LLC Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Great Lakes Energy Partners, L.L.C. Range Resources - Appalachia, LLC Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc. Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC	12.50%	657/93 749/245 19/443 23/368 24/363 33/110 33/424	0.00000000%

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Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC	
18	15-0006-0019-0000	Russell W. Strope, a married man dealing in his sole and separate property	Great Lakes Energy Partners, L.L.C.	12.50%	657/52	0.00000000%	
					746/75		
					842/81		
		Great Lakes Energy Partners, L.L.C.	Range Resources - Appalachia, LLC		19/443		
		Range Resources - Appalachia, LLC	Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc.		23/368		
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		24/363		
	15-0006-0019-0000	Craig D. Strope, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC	33/110		
			Statoil USA Onshore Properties Inc.	SWN Production Company, LLC	33/424		
			Great Lakes Energy Partners, L.L.C.	Great Lakes Energy Partners, L.L.C.	12.50%		657/54
							746/76
							836/515
			Great Lakes Energy Partners, L.L.C.	Range Resources - Appalachia, LLC			19/443
Range Resources - Appalachia, LLC	Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc.	23/368					
Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.	24/363					
15-0006-0019-0000	Donna J. Strope, a widow	Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC	33/110			
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC	33/424			
		Great Lakes Energy Partners, L.L.C.	Great Lakes Energy Partners, L.L.C.	12.50%	657/86		
					749/235		
					843/368		
		Great Lakes Energy Partners, L.L.C.	Range Resources - Appalachia, LLC		19/443		
Range Resources - Appalachia, LLC	Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc.	23/368					
Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.	24/363					
19	15-0009-0015-0002	Russell W. Strope, a married man dealing in his sole and separate property	Great Lakes Energy Partners, L.L.C.	12.50%	657/52	0.00000000%	
					746/75		
					842/81		

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC	
		Great Lakes Energy Partners, L.L.C. Range Resources - Appalachia, LLC	Range Resources - Appalachia, LLC Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc.		19/443 23/368		
		Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC		24/363 33/110 33/424		
15-0009-0015-0002		Craig D. Strope, a married man dealing in his sole and separate property	Great Lakes Energy Partners, L.L.C.	12.50%	657/54 746/76 836/515		
		Great Lakes Energy Partners, L.L.C. Range Resources - Appalachia, LLC	Range Resources - Appalachia, LLC Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc.		19/443 23/368		
		Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC		24/363 33/110 33/424		
15-0009-0015-0002		Donna J. Strope, a widow	Great Lakes Energy Partners, L.L.C.	12.50%	657/86 749/235 843/368		
		Great Lakes Energy Partners, L.L.C. Range Resources - Appalachia, LLC	Range Resources - Appalachia, LLC Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc.		19/443 23/368		
		Chesapeake Appalachia, L.L.C. Chesapeake Appalachia, L.L.C. Statoil USA Onshore Properties Inc.	Statoil USA Onshore Properties Inc. SWN Production Company, LLC SWN Production Company, LLC		24/363 33/110 33/424		
20	15-0009-0015-0000	Russell W. Strope, a married man dealing in his sole and separate property	Great Lakes Energy Partners, L.L.C.	12.50%	657/52 746/75 842/81		0.00000000%
		Great Lakes Energy Partners, L.L.C. Range Resources - Appalachia, LLC	Range Resources - Appalachia, LLC Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc.		19/443 23/368		

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
Geeta 410H
Marshall County, West Virginia

Tract #	Tax Parcel	Lessor	Lessee	Royalty	BK/PG	Interest Not Leased by Southwestern Production Company, LLC
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		24/363	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0009-0015-0000		Craig D. Strope, a married man dealing in his sole and separate property	Great Lakes Energy Partners, L.L.C.	12.50%	657/54	
					746/76	
					836/515	
		Great Lakes Energy Partners, L.L.C.	Range Resources - Appalachia, LLC		19/443	
		Range Resources - Appalachia, LLC	Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc.		23/368	
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		24/363	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
15-0009-0015-0000		Donna J. Strope, a widow	Great Lakes Energy Partners, L.L.C.	12.50%	657/86	
					749/235	
					843/368	
		Great Lakes Energy Partners, L.L.C.	Range Resources - Appalachia, LLC		19/443	
		Range Resources - Appalachia, LLC	Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc.		23/368	
		Chesapeake Appalachia, L.L.C.	Statoil USA Onshore Properties Inc.		24/363	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		33/110	
		Statoil USA Onshore Properties Inc.	SWN Production Company, LLC		33/424	
21	15-0010-0001-0000	John S. Kutis and Sylvia M. Kutis, a/k/a Sylvia M. Kutis, husband and wife	Chevron U.S.A., Inc.	16.00%	772/457	0.00000000%
		Chevron U.S.A., Inc.	Chesapeake Appalachia, L.L.C.		31/18	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		34/582	
		Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		35/32	



SWN Production Company, LLC
1300 Fort Pierpont Dr, Ste 201
Morgantown, WV 26508
Tel: 304 884 1810
Fax: 304 471 2497
www.swn.com

May 3, 2019

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

RE: SWN's proposed well: Geeta MSH 410H in Marshall County, West Virginia, Drilling under Wheeling Creek Road, Limestone Dallas Road, Irish Ridge Road, and Lone Oak Road.

Dear Ms. Adkins:

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 Wheeling Creek Road, Limestone Dallas Road, Irish Ridge Road, and Lone Oak Road. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Des Lynch", written over a white background.

Des Lynch
Staff Landman
SWN Production Company, LLC



The Right People doing the Right Things,
wisely investing the cash flow from our
underlying Assets, will create Value+®

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

Date of Notice Certification: 6/14/19

API No. 47- 051 -
Operator's Well No. Geeta MSH 410H
Well Pad Name: Geeta 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>West Virginia</u>	UTM NAD 83	Eastings:	<u>532,981.733</u>
County:	<u>051- Marshall</u>		Northings:	<u>4,424,175.264</u>
District:	<u>Webster</u>	Public Road Access:	<u>Wheeling Creek Road</u>	
Quadrangle:	<u>Majorsville</u>	Generally used farm name:	<u>Geeta</u>	
Watershed:	<u>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 checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input 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><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.

Certification of Notice is hereby given:

THEREFORE, I Brittany Woody, 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>1300 Fort Pierpont Dr., Suite 201</u>
By:	<u>Brittany Woody</u>		<u>Morgantown, WV 26508</u>
Its:	<u>Senior Regulatory Analyst</u>	Facsimile:	<u>304-884-1690</u>
Telephone:	<u>304-884-1610</u>	Email:	<u>Brittany_Woody@swn.com</u>

Brittany Woody



Subscribed and sworn before me this 29th day of April, 2019
Jessica L Vangilder Notary Public
 My Commission Expires 7-20-20

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.

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: 6/13/19 **Date Permit Application Filed:** 6/13/19
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: Gorakshya-Seva & Environmental Education Trust of America, Inc. ✓
 Address: RR 6 Box 278-B
Wheeling, WV 26003
 Name: _____
 Address: _____

COAL OWNER OR LESSEE ✓
 Name: G/O Leatherwood Attn: Casey Saunders
 Address: 1000 Consol Energy Drive
Canonsburg, PA 15317
 COAL OPERATOR
 Name: _____
 Address: _____

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

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
 Name: See Attachment 13
 Address: _____

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

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

*Please attach additional forms if necessary

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: 6/14/19 **Date Permit Application Filed:** 6/14/19
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: _____
Address: _____
Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: Murray Energy Corporation Attn: Mason Smith
Address: 46226 National Road
St. Clairsville, OH 43950

COAL OPERATOR
Name: _____
Address: _____

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

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: _____
Address: _____

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

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

*Please attach additional forms if necessary

ATTACHMENT 13

PARCELID	OWNERNAME	OWNERSTREE	OWNERSTRE2	WATER SOURCE
15 1001900000000	ROSE TATIA JOSEPHINE	RD 1 BOX 297	MOUNDSVILLE, WV 26041	1

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 as 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.**

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.

WW-6A
(8-13)

API NO. 47- 051 -
OPERATOR WELL NO. Geeta MSH 410H
Well Pad Name: Geeta MSH Pad

Notice is hereby given by:

Well Operator: SWN Production Co., LLC
Telephone: 304-884-1610
Email: Brillany_Woody@swn.com

Brittany Woody

Address: 1300 Fort Pierpont Dr., Suite 201
Morgantown, WV 26508
Facsimile: 304-884-1690

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 29th day of April, 2019.

Jessica L. Vangilder Notary Public

My Commission Expires 7-20-20

**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF ENTRY FOR PLAT SURVEY**

Notice Time Requirement: Notice shall be provided at least **SEVEN (7)** days but no more than **FORTY-FIVE (45)** days prior to entry

Date of Notice: 4/18/2019 **Date of Planned Entry:** 4/25/2019

Delivery method pursuant to West Virginia Code § 22-6A-10a

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

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

Notice is hereby provided to:

SURFACE OWNER(s)
Name: Geeta C/O ECO-Vindaban, Inc.
Address: 164 Surabhi Lane
Wheeling, WV 26003
Name: _____
Address: _____
Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: Murray Energy Attn: Mason Smith
Address: 45336 National Road
Saint Clairsville, OH 43950

MINERAL OWNER(s)
Name: Geeta C/O ECO-Vindaban, Inc.
Address: 164 Surabhi Lane
Wheeling, WV 26003

*please attach additional forms if necessary

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State: <u>West Virginia</u>	Approx. Latitude & Longitude: <u>39.967149, -80.614158</u>
County: <u>Marshall</u>	Public Road Access: <u>Big Wheeling Creek Rd</u>
District: <u>Webster</u>	Watershed: <u>Grandstaff Run-Wheeling Creek</u>
Quadrangle: <u>Majorsville</u>	Generally used farm name: <u>Geeta MSH</u>

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production 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). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: <u>SWN PRODUCTION COMPANY, LLC</u>	Address: <u>1300 Fort Pierpont Dr., Suite 201</u>
Telephone: <u>304-884-1610</u>	<u>Morgantown, WV 26508</u>
Email: <u>brittany_woody@swn.com</u>	Facsimile: <u>304-884-1690</u>

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.

**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: 04/30/2019 **Date Permit Application Filed:** 6/19/19

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: Gorakshya-Seva & Environmental Education Trust of America, Inc.
Address: RR 6 Box 278-B
Wheeling, WV 26003

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>532,961.733</u>
County:	<u>Marshall</u>		Northing:	<u>4,424,175.264</u>
District:	<u>Webster</u>	Public Road Access:	<u>Wheeling Creek Rd.</u>	
Quadrangle:	<u>Majorsville</u>	Generally used farm name:	<u>Geeta</u>	
Watershed:	<u>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: 1300 Fort Pierpont Dr., Suite 201
Morgantown, WV 26508
Telephone: 304-884-1675
Email: Justin_Booth@SWN.com
Facsimile: 304-884-1691

Authorized Representative: Justin Booth
Address: 1300 Fort Pierpont Dr., Suite 201
Morgantown, WV 26508
Telephone: 304-884-1675
Email: Justin_Booth@SWN.com
Facsimile: 304-884-1691

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.

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: 04/30/2019 **Date Permit Application Filed:** 4/29/19

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

- | | |
|---|---|
| <input checked="checked" type="checkbox"/> CERTIFIED MAIL
RETURN RECEIPT REQUESTED | <input type="checkbox"/> HAND
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: <u>Gorakshya Seva & Environmental Education Trust of America, Inc.</u>	Name: _____
Address: <u>RR 6 Box 278-B</u> <u>Wheeling, WV 26003</u>	Address: _____

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>532,961.733</u>
County: <u>Marshall</u>		Northing: <u>4,424,175.264</u>
District: <u>Webster</u>	Public Road Access: <u>Wheeling Creek Rd</u>	
Quadrangle: <u>Majorsville</u>	Generally used farm name: <u>Geeta</u>	
Watershed: <u>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>1300 Fort Pierpont Dr., Suite 201</u>
Telephone: <u>304-884-1675</u>	<u>Morgantown, WV 26508</u>
Email: <u>Justin_Booth@SWN.com</u>	Facsimile: <u>304-884-1691</u>

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.

**WEST VIRGINIA DEPARTMENT OF TRANSPORTATION****Division of Highways**

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

May 6, 2019

Byrd E. White, III
Secretary of Transportation

Jimmy Wriston, P. E.
Deputy Secretary/
Acting Commissioner

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 Geeta Pad 410H Well Site, Marshall County

Dear Mr. Martin,

The West Virginia Division of Highways transferred Permit #06-2014-0590 for the subject site to Southwestern Energy for access to the State Road for the well site located off of Marshall County Route 5 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,

A handwritten signature in blue ink that reads "Gary K. Clayton".

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

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

Attachment VI Frac Additives

Product Name	Product Use	Chemical Name	CAS Number
AI-303 (U.S. Well Services)	Mixture	Ethylene glycol	107-21-1
		Cinnamaldehyde	104-55-2
		Butyl cellosolve	111-76-2
		Formic acid	64-18-6
		Polyether	Proprietary
		Acetophenone, thiourea, formaldehyde polymer	68527-49-1
AP ONE (U.S. Well Services)	Breaker	Ammonium persulfate	7727-54-0
Bactron K-139 (Champion Technologies)	Biocide	Glutaraldehyde	111-30-8
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
Bactron K-219 (Champion Technologies)	Biocide	Methanol	67-56-1
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
CarboNRT	Tracer	Ceramic Proppant	66402-68-4
EC6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
		Ethylene Glycol	107-21-1
EC6734A (Champion Technologies)	Biocide	Hydrogen Peroxide	7722-84-1
		Acetic Acid	64-19-7
		Peroxyacetic Acid	79-21-0
Econo-CI200 (SWN Well Services)	Corrosion Inhibitor	Methanol	67-56-1
		Oxyalkylated fatty acid	68951-67-7
		Fatty acids	61790-12-3
		Modified thiourea polymer	68527-49-1
		Water	7732-18-5
		Hydrochloric acid	7647-01-0
		Potassium acetate	127-08-2
		Formaldehyde	50-00-0
Ecopol-FEAC (SWN Well Services)	Iron Control	Acetic Acid	64-19-7
		Citric Acid	77-92-9
		Water	7732-18-5
FDP-S1176-15 (Halliburton)	Friction Reducer	Polyacrylate	Proprietary
		Hydrotreated light petroleum distillate	64742-47-8
FLOJET DR900 LPP (SWN Well Services)	Friction Reducer	Distillates (petroleum) hydrotreated light	64674-47-8
		Ethylene Glycol	107-21-1
		Alcohols, C12-16, Exoxylated propoxylated	68213-24-1
		Fatty Alcohols ethoxylated	Proprietary
		Water	7732-18-5
FLOJET DRP 1130X (SWN Well Services)	Friction Reducer	Proprietary	Proprietary
FR-76 (Halliburton)	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Inorganic Salt	Proprietary
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
HAI-150E (Halliburton)	Corrosion Inhibitor	No hazardous substance	N/A
HCL (SWN Well Services)	Hydrochloric Acid	Hydrochloric Acid	7647-01-0
		Water	7732-18-5
LP-65 MC (Halliburton)	Scale Inhibitor	Organic phosphonate	Proprietary
		Ammonium Chloride	12125-02-9
OPTI-FLEX (U.S. Well Services)	Viscosifying Agent	Distillates, petroleum, hydrotreated light	64742-47-8
Plexslick 930	Friction Reducer	Copolymer of 2-propenamide	Proprietary
		Hydrotreated Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Alcohols, C12-16, Exoxylated	68551-12-2
		Oleic Acid Diethanolamide	93-83-4
		Ammonium Chloride	12125-02-9
Plexslick 953	Friction Reducer	Petroleum Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Ammonium Chloride	12125-02-9
		N,N-bis (2-hydroxyethyl) oleamide	93-83-4
Plexslick 957	Friction Reducer	Petroleum Distillate	64742-47-8
		Ammonium Chloride	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
		Alcohols, C12-16, Exoxylated	68551-12-2
		Water	7732-15-5
WFRA-2000 (U.S. Well Services)	Anionic Friction Reducer	Hydrotreated light distillate (petroleum)	64742-47-8
		Propenoic acid, polymer with propenamide	9003-06-9

GEETA WELL PAD

AS-BUILT AND EROSION & SEDIMENT CONTROL IMPROVEMENT PLAN

WEBSTER DISTRICT, MARSHALL COUNTY, WEST VIRGINIA
UPPER OHIO-WHEELING CREEK WATERSHED

**APPROVED
MODIFICATION
WVDEP 008**
WJS 7/22/2019

LOCATION COORDINATES:
ACCESS ROAD ENTRANCE
LATITUDE: 39.983491 LONGITUDE: -80.812885 (NAD 83)
N 4124321.64 E 533006.80 (UTM ZONE 17 METERS)
CENTER OF PAD
LATITUDE: 39.987100 LONGITUDE: -80.814192 (NAD 83)
N 4124517.69 E 532950.02 (UTM ZONE 17 METERS)
EVACUATION CATHERING AREA
LATITUDE: 39.983491 LONGITUDE: -80.812885 (NAD 83)
N 4124321.64 E 533006.80 (UTM ZONE 17 METERS)

GENERAL DESCRIPTION:
THE ACCESS ROAD(S) AND WELL PAD HAVE BEEN CONSTRUCTED TO AID IN THE DEVELOPMENT OF INDIVIDUAL MANCILLAS SHALE GAS WELLS.

FLOODPLAIN NOTES:
THE PROPOSED SITE IS LOCATED WITHIN FEMA FLOOD ZONE "X" PER FEMA FLOOD MAP #1405100125E.

MISS UTILITY STATEMENT:
SWN WILL NOTIFY MISS UTILITY OF WEST VIRGINIA FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN. IN ADDITION, MISS UTILITY WILL BE CONTACTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION FOR THIS PROJECT.

ENVIRONMENTAL NOTES:
NO STREAM AND WETLAND INFO IS SHOWN ON THIS PLAN.

PROJECT CONTACTS:

OPERATOR:
SOUTHWESTERN ENERGY
10000 ENERGY DRIVE
SPRING, TX 77209
PHONE: (832) 796-8117

JUSTER TYSON, PE - SENIOR PRODUCTION ENGINEER
OFFICE: (832) 796-8117 CELL: (970) 806-7065

AS-BUILT ENGINEER/SURVEYOR:
NAVITUS ENGINEERING, INC.
CYNDE E. KUMP, P.E. - PROJECT MANAGER/ENGINEER
OFFICE: (888) 682-4106 CELL: (843) 688-8747

- NOTES:**
- ALL EWP'S MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL ALL AREAS WITHIN THE LIMIT OF DISTURBANCE ARE COMPLETELY AND PERMANENTLY STABILIZED. MAINTENANCE MUST INCLUDE INSPECTION OF ALL EROSION AND SEDIMENT CONTROLS AFTER EACH RUNOFF EVENT IN EXCESS OF 0.5" AND ON A WEEKLY BASIS.
 - THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION. ESTABLISHMENT OF FINAL STABILIZATION MUST BE INITIATED NO LATER THAN 90 DAYS AFTER REACHING FINAL GRADE. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS. IT SHOULD BE NOTED THAT THE PER REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED AND NOT JUST A PERCENT OF THE SITE.
 - ALL PERMANENT SEDIMENT CONTROL MEASURES CAN BE REMOVED AFTER THE SITE IS PERMANENTLY STABILIZED AND APPROVAL IS RECEIVED FROM THE WVDEP.
 - ANY AREAS DISTURBED BY REMOVAL OF CONTROLS SHALL BE REPAIRED, STABILIZED AND PERMANENTLY SEEDS.
 - THE TOPOGRAPHIC INFORMATION, AS-BUILT INFORMATION, AND UTILITIES AND THEIR LOCATIONS SHOWN HEREON ARE BASED ON INFORMATION PROVIDED BY SWN ON 03-07-2019.
 - THE EXISTING CONTAINMENT BERM AROUND THE WELL PAD SHALL BE REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS.
 - THE EXISTING EGRESSES TO THE WELL PAD SHALL HAVE THE MOUNTABLE BERMS REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS.



WEST VIRGINIA STATE PLATE COORDINATE SYSTEM
ELEVATION BASED ON NAVD83
DETERMINED BY SURVEY CHAINS UPS & UPFS
POST-PROCESSING

SHEET INDEX

- COVER SHEET
- CONSTRUCTION AND EAB NOTES
- LEGEND
- VEICITY MAP/EVACUATION ROUTE
- OVERALL PLAN SHEET INDEX & VOLUMES
- WELL PAD AS-BUILT PLAN
- SECTIONS & PROFILES
- CONSTRUCTION DETAILS
- WELL PAD RECLAMATION PLAN

GEETA LIMITS OF DISTURBANCE AREA			
Total EAB			
Impacts to N/F Geats Parcel ID 15-1-20	Permitted	Modification	Total
Approx. Limit of Disturbance	8.5V	0.0V	8.5V

ITEM DESCRIPTION	Unit	Quantity
MOBILIZATION PER MACHINE	EACH MACHINE	27
CLEARING AND CROSSING	AC	15,173.0
EARTHWORK	CY	758.1
OFFROAD F	SY	945.8
#1 (3") BASE ROCK DELIVERED TO SITE	TN	690.9
48/6 10" ROCK DELIVERED TO SITE	TN	1,636.7
SPREADING STONE	AC	3.5
TOE BENCH MATERIAL	CY	3,252.8
TOE KEY DRAINS	LF	1,122.0
SEED & STRAW MULCH	AC	128.0
24" COMPOST FILTER SOCK	LF	1,218.0
TOPSOIL STRIPPING	CY	3,835.8
MISCELLANEOUS		
R-3 (3-6" DEPTH)	TONS	28
GEOTEXTILE FABRIC (FOR UNDER RIP-RAP)	SY	58
WELL PAD BUMP	EA	1
4" PVC BUMP DISCHARGE PIPE	LF	54
40 MIL IMPERVIOUS LINER	SY	229
BLIND DITCH 4" PERFORATED PIPE	LF	433
AASH TO NO. 3 STONE	TONS	113



Well Name	Day (WVLT)	SW North		NW North		UTM (METERS)		NAD 83	
		NAD 83	NAD 83	NAD 83	NAD 83	Zone 17	Zone 17	Lat & Long UTM	Lat & Long DD
219H (Permitted)	1.87A	N 50297.28	N 50297.28	N 4624174.77	N 4624174.77	17	17	Lat: 39.983491	Lat: 79.817002
AP847-051-02283	1.87A	N 50297.28	N 50297.28	N 4624174.77	N 4624174.77	17	17	Long: -80.812885	Long: -80.817002
419H (Permitted)	1.87A	N 50297.28	N 50297.28	N 4624174.77	N 4624174.77	17	17	Lat: 39.987100	Lat: 79.817002
AP847-051-02286	1.87A	N 50297.28	N 50297.28	N 4624174.77	N 4624174.77	17	17	Long: -80.814192	Long: -80.817002

REPRODUCTION NOTE
THESE PLANS WERE CREATED TO BE PRINTED ON 24"x36" (ANSI D) PAPER. HALF SCALE DRAWINGS ARE ON 11"x17" (ANSI B) PAPER.

THESE PLANS WERE CREATED FOR COLOR PLOTTING AND ANY REPRODUCTIONS IN GRAY SCALE OR COLOR MAY RESULT IN A LOSS OF INFORMATION AND SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES.

AS-BUILT CERTIFICATIONS:
THE DRAWINGS, CONSTRUCTION NOTES, AND REFERENCE DIAGRAMS ATTACHED HERETO HAVE BEEN PREPARED BY ACCORDANCE WITH THE WEST VIRGINIA CODE OF STATE RULES, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS REG. 35-5.

MISS UTILITY OF West Virginia
1-800-245-4848
West Virginia State Law
(Section XIV, Chapter 24-C)
Requires that you call two
business days before you dig in
the state of West Virginia.
IT'S THE LAW!!



REVISION	DATE

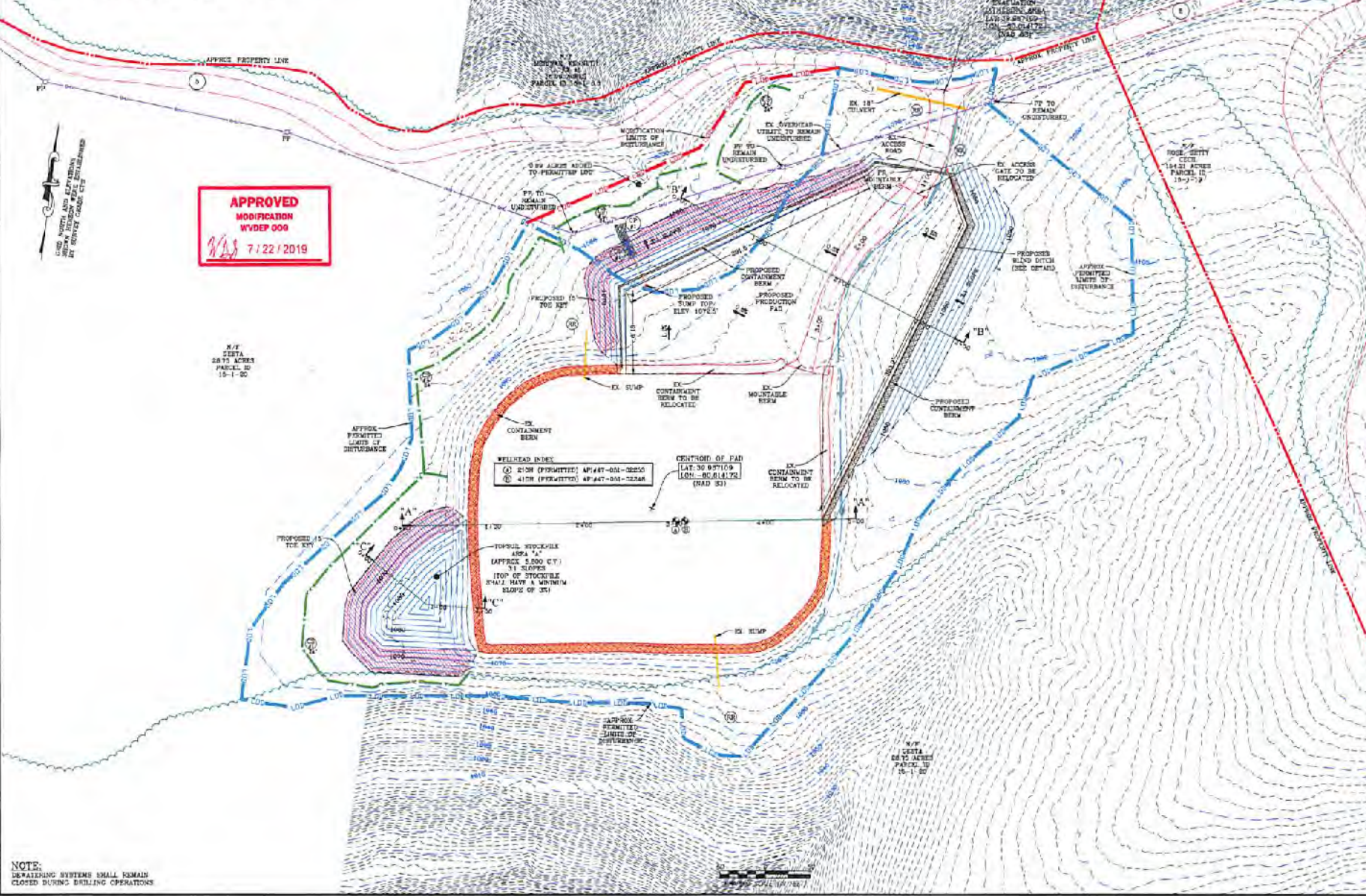


COVER SHEET
GEETA
WELL PAD
WEBSTER DISTRICT
MARSHALL COUNTY, WEST VIRGINIA



DATE: 07/19/2019
SCALE: AS SHOWN
SHEET 1 OF 12

WELL PAD AS-BUILT PLAN



APPROVED MODIFICATION WYDEP 009
 7/22/2019

WELLHEAD INLET
 ① 2.5" (PERMITTED) AP#47-04-02250
 ② 4.125" (PERMITTED) AP#47-04-02248

CENTRE OF PAD
 LAT: 39 09'10.9"
 LONG: 85 01'41.75"
 (NAD 83)

TORUS STOCKPILE AREA 14'
 (APPROX 5,000 C.Y.)
 1:1 SLOPE
 TOP OF STOCKPILE SHALL HAVE A MINIMUM SLOPE OF 3%

NOTE:
 DEWATERING SYSTEMS SHALL REMAIN CLOSED DURING DRILLING OPERATIONS

NAVITUS
 ENERGY ENGINEERING

REVISION

sw
 Southwestern Energy

THIS DOCUMENT WAS PREPARED FOR SOUTHWESTERN ENERGY

WELL PAD AS-BUILT PLAN
GEETA
 WELL PAD
 WEBSTER DISTRICT
 MARSHALL COUNTY, WEST VIRGINIA



DATE: 07/19/2019
 SCALE: 1" = 50'
 SHEET 7 OF 12