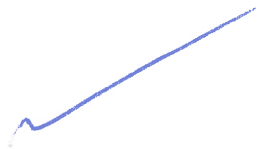


State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Well Operator's Report of Well Work



API 47-051-01792 County Marshall District Sandhill  
Quad Valley Grove Pad Name SHL 22 Field/Pool Name NA  
Farm name Consol Mining Co. (CONSOL) Well Number SHL 22 FHS  
Operator (as registered with the OOG) Noble Energy, Inc.  
Address 1000 Noble Energy Drive City Canonsburg State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 44290663.514 Easting 536137.441  
Landing Point of Curve Northing 4428958.528 Easting 536231.878  
Bottom Hole Northing 4427377.421 Easting 537369.679

Elevation (ft) 1322 GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

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

Date permit issued 02/25/2015 Date drilling commenced 04/11/2015 Date drilling ceased 06/24/2015  
Date completion activities began 01/18/2017 Date completion activities ceased 02/17/2017  
Verbal plugging (Y/N) N Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

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

RECEIVED  
Office of Oil and Gas

Freshwater depth(s) ft 210 Open mine(s) (Y/N) depths APR 07 2017  
Salt water depth(s) ft None noted for Offsets Void(s) encountered (Y/N) depths none  
Coal depth(s) ft no coal Cavern(s) encountered (Y/N) depths \_\_\_\_\_  
Is coal being mined in area (Y/N) N

WV Department of  
Environmental Protection

**APPROVED**

NAME: Justin Tubokee  
DATE: 5/2/17

Reviewed by: [Signature]  
**05/26/2017**

API 47-051 - 01792 Farm name Consol Mining Co. (CONSOL) Well number SHL 22 FHS

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	36	30	40				
Surface	17 1/2	13 3/8	1232.5	N	J-55 54.5#		Y
Coal							
Intermediate 1	12 3/8	9 5/8	3169.8	N	HCK-55 36#		Y
Intermediate 2							
Intermediate 3							
Production	8 3/4	5 1/2	13,169.8	N	P-110 IC 20#		Y
Tubing							
Packer type and depth set							

Comment Details Water String -Casing Size 20, Depth, 426.9 New Grade wt/ft J-55 94#

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Class A	Water String 527 Surf 1064	Water String 15.6 Surf 15.6	Water String 1.20 Surf 1.20	Water String 113.0 Surf 232.0	0	8/8
Coal							
Intermediate 1	Class A	1207	15.6	1.18	241.0	0	8
Intermediate 2							
Intermediate 3							
Production	Class A	2340	14.5	1.32	548.0	545.0	8
Tubing							

Drillers TD (ft) 13,423 Loggers TD (ft) 13,398

Deepest formation penetrated Marcellus Plug back to (ft) Not a Pilot Hole

Plug back procedure Not a Pilot Hole

Kick off depth (ft) 4,723

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

Well cored  Yes  No  Conventional  Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING Conductor - No centralizers used. Water String 4 Bow Spring Centralizers used. Fresh Water?

Surface - 10 bow spring centralizers used, one every third joint Intermediate - 38 bow spring centralizers on every third joint from KOP to 100' from surface.

Production - 205 Centrex Centralizers - rigid bow spring every third joint from KOP to TOC, rigid bow spring every joint to KOP.

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

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

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

API 47- 051 - 01792 Farm name Consol Mining Co. (CONSOL) Well number SHL 22 FHS

**PERFORATION RECORD**

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
					See attached sheets

Please insert additional pages as applicable.

**STIMULATION INFORMATION PER STAGE**

Complete a separate record for each stimulation stage.

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

Please insert additional pages as applicable.

## Perforations SHL 22 FHS

API	Well Name	Date	Top (ftKB)	Btm (ftKB)	Com	Entered Shot Total	Est Hole Dia (in)
47-051-01792	SHL-22F-HS	2/17/2017	6,856.00	6,993.00	STG #32	44	5.5
47-051-01792	SHL-22F-HS	2/17/2017	7,039.00	7,177.00	STG #31	44	5.5
47-051-01792	SHL-22F-HS	2/16/2017	7,212.00	7,355.00	STG #30	44	5.5
47-051-01792	SHL-22F-HS	2/15/2017	7,390.00	7,520.00	STG #29	44	5.5
47-051-01792	SHL-22F-HS	2/15/2017	7,558.00	7,600.00	STG #28B	75	5.5
47-051-01792	SHL-22F-HS	2/15/2017	7,618.00	7,773.00	STG #28	44	5.5
47-051-01792	SHL-22F-HS	2/14/2017	7,811.00	7,966.00	STG #27	44	5.5
47-051-01792	SHL-22F-HS	2/14/2017	8,064.00	8,221.00	STG #26	44	5.5
47-051-01792	SHL-22F-HS	2/13/2017	8,261.00	8,394.00	STG #25	44	5.5
47-051-01792	SHL-22F-HS	2/13/2017	8,432.00	8,566.00	STG #24	44	5.5
47-051-01792	SHL-22F-HS	2/12/2017	8,606.00	8,648.00	STG #23B	26	5.5
47-051-01792	SHL-22F-HS	2/11/2017	8,666.00	8,828.00	STG #23	44	5.5
47-051-01792	SHL-22F-HS	2/10/2017	8,868.00	9,029.00	STG #22	44	5.5
47-051-01792	SHL-22F-HS	2/7/2017	9,273.00	9,432.00	STG #20	44	5.5
47-051-01792	SHL-22F-HS	2/6/2017	9,475.00	9,637.00	STG #19	44	5.5
47-051-01792	SHL-22F-HS	2/6/2017	9,677.00	9,839.00	STG #18	44	5.5
47-051-01792	SHL-22F-HS	2/5/2017	9,880.00	10,042.00	STG #17	44	5.5
47-051-01792	SHL-22F-HS	2/5/2017	10,082.00	10,244.00	STG #16	44	5.5
47-051-01792	SHL-22F-HS	2/4/2017	10,284.00	10,415.00	STG #15	44	5.5
47-051-01792	SHL-22F-HS	2/3/2017	10,455.00	10,589.00	STG #14	44	5.5
47-051-01792	SHL-22F-HS	2/3/2017	10,629.00	10,671.00	STG #13B	75	5.5
47-051-01792	SHL-22F-HS	1/31/2017	10,691.00	10,851.00	STG #13	44	5.5
47-051-01792	SHL-22F-HS	1/30/2017	10,891.00	11,053.00	STG #12	44	5.5
47-051-01792	SHL-22F-HS	1/29/2017	11,093.00	11,255.00	STG #11	44	5.5
47-051-01792	SHL-22F-HS	1/28/2017	11,295.00	11,458.00	STG # 10	44	5.5
47-051-01792	SHL-22F-HS	1/27/2017	11,498.00	11,660.00	STG #9	44	5.5
47-051-01792	SHL-22F-HS	1/27/2017	11,870.00	11,912.00	STG #7B	44	5.5
47-051-01792	SHL-22F-HS	1/24/2017	11,933.00	12,096.00	STG #7	44	5.5
47-051-01792	SHL-22F-HS	1/24/2017	12,137.00	12,300.00	STG #6	44	5.5
47-051-01792	SHL-22F-HS	1/24/2017	12,340.00	12,503.00	STG #5	44	5.5
47-051-01792	SHL-22F-HS	1/20/2017	12,544.00	12,709.00	STG #4	50	5.5
47-051-01792	SHL-22F-HS	1/19/2017	12,897.00	12,734.00	STG #3	44	5.5
47-051-01792	SHL-22F-HS	1/18/2017	12,922.00	13,088.00	STG #2	44	5.5
47-051-01792	SHL-22F-HS	1/18/2017	13,262.00	13,113.00	STG #1	44	5.5

05/26/2017

## Well Header

API: 47-051-01792

Well Name: SHL-22F-HS

Int Des	Start Date	Slurry Rate Avg (bbl/min)	P Treat Avg (psi)	P Breakdown (psi)	ISIP (psi)	Propanant Deliver (lb)	Vol Slurry Total (gal)
WR-35 - Stimulation Information Per Stage							
STG #1	1/18/2017	87.5	7,874.00	6,226.00	3,941.00	421,014.00	801,309.60
STG #2	1/19/2017	88.9	7,743.00	8,433.00	3,998.00	600,325.00	808,096.80
STG #3	1/20/2017	89.3	7,714.00	6,607.00	4,945.00	601,569.00	675,393.60
STG #4	1/23/2017	95.5	7,914.00	6,626.00	4,704.00	602,632.00	779,431.80
STG #5	1/24/2017	86.6	7,320.00	6,761.00	4,911.00	570,872.00	576,391.20
STG #6	1/25/2017	87.1	7,719.00	6,408.00	5,111.00	571,311.00	591,591.00
STG #7A	1/26/2017	86	7,885.00	5,912.00	5,117.00	401,489.00	686,389.20
STG #7B	1/27/2017	78.7	7,986.00	7,539.00	4,888.00	242,855.00	337,062.60
STG #8	1/27/2017	85.3	7,746.00	7,375.00	4,953.00	454,017.00	568,759.80
STG #9	1/28/2017	86.6	7,341.00	6,705.00	5,108.00	601,355.00	616,593.60
STG #10	1/29/2017	84.3	7,635.00	7,490.00	4,841.00	601,924.00	715,575.00
STG #11	1/30/2017	93.6	7,750.00	6,610.00	4,970.00	599,282.00	727,276.20
STG #12	2/1/2017	88.8	7,673.00	6,475.00	4,879.00	599,991.00	721,723.80
STG #13A	2/2/2017	89	7,956.00	6,496.00		172,798.00	349,015.80
STG #13A INJ TEST	2/3/2017	11.1	6,216.00		6,933.00	0	57,325.80
STG #13B	2/3/2017	91.1	7,789.00	6,357.00	5,104.00	544,268.00	563,803.80
STG #14	2/4/2017	90.9	7,553.00	6,888.00	4,877.00	600,762.00	578,407.20
STG #15	2/5/2017	86.4	7,350.00	6,295.00	6,215.00	546,212.00	586,147.80
STG #16	2/5/2017	88.5	7,730.00	5,971.00	4,784.00	598,224.00	719,233.20
STG #17	2/5/2017	89.4	7,217.00	6,851.00	5,032.00	599,194.00	558,801.60
STG #18	2/6/2017	92.4	7,269.00	6,859.00	4,987.00	616,395.00	554,845.20
STG #19	2/7/2017	88.6	7,066.00	5,689.00	4,517.00	554,996.00	602,851.20
STG #20	2/9/2017	89.4	7,047.00	6,574.00	4,723.00	677,943.00	760,439.40
STG #21	2/10/2017	85.2	7,694.00	6,604.00	4,929.00	600,822.00	623,049.00
STG #22	2/10/2017	82.3	7,148.00	6,769.00	4,798.00	603,798.00	695,125.20
STG #23A	2/11/2017	78.1	7,643.00	6,702.00	7,884.00	160,717.00	257,779.20
STG #23A INJ TEST	2/12/2017	5.6	7,153.00		7,121.00		37,535.40
STG #23B	2/12/2017	77.1	7,150.00	6,039.00	4,075.00	653,656.00	649,261.20
STG #24	2/13/2017	94.6	7,362.00	6,980.00	4,292.00	612,869.00	729,624.00
STG #25	2/13/2017	90.6	7,295.00	6,217.00	5,133.00	600,966.00	732,627.00
STG #26A	2/14/2017	88.8	7,671.00	6,702.00	7,884.00	382,778.00	622,041.00
STG #26B	2/14/2017	97.6	7,734.00	6,147.00	5,060.00	254,301.00	382,573.80
STG #27	2/15/2017	97.3	7,215.00	6,014.00	4,958.00	566,048.00	566,714.40
STG #28A	2/15/2017	95.8	7,191.00	6,429.00	5,943.00	391,200.00	435,892.80
STG #28B	2/15/2017	93.8	7,729.00	6,319.00	5,136.00	298,954.00	341,279.40
STG #29	2/16/2017	91.6	7,259.00	6,667.00	5,272.00	583,067.00	546,936.60
STG #30	2/16/2017	88.5	7,407.00	6,053.00	4,635.00	611,038.00	681,151.80
STG #31	2/17/2017	90.4	7,074.00	6,977.00	4,796.00	600,282.00	540,468.60
STG #32	2/18/2017	90	6,796.00	6,391.00	4,752.00	593,764.00	534,714.60

05/26/2017

API 47- 051 - 01792 Farm name Consol Mining Co. (CONSOL) Well number SHL 22 FHS

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6,664</u>	<u>TVD</u>	<u>13,423</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface \_\_\_\_\_ psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas 3120 mcfpd Oil 51 bpd NGL 174 bpd Water 349 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

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

Please insert additional pages as applicable.

Drilling Contractor Precision Drilling Company  
Address 5400 D Big Tyler Road City Charleston State WV Zip 25313

Logging Company \_\_\_\_\_  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Cementing Company Schlumberger  
Address 4600 J Barry Court, Suite 200 City Canonsburg State PA Zip 15317

Stimulating Company Halliburton Energy Services  
Address 121 Champion Way, Suite 110 City Canonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Regina A Logue Telephone 724-820-3559  
Signature Regina A. Logue Title Regulatory Analyst Date 3/29/17

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

## SHL 22 FHS

Formations	Top	Base
Shale	0	782
Pittsburgh Coal	782	792
Shale and Sandstone	792	1253
Gas Sand	1253	1282
Shale	1282	1383
1st Salt Sand	1383	1464
Shale	1464	1570
2nd Salt Sand	1570	1584
Shale	1584	1616
3rd Salt Sand	1616	1634
Shale	1634	1663
Maxton Sand	1663	1794
Shale	1794	1850
Big Lime	1850	1968
Big Injun	1968	2095
Price	2095	2449
Murrysville	2449	2457
Shale	2457	2731
Gordon	2731	2738
Shale	2738	2839
Fifth Sand	2839	2866
Shale	2866	3266
Speechley Sand	3266	3290
Shale	3290	4174
Warren Sand	4174	4188
Shale	4188	5095
Java Shale	5095	5165
Pipe Creek Shale	5165	5209
Angola Shale	5209	5835
Rhinestreet	5835	6249
Cashaqua	6249	6341
Middlesex	6341	6378
West River	6378	6419
Burkett	6419	6452
Tully Limestone	6452	6480
Hamilton	6480	6594
Marcellus	6594	6645
Onondaga	6645	

**Hydraulic Fracturing Fluid Product Component Information Disclosure**

Fracture Date	2017-02-17
State:	West Virginia
County:	Marshall
API Number:	4705101792
Operator Name:	NOBLE ENERGY
WellName and Number:	SHL 22 F
Longitude:	-80.56099553
Latitude:	39.99576622
Long/Lat Projection:	none
Indian/Federal:	Gas
Production Type:	6,664
True Vertical Depth (TVD):	21,657.312
Total Water Volume (gal)*	

**Hydraulic Fracturing Fluid Composition:**

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Ingredient Mass lbs	Comments	Company	First Name	Last Name	Email	Phone
Fresh Water	Operator	Base Fluid	Water	7732-18-5	100.00%	90.18546%	180621382	Density = 8.340					
CALCIUM CHLORIDE - FLAKE	Halliburton	Additive	Listed Below	Listed Below			0	NA					
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive	Listed Below	Listed Below			0	NA					
FR-78	Halliburton	Friction Reducer	Listed Below	Listed Below			0	NA					
FR-A12	Halliburton	Additive	Listed Below	Listed Below			0	NA					
HA-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor	Listed Below	Listed Below			0	NA					
HYDROCHLORIC ACID	Halliburton	Solvent	Listed Below	Listed Below			0	NA					
OILPERM A	Halliburton	Non-ionic Surfactant	Listed Below	Listed Below			0	NA					
SAND-COMMON WHITE-100 MESH, SSA-2	Halliburton	Proppant	Listed Below	Listed Below			0	NA					
BULK (100003676) SAND-PREMIUM WHITE-30/50, BULK	Halliburton	Proppant	Listed Below	Listed Below			0	NA					
<b>MSDS and Non-MSDS ingredients are listed below, in green line</b>													
Ingredients	Added Above	Listed Above	1,2,4 Trimethylbenzene	95-83-6	1.00%	0.00001%	17						
	Added Above	Listed Above	Acetic acid	64-19-7	100.00%	0.00145%	2904						
	Added Above	Listed Above	Acetic anhydride	108-24-7	100.00%	0.00242%	4839						
	Added Above	Listed Above	Alcohols, C12-16, ethoxylated	68551-12-2	5.00%	0.00390%	7802						
	Added Above	Listed Above	Amide	Proprietary	5.00%	0.00390%	7802	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226	Halliburton	Denise	Tuck	Denise.Tuck@Halliburton.com	281-871-6226
	Added Above	Listed Above	Ammonium chloride	12125-02-9	1.00%	0.00078%	1561						
	Added Above	Listed Above	Calcium chloride	10043-52-4	100.00%	0.00025%	500						
	Added Above	Listed Above	Crystalline silica, quartz	14808-60-7	100.00%	9.59556%	19223780						
	Added Above	Listed Above	Ethanol	64-17-5	60.00%	0.00049%	976						
	Added Above	Listed Above	Ethoxylated alcohols	Proprietary	30.00%	0.00012%	241		Halliburton	Denise	Tuck	Denise.Tuck@Halliburton.com	281-871-6226
	Added Above	Listed Above	Fatty acid ester	Proprietary	1.00%	0.00078%	1561		Halliburton	Denise	Tuck	Denise.Tuck@Halliburton.com	281-871-6226
	Added Above	Listed Above	Fatty acids, tall oil	Proprietary	30.00%	0.00012%	241		Halliburton	Denise	Tuck	Denise.Tuck@Halliburton.com	281-871-6226
	Added Above	Listed Above	Glycerine	56-81-5	5.00%	0.00116%	2323						
	Added Above	Listed Above	Heavy aromatic petroleum naphtha	64742-94-5	30.00%	0.00024%	488						
	Added Above	Listed Above	Hydrochloric acid	7647-01-0	60.00%	0.06660%	133378						
	Added Above	Listed Above	Hydrotreated light petroleum distillate	64742-47-8	30.00%	0.02337%	46811						
	Added Above	Listed Above	Inorganic salt	Proprietary	5.00%	0.00390%	7802		Halliburton	Denise	Tuck	Denise.Tuck@Halliburton.com	281-871-6226

05/26/2017



Methanol	67-56-1	0.00024%	481							
Naphthalene	91-20-3	5.00%	82							
Olefins	Proprietary	5.00%	100		Halliburton	Denise	Tuck			Denise.Tuck@Halliburton.co 281-871-6226
Oxyalkylated phenolic resin	Proprietary	30.00%	651		Halliburton	Denise	Tuck			Denise.Tuck@Halliburton.co 281-871-6226
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00%	82							
Polyacrylate	Proprietary	30.00%	46811		Halliburton	Denise	Tuck			Denise.Tuck@Halliburton.co 281-871-6226
Potassium chloride	7447-40-7	5.00%	25							
Propargyl alcohol	107-19-7	10.00%	81							
Proprietary Component	Proprietary	60.00%	27869		Halliburton	Denise	Tuck			Denise.Tuck@Halliburton.co 281-871-6226
Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	68627-49-1	30.00%	241							
Sodium chloride	7647-14-5	10.00%	4655							
Strontium chloride	10476-85-4	5.00%	25							
Water	7732-18-5	100.00%	362516							

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

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

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

4/3

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.

Well is located on topo map 11,174 feet south of Latitude: 40° 02' 30"

WATER WELLS:  
NONE FOUND

# AS-DRILLED PLAT

SURFACE HOLE LOCATION (SHL)

UTM 17 - NAD83  
N: 4429062.935  
E: 536138.013  
NAD27, WV NORTH  
N: 552128.726  
E: 1698385.777  
LAT/LON DATUM - NAD83  
LAT: 40.010991  
LON: -80.576571

APPROX. LANDING POINT

UTM 17 - NAD83  
N: 4428956.730  
E: 536230.943  
NAD27, WV NORTH  
N: 551773.222  
E: 1698684.884  
LAT/LON DATUM - NAD83  
LAT: 40.01003  
LON: -80.575488

BOTTOM HOLE LOCATION

UTM 17 - NAD83  
N: 4427380.639  
E: 537374.319  
NAD27, WV NORTH  
N: 546528.424  
E: 1702350.241  
LAT/LON DATUM - NAD83  
LAT: 39.99578  
LON: -80.562183

BOTTOM HOLE LOCATION

UTM 17 - NAD83  
N: 4427377.421  
E: 537369.679  
NAD27, WV NORTH  
N: 546528.120  
E: 1702334.840  
LAT/LON DATUM - NAD83  
LAT: 39.995751  
LON: -80.562237

SURFACE HOLE LOCATION (SHL)

UTM 17 - NAD83  
N: 4429063.514  
E: 536137.441  
NAD27, WV NORTH  
N: 552128.770  
E: 1698383.930  
LAT/LON DATUM - NAD83  
LAT: 40.010996  
LON: -80.576578

APPROX. LANDING POINT

UTM 17 - NAD83  
N: 4428958.528  
E: 536231.878  
NAD27, WV NORTH  
N: 551779.070  
E: 1698688.050  
LAT/LON DATUM - NAD83  
LAT: 40.010046  
LON: -80.575477

- NOTES:
- There are no water wells or developed springs within 250' of proposed well.
  - There are no existing buildings within 625' of proposed well.
  - Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
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R1	N89°40'18"E	294.06'
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R3	S33°14'51"W	455.00'
R4	N89°40'18"E	294.06'
R5	N83°34'52"W	1631.53'

WELLS WITHIN 3000'  
PLUGGED WELL

**Sheffler & Company, Inc.**  
ENGINEERING • SURVEYING  
1712 Mount Nebo Road  
Sewickley, PA 15143-8780  
Phone: 412-219-4509  
E-mail: info@shefferco.com

FILE #: SHL 22 FHS  
DRAWING #: SHL 22 FHS  
SCALE: 1"=1500'  
MINIMUM DEGREE OF ACCURACY: 1/2500  
PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT WILSON KNOB 1462.02

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

SIGNED: *Gary A. Sheffler Jr.*

R.P.E.: 21452 L.L.S.: P.S. NO.



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



DATE: MARCH 13, 2017

OPERATOR'S WELL #: SHL 22 FHS - AS DRILLED

API WELL # 47 051 01792  
STATE COUNTY PERMIT

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

WATERSHED: WHEELING CREEK ELEVATION: 1322'  
COUNTY/DISTRICT: MARSHALL / SAND HILL QUADRANGLE: VALLEY GROVE, W. VA.  
SURFACE OWNER: CONSOL MINING CO. (CONSOL ENERGY) ACREAGE: 170.55  
OIL & GAS ROYALTY OWNER: CNX GAS COMPANY, LLC, ET AL. ACREAGE: 170.55

05/26/2017

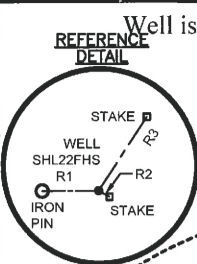
DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG AND ABANDON   
CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY)

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,680' ± TMD: 13,412' ±  
WELL OPERATOR: NOBLE ENERGY, INC. DESIGNATED AGENT: STEVEN M. GREEN  
Address: 1000 NOBLE ENERGY DRIVE, CANONSBURG, PA 15317 Address: 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 590  
City CANNONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

Well is located on topo map 11,174 feet west of Longitude: 80° 32' 30"

**LEGEND**

- TOPO MAP POINT
- WELL
- WATER SOURCE
- LEASED NUMBER BASED ON ATTACHED WVA61
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- PROPOSED HORIZONTAL WELL
- WELL REFERENCE
- STREAM CENTERLINE
- ROAD
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N: 552126.726  
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**WELLS WITHIN 3000'**

PLUGGED WELL

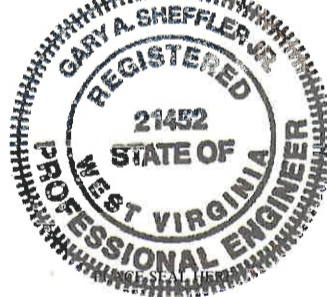
**Sheffler & Company, Inc.**  
ENGINEERING • SURVEYING

1712 Mount Nebo Road  
Sewickley, PA 15143-8780  
Phone: 412-219-4509  
E-mail: info@shefflerco.com

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

SIGNED:

R.P.E.: 287452 L.L.S.: P.S. NO.



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DATE: MARCH 13, 2017

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API WELL # 47 051 01792  
STATE COUNTY PERMIT

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 Gas  Liquid Injection  Storage  Shallow

WATERSHED: WHEELING CREEK ELEVATION: 1322'

COUNTY/DISTRICT: MARSHALL / SAND HILL QUADRANGLE: VALLEY GROVE, W. VA.

SURFACE OWNER: CONSOL MINING CO. (CONSOL ENERGY) ACREAGE: 170.55

OIL & GAS ROYALTY OWNER: CNX GAS COMPANY, LLC, ET AL. ACREAGE: 170.55

05/26/2017

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
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CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY)

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,680' ± TMD: 13,412' ±

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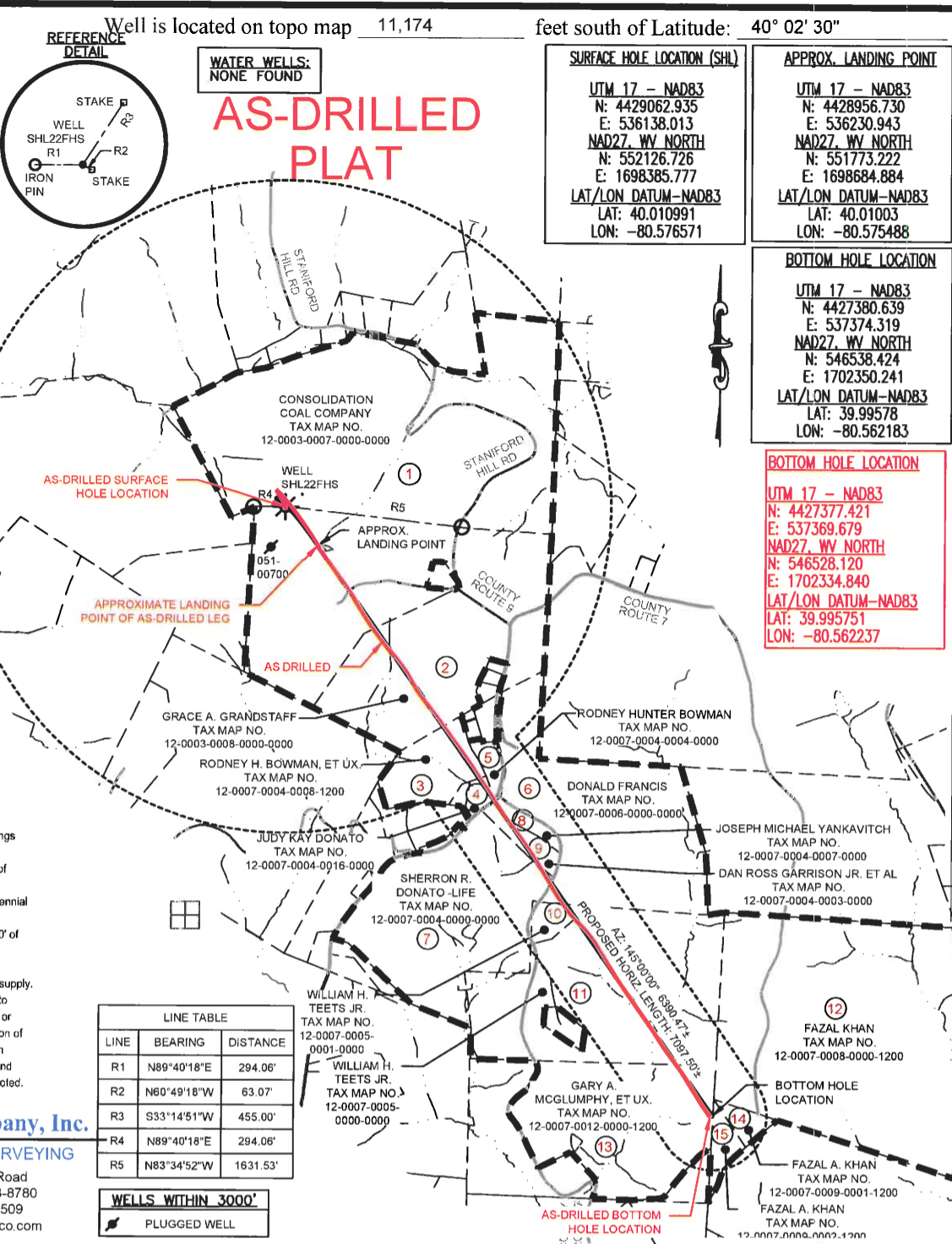
Address: 1000 NOBLE ENERGY DRIVE, CANONSBURG, PA 15317 Address: 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 590

City CANNONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

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**LEGEND**

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- PLUGGED WELL

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SIGNED:

R.P.E.: 237352 L.L.S.: P.S. NO.

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05/26/2017