

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

API 47 - 051 - 01807 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 BHS  
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 4429046.086 Easting 536120.383  
Landing Point of Curve Northing 4428772.684 Easting 535909.637  
Bottom Hole Northing 4426822.539 Easting 537330.235

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 03/25/2015 Date drilling ceased 07/08/2015  
Date completion activities began 11/01/2016 Date completion activities ceased 12/20/2016  
Verbal plugging (Y/N) N Date permission granted \_\_\_\_\_

RECEIVED  
Office of Oil and Gas

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

Freshwater depth(s) ft 210 Open mine(s) (Y/N) none  
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 none

Is coal being mined in area (Y/N) \_\_\_\_\_

**APPROVED**  
NAME: Juan Tubolar  
DATE: 5/2/17

Reviewed by: je 05/26/2017

API 47-051 - 01807 Farm name Consol Mining Co. (CONSOL) Well number SHL 22 BHS

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	1230.4	N	J-55 54.5#		Y
Coal							
Intermediate 1	12 3/8	9 5/8	3176.9	N	K-55 36#		Y
Intermediate 2							
Intermediate 3							
Production	8 3/4	5 1/2	15,230.9	N	P-110 20#		Y
Tubing							
Packer type and depth set							

Comment Details Water String -Casing Size 20, 413.4 Depth, 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 Surface 1084	Water String 15.6 Surface 15.6	Water String 1.18 Surface 1.20	Water String 110.0 Surf 232.0	0	8/8
Coal							
Intermediate 1	Class A	1195	15.6	1.18	263.0	0	8
Intermediate 2							
Intermediate 3							
Production	Class A	3335	14.5	1.31	781.0	28.3	8
Tubing							

Drillers TD (ft) 15,172 Loggers TD (ft) 15,082

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

Plug back procedure Not a Pilot Hole

Kick off depth (ft) 5,855

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 Centralizer used. Fresh Water/Surface-Surface - 10 centralizers used, one every third joint Intermediate - 37 Bow Spring centralizers - bow spring centralizers on every joint to KOP, on every third joint from KOP to 100' from surface. Production - 235 Bow 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 \_\_\_\_\_



## SHL 22 B

## Perforations

API	Well Name	Date	Top (ftKB)	Btm (ftKB)	Com	Entered Shot Total	Est Hole Dia (in)
47-051-01807	SHL-22B-HS	12/20/2016	7,113.00	7,267.00	STG #41	50	0.59
47-051-01807	SHL-22B-HS	12/19/2016	7,305.00	7,458.00	STG #40	50	0.59
47-051-01807	SHL-22B-HS	12/19/2016	7,497.00	7,650.00	STG #39	50	0.59
47-051-01807	SHL-22B-HS	12/19/2016	7,688.00	7,841.00	STG #38	50	0.59
47-051-01807	SHL-22B-HS	12/18/2016	7,879.00	8,033.00	STG #37	50	0.59
47-051-01807	SHL-22B-HS	12/18/2016	8,071.00	8,224.00	STG #36	50	0.59
47-051-01807	SHL-22B-HS	12/15/2016	8,262.00	8,416.00	STG #35	50	0.59
47-051-01807	SHL-22B-HS	12/14/2016	8,453.00	8,607.00	STG #34	50	0.59
47-051-01807	SHL-22B-HS	12/14/2016	8,645.00	8,799.00	STG #33	50	0.59
47-051-01807	SHL-22B-HS	12/14/2016	8,836.00	8,990.00	STG #32	50	0.59
47-051-01807	SHL-22B-HS	12/14/2016	9,028.00	9,181.00	STG #31	50	0.59
47-051-01807	SHL-22B-HS	12/13/2016	9,219.00	9,373.00	STG #30	50	0.59
47-051-01807	SHL-22B-HS	12/13/2016	9,411.00	9,564.00	STG #29	50	0.59
47-051-01807	SHL-22B-HS	12/13/2016	9,602.00	9,756.00	STG #28	50	0.59
47-051-01807	SHL-22B-HS	12/12/2016	9,798.00	9,947.00	STG #27	50	0.59
47-051-01807	SHL-22B-HS	12/12/2016	9,990.00	10,137.00	STG #26	50	0.59
47-051-01807	SHL-22B-HS	12/11/2016	10,179.00	10,331.00	STG #25	50	0.59
47-051-01807	SHL-22B-HS	12/11/2016	10,370.00	10,520.00	STG #24	50	0.59
47-051-01807	SHL-22B-HS	12/11/2016	10,562.00	10,711.00	STG #23	50	0.59
47-051-01807	SHL-22B-HS	12/10/2016	10,753.00	10,903.00	STG #22	50	0.59
47-051-01807	SHL-22B-HS	12/10/2016	10,943.00	11,096.00	STG #21	50	0.59
47-051-01807	SHL-22B-HS	12/10/2016	11,134.00	11,288.00	STG #20	50	0.59
47-051-01807	SHL-22B-HS	12/10/2016	11,326.00	11,479.00	STG #19	50	0.59
47-051-01807	SHL-22B-HS	12/9/2016	11,517.00	11,671.00	STG #18	50	0.59
47-051-01807	SHL-22B-HS	12/9/2016	11,710.00	11,844.00		50	0.59
47-051-01807	SHL-22B-HS	12/8/2016	11,900.00	12,052.00	STG #16	50	0.59
47-051-01807	SHL-22B-HS	12/8/2016	12,091.00	12,243.00	STG #15	50	0.59
47-051-01807	SHL-22B-HS	12/8/2016	12,283.00	12,434.00	STG #14	50	0.59
47-051-01807	SHL-22B-HS	12/7/2016	12,470.00	12,628.00	STG #13	50	0.59
47-051-01807	SHL-22B-HS	12/7/2016	12,668.00	12,817.00	STG #12	50	0.59
47-051-01807	SHL-22B-HS	12/7/2016	12,857.00	13,007.00	STG #11	50	0.59
47-051-01807	SHL-22B-HS	12/6/2016	13,045.00	13,200.00	STG #10	50	0.59
47-051-01807	SHL-22B-HS	12/6/2016	13,240.00	13,389.00	STG #9	50	0.59
47-051-01807	SHL-22B-HS	12/6/2016	13,432.00	13,583.00	STG #8	50	0.59
47-051-01807	SHL-22B-HS	12/6/2016	13,623.00	13,775.00	STG #7	50	0.59
47-051-01807	SHL-22B-HS	12/6/2016	13,815.00	13,966.00	STG #6	50	0.59
47-051-01807	SHL-22B-HS	12/6/2016	14,006.00	14,155.00	STG #5	50	0.59
47-051-01807	SHL-22B-HS	12/6/2016	14,198.00	14,349.00	STG #4	50	0.59
47-051-01807	SHL-22B-HS	12/6/2016	14,389.00	14,534.00	STG #3	50	0.59
47-051-01807	SHL-22B-HS	12/4/2016	14,581.00	14,734.00	STG #2	50	0.59
47-051-01807	SHL-22B-HS	11/1/2016	14,772.00	14,940.00	STG #1	50	0.59

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STG #29	12/13/2016	95	7,619.00	6,149.00	4,710.00	597,861.00	474,045.60
STG #30	12/14/2016	96.3	7,641.00	6,405.00	5,046.00	605,446.00	469,833.00
STG #31	12/14/2016	99	7,463.00	6,353.00	4,806.00	543,751.00	450,996.00
STG #32	12/14/2016	95.4	7,107.00	5,949.00	4,590.00	606,484.00	474,276.60
STG #33	12/14/2016	97.1	7,254.00	5,865.00	4,814.00	603,560.00	477,166.20
STG #34	12/15/2016	86.3	6,921.00	5,223.00	5,122.00	603,581.00	467,754.00
STG #35	12/18/2016	92.7	7,014.00	5,691.00	4,318.00	597,286.00	460,572.00
STG #36	12/18/2016	87.8	7,061.00	4,712.00	4,390.00	600,987.00	472,983.00
STG #37	12/19/2016	96.8	7,658.00	5,745.00	4,756.00	603,117.00	470,374.80
STG #38	12/19/2016	98.9	6,866.00	5,775.00	4,737.00	604,344.00	464,646.00
STG #39	12/19/2016	99.9	6,918.00	6,535.00	4,723.00	605,086.00	457,359.00
STG #40	12/19/2016	95.5	6,712.00	5,904.00	4,611.00	604,736.00	466,657.80
STG #41	12/20/2016	94.8	6,606.00	6,125.00	4,164.00	607,680.00	456,699.60





## SHL 22 BHS

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	2016-12-20
State	West Virginia
County	Marshall
API Number	4705101807
Operator Name	NOBLE ENERGY
Well Name and Number	SHL22 B
Longitude	-80.56099553
Latitude	39.99576622
Long/Lat Projection:	none
Indian/Federal:	Gas
Production Type:	6,642
True Vertical Depth (TVD):	20,014,108
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
Fresh Water	Operator	Base Fluid	Water	7732-18-5	100.00%	87.01704%	166917106	Density = 8.340	
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive	Listed Below	Listed Below			0	NA	
FR-76	Halliburton	Friction Reducer	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	
HAI-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	Halliburton	Proppant	Listed Below	Listed Below			0	NA	
WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant	Listed Below	Listed Below			0	NA	
SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant	Listed Below	Listed Below			0	NA	
*MSDS and Non-MSDS ingredients are listed below the green line									
Ingredients	Listed Above	Listed Above	1,2,4 Trimethylbenzene	95-63-6	1.00%	0.00001%	13		
			Acetic acid	64-19-7	60.00%	0.00117%	2253		
			Acetic anhydride	108-24-7	100.00%	0.00196%	3755		
			Acrylamide acrylate copolymer	Proprietary	30.00%	0.00045%	856	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226	Halliburton
			Alcohols, C12-16, ethoxylated	68551-12-2	5.00%	0.00261%	5015		
			Amide	Proprietary	5.00%	0.00261%	5015		Halliburton
			Ammonium chloride	12125-02-9	1.00%	0.00052%	1003		
			Crystalline silica, quartz	14808-60-7	100.00%	12.81524%	24582351		
			Ethanol	64-17-5	60.00%	0.00040%	760		

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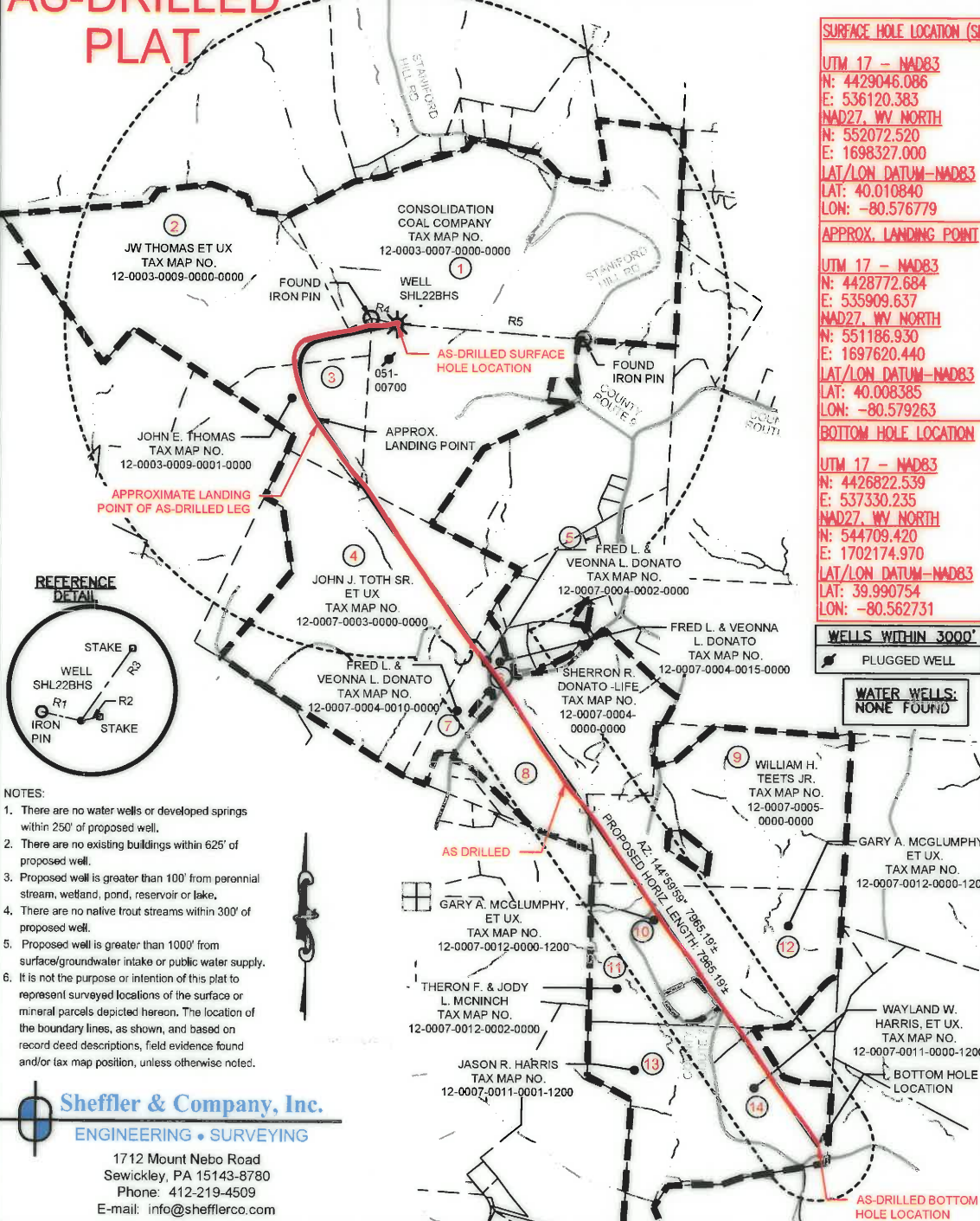




# AS-DRILLED PLAT

Well is located on topo map 11,231 feet south of Latitude: 40° 02' 30"

Well is located on topo map 9.838 feet west of Longitude: 80° 32' 30"



SURFACE HOLE LOCATION (SHL)		SURFACE HOLE LOCATION (SHL)	
<b>UTM 17 - NAD83</b>		<b>UTM 17 - NAD83</b>	
N: 4429046.086	E: 536120.383	N: 4429045.966	E: 536120.515
<b>NAD27, WV NORTH</b>		<b>NAD27, WV NORTH</b>	
N: 552072.520	E: 1698327.000	N: 552072.118	E: 1698327.425
<b>LAT/LON DATUM-NAD83</b>		<b>LAT/LON DATUM-NAD83</b>	
LAT: 40.010840	LON: -80.576779	LAT: 40.010839	LON: -80.576777
APPROX. LANDING POINT		APPROX. LANDING POINT	
<b>UTM 17 - NAD83</b>		<b>UTM 17 - NAD83</b>	
N: 4428772.684	E: 535909.637	N: 4428785.562	E: 535903.383
<b>NAD27, WV NORTH</b>		<b>NAD27, WV NORTH</b>	
N: 551186.930	E: 1697620.440	N: 551229.534	E: 1697600.624
<b>LAT/LON DATUM-NAD83</b>		<b>LAT/LON DATUM-NAD83</b>	
LAT: 40.008385	LON: -80.579263	LAT: 40.008502	LON: -80.579336
BOTTOM HOLE LOCATION		BOTTOM HOLE LOCATION	
<b>UTM 17 - NAD83</b>		<b>UTM 17 - NAD83</b>	
N: 4426822.539	E: 537330.235	N: 4426821.092	E: 537328.505
<b>NAD27, WV NORTH</b>		<b>NAD27, WV NORTH</b>	
N: 544709.420	E: 1702174.970	N: 544704.770	E: 1702169.214
<b>LAT/LON DATUM-NAD83</b>		<b>LAT/LON DATUM-NAD83</b>	
LAT: 39.990754	LON: -80.562731	LAT: 39.990741	LON: -80.562751

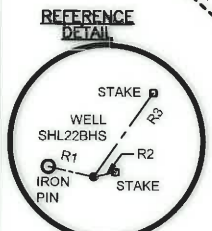
**WELLS WITHIN 3000'**

PLUGGED WELL

**WATER WELLS: NONE FOUND**

**LINE TABLE**

LINE	BEARING	DISTANCE
R1	S77°18'07"E	241.71'
R2	S78°00'29"W	115.84'
R3	S35°15'13"W	533.10'
R4	S77°18'07"E	241.71'
R5	N85°39'22"W	1684.39'



- 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.
  - There are no native trout streams within 300' of proposed well.
  - Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
  - It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, and based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.

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

**LEGEND**

- TOPO MAP POINT
- WELL
- WATER SOURCE
- LEASED NUMBER BASED ON ATTACHED WW6A1
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- PROPOSED HORIZONTAL WELL
- WELL REFERENCE
- STREAM CENTERLINE
- ROAD
- AS-DRILLED HORIZONTAL WELL

FILE #: SHL 22 BHS

DRAWING #: SHL 22 BHS

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: [Signature]

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

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

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: 15,334'±

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

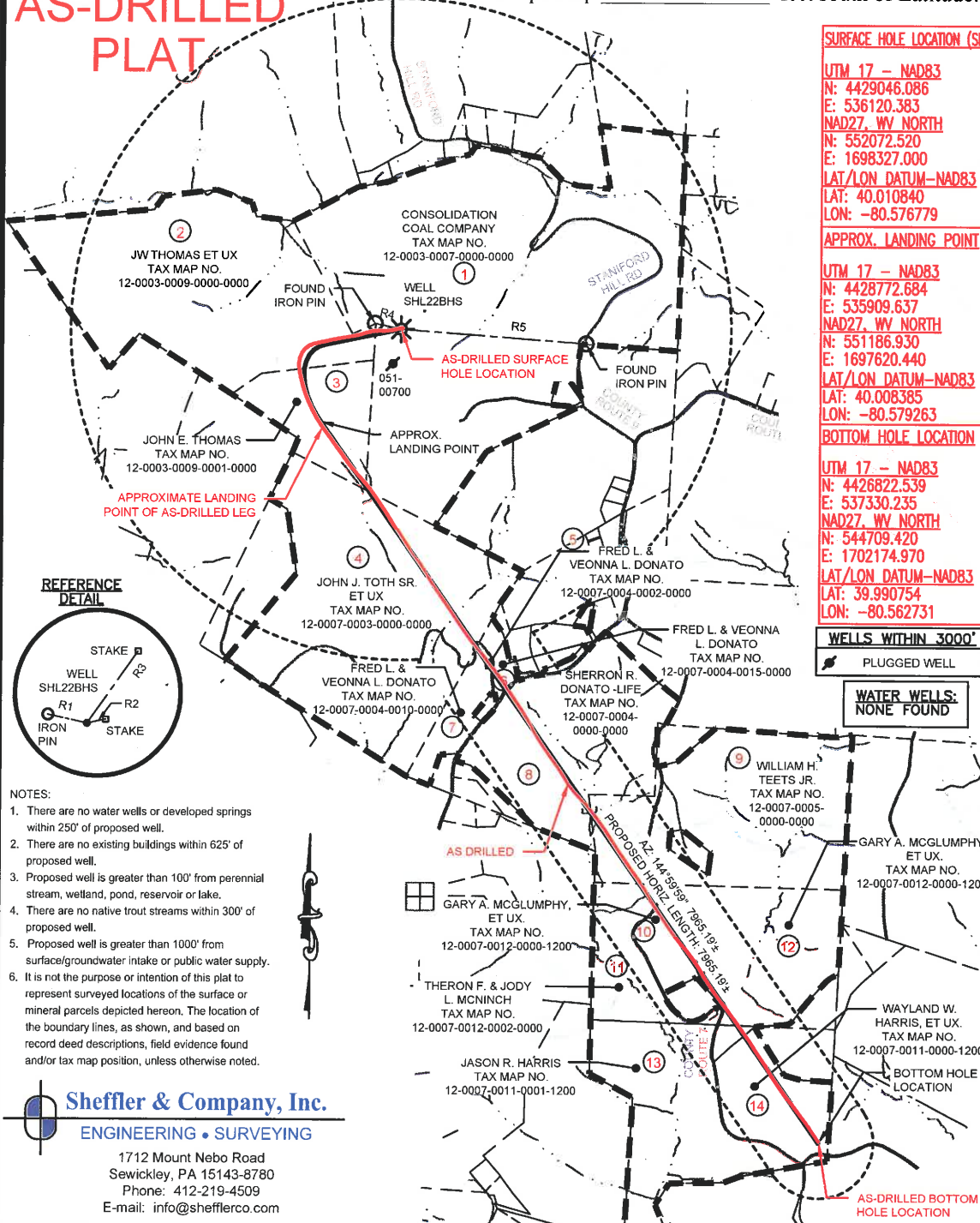
05/26/2017



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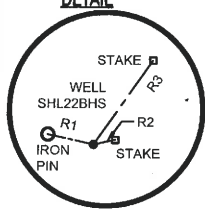
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### REFERENCE DETAIL



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WELLS WITHIN 3000'  
PLUGGED WELL

WATER WELLS:  
NONE FOUND

LINE TABLE		
LINE	BEARING	DISTANCE
R1	S77°18'07"E	241.71'
R2	S78°00'29"W	115.84'
R3	S35°15'13"W	533.10'
R4	S77°18'07"E	241.71'
R5	N85°39'22"W	1684.39'

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
	AS-DRILLED HORIZONTAL WELL

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

FILE #: SHL 22 BHS  
DRAWING #: SHL 22 BHS  
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: *[Signature]*  
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

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

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  
WELL OPERATOR: NOBLE ENERGY, INC.  
Address: 1000 NOBLE ENERGY DRIVE, CANONSBURG, PA 15317  
City CANONSBURG State PA Zip Code 15317



DATE: MARCH 13, 2017  
OPERATOR'S WELL #: SHL 22 BHS - AS DRILLED  
API WELL # 47 051 01807  
STATE COUNTY PERMIT

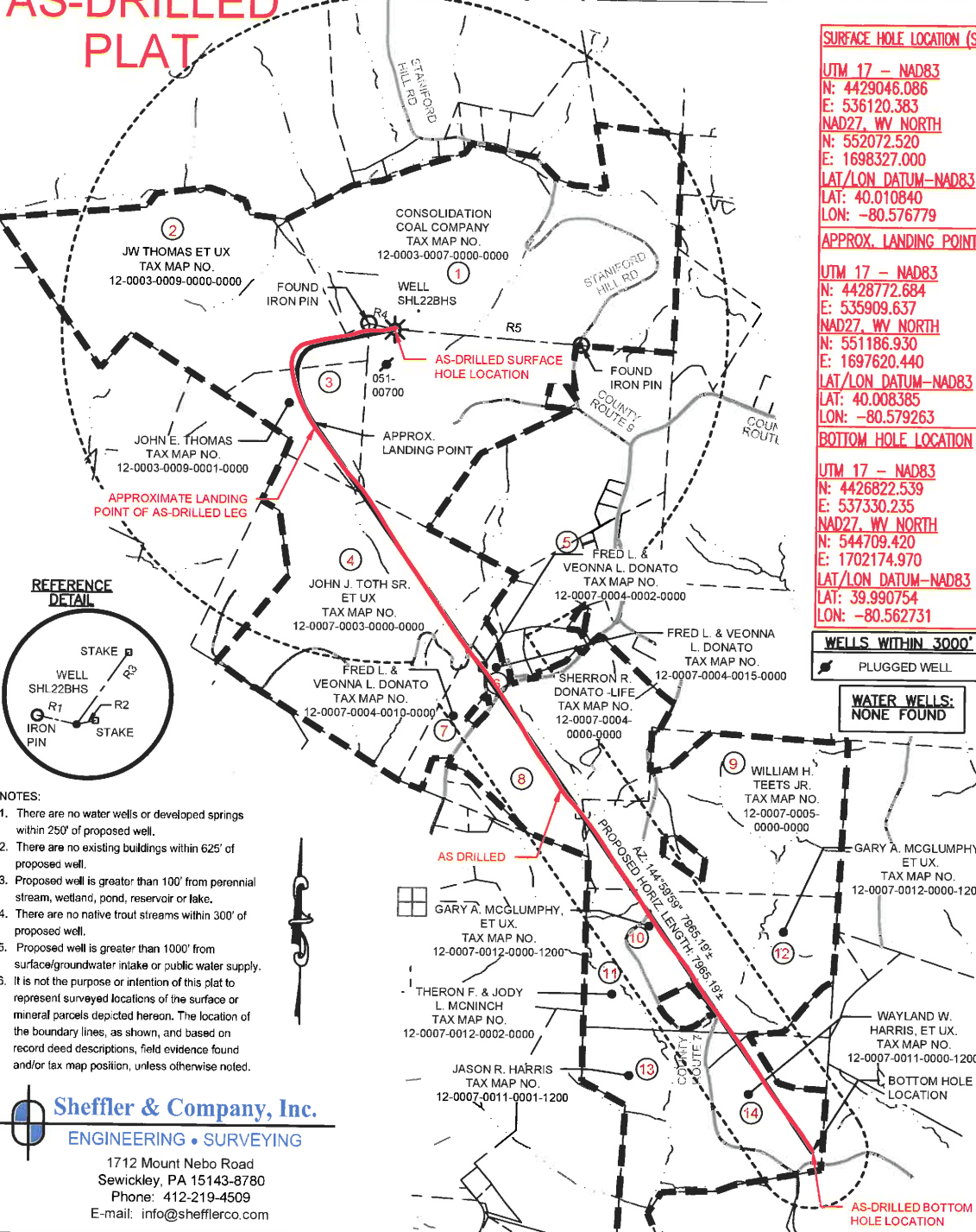
ESTIMATED DEPTH: TVD: 6,680' ± TMD: 15,334' ±  
DESIGNATED AGENT: STEVEN M. GREEN  
Address: 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 590  
City CHARLESTON State WV Zip Code 25301

05/26/2017

# AS-DRILLED PLAT

Well is located on topo map 11,231 feet south of Latitude: 40° 02' 30"

Well is located on topo map 9,838 feet west of Longitude: 80° 32' 30"



SURFACE HOLE LOCATION (SHL)	
UTM 17 - NAD83 N: 4429046.086 E: 536120.383 NAD27, WV NORTH N: 552072.520 E: 1698327.000 LAT/LON DATUM-NAD83 LAT: 40.010840 LON: -80.576779	UTM 17 - NAD83 N: 4429045.966 E: 536120.515 NAD27, WV NORTH N: 552072.118 E: 1698327.425 LAT/LON DATUM-NAD83 LAT: 40.010839 LON: -80.576777
APPROX. LANDING POINT	
UTM 17 - NAD83 N: 4428772.684 E: 535909.637 NAD27, WV NORTH N: 551186.930 E: 1697620.440 LAT/LON DATUM-NAD83 LAT: 40.008385 LON: -80.579263	UTM 17 - NAD83 N: 4428785.562 E: 535903.383 NAD27, WV NORTH N: 551229.534 E: 1697600.624 LAT/LON DATUM-NAD83 LAT: 40.008502 LON: -80.579336
BOTTOM HOLE LOCATION	
UTM 17 - NAD83 N: 4426822.539 E: 537330.235 NAD27, WV NORTH N: 544709.420 E: 1702174.970 LAT/LON DATUM-NAD83 LAT: 39.990754 LON: -80.562731	UTM 17 - NAD83 N: 4426821.092 E: 537328.505 NAD27, WV NORTH N: 544704.770 E: 1702169.214 LAT/LON DATUM-NAD83 LAT: 39.990741 LON: -80.562751

WELLS WITHIN 3000'  
PLUGGED WELL

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LEGEND	
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	WELL
	WATER SOURCE
	LEASED NUMBER
	BASED ON
	ATTACHED WW6A1
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	MINERAL TRACT
	BOUNDARY
	PARCEL LINES
	PROPOSED
	HORIZONTAL WELL
	WELL REFERENCE
	STREAM
	CENTERLINE
	ROAD
	AS-DRILLED HORIZONTAL WELL

- 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.
  - There are no native trout streams within 300' of proposed well.
  - Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
  - It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, and based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.

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SIGNED: *Gary A. Sheffler Jr.*  
R.P.E.: 21452 L.L.S.: P.S. NO.



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