

DM

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

API 47-051-01642 County Marshall District Sandhill
Quad Valley Grove Pad Name SHL-13 Field/Pool Name _____
Farm name Paul H. & Annette Hemsley Well Number SHL13FHS
Operator (as registered with the OOG) Noble Energy Inc.
Address 333 Technology Drive, Suite 116 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 442831.55 Easting 539638.51
Landing Point of Curve Northing 4428180.80 Easting 539222.56
Bottom Hole Northing 4429790.95 Easting 538059.89

Elevation (ft) 1287.65 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 06/19/2013 Date drilling commenced 7/19/2013 Date drilling ceased 11/21/2013
Date completion activities began 05/06/2014 Date completion activities ceased 05/22/2014
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

Freshwater depth(s) ft 561', 763' Open mine(s) (Y/N) depths N
Salt water depth(s) ft N/A Void(s) encountered (Y/N) depths N
Coal depth(s) ft 732' to 742' Pittsburgh Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) Y

Reviewed by:

10/31/2014

RECEIVED
Office of Oil and Gas
DEC 9 2014

API 47-051 - 01642 Farm name Paul H. & Annette Hemsley Well number SHL13FHS

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	N			
Surface	24	20	412	N	J-55 94#		Y
Coal							
Intermediate 1	17 1/2	13 3/8	1258	N	J-55 54.5#		Y
Intermediate 2	12 3/8	9 5/8	3224.65	N	J-55 36#		Y
Intermediate 3							
Production	8 3/4	5 1/2	14388	N	P-110 20#		Y
Tubing							
Packer type and depth set							

Comment Details 2 Baskets on Surface Casing

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Type 1	500	15.6	1.18	107	0	8
Coal							
Intermediate 1	Type 1	1029	15.6	1.19	219	0	8
Intermediate 2	Type 1	1263	15.6	1.19	245	0	8
Intermediate 3							
Production	Type 1	Lead 491 Tail 1727	14.3 14.8	1.57 1.40	119.0 430.0	3160	
Tubing							

Drillers TD (ft) 14408 Loggers TD (ft) 14372

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

Plug back procedure not a pilot Hole

Kick off depth (ft) 6473

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 _____

4 Centralizers on Surface (Every third joint), 10 on Intermediate 1 (Every third joint), 80 on Intermediate 2 (Every third joint), and 192 on Production casing (Every third joint, till Curve, then Every Joint).

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS Plug and Perforate

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 051 - 01642 Farm name Paul H. & Annette Hemsley Well number SHL13FHS

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
PLEASE SEE ATTACHED PERFORATION RECORD					

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 SEE ATTACHED STIMULATION INFORMATION PER STAGE SHEET								

Please insert additional pages as applicable.

Perforation Record

API: 47-051-01642

Farm name: Paul H & Annette A
Hemsley

Well Name: SHL-13F-HS

Stage No.	Stim Date	Top Perf	Bottom Perf	# of Perfs	Formation
1	5/6/2014	14123	14235	48	Marcellus
2	5/7/2014	13923	14077	40	Marcellus
3	5/7/2014	13723	13877	40	Marcellus
4	5/8/2014	13523	13677	40	Marcellus
5	5/8/2014	13323	13477	40	Marcellus
6	5/9/2014	13123	13277	40	Marcellus
7	5/9/2014	12923	13077	40	Marcellus
8	5/10/2014	12723	12877	40	Marcellus
9	5/10/2014	12523	12677	40	Marcellus
10	5/11/2014	12323	12477	40	Marcellus
11	5/11/2014	12123	12277	40	Marcellus
12	5/12/2014	11923	12077	40	Marcellus
13	5/14/2014	11723	11877	40	Marcellus
14	5/14/2014	11523	11677	40	Marcellus
15	5/15/2014	11323	11477	40	Marcellus
16	5/16/2014	11123	11277	40	Marcellus
17	5/16/2014	10923	11077	40	Marcellus
18	5/17/2014	10723	10877	40	Marcellus
19	5/18/2014	10523	10677	40	Marcellus
20	5/18/2014	10323	10477	40	Marcellus
21	5/18/2014	10123	10277	40	Marcellus
22	5/19/2014	9923	10077	40	Marcellus
23	5/19/2014	9723	9877	40	Marcellus
24	5/19/2014	9523	9677	40	Marcellus
25	5/19/2014	9323	9477	40	Marcellus
26	5/20/2014	9123	9277	40	Marcellus
27	5/20/2014	8923	9077	40	Marcellus
28	5/21/2014	8723	8877	40	Marcellus
29	5/21/2014	8523	8677	40	Marcellus
30	5/21/2014	8323	8477	40	Marcellus
31	5/22/2014	8123	8277	40	Marcellus
31C	5/22/2014	7923	8277	40	Marcellus
32	5/22/2014	7723	7877	40	Marcellus
33	5/22/2014	7523	7677	40	Marcellus

STIMULATION INFORMATION PER STAGE

API: 47-051-01642

Farm name:

Paul H & Annette A Hemsley

Well Name: SHL-13F-HS

Stage No.	Stim Date	Avg Rate (bpm)	ATP (psi)	Max BD Pressure	ISIP (psi)	Proppant (lbs)	Water (BBLs)	Amount of N ² / other
1	5/6/2014	69.8	7036	5581	3744	497619	10772.95	
2	5/7/2014	69.3	7549	6178	4256	501968	12381.79	
3	5/7/2014	69.0	7066	5646	4945	502833	10714.26	
4	5/8/2014	69.5	7036	5390	4028	501053	11066.70	
5	5/8/2014	69.5	7084	5532	3789	502405	10973.58	
6	5/9/2014	67.5	7315	6018	4901	503312	10345.16	
7	5/10/2014	69.4	7389	5565	4253	494693	9683.50	
8	5/10/2014	69.8	7336	5715	4711	499586	9863.26	
9	5/11/2014	70.2	7647	6136	4390	499040	13450.07	
10	5/11/2014	70.2	7463	5929	4212	500122	10991.38	
11	5/12/2014	68.0	7352	5993	4742	500315	11163.17	
12	5/13/2014	68.9	6896	5646	4551	502743	10357.49	
13	5/14/2014	70.0	6853	5751	4587	499814	10264.26	
14	5/15/2014	66.6	7011	6049	5917	462091	9805.26	
14 Inj Test	5/15/2014	2.2	7805		5466	0	394.88	
15	5/16/2014	69.9	7129	5973	4437	540986	11960.00	
16	5/16/2014	70.6	7100	5790	4807	499608	10651.83	
17	5/17/2014	70.2	6936	5767	5039	499750	12314.60	
18	5/17/2014	70.3	6878	5488	4386	500804	9965.07	
19	5/18/2014	70.2	6592	5905	4440	499827	11134.83	
20	5/18/2014	70.4	7039	5895	4436	500083	9659.16	
21	5/18/2014	70.2	6831	5821	4764	500056	9663.24	
22	5/19/2014	70.1	7109	6410	4436	501814	11203.83	
23	5/19/2014	70.1	6762	6035	4607	500170	10163.69	
24	5/19/2014	70.1	6672	6047	4139	499974	9896.45	
25	5/20/2014	70.3	6644	6349	4793	500107	9476.33	
26	5/20/2014	70.2	6743	5989	4635	494880	9836.48	
27	5/20/2014	70.3	6794	6489	4559	499383	9603.53	
28	5/21/2014	70.1	6784	6491	4396	505314	9742.73	
29	5/21/2014	70.4	6605	6057	5022	500116	9725.64	
30	5/21/2014	65.6	7246	5772	4452	500190	12114.71	
31	5/22/2014	62.3	7230	6730	5683	298223	9614.88	
31C	5/22/2014	70.2	6738	5804	4857	701441	13509.23	
32	5/22/2014	69.9	6601	5918	4531	500804	12123.48	
33	5/22/2014	69.2	6487	6279	4024	495884	9834.00	

API 47- 051 - 01642 Farm name Paul H. & Annette Hemsley Well number SHL13FHS

PRODUCING FORMATION(S)	DEPTHS	
<u>Marcellus</u>	<u>6707</u> TVD	<u>14408'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

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 4608 mcfpd Oil 192 bpd NGL 299 bpd Water 624 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 ₂ 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>		
PLEASE SEE FORMATIONS SHEET					

Please insert additional pages as applicable.

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

Logging Company Diversified Well Logging
 Address 711 West 10th Street City Reserve State LA Zip 70084

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

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

Please insert additional pages as applicable.

Completed by Regina A. Logue Telephone 724-820-3599
 Signature Regina A. Logue Title Regulatory Analyst Date 10/6/14

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

SHL 13F
47-051-01642

Formations	Top TVD	Base TVD	Top MD	Base MD	Fluid
Shale	0	732	0	732	
Pittsburgh Coal	732	742	732	742	
Shale and Sandstone	742	1516	742	1516	
Gas Sand	1516	1574	1516	1574	
Shale	1574	1693	1574	1693	
1st Salt Sand	1693	1756	1693	1756	
2nd Salt Sand	1756	1765	1756	1765	
3rd Salt Sand	1765	1815	1765	1815	
Shale	1815	1841	1815	1841	
Maxton Sand	1841	1958	1841	1958	
Shale	1958	1978	1958	2509	
Big Lime	1978	2023	1978	2023	
Big Injun	2023	2165	2023	2165	
Price	2165	2509	2165	2509	
Murrysville	2509	2522	2509	2872	
Shale	2522	2726	2522	2726	
50' Sand	2726	2743	2726	2743	
Shale	2743	2829	2743	2829	
Gordon Stray	2829	2841	2829	2841	
Shale	2841	2872	2841	2872	
Gordon	2872	2890	2872	2890	
Shale	2890	2985	2890	2985	
Fifth Sand	2985	3023	2985	3023	
Shale	3023	3423	3023	3423	
Speechley Sand	3423	3447	3423	3447	
Shale	3447	4331	3447	4333	
Warren Sand	4331	4345	4333	4347	
Shale	4345	5252	4347	5254	
Java Shale	5252	5322	5254	5324	
Pipe Creek Shale	5322	5366	5324	5368	
Angola Shale	5366	5992	5368	6023	
Rhinestreet	5992	6406	6023	6704	
Cashaqua	6406	6498	6704	6905	
Middlesex	6498	6535	6905	6986	
West River	6535	6576	6986	7079	
Burkett	6576	6609	7079	7155	
Tully Limestone	6609	6637	7155	7224	
Hamilton	6637	6751	7224	7658	
Marcellus	6751	6802	7658	not encountered	Gas
Onondaga	6802	6807	not encountered	not encountered	
Huntersville	6807	not encountered	not encountered	not encountered	

Hydraulic Fracturing Fluid Product Component Information Disclosure



51-01643

Job Start Date:	5/6/2014
Job End Date:	5/22/2014
State:	West Virginia
County:	Marshall
API Number:	47-051-01642-00-00
Operator Name:	Noble Energy, Inc.
Well Name and Number:	SHL13 F
Longitude:	-80.53580800
Latitude:	40.00402500
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,707
Total Base Water Volume (gal):	15,305,700
Total Base Non Water Volume:	0

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Fresh Water	Operator	Base Fluid					
			Fresh Water	7732-18-5	100.00000	87.48963	Density = 8.330
SAND - PREMIUM WHITE	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	9.33420	
SAND - COMMON WHITE	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	2.34575	
HYDROCHLORIC ACID 5-10%	Halliburton	Solvent					
			Hydrochloric acid	7647-01-0	10.00000	0.06811	
FR-66	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02382	
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive					
			Acetic anhydride	108-24-7	100.00000	0.00341	
			Acetic acid	64-19-7	60.00000	0.00205	
BE-9	Halliburton	Biocide					
			Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00399	
LP-65 MC	Halliburton	Scale Inhibitor					

			Ammonium chloride	12125-02-9	10.00000	0.00244	
LoSurf-300D	Halliburton	Non-ionic Surfactant					
			Ethanol	64-17-5	60.00000	0.00069	
			Heavy aromatic petroleum naphtha	64742-94-5	30.00000	0.00034	
			Naphthalene	91-20-3	5.00000	0.00006	
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00000	0.00006	
			1,2,4 Trimethylbenzene	95-63-6	1.00000	0.00001	
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
			Methanol	67-56-1	60.00000	0.00034	
			Propargyl alcohol	107-19-7	10.00000	0.00006	
LCA-1	Halliburton	Solvent					
			Paraffinic solvent	Confidential	100.00000	0.00036	Denise Tuck, Halliburton 3000 N. Sam Houston Pkwy E., Houston, TX 77032 281-871-6226
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
			Guar gum	9000-30-0	100.00000	0.00021	
SP BREAKER	Halliburton	Breaker					
			Sodium persulfate	7775-27-1	100.00000	0.00002	
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
		Other Ingredient(s)					
			Water	7732-18-5		0.78320	
		Other Ingredient(s)					
			Polyacrylamide copolymer	Confidential		0.02382	
		Other Ingredient(s)					
			Organic phosphonate	Confidential		0.01463	
		Other Ingredient(s)					
			Sodium chloride	7647-14-5		0.00397	
		Other Ingredient(s)					
			Alcohols, C12-16, ethoxylated	68551-12-2		0.00397	
		Other Ingredient(s)					
			Fatty acid tall oil amide	Confidential		0.00397	
		Other Ingredient(s)					
			Ammonium chloride	12125-02-9		0.00397	
		Other Ingredient(s)					
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8		0.00079	
		Other Ingredient(s)					
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6		0.00079	
		Other Ingredient(s)					
			Oxyalkylated phenolic resin	Confidential		0.00034	

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	Other Ingredient(s)					
		Formaldehyde	50-00-0		0.00024	
	Other Ingredient(s)					
		Alcohols, C14-C15, ethoxylated	58951-67-7		0.00017	
	Other Ingredient(s)					
		Fatty acids, tall oil	Confidential		0.00017	
	Other Ingredient(s)					
		Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	58527-49-1		0.00017	
	Other Ingredient(s)					
		Oxyalkylated phenolic resin	Confidential		0.00011	
	Other Ingredient(s)					
		Olefins	Confidential		0.00003	
	Other Ingredient(s)					
		Olefins	Confidential		0.00003	
	Other Ingredient(s)					
		Bentonite, benzyl(hydrogenated tallow alkyl) dimethylammonium stearate complex	121888-68-4		0.00001	
	Other Ingredient(s)					
		Olefins	Confidential		0.00001	
	Other Ingredient(s)					
		Olefins	Confidential		0.00001	
	Other Ingredient(s)					
		Silica gel	112926-00-8		0.00000	
	Other Ingredient(s)					
		Surfactant mixture	Confidential		0.00000	
	Other Ingredient(s)					
		Surfactant mixture	Confidential		0.00000	
	Other Ingredient(s)					
		Crystalline Silica, Quartz	14808-60-7		0.00000	
	Other Ingredient(s)					
		Sodium sulfate	7757-82-6		0.00000	

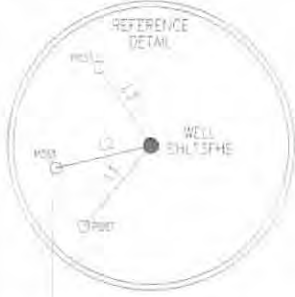
51-01642

* 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. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

Well is located on topo map 13,703' feet south of Latitude: 40° 02' 30"

Well is located on topo map 10,035' feet west of Longitude: 80° 30' 00"



LINE	BEARING	DISTANCE
L1	S 40°13'35" W	237.84'
L2	S 77°12'40" W	212.19'
L3	N 33°16'20" W	203.57'

APPROX. LANDING POINT	
UTM 17-NAD83	N:4428180.80 E:539222.56
NAD27, WV NORTH	N:549062.33 E:1708458.39

NOTES:

1. There are no water wells or developed springs within 250' of proposed well.
2. There are no existing buildings within 625' of proposed well.
3. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
4. There are no native trout streams within 300' of proposed well.
5. Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
6. 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, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.

PERMITTED BOTTOM HOLE LOCATION (BHL)	
UTM 17-NAD83	N:4429784.90 E:538058.83
NAD27, WV NORTH	N:554390.41 E:1704728.41

AS DRILLED BOTTOM HOLE LOCATION (BHL)	
UTM 17-NAD83	N:4429790.95 E:538059.89
NAD27, WV NORTH	N:554410.21 E:1704732.24

PERMITTED SURFACE HOLE LOCATION (SHL)	
UTM 17-NAD83	N:4428315.61 E:539638.49
NAD27, WV NORTH	N:549482.10 E:1709831.21

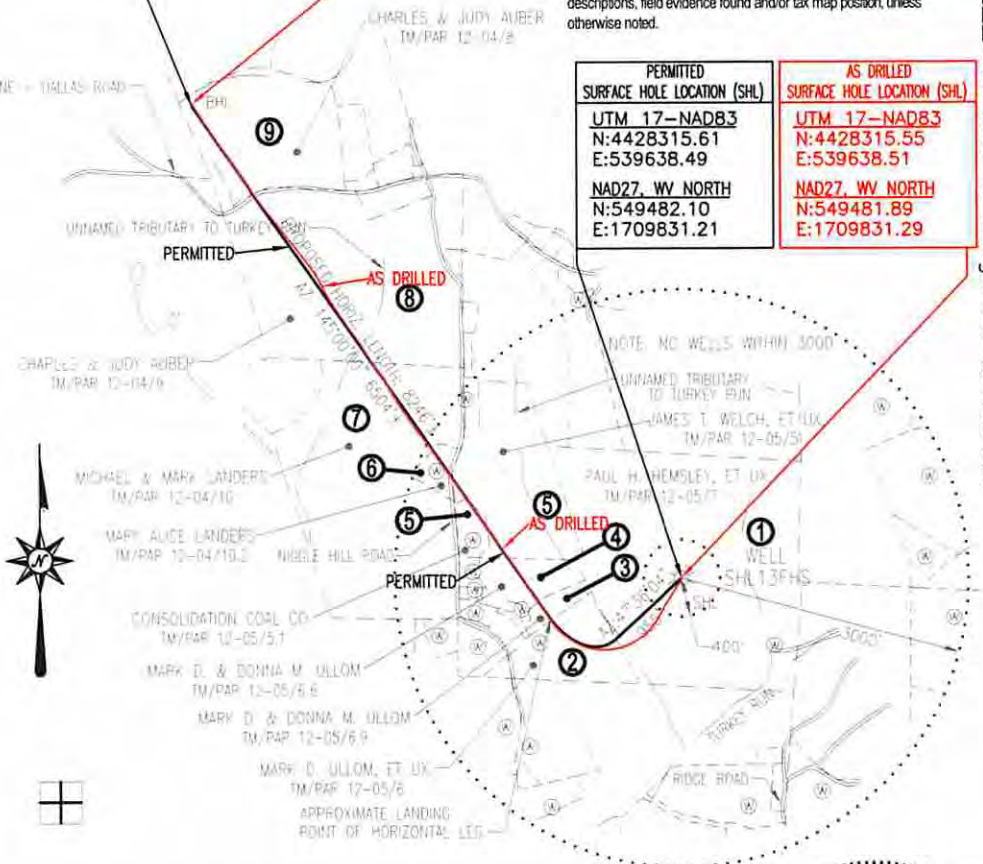
AS DRILLED SURFACE HOLE LOCATION (SHL)	
UTM 17-NAD83	N:4428315.55 E:539638.51
NAD27, WV NORTH	N:549481.89 E:1709831.29

LEGEND

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- WATER SOURCE
- LEASE NUMBER BASED ON ATTACHED WW-6A1
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- PROPOSED HORIZONTAL WELL
- ROAD
- STREAM CENTER LINE
- AS DRILLED

WELLS WITHIN 3000'

- EXISTING WELLS
- PLUGGED WELLS



Blue Mountain Inc.
11023 MASON DIXON HIGHWAY
BURTON, WV 26562
PHONE: (304) 662-6486

FILE #: SHL13FHS-AS DRILLED
DRAWING #: SHL13FHS-AS DRILLED
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/2500
PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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: *George D. Six*
R.P.E.: _____ L.L.S.: P.S. No. 2000

GEORGE D. SIX
LICENSED
No. 2000
STATE OF
WEST VIRGINIA
PROFESSIONAL SURVEYOR

PLACE SEAL HERE

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

DATE: OCTOBER 2, 2014
OPERATOR'S WELL #: SHL13FHS-AS DRILLED
API WELL #: 47 51
STATE COUNTY PERMIT

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

WATERSHED: TURKEY RUN ELEVATION: 1287.65'
COUNTY/DISTRICT: MARSHALL / SAND HILL QUADRANGLE: VALLEY GROVE, WV 7.5'
SURFACE OWNER: PAUL H. & ANNETTE A. HEMSLEY ACREAGE: 121.65±
OIL & GAS ROYALTY OWNER: SEE ATTACHED WW-6A1 ACREAGE: 421.282±

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6781'± TMD: 14105'±

WELL OPERATOR NOBLE ENERGY INC. DESIGNATED AGENT STEVEN M. GREEN
Address 333 TECHNOLOGY DRIVE, SUITE 116 Address 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 590
City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

10/31/2014