

pm



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

API 47-051-01644 ⁰¹⁶⁴⁴ ~~01649~~ County Marshall District Sandhill
Quad Valley Grove Pad Name SHL-13 Field/Pool Name _____
Farm name Paul H. and Annette Hemsley Well Number SHL13GHS
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 4428326.04 Easting 539641.54
Landing Point of Curve Northing 4428229.20 Easting 539749.51
Bottom Hole Northing 4426977.10 Easting 540658.47

Elevation (ft) 1288.25 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 6/19/2013 Date drilling commenced 8/8/2013 Date drilling ceased 10/24/2013
Date completion activities began 6/9/14 Date completion activities ceased 7/13/14
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 EDN
Salt water depth(s) ft 1600' Void(s) encountered (Y/N) depths and GN
Coal depth(s) ft 783 - 785.04' Pittsburgh, 1266.74' - 1269.77' Mahoning Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) Y

Reviewed by: _____
Environmental Protection

11/28/2014

API 47-051 - 01644 01644 Farm name Paul H. and Annette Hemsley Well number SHL13GHS

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			Y
Surface	24	20	418	N	J-55 94#		Y
Coal							
Intermediate 1	17-1/2	13 3/8	1196	N	J-55 54.5#		Y
Intermediate 2	12-3/8	9-5/8	3219	N	J-55 36#		Y
Intermediate 3							
Production	8-3/4	5-1/2	12080	N	P-110 20#		Y
Tubing							
Packer type and depth set							

Comment Details _____

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	548	15.6	1.19	117	0	8
Coal							
Intermediate 1							
Intermediate 2	Type 1	1264	15.6	1.19	245	0	8
Intermediate 3							
Production	Class A	1708	14.8	1.39	432		8
Tubing							

Drillers TD (ft) 12099 Loggers TD (ft) 12019
 Deepest formation penetrated Marcellus Plug back to (ft) no pilot hole
 Plug back procedure _____

Kick off depth (ft) 6050

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), 60 on Intermediate 2 (Every third joint), and 200 on Production casing (Every third joint, till Curve, then Every Joint).

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 _____

Perforation Record

Paul H & Annette A
Hemsley

API: 47-051-01644

Farm name: _____

Well Name: SHL-1306 rS

Stage No.	Stim Date	Top Perf	Bottom Perf	# of Perfs	Formation
1	6/9/2014	11724	11936	48	Marcellus
1C	6/9/2014	11423	11677	50	Marcellus
2	6/10/2014	11123	11377	50	Marcellus
3	6/11/2014	10823	11077	50	Marcellus
4	6/11/2014	10523	10777	50	Marcellus
5	6/11/2014	10223	10477	50	Marcellus
6	6/12/2014	9923	10177	50	Marcellus
7	6/12/2014	9623	9877	50	Marcellus
8	6/13/2014	9323	9577	50	Marcellus
9	6/13/2014	9023	9277	50	Marcellus
10	6/13/2014	8723	8977	50	Marcellus
11	6/14/2014	8423	8677	50	Marcellus
12	6/15/2014	8123	8377	50	Marcellus
13	6/15/2014	7823	8077	50	Marcellus
14	6/16/2014	7523	7777	50	Marcellus
15	6/17/2014	7223	7477	50	Marcellus
16	6/17/2014	6975	7177	50	Marcellus
16B-REPERF	6/17/2014	6965	6990	24	Marcellus

STIMULATION INFORMATION PER STAGE

API: 47-051-01644

Farm name:

Paul H & Annette A Hemsley

Well Name: SHL-13G-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 Inj Test	6/9/2014		7815			-	280.33	
1.1	6/9/2014	63.8	7903		4676	198,041	9865.43	
1.2	6/9/2014	57.4	7879	8966		125,538	6511.79	
1.1C	6/9/2014	74.5	6632		467	204,247	7639.07	
1.2C	6/9/2014	76.1	6839	5921		165,276	6224.48	
1.3C	6/9/2014	46.5	7599	6343		159,647	6504.21	
2.1	6/10/2014	85.2	7095	6158	4127	203,192	7761.01	
2.2	6/10/2014	84.5	7034	5300		199,069	5868.64	
2.3	6/10/2014	77.8	7081	5648		160,281	5448.79	
3.1	6/11/2014	64.5	6830	5725	3851	198,269	9786.98	
3.2	6/11/2014	76.1	8135	5971		200,201	6235.98	
3.3	6/11/2014	74.8	7950	6407		203,477	6243.64	
4.1	6/11/2014	83.9	7083	6695	4962	197,840	11213.21	
4.2	6/12/2014	84.8	7445	6082		182,845	5896.95	
4.3	6/12/2014	77.3	7612	6415		210,571	6046.79	
5.1	6/12/2014	81.5	6965	6987	4192	198,209	6580.98	
5.2	6/12/2014	80.3	6935	5717		201,308	6445.29	
5.3	6/12/2014	80.1	7010	5793		201,495	6455.33	
6.1	6/12/2014	85.1	6844	7054	4236	207,112	6390.50	
6.2	6/12/2014	85.0	6882	5724		189,733	6346.29	
6.3	6/12/2014	84.8	7142	5655		209,035	6864.93	
7.1	6/13/2014	84.4	6777	6587	4873	198,596	6266.00	
7.2	6/13/2014	84.9	6848	5493		202,075	6215.71	
7.3	6/13/2014	84.3	6958	5263		201,560	6414.81	
8.1	6/13/2014	80.2	6592	6687	4654	197,231	6225.60	
8.2	6/13/2014	78.1	6804	6475		193,816	5449.10	
8.3	6/13/2014	78.5	7415	8388		198,038	6198.02	
9.1	6/14/2014	84.7	6871	6935	4314	201,180	6125.21	
9.2	6/14/2014	84.9	7479	6344		199,805	6451.12	
9.3	6/14/2014	80.4	7572	6546		198,364	6179.14	
10.1	6/15/2014	83.3	6884	6499	4631	203,754	5942.95	
10.2	6/15/2014	80.7	7391	6101		197,852	5858.12	
10.3	6/15/2014	68.5	8486	7827		199,841	6140.88	
11.1	6/15/2014	82.6	6673	6535	4137	200,278	6431.86	
11.2	6/15/2014	78.1	6657	6374		201,309	6247.74	
11.3	6/15/2014	84.0	7321	6427		196,690	6243.81	
12.1	6/15/2014	84.8	6248	6200	4507	199,272	6275.88	
12.2	6/15/2014	85.0	6745	5626		200,625	6315.36	
12.3	6/15/2014	85.0	7067	6056		200,394	6242.57	
13.1	6/16/2014	84.0	6588	7015	4664	199,987	6162.89	
13.2	6/16/2014	84.3	6874	6400		200,559	5772.86	

11/28/2014

STIMULATION INFORMATION PER STAGE

API: 47-051-01644

Farm name:

Paul H & Annette A Hemsley

Well Name: SHL-13G-HS

Stage No.	Stim Date	Avg Rate (bpm)	ATP (psi)	Max BD Pressure	ISIP (psi)	Proppant (lbs)	Water (BBLs)	Amount of N ² / other
13.3	6/16/2014	85.0	7084	6022		200,118	5827.60	
14.1	6/16/2014	85.1	6379	7196	4536	201,942	5750.93	
14.2	6/16/2014	85.1	6639	5971		198,768	5919.36	
14.3	6/17/2014	85.0	6723	5490		199,364	6038.05	
15.1	6/17/2014	85.3	6423	6506	4527	203,419	5765.62	
15.2	6/17/2014	85.3	6861	5845		196,902	5563.81	
15.3	6/17/2014	85.2	6672	5704		199,747	5231.76	
16.1	6/17/2014	84.4	6533	7314		167,937	4830.98	
16.2	6/17/2014	79.2	7059	6277		167,250	4842.07	
16.3	6/17/2014	48.2	8735	8100	6202	2,021	3088.31	
16.3B	6/17/2014	71.4	7707	0	4327	167,296	5487.76	

API 47- 051 - 01649 Farm name Paul H. and Annette Hemsley Well number SHL13GHS

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6793.0</u>	<u>TVD</u>	<u>12099</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 4142 mcfpd Oil 31 bpd NGL 228 bpd Water 820 bpd GAS MEASURED BY Estimated Orifice Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)</u>
	<u>DEPTH IN FT NAME TVD</u>	<u>DEPTH IN FT TVD</u>	<u>DEPTH IN FT MD</u>	<u>DEPTH IN FT MD</u>	

	<u>0</u>		<u>0</u>		
	PLEASE SEE ATTACHED FORMATION 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 SRCS
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 10/18/14

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

SHL 13G

47-051-01643

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	5994	
Rhinestreet	5992	6406	5994	6417	
Cashaqua	6406	6498	6417	6518	
Middlesex	6498	6535	6518	6561	
West River	6535	6576	6561	6612	
Burkett	6576	6609	6612	6656	
Tully Limestone	6609	6637	6656	6696	
Hamilton	6637	6751	6696	6922	
Marcellus	6751	6802	6922	not encountered	Gas
Onondaga	6802	6807	not encountered	not encountered	
Huntersville	6807	not encountered	not encountered	not encountered	

11/28/2014

Hydraulic Fracturing Fluid Product Component Information Disclosure



5-1-01647

Job Start Date:	6/9/2014
Job End Date:	6/17/2014
State:	West Virginia
County:	Marshall
API Number:	47-051-01643-00-00
Operator Name:	Noble Energy, Inc.
Well Name and Number:	SHL13 G
Longitude:	-80.53578040
Latitude:	40.00413800
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,793
Total Base Water Volume (gal):	13,528,892
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	90.85192	Density = 8.330
SAND - PREMIUM WHITE	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	6.21164	
SSA-2	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	1.58663	
HYDROCHLORIC ACID 5-10%	Halliburton	Solvent					
			Hydrochloric acid	7647-01-0	10.00000	0.11715	
FR-66	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	54742-47-8	30.00000	0.03018	
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive					
			Acetic anhydride	108-24-7	100.00000	0.00607	
			Acetic acid	64-19-7	60.00000	0.00364	
BE-9	Halliburton	Biocide					
			Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00419	
LP-65	Halliburton	Scale Inhibitor					
			Ammonium chloride	12125-02-9	10.00000	0.00249	

LoSurf-300D	Halliburton	Non-ionic Surfactant				
			Ethanol	64-17-5	60.00000	0.00122
			Heavy aromatic petroleum naphtha	64742-94-5	30.00000	0.00061
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00000	0.00010
			Naphthalene	91-20-3	5.00000	0.00010
			1,2,4 Trimethylbenzene	95-63-6	1.00000	0.00002
Biovert NWB	Halliburton	Viscosifier				
			Poly lactide resin	Confidential	100.00000	0.00178
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor				
			Methanol	67-56-1	60.00000	0.00060
			Propargyl alcohol	107-19-7	10.00000	0.00010
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		1.28870
		Other Ingredient(s)				
			Polyacrylamide copolymer	Confidential		0.03018
		Other Ingredient(s)				
			Organic phosphonate	Confidential		0.01495
		Other Ingredient(s)				
			Fatty acid tall oil amide	Confidential		0.00503
		Other Ingredient(s)				
			Ammonium chloride	12125-02-9		0.00503
		Other Ingredient(s)				
			Alcohols, C12-16, ethoxylated	68551-12-2		0.00503
		Other Ingredient(s)				
			Sodium chloride	7647-14-5		0.00503
		Other Ingredient(s)				
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8		0.00101
		Other Ingredient(s)				
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6		0.00101
		Other Ingredient(s)				
			Oxyalkylated phenolic resin	Confidential		0.00061
		Other Ingredient(s)				
			Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	68527-49-1		0.00030
		Other Ingredient(s)				
			Fatty acids, tall oil	Confidential		0.00030
		Other Ingredient(s)				
			Alcohols, C14-C15, ethoxylated	68951-67-7		0.00030
		Other Ingredient(s)				

51-01649

		Formaldehyde	50-00-0		0.00025	
	Other Ingredient(s)	Oxyalkylated phenolic resin	Confidential		0.00020	
	Other Ingredient(s)	Olefins	Confidential		0.00005	
	Other Ingredient(s)	Olefins	Confidential		0.00005	
	Other Ingredient(s)	Olefins	Confidential		0.00001	
	Other Ingredient(s)	Olefins	Confidential		0.00001	

* 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)

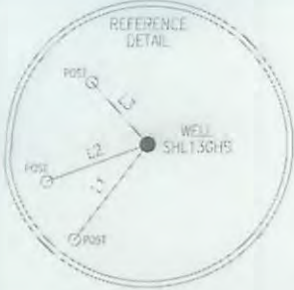
5/21/15

11/28/2014

47-051-01844

Well is located on topo map 13,669' feet south of Latitude: 40° 02' 30"

Well is located on topo map 10,024' feet west of Longitude: 80° 30' 00"



APPROX. LANDING POINT	
UTM 17-NAD83	N:4428229.20
	E:539749.51
NAD27, WV NORTH	N:549192.44
	E:1710190.78

LINE	BEARING	DISTANCE
L1	S 36° 59' 51" W	261.18'
L2	S 69° 23' 14" W	231.80'
L3	N 41° 55' 02" W	182.18'

PERMITTED SURFACE HOLE LOCATION (SHL)
 UTM 17-NAD83
 N:4428326.21
 E:539641.36
 NAD27, WV NORTH
 N:549516.73
 E:1709841.23

AS DRILLED SURFACE HOLE LOCATION (SHL)
 UTM 17-NAD83
 N:4428326.04
 E:539641.54
 NAD27, WV NORTH
 N:549516.17
 E:1709841.80

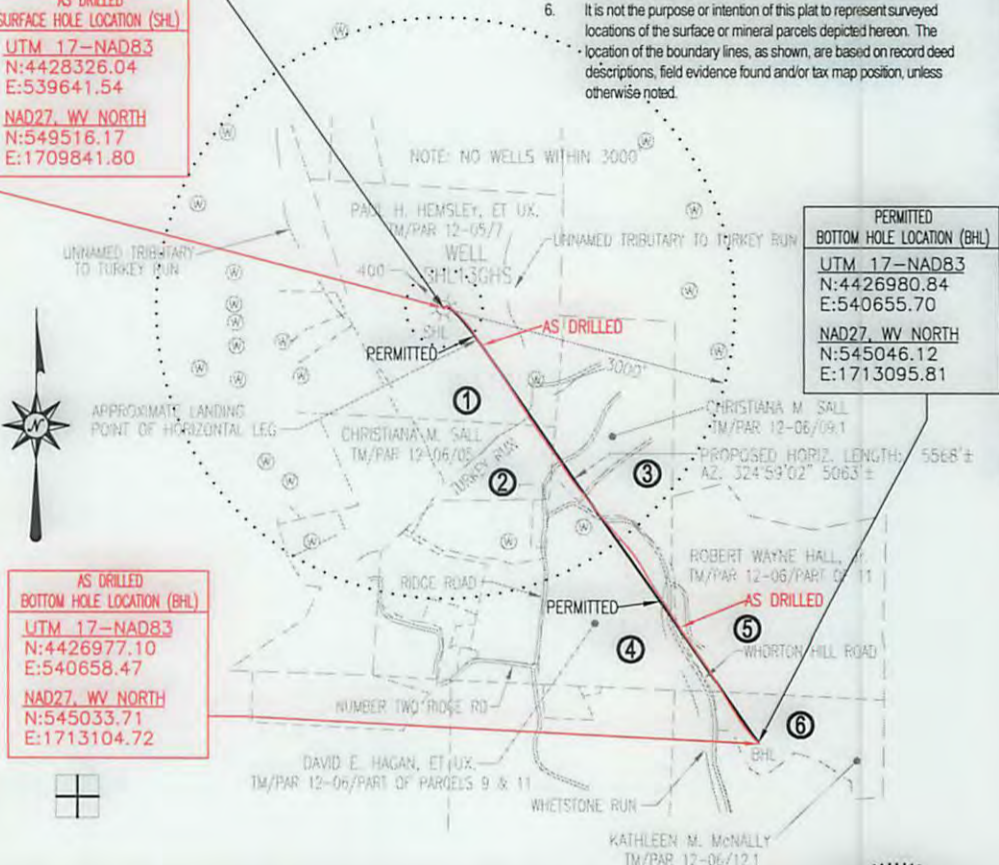
- NOTES:
- There are no water wells or developed springs within 250' of proposed well.
 - There are no existing buildings within 625' of proposed well.
 - Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
 - There are no native trout streams within 300' of proposed 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, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.

LEGEND

- TOP 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



PERMITTED BOTTOM HOLE LOCATION (BHL)
 UTM 17-NAD83
 N:4426980.84
 E:540655.70
 NAD27, WV NORTH
 N:545046.12
 E:1713095.81

AS DRILLED BOTTOM HOLE LOCATION (BHL)
 UTM 17-NAD83
 N:4426977.10
 E:540658.47
 NAD27, WV NORTH
 N:545033.71
 E:1713104.72

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

FILE #: SHL13GHS-AS DRILLED
 DRAWING #: SHL13GHS-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: *[Signature]*
 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 #: SHL13GHS-AS DRILLED
 API WELL #: 47 51 01644H61
 STATE COUNTY PERMIT

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

WATERSHED: TURKEY RUN ELEVATION: 1289.59'
 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: 434.491±

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: 12064'±
 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

11/28/2014

47-051-01844

Well is located on topo map 13,669' feet south of Latitude: 40° 02' 30"

Well is located on topo map 10,024' feet west of Longitude: 80° 30' 00"



APPROX. LANDING POINT	
UTM 17-NAD83	N:4428229.20
	E:539749.51
NAD27, WV NORTH	N:549192.44
	E:1716190.75

LINE	BEARING	DISTANCE
L1	S 36°59'51" W	261.18'
L2	S 69°23'14" W	231.80'
L3	N 41°55'02" W	182.18'

PERMITTED SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83
 N:4428326.21
 E:539641.36
NAD27, WV NORTH
 N:549516.73
 E:1709841.23

AS DRILLED SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83
 N:4428326.04
 E:539641.54
NAD27, WV NORTH
 N:549516.17
 E:1709841.80

PERMITTED BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83
 N:4426980.84
 E:540655.70
NAD27, WV NORTH
 N:545046.12
 E:1713095.81

AS DRILLED BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83
 N:4426977.10
 E:540658.47
NAD27, WV NORTH
 N:545033.71
 E:1713104.72

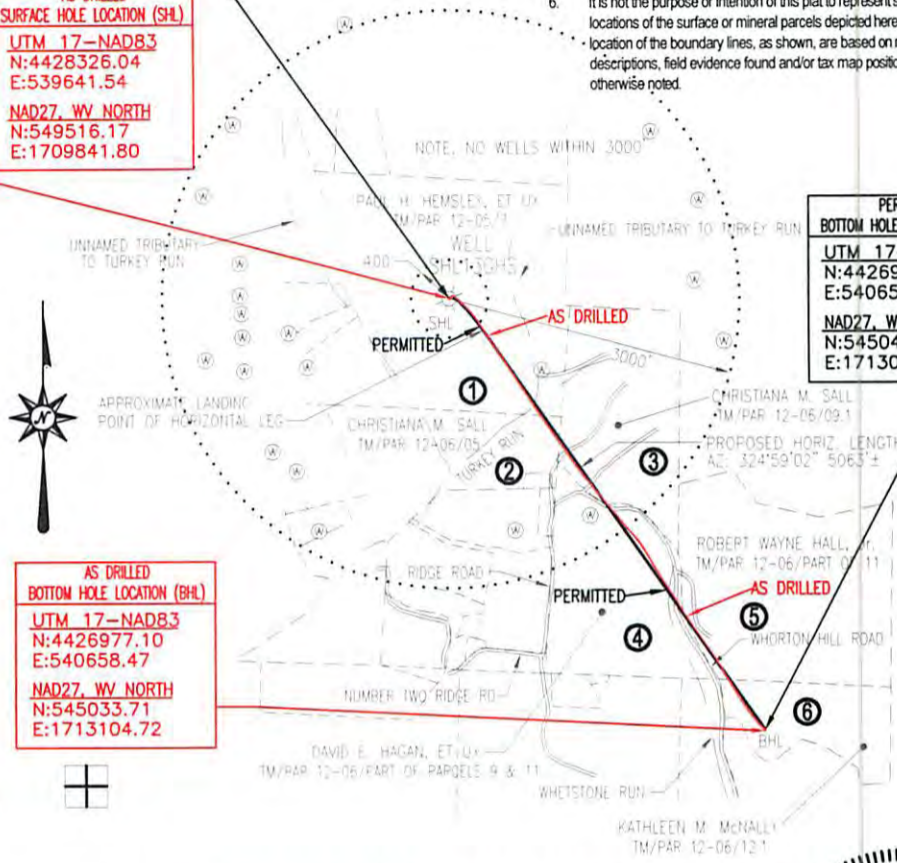
- NOTES:
1. There are no water wells or developed springs within 250' of proposed well.
 2. There are no existing buildings within 625' of proposed well.
 3. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
 4. There are no native trout streams within 300' of 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.

LEGEND

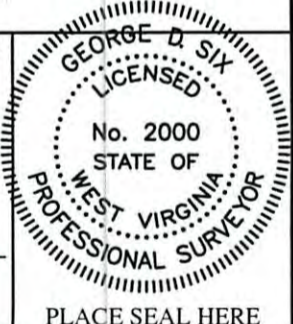
- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- WATER SOURCE
- LEASE NUMBER BASED ON ATTACHED WW-6A1
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- PROPOSED HORIZONTAL WELL
- ROAD
- STREAM CENTER LINE
- AS DRILLED

WELLS WITHIN 3000'

- EXISTING WELLS
- PLUGGED WELLS



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



FILE #: SHL13GHS-AS DRILLED
 DRAWING #: SHL13GHS-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: [Signature]
 R.P.E.: _____ L.L.S.: P.S. No. 2000

(+) 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 #: SHL13GHS-AS DRILLED
 API WELL #: 47 51 01644H6A
 STATE COUNTY PERMIT

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

WATERSHED: TURKEY RUN ELEVATION: 1289.59'
 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: 434.491±

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

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